# GOVERENMENT OF THE PUNJAB
# IRRIGATION DEPARTMENT

## FLOOD FIGHTING PLAN 2026




**LAYYAH CANAL DIVISION, LAYYAH**
**Phone No. 0606-412435**
**Email Add. layyahxen@gmail.com**


| | | |
|---|---|---|
| **Bhakkar Canal Circle<br>Bhakkar** | | **Sargodha<br>Irrigation Zone, Sargodha** |

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# FLOOD FIGHTING PLAN 2026


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# CHAPTER-1

## SALIENT FEATURES OFLAYYAH CANAL DIVISION LAYYAH

### 1.1 LOCATION

Office of Layyah Irrigation Division is located at District Headquarter Layyah.

### 1.2 GENERAL DESCRIPTION

**672.17 miles** lengthy channels of this Division irrigate about **6.17Lac** acres within the jurisdiction of two Districts Layyah and Muzafargharh.In-accordance with the revenue record relating to this Division for the year**2021-2022**,almost**Rs. 91.620Million**revenue has been assessed. Thal Canal system is great blessing for this area and also for the economy of Country. This area is now producing wheat, sugar cane, cotton and other cash crops, which are the backbone of our economy.

Since last 5 years, serious shortage of water has been noticed due to scarcity of rainfall etc. In the foregoing situation, it has become impossible to run all channels continuously. Therefore, the rotation has been enforced on the basis of availability of water. Channels are prioritized more wisely to utilize the every drop of water.

### 1.3 ADMINISTRATIVE SET-UP

Executive Engineer, Layyah Canal Division Layyah is over all in-charge of this Division having four Sub Divisions namely.

**i)** Bhagal Canal Sub Division.

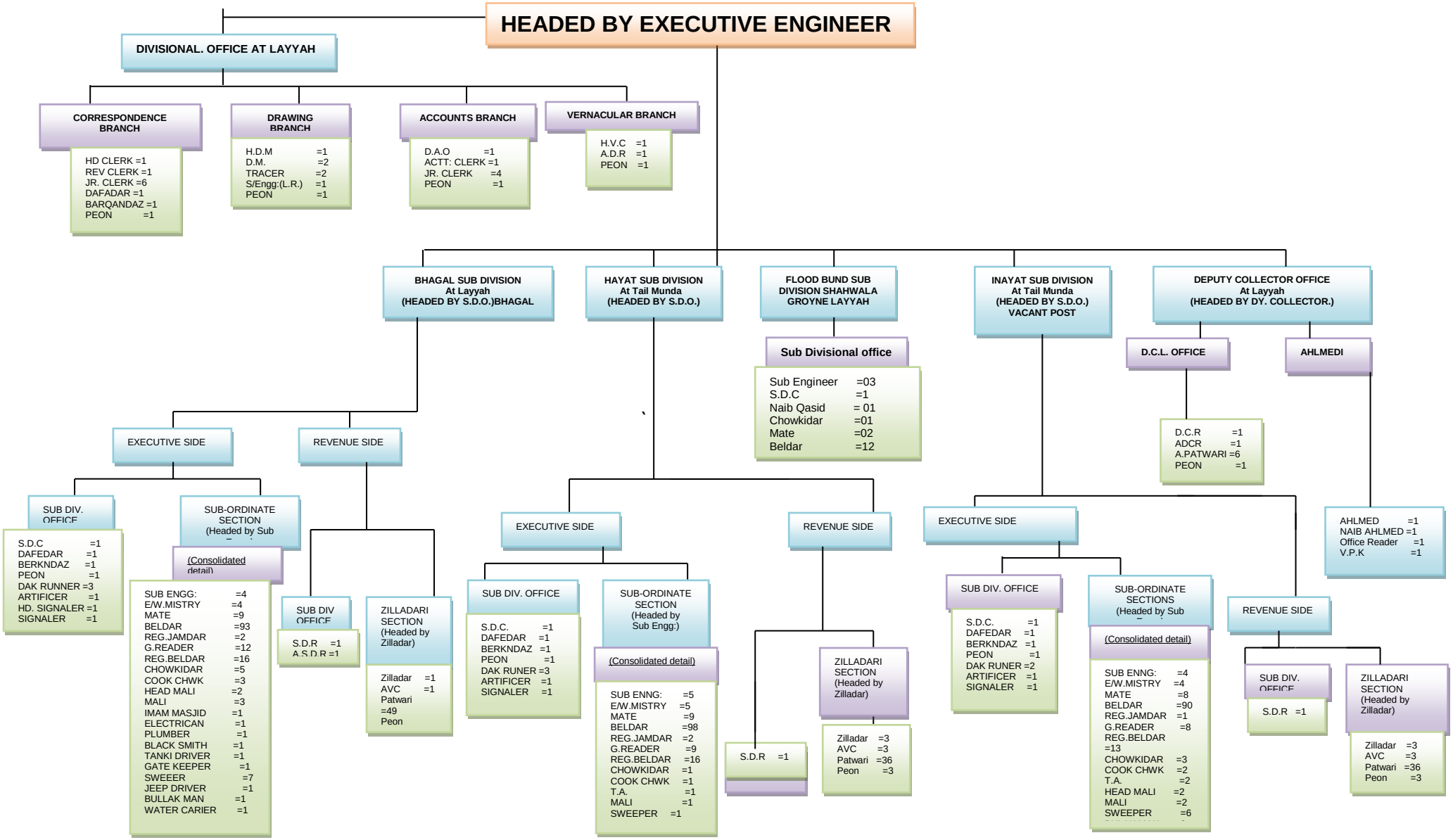
**ii)** Hayat Canal Sub Division.

**iii)** Inayat Canal Sub Division.

**iv)** Flood Bund Sub Division Shahwala Groyne Layyah.

Sub Divisional Officer Flood Bund Sub Division Shahwala Groyne Layyah will work over all as emergency in-charge of Layyah Canal Division Layyah. Head quarters of Sub Divisional Officers Flood Bund Sub Division Shahwala Groyne and Bhagal Canal Sub Division are at Canal Colony Layyah. While headquarters of Sub Divisional Officers of Hayat &Inayat Canal Sub Divisions are at Tail Munda Canal Colony Chowk Azam. Deputy Collector Layyah is also working under the supervision of Executive Engineer, Layyah.

# ORGANIZATION CHART OF LAYYAH IRRIGATION DIVISION, LAYYAH




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# CHAPTER-2

## FLOOD PROTECTION AND RIVER TRAINING WORKS

### 2.1 DESIGN PARAMETERS OF RIVER TRAINING WORKS.

#### i. LAYYAH CITY FLOOD PROTECTION BUND.

Layyah city flood protection bund was originally constructed with a length 9500ft and top width 20ft for protection of Layyah city. After passing exceptionally high flood in 2010, a scheme namely **"Extension and Strengthening of Layyah city flood protection Bund at RD: 0+000 to 24+600"**was proposed but due to non availability of funds only RD: 0+000 to 9+000 was completed and remaining part is pending.

**DESIGN PARAMETERS ARE AS UNDER:-**

| | | |
|---|---|---|
| **a)** | Length | = 24600ft (4.92 Mile) |
| **b)** | Top width | = 25ft |
| **c)** | Free board above H.F.L 2010 | = 7 ft |
| **d)** | River side slope | = 3:1 |
| **e)** | Country side slope | = 2:1 |

#### ii. GUIDE WALL AT LALA CREEK.

| | | |
|---|---|---|
| **a)** | Length | = 1375 ft (0.28 Mile) |
| **b)** | Top width | = 10 ft |
| **c)** | Apron width | = 10 ft |
| **d)** | Apron depth | = 5 ft |

#### iii. F. NORTH FLOOD BUND.

F. North flood bund was transferred from Taunsa Barrage Division to Layyah Canal Division Layyah during 2005. This is actually continuation of **Shah Wala Groyne** of Taunsa Barrage. It was constructed to protect villages of Tehsil Layyah and City Layyah from flood of River Indus.

| | | | |
|---|---|---|---|
| **(i)** | Length | = | 51500 ft (10.30 Mile) |
| **(ii)** | Top width | = | 25 ft |
| | Free Board | = | 6 ft |
| **(iii)** | River side slope | = | 3:1 |
| **(iv)** | Country side slope | = | 2:1 |

#### iv. GUIDE HEAD SPUR AT RD: 2+500 OF F.NORTH FLOOD BUND.

| | | | |
|---|---|---|---|
| **(i)** | Length | = | 1300ft (0.26 Mile) |
| **(ii)** | Top width | = | 30ft |
| **(iii)** | Apron width | = | 20ft |
| **(iv)** | Apron depth | = | 5ft |
| **(v)** | Free board | = | 6ft |
| **(vi)** | Pitching length | = | 1300 ft |
| **(vii)** | Pitching thickness | = | 2 ft |
| **(viii)** | U/S side slope | = | 2:1 |
| **(ix)** | D/S side slope | = | 3:1 |

## v. J. HEAD SPUR AT RD: 13+000 OF F.NORTH FLOOD BUND

| | | | |
|---|---|---|---|
| **(i)** | Length | = | 12000ft (2.27 Mile) |
| **(ii)** | Top width | = | 30 ft |
| **(iii)** | Apron width | = | 20 ft |
| **(iv)** | Apron depth | = | 5 ft |
| **(v)** | Free board | = | 6 ft |
| **(vi)** | Pitching length | = | 4000ft |
| **(vii)** | Pitching thickness | = | 02 ft |
| **(viii)** | U/S side slope | = | 2:1 |
| **(ix)** | D/S side slope | = | 3:1 |

J. head spur was constructed at RD: 13+000 of F. North flood protection bund to protect the Abadies, Agriculture land and main Embankment.

## vi. MOLE HEAD SPUR

| | | | |
|---|---|---|---|
| **1.** | Length | = | 500ft (0.10 Mile) |
| **2.** | Top width | = | 30 ft |
| **3.** | Apron width | = | 20 ft |
| **4.** | Apron depth | = | 6ft |

Mole head spur was constructed at J. Head spur to protect the J. Head spur from erosion of River Indus.

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## vii. SHAHWALA GROYNE ALONGWITH RIVER TRAINING WORKS

| Name of Bund / Spur / Guide Wall / Studs. | Length | | Year of Construction | Design Parameter | | | | | | | | | Side slope | | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Apron | | | | | Pitching | | | | | |
| | RD: | Miles | | Top Width | Length | Width | R. L | Depth | Free Board Above HFL | Length | Thickness | Top R. L | River Side | Country Side | |
| Shah Wala Groyne RD 0 – 66000 | 66000 | 12.5 | 1990 -91 | 25’ | 0 | 0 | 0 | 0 | 6’ | 0 | 0 | 0 | 03:01 | 02:01 | Satisfactory |
| Guide Head Spur No. 2, at RD:7+000 of Shahwala Groyne. | 4500 | 0.85 | 2000-01 | 30’ | 0 | 80’ | 472 | 5’ | 6’ | 0 | 2’, | 482 | 3:1/2:1 | 3:1/2:1 | Satisfactory |
| Guide Head Spur 1-A at RD 9000 Shah Wala Groyne | 3750 | 0.71 | 2000-01 | 30’ | 0 | 60’ | 471.5 | 5’ | 6’ | 0 | 2’, | 481.9 | 3:1/2:1 | 3:1/2:1 | Damaged in Flood season 2025 and restoration of structure is in progress |
| J-Head Spur 1-B at RD 29000 Shah Wala Groyne | 9002 | 1.70 | 1994-95 | 30’ | 0 | 20’ | 467.3 | 5’ | 6’ | 0 | 2’, | 477.3 | 3:1/2:1 | 3:1/2:1 | Damaged in Flood season 2025 and restoration of structure is in progress |
| J-Head Spur at RD 47500 Shah Wala Groyne | 7870 | 1.44 | 1994-95 | 30’ | 0 | 20’ | 465 | 5’ | 6’ | 0 | 2’, | 474.79 | 3:1/2:1 | 3:1/2:1 | Satisfactory |
| X- Spur at RD 60000 Shah Wala Groyne | 680 | 0.13 | 1990-91 | 25’ | 0 | 0 | 463.27 | 0 | 4’ | 0 | 0 | 468.27 | 3:1/2:1 | 3:1/2:1 | Estimate of restoration has been submitted to concerned office for technical sanction after verification of base line data by TPM |
| X- Spur at RD 62000 Shah Wala Groyne | 410 | 0.08 | 1990-91 | 25’ | 0 | 0 | 460.27 | 0 | 4’ | 0 | 0 | 468.27 | 3:1/2:1 | 3:1/2:1 | Estimate of restoration has been submitted to concerned office for technical sanction after verification of base line data by TPM |
| Retired Embankment Shah Wala Groyne RD 0-23+000 | 23000 | 4.36 | 2000-01 | 25’ | 0 | 0 | 0 | 0 | 6’ | 0 | 0 | 0 | 03:01 | 02:01 | Satisfactory |
| Stud No. 1 at RD 2+200 of Bakhri Ahmad Khan . | 620 | 0.12 | 2017-18 | 20’ | 620 | 20 | 465 | 6 | 3.64 | 620 | 2 | 474.79 | 02:01 | 02:01 | Damaged in Flood season 2025 and restoration of structure is in progress |
| Stud No. 4 at RD 5+500 of Bakhri Ahmad Khan . | 75 | 0.01 | 2017-18 | 20’ | 75 | 20 | 465 | 6 | 0 | 20 | 2 | 471 | 02:01 | 02:01 | Damaged in Flood season 2025 and restoration of structure is in progress. |
| 5 No. Stone Studs at Bakhri Ahmad Khan | 760 | 0.14 | 2017-18 | 20’ | 0 | 20’ | 465 | 5’ | 6’ | 0 | 2’, | 471 | 02:01 | 02:01 | Satisfactory |
| Inverted hockey spur of Link Bund Shah Wala Groyne | 4900 | 0.93 | 2017-18 | 25’ | 0 | 20’ | 456 | 6’ | 3.73 | 0 | 2’, | 468 | 3:1/2:1 | 3:1/2:1 | Satisfactory |
| Sloping spur RD 37+750 Shah Wala Groyne | 750 | 0.14 | 2017-18 | 25’ | 0 | 20’ | 466.58 | 6’ | 6’ | 0 | 2’, | 479.58 | 02:01 | 02:01 | Satisfactory |
| Sloping spur RD 40+700 Shah Wala Groyne | 700 | 0.13 | 2017-18 | 25’ | 0 | 20’ | 465.75 | 6’ | 6’ | 0 | 2’, | 478.75 | 02:01 | 02:01 | Satisfactory |
| Inverted hockey spur at RD 3+700 of Bakhri Ahmad Khan | 600 | 0.11 | 2017-18 | 20’ | 0 | 10’ | 465 | 6’ | 0’ | 0 | 2’, | 471 | 02:01 | 02:01 | Damaged in Flood season 2025 and restoration of structure is in progress. |
| 4 No. Stud at RD 40-45 shah Wala Groyne | 400 | 0.08 | 2019-20 | 20’ | 0 | 0 | 0 | 6’ | 6’ | 0 | 2’, | 474.82 | 01:01 | 01:01 | Satisfactory |
| Bakhri Ahmad Khan Protection Bund. | 11000 | 2.08 | 2014-15 | 20’ | 0 | 20’ | 465 | 6’ | 3.64’ | 0 | 2’, | 474.79 | 03:01 | 02:01 | Satisfactory |

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## viii. BRIEF OF LALA CREEK

### ORIGIN

Off taking from left edge of River Indus Tehsil Karor

Length = 70 km

Lala creek having a meandering behavior passing in front of Layyah city between Layyah city flood protection and F. North flood bund which are 02-km to04-km away from the Layyah city.

### FUNCTION

Lala creek is acting as a creek cum feeding channel for KotAddu Canal Division and irrigating vast area of a whole section of KotAddu Canal Division.

### HEAD REGULATORS

1. Constructed by KotAddu Canal Division in front of RD:8+000 of Layyah City Flood Protection Bund lies in the jurisdiction of Layyah Canal Division Layyah**.**
2. Constructed by KotAddu division at a distance of 70 km on Lala creek (Dholwala) and two channels are off taking from this head regulator.

i. Upper Hazara

ii. Upper Kot sultan

This creek ultimately is falling into river Indusup-stream Taunsa barrage.

### WINTER

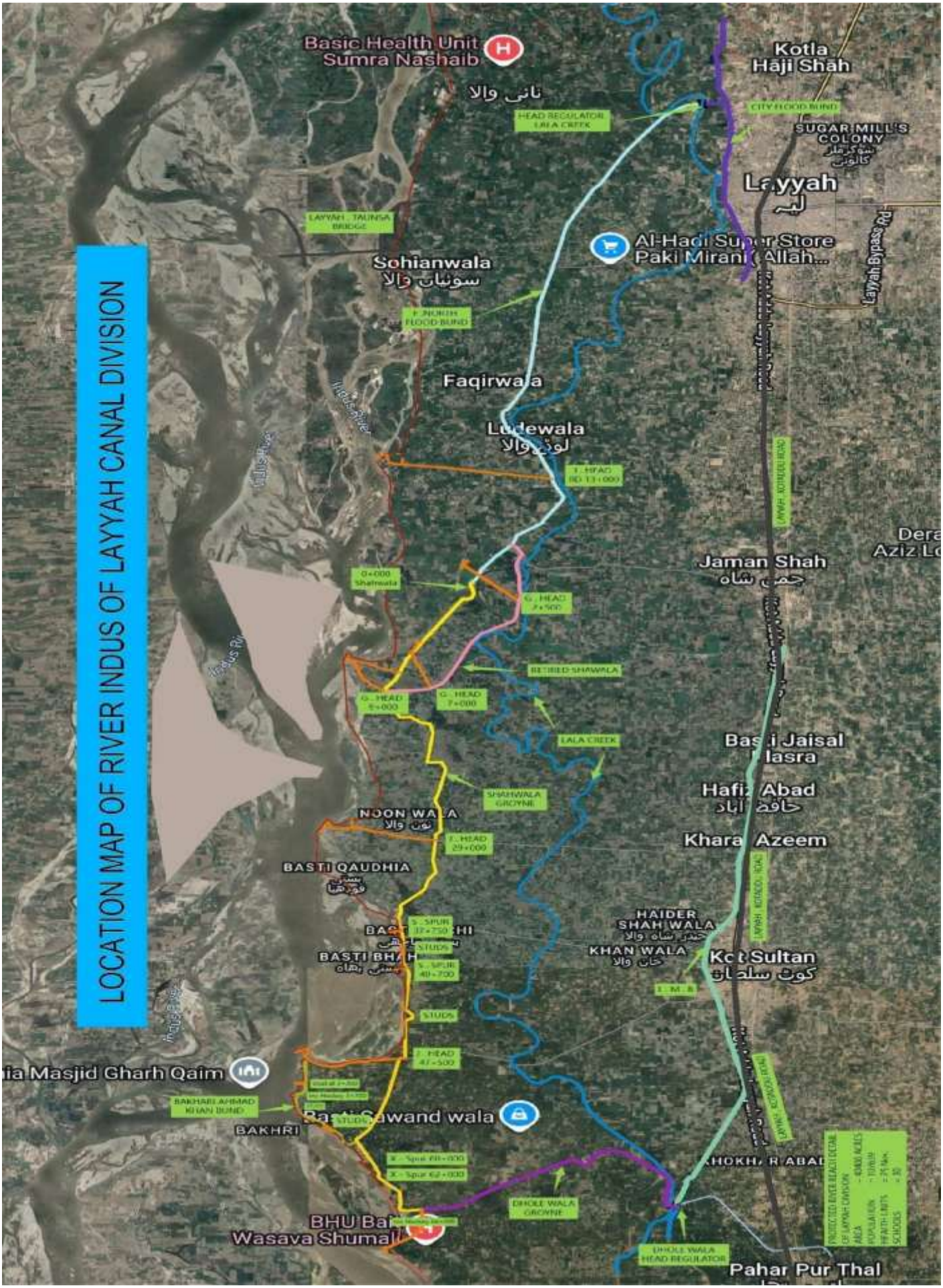
- Do not runs in winter in flood season due to high discharge water spills out from the creek and start entering into the adjoining Abadies.

### BENEFICIARY

- KotAddu Canal Division is the beneficiary of this creek and its maintaining from Lala Head Regulator to Dhole wala Head Regulator is the responsibility of Layyah Canal Division.

## 2.2 LOCATION MAP

Index map with showing location of flood Bund in Layyah Canal Division Layyah is attached as page No.7


LOCATION MAP OF RIVER INDUS OF LAYYAH CANAL DIVISION
Basic Health Unit
Sumra Nashaib
نانی والا
Kotla
Haji Shah
HEAD REGULATOR
URIA CREEK
CITY FLOOD BUND
SUGAR MILL'S
COLONY
Layyah
لیہ
LAYYAH - TAUNSA
BRIDGE
Al-Hadi Super Store
Paki Mirani ( Allah...
Layyah Bypass Rd
Sohianwala
سونیاں والا
F. NOON
FLOOD BUND
Faqirwala
Indus River
Ludewala
لوڈے والا
L. HEAD
RD 13+000
Jaman Shah
جمن شاہ
0+000
Shahwala
G. HEAD
7+500
RETIRED SHAWALA
G. HEAD
8+000
G. HEAD
7+000
LALA CREEK
Basti Jaisal
Jasra
Hafiz Abad
حافظ آباد
SHAHWALA
GROYNE
NOON WALA
نون والا
Khara Azeem
R. HEAD
29+000
BASTI QAUDHIA
HAIDER
SHAH WALA
حیدر شاہ والا
KHAN WALA
خان والا
Kot Sultan
کوٹ سلطان
STUDS
STUDS
L. HEAD
47+500
BAKHARI AHMAD
KHAN BUND
BAKHRI
Wasawand wala
DHOLE WALA
GROYNE
BHU Ba
Wasava Shumali
DHOLE WALA
HEAD REGULATOR
Pahar Pur Thal

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# CHAPTER-3

## BRIEF HISTORY OF PAST FLOOD EVENTS

Layyah City is located on the left bank of River Indus and River Creek namely Lala Creek, runs parallel to the Layyah City. Layyah City Flood Protection Bund is the only defense line to protect Layyah city against the flood water of Lala creek. During flood 2010,Lala Creek became over and above its capacity and the area adjacent to the city was inundated. Due to hectic efforts of the staff of Irrigation Department, District Government Layyah, Pakistan Army and other Provincial Departments, Layyah city was saved. During these efforts, a local Bund was constructed along the Lala Creek with the co-operation of District Government and Irrigation Department. Later on Government of the Punjab approved a scheme **"Extension and Strengthening of Layyah City Flood Protection Bund RD: 0+000 to 24+600"**, funded from Southern Punjab Development Program. This scheme was completed at site during June, 2012 and now Layyah City is in safe position.

During month of July – August 2017, medium flood passed in River Indus at Taunsa Barrage and following structures came under attack and by conducting extensive flood fighting activity under para 2.89 of P.W.D code saved the structures;

1. Link Bund
2. Bakhri Ahmad Khan Protection Bund

During month of July – August 2019, 2020 and 2021, medium flood passed in River Indus at Taunsa Barrage and following structures came under attack and by conducting extensive flood fighting activity under para 2.89 of P.W.D code saved the structures;

1. Sloping Spur at RD 37+500 Shahwala Groyne
2. J-Head Spur RD 47+500 Shahwala Groyne
3. During month of July, August & September 2022 High Flood passed in River Indus and following structures came under attack and by conducting extensive flood fighting activity under clause 59 D-iii saved the structures;

1. Earthen Stud at RD 60+000 Shahwala Groyne
2. Bakhri Ahmad Khan Flood Bund Between RD: 9+500 to 10+100
3. Inverted hockey Spur at RD 66+000 of Shahwala Groyne

During month of July, August & September 2023Medium Flood passed in River Indus and following structures came under attack and by conducting extensive flood fighting activity under clause 59 D-iii saved the structures;

1. Solid Stud No. 4 at RD 5+500 of Bakhri Ahmad Khan Protection Bund
2. 3 Nos. Studs between RD: 9+500 to 10+200of Bakhri Ahmad Khan Protection Bund

**BRIEF ISSUES FACED DURING FLOOD SEASON 2025 ARE AS UNDER:-**

I. A Head-Regulator has recently been constructed at Lala Creek opposite RD 9 +000 of Layyah City flood bund. Maximum capacity of the Head-Regulator is only 10000 Cs whereas about 14000 cs discharge has passed in the creek. Due to heading up of water adjoining lands were inundated on upstream side of Head Regulator. Layyah city was likely to be affected which was saved by constructing emergent dykes. Moreover, politically influential figures of the area were insisting on reducing the flow through the Head- Regulator in order to save people in downstream reach while in case of further heading upstream area was likely to be in inundated upto such hights that even flood water could have by passed Layyah City Flood Bund from RD: 0+000. In order to avert such complications in future, it is recommended that the Layyah City flood Bund beyond RD 0+000 may be extended enough to ensure the safety of Layyah city.

II. Pertinently mentioned that some sewer pipes have been embedded in the Layyah city flood bund which has already been reported to concerned Department. Furthermore, dwellings on river side of the bund should be discouraged which cause serious problems during floods.

III. Construction of river interventions by the Bhakkar Canal Division during the year 2018-19, tendency of River flow has totally diverted towards the left edge of River Indus from D/S Concavo Convex Guide Wall (PKG-E) upto Basti Rakhwan, due to change in the morphology & behavior of the River flow. Loop is developing in this reach; Basti Wara Sehran, Basti Tootan and Rakhwan have come under threat. River has engulfed valuable agricultural land in vicinity of Mouza Warah Sehran. The model Study of reach 2nd "Extension of Bhakkar Flood Bund for infrastructure of Abadies and infrastructures in District Bhakkar And Layyah (RD:180+000 to 300+000) Upstream of under construction of Layyah Taunsa Bridge has been completed during the month of December, 2022 and PC-I is submitted for approval from The Competent Authority.

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# CHAPTER-4

## DESIGN DATA, HISTORIC PEAK FLOOD DATA AND PREVIOUS FIVEYEARSFLOOD DATA OF HEAD WORKS/ BARRAGES AND OR OTHERCONTROL POINTS

### 4.1 FLOOD LIMITS

| Rivers | Control point. | Normal Flow | Low Flood | Medium Flood | High Flood | Very High Flood | Exceptionally High Flood. |
|---|---|---|---|---|---|---|---|
| Indus. | D/S Chashma Barrage. | Upto 2,50,000 cs | 2,50,000 cs to 3,75,000 cs | 3,75,000 Cs to 5,00,000 cs | 5,00,000 cs to 6,50,000 cs | 6,50,000 Cs to 7,50,000 cs | Above 7,50,000 cs |

The terminology of different kinds of flood is low, medium, high, very high and exceptionally high and they will be taken as such in the light of any wireless message received from respective warning centers.

Since there is no Head Works/Barrage in the jurisdiction of Layyah Irrigation Division Layyah, therefore, this Division has to come active with respect to discharge gauges at D/S Chashma Barrage.

### 4.2 TIME LAGS OF FLOODS

**TIME LAGS OF FLOODS IN RIVER INDUS.**

***(CANAL MILE = 5000 ft).***

| Reach | May-June. | July-August. | September-October. | Distance in Canal Miles. | Distance in K.M |
|---|---|---|---|---|---|
| **Attock- Kalabagh.** | 48 Hours. | 36 Hours. | 36 Hours. | 106 | 171.72 |
| **Kalabagh-Chashma.** | 36 Hours. | 24 Hours. | 24 Hours. | 61 | 98.82 |
| **Chashma-Layyah City.** | 43 Hours. | 35 Hours. | 35 Hours. | 110 | 178.20 |
| **Chashma-Taunsa.** | 60 Hours. | 48 Hours. | 48 Hours. | 152 | 246.24 |

## 4.3 HIGHEST FLOODS

| Sr. # | Year. | Date. | Maximum discharge passed D/S Chashma Barrage in the Indus River. |
|---|---|---|---|
| **1** | 1999 | 11.8.1999 | 4,53,950 cs |
| **2** | 2000 | 8.3.2000. | 4,42,720 cs |
| **3** | 2003 | 5.8.2003. | 4,63,780 cs |
| **4** | 2005 | 3.7.2005 | 5,06,126 cs |
| **5** | 2006 | 6.8.2006 | 5,88,484 cs |
| **6** | **2010** | **01.08.2010** | **10,38,873cs** |
| **7** | 2011 | 28.07.2011 | 3,49,666cs |
| **8** | 2012 | 06.08.2012 | 2,84,764cs |
| **9** | 2013 | 14.08.2013 | 6,30,689cs |
| **10** | 2014 | 17.07.2014 | 2,57,632 Cs |
| **11** | 2015 | 03.08.2015 | 6,36,512 Cs |
| **12** | 2016 | 06.07.2016 | 3,74,610 Cs |
| **13** | 2017 | 05.08.2017 | 4,46,361 Cs |
| **14** | 2018 | 16.08.2018 | 2,86,554 Cs |
| **15** | 2019 | 17.08.2019 | 3,63,783 Cs |
| **16** | 2020 | 05.09.2020 | 4,65,149 Cs |
| **17** | 2021 | 02.08.2021 | 3,44,907 Cs |
| **18** | 2022 | 28.08.2022 | 5,23,937 Cs |
| **19** | 2023 | 25.07.2023 | 4,15,651 Cs |
| **20** | 2024 | 09.08.2024 | 4,17,763 Cs |
| **21** | 2025 | 17.08.2025 | 4,95,435 Cs |

## 4.4 PEAK DISCHARGES (HISTORIC PEAK FLOOD DATA)

| Sr. # | Year. | Date. | Maximum discharge passed D/S Chashma Barrage in the Indus River. |
|---|---|---|---|
| **1** | 2000 | 8.3.2000 | 4,42,720 cs |
| **2** | 2001 | 27.7.2001 | 3,00,489 cs |
| **3** | 2002 | 27.7.2002 | 2,92,601 cs |
| **4** | 2003 | 5.8.2003 | 4,63,780 cs |
| **5** | 2004 | 7.7.2004 | 2,20,342 cs |
| **6** | 2005 | 3.7.2005 | 5,06,126 cs |
| **7** | 2006 | 6.8.2006 | 5,88,484 cs |
| **8** | 2007 | 16.8.2007 | 3,91,138 cs |
| **9** | 2008 | 5.8.2008 | 3,36,530 cs |
| **10** | 2009 | 17.08.2009 | 3,30,257 cs |
| **11** | **2010** | **01.08.2010** | **10,38,873cs** |
| **12** | 2022 | 28.08.2022 | 5,23,937 Cs |
| **13** | 2023 | 25.07.2023 | 4,15,651 Cs |
| **14** | 2024 | 09.08.2024 | 4,17,763 Cs |
| **15** | 2025 | 17.08.2025 | 4,95,435 Cs |

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# CHAPTER-5
## FLOOD FIGHTING STRATEGY

The Sub Divisional Officer, Flood Bund Sub Division Shahwala Groyne will work as Flood Emergency Officer. The flood emergency center will run under his supervision with the following officials / staff.

a) Signaler Layyah.
b) Telephone Attendant.
c) Peon = 3 Nos.

During flood days, leave will be granted to above officials only by Executive Engineer, Layyah Irrigation Division, Layyah.

Flood emergency centre will be opened in the Canal Telegraphy office Layyah under the supervision of Sub Divisional Officer, Flood Bund Sub Division Shahwala Groyne at canal colony Layyah having Telephone No.**0606/412435**, which will remain open for 24 Hours from 15.06.2026 to15.10.2026 on all working days including Sunday and all other public holidays. This emergency centre will have a Liaison with flood control Room, established in the office of District Co-ordination Officer, Layyah and other centers set up in the District for the purpose to take appropriate remedial measures. All precautionary measures will be adopted to cope with any eventuality during flood 2026, Flood fighting strategy would be adopted for the safe passage of flow.

**STAGE – I (DISCHARGE 2, 50,000 – 3, 75,000 CS) (LOW FLOOD)**

In low flood, the temporary watching huts will be established and flood fighting material will be shifted. Watching establishment employed for this purpose will remain busy under the supervision of concerned Sub Engineer.

**STAGE – II (DISCHARGE 3, 75,000 – 5, 00,000 CS) (MEDIUM FLOOD)**

When river water enters in to medium stage, it will start spreading on adjoining area touching toe of Bunds. Then it becomes necessary to be vigilant, watching of Bunds and deploying of machinery will be started to avoid any leakage from bunds. Sub Engineers will shift their camps to site as per duty rosters. The Telegraph office of Layyah Canal Division will act as Flood Information Center and flood situation will be conveyed to Civil Administration and flood warning centers. Sub Divisional Officer, Flood Bund Sub Division Shahwala Groyne will keep the Executive Engineer apprised about latest development regarding flood situation.

**STAGE – III (DISCHARGE 5, 00,000 – 6, 50,000 CS)(HIGH FLOOD)**

When river water enters in high flood range the Sub Divisional Officers Bhagal, Hayat and Inayat shall also shift their camps at vulnerable sites as planned in the duty roaster. Executive Engineer will keep liaison with Civil Administration, Army & Public representatives.

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**STAGE–IV(DISCHARGE ABOVE 7, 50,000 CS) ( EXCEPTIONALLY)**

When river water enters in exceptionally high flood, a gauge and discharge register will be maintained in the flood emergency centers. Morning and evening gauges will be sent to the officers of District Administration as well as other allied Departments.

As soon as the free board is left as 3.0 ft, the District Coordination Officer Layyah, Superintendent of Police Layyah and Administrator Municipal Committee Layyah will be requested to arrange for additional labour for watching of bunds.

On receipts of a signal of very high flood at Chashma Barrage, the Assistant Engineer Agriculture Layyah will be requested to keep 02 No. Bulldozers stand by, so that the same may be used during emergency.

The Sub Divisional Officers will keep mobile phones in working order so that the flood messages are expeditiously conveyed to all concerned. Punjab Flood Commission will provide one station wireless set for installing on the Bund so as to communicate the gauges and other emergency messages to Irrigation, Civil and any other officers. Requisition in this behalf has since been made with Secretary Punjab Flood Commission. District Co-ordination Officer/Superintendent of Police Layyah will convey instructions relating to protection of Layyah City and all nearby flood prone areas through Police Wireless set.

The terminology of different kinds of flood in low, Medium, High, very high and exceptionally high and they will be taken as such in the light of any wireless message received from respective warning centers .Since there is no regular establishment on Flood Protection Bunds and Spurs, so a gang of one man per mile will be employed on Flood Protection Bunds and two men per Spur will be employed during Flood season 2025i.e15th June to 15th October. The establishment will take care of all preparations like filling depressions, rain cuts/gharas, clearance of slopes upto 10feet beyond toe of Flood Bund, opening/puddling holes etc.

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# CHAPTER-6

## FLOOD DAMAGES RESTORATION WORKS

### PROPOSED FLOOD RESTORATION WORKS DURING CURRENT

Financial Year 2025– 26

1. Restoration of Spurs at Shahwala Groyne.

2. Restoration of J Head Spur 1-B at RD 29+000 of Shahwala Groyne.

3. Restoration of Spurs at Bakhri Ahmad Khan Protection Bund.

4. Restoring Launched Portion of Stud No. 04 Damaged due to Severe River attack.

5. Restoration of X- Spurs at RD 60+000 and 62+000 of Shahwala Groyne.

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# CHAPTER NO. 7

## FLOOD FIGHTING AND WATCHING ARRANGEMENTS.

The Executive Engineer, Layyah Canal Division is officer In-charge for overall control of the flood watching arrangement. The Sub Divisional Officer, Flood Bund Sub Division Shahwala Groyne and sub-ordinate staff, have to work under his control. They are primarily responsible for the flood fighting, protective and preventive measures for safety of the structures.

During floods, in case of absence of Executive Engineer, Sub Divisional Officer Flood Bund Sub Division Shahwala Groyne will monitor the protective measures for safety of the Bunds and Head Works in real emergency under intimation to higher hierarchy, through quickest means of communication. Similarly in case of absence of the Sub Divisional Officer, Sub Engineers will act accordingly.

### 7.1 PRE- FLOOD ARRANGEMENTS

Flood season starts from 15th June every year and watching establishment will be engaged during flood season for watching operation and flood fighting activities on monthly basis from 15.06.2026 to 15.10.2026. However, in case of very high flood or in case of emergency, strength of watching establishment will be increased as per site condition and requirements.

**DETAIL OF RESERVE STOCK OF STONE.** **QTY IN LAC CFT**

| Sr. # | Name of Structures | Sanctioned Limit Reserve stock of stone | Available at site | Required | Remarks |
|---|---|---|---|---|---|
| 1 | J. Head Spur at RD: 13000 F. North flood bund | 1.50 | 1.237 | 0.263 | Procurement of Reserve stock is in progress. |
| 2 | Guide Head Spur at RD: 2500 F. North flood bund | 1.50 | 1.203 | 0.297 | |
| 3 | Guide Head Spur No. 2 at RD 7+000 of Shah Wala Groyne | 1.50 | 1.497 | 0.003 | |
| 4 | Guide Head Spur 1-A at RD 9+000 Shah Wala Groyne | 1.50 | 1.183 | 0.317 | |
| 5 | J-Head Spur 1-B at RD 29+000 Shah Wala Groyne | 1.50 | 1.50 | - | |
| 6 | J-Head Spur at RD 47+500 Shah Wala Groyne | 1.50 | 0.322 | 1.178 | |
| 7 | Sloping spur RD 37+750 Shah Wala Groyne | 1.00 | 0.997 | 0.003 | |
| 8 | Sloping spur RD 40+700 Shah Wala Groyne | 1.00 | 0.839 | 0.161 | |
| 9 | Inverted hockey spur of Link Bund Shah Wala Groyne | 1.00 | 0.193 | 0.807 | |
| 10 | 4 No. Stud at RD 44-47 of Shah Wala Groyne | 1.00 | - | 1.00 | |
| 11 | 4 No. Stone studs at Protection Bund Bakhri Ahmad Khan (0.25 Lac Cft of each) | 1.00 | 0.948 | 0.052 | |
| 12 | Inverted Hockey spur at Protection Bund Bakhri Ahmad Khan | 1.00 | - | 1.00 | |
| **Total:-** | | **15.00** | **9.919** | **5.081** | |

The reserve stock of stone will be used at any sensitive site in case of emergency.

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## 7.2 WATCHING ESTABLISHMENT

Watching depends upon presence of the watching establishment on each embankment and training work. It has been experienced that it is impossible to adjust number of watching personnel instantaneously in conformity with the flood stages. During high flood, the local population is busy to safeguard themselves along with their families and is not available for employment. It is now decided that by 15th of May, watching establishment, commensurate with the high flood situation, will be employed for 5 months, after advertising in the press, by a committee headed by the Executive Engineer, Layyah Canal Division and comprising Sub Divisional Officer. The watching establishment will be paid through regular payrolls, not through muster rolls. This establishment will primarily perform the following functions:

Earthwork on all training works including gharas filling, strengthening of local weak sites, repairing ramps etc. will be carried out by this establishment.

As the establishment would have already checked and repaired the training works all along, it will be in a much better position to keep under watch the critical reaches throughout the flood season. For reaches other than vulnerable reaches, the watching establishment shall be employed as under to maintain and up keep the banks to become motorable.

a). During normal flood stage, one man per mile / shift for two shifts in a day.

b). During low flood stage, the scale of establishment is three men / mile / shift for two shifts in a day.

c). In medium flood, the scale will be four men / mile / shift for three shifts in a day.

d). During high floods, four men / mile / shift for three shifts per day will be employed.

e). During very high flood stage of 6.5 lac Cs; discharge, the six men / mile / shift in three shift will be employed.

After every three miles there will be a Mate and for every five miles there will be a Mistary in addition to Mate to supervise the work of Beldars.

The statement showing establishment watching of Establishment is attached at page No. 17.

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# WATCHING ESTABLISMENT

| Sr. No. | Structure Name | Length (Miles) | Flood Limits | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Normal Flood Season | | Low Flood | | Medium/High Flood | | Very High/ Exp. High Flood | |
| | | | 1 Person / 2 Mile (1 Shift) | | 1 Person / 1 Mile (1 Shift) | | 2 Person / Mile / Shift (2 Shift) | | 5 Person / Mile / Shift (3 Shift) | |
| | | | Beldar | Shift | Beldar | Shift | Beldar | Shift | Beldar | Shift |
| 1 | Layyah City Flood Protection Bund (RD 0 - 24+600) | 4.92 | 3 | 1 | 5 | 1 | 10 | 2 | 25 | 3 |
| 2 | F. North Flood Bund (RD 0 – 51+500) | 10.30 | 5 | | 10 | | 21 | | 52 | |
| 3 | J- Head Spur at RD: 13+000 of F.North Flood Bund (RD 0-12+000) | 2.40 | 1 | | 2 | | 5 | | 12 | |
| 4 | ShahwalaGroyne(RD 0 – 66+000) | 13.20 | 7 | | 13 | | 26 | | 66 | |
| 5 | Guide Head Spur 1-A at RD:9+000 of ShahwalaGroyne(RD 0-3+740) | 0.75 | 1 | | 1 | | 2 | | 5 | |
| 6 | J-Head Spur 1-B at RD 29000 Shah Wala Groyne (RD 0-9+003) | 1.86 | 1 | | 2 | | 4 | | 9 | |
| 7 | Inverted hockey spur of Link Bund Shah Wala Groyne (RD 0-4+900) | 0.98 | 1 | | 1 | | 2 | | 5 | |
| 8 | Bakhri Ahmad Khan Protection Bund (RD 0-11+000) | 2.20 | 1 | | 2 | | 5 | | 11 | |
| **TOTAL PER SHIFT :-** | | | **20** | **1** | **36** | **1** | **75** | **2** | **185** | **3** |
| **TOTAL BELDARS** | | | **20** | | **36** | | **150** | | **555** | |
| **TOTAL MATES** | | | **2** | | **3** | | **13** | | **46** | |

Beldar should be provided with hand tools (1 Kassie, 1 Axe and 1 Rechargeable Torch for night shift in case of flood above low flood limit).

The activities of staff during normal flood season should be included but not limited to:

- Removing Jungle and bushes from slopes and toe of embankment
- Filling of rain cuts/ Gharas
- Dressing of slopes
- Filling porcupine and rat holes
- Keeping the track motor able

**Note:** 1 No. Mate for every gang of 12 Beldars at all flood ranges.

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## 7.3 ARRANGEMENT AT SENSITIVE SITE

For all spots, sufficient quantity of flood fighting material with man power will be made

| Established Camps Details | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. / Camp No. | Structure Name | Length (Miles) | Vulnerable sites | | No. of Camps Established Except Vulnerable Points | | |
| | | | | | Normal Flood season/ Low Flood | Medium/High Flood | Very High/Exp. High Flood |
| | | | Reach | No. of Camps | 15 Miles | 7 Miles | 5 Miles |
| 1 | Layyah City Flood Protection Bund (RD 0-24+600) | 4.92 | 0+000-8+000 | 1 | - | - | - |
| 2 | F. North Flood Bund (RD 0-51+500) | 10.30 | 13+000 - 40+000 | 1 | - | 1 | 1 |
| 3 | Shahwala Groyne ( RD 0 – 9000) | 1.80 | 1+000-9+000 | 1 | - | - | - |
| 4 | Shahwala Groyne ( RD 15000 – 35000) | 4.00 | 15+000 – 35+000 | 1 | - | - | - |
| 5 | Shahwala Groyne (RD 47500 – 66000) | 3.80 | 47+500 – 66+000 | 1 | - | - | - |
| 6 | Bakhri Ahmad Khan Protection Bund (RD 0 to 11+000) | 2.20 | 0+000 – 11+000 | 1 | - | - | - |
| | | | **Total** | **6** | **-** | **1** | **1** |

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## 7.4 WATCHING MATERIAL.

Flood material will be arranged and stored at Flood Fighting Huts at RD 29+000 & 47+500 of Shahwala Groyne. The material will be shifted to flood fighting camp as soon as the intimation of medium / high flood limit is received.

**Minimum requirement of Flood Fighting Materials for Permanent Camp (15 miles)**

| Sr. # | Item | Unit | Total Required Quantity | Available Quantity | Balance Quantity | Remarks |
|---|---|---|---|---|---|---|
| 1 | Shouldari/Tent | No | 6 | 3 | 3 | The required quantity will be purchased before coming flood season through Govt. Contractor subject to availability of fund & by the approval of competent authority. |
| 2 | Chairs | No | 36 | 6 | 30 | |
| 3 | Table | No | 6 | 1 | 5 | |
| 4 | Generator | No | 6 | 3 | 3 | |
| 5 | Pedestal Fans | No | 6 | 1 | 5 | |
| 6 | Charpois | No | 12 | 4 | 8 | |
| 7 | Symbolic Jackets | No | 300 | - | 300 | |
| 8 | Polyethene Sheet | Kg | 600 | - | 600 | |
| 9 | Bamboos (4" dia and 10 ft long) | No | 600 | 100 | 500 | |
| 10 | Water Coller | No | 6 | 2 | 4 | |
| 11 | Portable umbrella | No | 12 | 6 | 6 | |
| 12 | Life Jackets | No | 36 | 4 | 32 | |
| 13 | Utensils (10 person serving) | No | 6 | - | 6 | |
| 14 | Jute/Plastic bags | No | 6000 | 500 | 5500 | |
| 15 | Walke Talkie Set | Sets | 12 | - | 12 | |
| 16 | Raincoats | No | 60 | 5 | 55 | |
| 17 | LED flood light | No | 60 | - | 60 | |
| 18 | Extension Cable (10 ft) | No | 12 | 1 | 11 | |
| 19 | Rechargeable torches | No | 120 | 10 | 110 | |
| 20 | Kassi | No | 120 | 10 | 110 | |
| 21 | Axes | No | 120 | 10 | 110 | |
| 22 | G.I Buckets | No | 36 | - | 36 | |
| 23 | 7/44 cable | Ft | 3000 | - | 3000 | |
| 24 | Sutli | Kg | 12 | - | 12 | |
| 25 | Sewing Needles | No | 60 | - | 60 | |
| 26 | Emergency Medical Kit | No | 6 | - | 6 | |
| 27 | Wire crates (3x3x3) (at only those camp near river action and reserve stock exists) | No | 600 | - | 600 | |

**Minimum Requirement Of Flood Fighting Materials For Temporary Camp: (7 Or 5 Miles) During Medium To Exceptionally High Flood To Be Outsourced)**

| Sr. # | Item | Unit | Total Required Qty | Remarks |
|---|---|---|---|---|
| 1 | Shouldari/Tent | No | 1 | The required quantity will be outsourced during medium to exceptionally high flood. |
| 2 | Walke Talkie Set | Sets | 1 | |
| 3 | Chairs | No | 6 | |
| 4 | Raincoats | No | 10 | |
| 5 | Table | No | 1 | |
| 6 | LED flood light | No | 10 | |
| 7 | Generator (23-KVA) | No | 1 | |
| 8 | Extension Cable (10 ft) | No | 2 | |
| 9 | Pedestal Fans | No | 1 | |
| 10 | Rechargeable torches | No | 20 | |
| 11 | charpois | No | 2 | |
| 12 | Kassi | No | 20 | |
| 13 | Symbolic Jackets | No | 50 | |
| 14 | Axes | No | 20 | |
| 15 | Water Coller | No | 1 | |
| 16 | G.I Buckets | No | 5 | |
| 17 | Portable umbrella | No | 2 | |
| 18 | 7/44 cable | Feet | 500 | |
| 19 | Utensils (10 person serving) | No | 1 | |
| 20 | Sutli | Kg | 2 | |
| 21 | Jute/Plastic bags | No | 500 | |
| 22 | Sewing Needles | No | 10 | |

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## 7.5 ARRANGEMENT FOR SOUNDING & PROBING

Boats will be hired for sounding and probing purpose and sounding roods / bamboos with nylon rope will be kept ready at site for this purpose.

## 7.6 LIGHTING ARRANGEMENT

Generator along with all accessories i.e. electric insulated conductor cable and bulb etc will be kept available at site.

## 7.7 RATION ARRANGEMENT

These arrangements will be made by the Civil Administration by involving the community in case of emergency.

## 7.8 P.O.L. ARRANGEMENT FOR VEHICLE

The arrangements of P.O.L will be made as per site requirement.

## 7.9 TRANSPORTATION

Transportation arrangement will be made with the help of Civil Administration.

## 7.10 LAW AND ORDER

Situation of Law and order will be controlled with the help of law enforcing agency i.e. Police Department.

## 7.11 MEDICAL ARRANGEMENT FOR LABOUR

It will be responsibility of Health Department to provide necessary medical facility during & after flood season, 2025.

## 7.12 LIAISON WITH OTHER DEPARTMENT

Executive Engineer will keep liaison with the Civil and Army Authorities and will keep the fully apprised of the flood situation in the jurisdiction of Layyah Canal Division Layyah.

## 7.13 ROLE OF THE ARMY

Army will play his role in evacuating the flood affected community and live stock. Armed forces will also help in controlling the law and order situation in case of emergency.

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## 7.14 DUTIES OF TELEPHONE ATTENDANT

Telephone attendant will be available round the clock in three shifts at Flood Emergency center, which will be established in Telegraph Office of Layyah. They will get and maintain the hourly gauges of Jinnah Barrage and Chashma Barrage. They will also keep fully apprised the Flood Emergency Officer of the Layyah.

| SR. No | Name & Designation | Period | Time | |
|---|---|---|---|---|
| | | | From | To |
| **1st Shift** | | | | |
| **1** | Waseem Sajjad Signaler<br>Ph# 0306-6765961 | 15.06.2024 To 5.10.2024 | 6.00 AM | 2.00 PM |
| **2** | Muhammad Shahzad Naib Qasid<br>Ph# 0304-5518977 | 15.06.2024 To 5.10.2024 | 6.00 AM | 2.00 PM |
| **2nd Shift** | | | | |
| **3** | Khaliq Ur Rehman Signaler<br>Ph# 0305-5478226 | 15.06.2024 To 5.10.2024 | 2.00 PM | 10.00 PM |
| **4** | Mohsin Ali Naib Qasid<br>Ph# 0321-8191472 | 15.06.2024 To 5.10.2024 | 2.00 PM | 10.00 PM |
| **3rd Shift** | | | | |
| **5** | Mubasher Mehdi Signaller<br>Ph# 0306-6766583 | 15.06.2024 To 5.10.2024 | 10.00 PM | 06.00 PM |
| **6** | Sajjad Hussain Signaler<br>Ph# 0301-2482405 | 15.06.2024 To 5.10.2024 | 10.00 PM | 06.00 PM |

## 7.15 WIRELESS ARRANGEMENTS

Wireless system will be installed w.e.f 01.06.2026 in the vehicles of XEN Layyah No.GBA - 486 and SDO Flood Bund Shahwala Groyne Vehicle No. FSP - 8171 by the Police Department.

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# CHAPTER-8

## DETAIL OF ENCROACHMENT

The flood bund and spurs have been constructed to train the river and to ensure safe passage of the flood water. During flood season, inhabitants of low-lying river area evacuate from their houses and they take shelter on the flood bund along with their animal. However, there is no critical encroachment exists on the top of the flood bund/River Training works in Layyah Division.

## UPDATED STATUS OF ENCROACHMENTS

| Sr. # | Total Encroachments | Encroachments removed | Balance Encroachments to be removed | Remarks |
|---|---|---|---|---|
| 1 | Nil | Nil | Nil | There is no critical encroachment on the top of bund. |

## UPDATED STATUS OF CRITICALENCROACHMENTS

| Sr. # | Total Encroachments | Encroachments removed | Balance Encroachments to be removed | Remarks |
|---|---|---|---|---|
| 1 | Nil | Nil | Nil | There is no critical encroachment on the top of bund. |

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# CHAPTER-9

## DUTYROSTER/FLOOD FIGHTING PROGRAMME

### I. DUTY ROSTER OF LAYYAH CITY FLOOD PROTECTIONBUNDRD: 0+000TO 24+600

The following Officers and Officials / Sub Engineers along with staff (mentioned below) will remain available during flood days.

**A) NORMAL FLOOD**

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned with 03 Nos. Beldars.

**B) LOW FLOOD**

Sub Divisional Officer Shahwala Groyne, Layyah, and Sub Engineer concerned with 3 Nos. Beldars.

**C) MEDIUM / HIGH FLOOD**

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned along with 9 Nos. Beldars and 01 No. Mates. Sub Divisional Officer, Flood Bund Sub Division will remain available at flood bund at the Hours of High flood in the River Indus. Sub Divisional Officer Bhagal Sub Division, Layyah will also remain available. Executive Engineer Layyah Canal Division will supervise overall situation during high flood level.

**D) VERY HIGH/ EXCEPTIONALLY HIGH FLOOD**

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned & 02 Nos. Sub Engineers each from Inayat& Hayat Sub Division along with 23 Nos. Beldars and 02 Nos. Mates. Sub Divisional Officer, Flood Bund Sub Division will remain available at flood bund at the Hours of High flood in the River Indus. Sub Divisional Officer Bhagal Sub Division, Layyah will also remain available .Executive Engineer Layyah Canal Division for assistance to watch and ward flood situation Executive Engineer Bhakkar Canal Division and Executive Engineer Taunsa Barrage will remain available in case of any emergent situation.

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## II. DUTYROSTER BATTLE STATION OF KEY PERSONAL DURING HIGH FLOOD FLOW FORSHAHWALA GRYONE FLOOD PROTECTION BUND RD: 0+000 TO 66+000 AND ALLIED STRUCTURES.

The following Officers and Officials / Sub Engineers along with staff (mentioned below) will remain available during flood days.

### A. NORMAL FLOOD

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned with 07 Nos. Beldars.

### B. LOW FLOOD

Sub Divisional Officer Shahwala Groyne, Layyah, and Sub Engineer concerned with 07 Nos. Beldars.

### C. MEDIUM / HIGH FLOOD

Sub Divisional Officer Shahwala Groyne, Layyah and sub Engineer concerned & 02 No. Sub Engineers each from Inayat& Hayat Sub Division along with25 Nos. Beldars and 02 Nos. Mates. Sub Divisional Officer, Flood Bund Sub Division, Shahwala Groyne will remain available at flood bund in the hours of high flood. Sub Divisional Officers, Hayat, Inayat & Bhagal will also perform duty on flood bunds and fully assist in flood fighting activities. All the Sub Divisional Officers & Sub Engineers will have close liaison with Executive Engineer by 24 Hrs. No mobile phone of any officials or officers should be powered off during flood days.

### D. VERY HIGH/ EXCEPTIONALLY HIGH

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned & 02 No. Sub Engineers each from Inayat & Hayat Sub Division along with 63 Nos. Beldars and 05 Nos. Mates. Sub Divisional Officer, Flood Bund Sub Division will remain available at flood bund at the Hours of High flood in the River Indus. Sub Divisional Officer Bhagal Sub Division, Layyah will also remain available. Executive Engineer Layyah Canal Division for assistance to watch and ward flood situation Executive Engineer Bhakkar Canal Division and Executive Engineer Taunsa Barrage will remain available in case of any emergent situation.

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## III. DUTY ROSTER BATTLE STATION OF KEY PERSONAL DURING HIGH FLOOD FLOW FOR F-NORTH FLOOD BUND RD: 0+000 TO 51+500 AND ALLIED STRUCTURES.

The following Officers and Officials / Sub Engineers along with staff (mentioned below) will remain available during flood days.

### A. NORMAL FLOOD

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned with 05 Nos. Beldars.

### B. LOW FLOOD

Sub Divisional Officer Shahwala Groyne, Layyah, and Sub Engineer concerned with 05 Nos. Beldars.

### C. MEDIUM / HIGH FLOOD

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned & 02 No. Sub Engineers each from Inayat& Hayat Sub Division along with 20 Nos. Beldars and 02 Nos. Mates. Sub Divisional Officer, Flood Bund Sub Division, Shahwala Groyne will remain available at flood bund in the hours of high flood. Sub Divisional Officers, Hayat, Inayat & Bhagal will also perform duty on flood bunds and fully assist in flood fighting activities. All the Sub Divisional Officers & Sub Engineers will have close liaison with Executive Engineer by 24 Hrs. No mobile phone of any officials or officers should be powered off during flood days.

### D. VERY HIGH/ EXCEPTIONALLY HIGH

Sub Divisional Officer Shahwala Groyne, Layyah and Sub Engineer concerned & 02 No. Sub Engineers each from Inayat& Hayat Sub Division along with 49 Nos. Beldars and 04 Nos. Mates. Sub Divisional Officer, Flood Bund Sub Division will remain available at flood bund at the Hours of High flood in the River Indus. Sub Divisional Officer Bhagal Sub Division, Layyah will also remain available. Executive Engineer Layyah Canal Division for assistance to watch and ward flood situation Executive Engineer Bhakkar Canal Division and Executive Engineer Taunsa Barrage will remain available in case of any emergent situation.

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# CHAPTER-10

## EMERGENCY TELEPHONE NOS.

## TELEPHONE DIRECTORY.

| S. No | Designation | Office | Resd / Mobile |
|---|---|---|---|
| 1 | Secretary<br>Irrigation Department Lahore. | 042-99212117<br>042-99212118 | 0304-0920033 |
| 2 | Chief Engineer<br>Drainage & Flood Lahore | 042-99233551 | 0321-9485218 |
| 3 | Director<br>Flood Lahore | 042-99233552 | 0334-4669308 |
| 4 | Deputy Director<br>Flood Lahore | 042-99233553 | 0331-4432859 |
| 5 | Flood Warning Center Lahore. | 042-99205371 | 042-99205157 |
| 6 | Chief Engineer<br>Irrigation Sargodha Zone | 048-9230445 | 0300-9608339<br>0322-4486727 |
| 7 | Executive Engineer<br>Operation Sargodha Zone | 048-9230446 | 048-3740050<br>0345-5165764 |
| 8 | Superintending Engineer<br>Bhakkar Canal Circle, Bhakkar. | 0453921316 | 0345-5165765 |
| 9 | Executive Engineer<br>Canal Division Layyah | 0606-412435 | 0305-8889222 |
| 10 | Sub Divisional Officer, Flood Bund | 0606-412435 | 0344-6606997 |
| 11 | Sub Engineer, Layyah City Flood Bund | 0606-412435 | 0300-8766409 |
| 12 | Sub Engineer, F. North Flood Bund | 0606-412435 | 0300-0045112 |
| 13 | Chashma Barrage Exchange at Chashma Colony Kundian | 0459-241289<br>0459-242858 | 0331-7233027 |

**DISTRICT ADMINISTRATION LAYYAH.**

| | | | |
|---|---|---|---|
| 1 | Deputy Commissioner Layyah | 0606-413703<br>0606-413704<br>0606-413705 | 0300-6630010 |
| 2 | Additional Commissioner<br>Revenue<br>Layyah | 0606-413713 | 0606-920107 |
| 3 | Additional Deputy<br>Commissioner General Layyah | 0321-8519249 | 0321-8519249 |
| 4 | District Police Officer<br>Layyah | 0606-412648<br>0606-412220 | 0606-920151 |
| 5 | Assistant Commissioner Layyah | 0606-920118 | 0606-920118 |
| 6 | Layyah Flood Control Room | 0606-920016 | 0306-5475317 |

XEN,LYH

# CHAPTER-11

## STANDARD OPERATING PROCEDURE (SOP) FOR BREACHING SECTIONS.

### 11.1 HISTORY OF THE BREACHING SECTION

There is no breaching section in Layyah Canal Division Layyah.

### 11.2 LOCATION, DESIGN, QUANTITY AND VARIETY OF THEEXPLOSIVE REQUIRED FOR DETONATION

Not Applicable

### 11.3 ARRANGEMENT OF EXPLOSIVES AND SECURITY OFEXPLOSIVE STORES

Not Applicable

### 11.4 LIST OF THE SECURITY STAFF ALONG WITH DETAIL OFTHEIR TRAINING ETC.

Not Applicable

### 11.5 DETAIL OF MECHANICAL MEANS AS A STANDBYARRANGEMENTS IN CAUSE OF DETONATION FAILURE.

Not Applicable

### 11.6 DUTY ROSTER IN CASE OF CRITICAL SITUATION.

Not Applicable

### 11.7 BREACHING COMMITTEE WITH THEIR ACTION PLAN

There is no breaching section in the jurisdiction of Layyah Canal Division, Layyah.

### 11.8 LIST OF THE VILLAGES LIKELY TO BEINUNDATED INCASE OF BREACH.

Not Applicable

### 11.9 ANNOUNCEMENT AND DETAIL OF EVACUATION ARRANGEMENTS.

Not Applicable

### 11.10 DETAILS OF COORDINATION WITH CIVIL/ARMY AUTHORITIES

Not Applicable

**XEN,LYH**

## 11.11 PARALLEL COMMUNICATION ARRANGEMENTS

Not Applicable

## 11.12 INDEX PLAN

Not Applicable

**Sub Divisional Officer,**
Flood Bund Sub Division
Shahwala Groyne, Layyah

**Executive Engineer,**
Layyah Canal Division
Layyah

**Superintending Engineer,**
Bhakkar Canal Circle,
Bhakkar.

**Chief Engineer,**
Sargodha Irrigation Zone,
Sargodha.

# PART – B

## CHAPTER-12

## VULNERABLE SITES ON FLOOD BUND/STRUCTURES

### 12.1 APPREHENDED BREACH SITES IN FLOOD BUNDS / STRUCTURES

The vulnerable sites on flood protection works are under: -

| Sr. No. | Name of Flood Bund / Structure | Critical Reach RD | | Camp Location |
|---|---|---|---|---|
| | | From | To | |
| 1 | Layyah City Flood Protection Bund | 0+000 | 8+000 | 8+000 |
| 2 | F. North Flood Bund | 13+000 | 40+000 | 30+000 |
| 3 | Shahwala Groyne | 0+000 | 9+000 | 5+000 |
| 4 | | 15+000 | 35+000 | 29+000 |
| 5 | | 47+500 | 66+000 | 59+000 |
| 6 | Bakhri Ahmad Khan Protection Bund | 0+000 | 11+000 | 3+700 |

### 12.2 OPERATION OF BREACHING SECTIONS.

There is no such case in Layyah Canal Division , Layyah

### 12.3 BREACHES DUE TO RISING OF FLOOD WATER, DETERIORATION OF FLOOD BUNDS ETC.

There is no such case in Layyah Canal Division , Layyah

**XEN,LYH**

# CHAPTER-13

## 13 EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITES

Flow pattern, since start of flood season, remains turbulent and dangerous with direct hit on upstream left side river training works i.e Shah wala

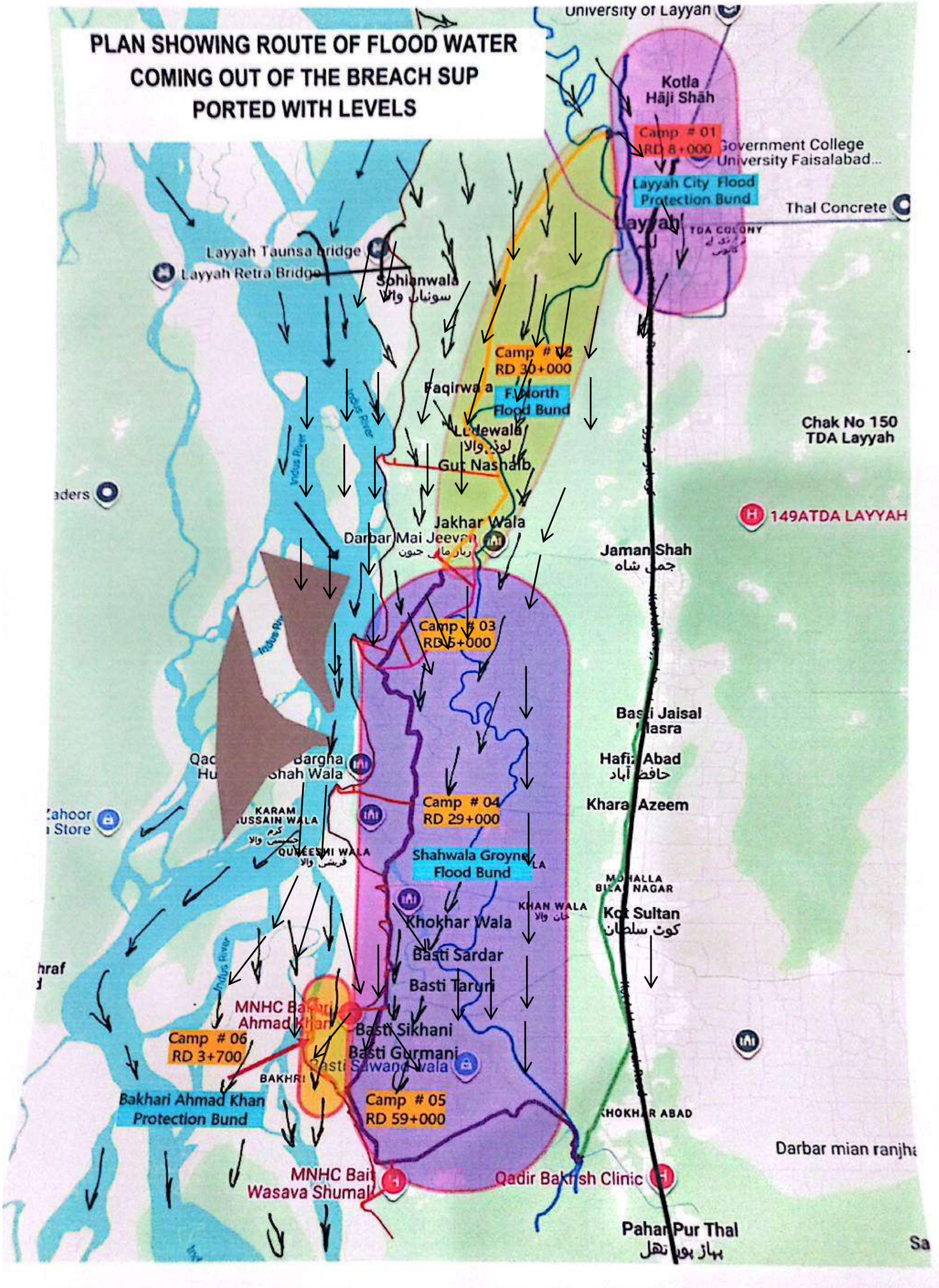
Groyne RD. 0- 66+000, Spur No. 1-B, Spur RD. 47+500 Shahwala Groyne. Day & night watching of Shah wala Groyne and its allied Spurs will be made by establishing watching camps for watching staff. For better management, machinery will be deployed. Army contingent with 50 Jawans will also patrol along Shahwala Groyne. If despite taking all these precautions, a structure fails, plan will come in action described below:-

**Site # 01 ( Layyah City Flood Bund RD 0+000 To 8+000 )**

## 13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS

Plan Attached

**XEN,LYH**


PLAN SHOWING ROUTE OF FLOOD WATER
COMING OUT OF THE BREACH SUP
PORTED WITH LEVELS
University of Layyah
Kotla
Hāji Shāh
Camp # 01
RD 8+000
Government College
University Faisalabad...
Layyah City Flood
Protection Bund
Thal Concrete
Layyah
TDA COLONY
Layyah Taunsa Bridge
Layyah Retra Bridge
Sohlanwala
سونیاں والا
Camp # 02
RD 30+000
Faqirwala
F North
Flood Bund
Chak No 150
TDA Layyah
Gut Nashaib
Jakhar Wala
Darbar Mai Jeevan
149ATDA LAYYAH
Jaman Shah
جمن شاہ
Camp # 03
RD 45+000
Basti Jaisal
Nasra
Hafiz Abad
حافظ آباد
Khara Azeem
Camp # 04
RD 29+000
KARAM HUSSAIN WALA
QUREESHI WALA
Shahwala Groyne
Flood Bund
MOHALLA
BILAL NAGAR
KHAN WALA
Kot Sultan
کوٹ سلطان
Khokhar Wala
Basti Sardar
Basti Taruri
MNHC Bakhari
Ahmad Khan
Basti Sikhani
Basti Gurmani
Camp # 06
RD 3+700
BAKHRI
Bakhari Ahmad Khan
Protection Bund
Camp # 05
RD 59+000
KHOKHAR ABAD
Darbar mian ranjha
MNHC Bait
Wasava Shumali
Qadir Bakhsh Clinic
Pahar Pur Thal
پہاڑ پور تھل
Indus River

XEN,LYH

## 13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLANS .

SITE = LAYYAH CITY PROTECTION BUND
REACH = FROM RD 0+000 TO 8+000
CAMP LOCATION = RD 8+000 AT CITY FLOOD BUND

### ABADIES LIKELY TO BE AFFECTED

- Kotla Haji Shah
- Layyah City
- Laskani Wala

## 13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL THIS MAY INCLUDE

In case of flood emergency / breaches, strategy and action taken is as under:-

### 13.3.1 ARRANGEMENTS

in case of breach or emergency situation, immediate countermeasures will include.

- Tree Launching
- Gunny Bags.
- Stone Dumping

### 13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

During the flood season, field staff will be strategically deployed at the following proposed camp sites to ensure effective monitoring and timely response to any emergency situation. Dedicated flood camps will be established and maintained at these locations to facilitate continuous supervision and rapid mobilization of resources. These camps will play a vital role in safeguarding the main embankments, protecting critical hydraulic structures, and closely monitoring all vulnerable points along the system. The presence of field staff at these sites will help in early detection of potential threats, prompt execution of preventive measures, and efficient management of flood-related challenges.

A flood monitoring and response camp will be established at RD 8+000 at Layyah City Protection Bund.

| SR No | Flood Bund Name | Camp RD |
|---|---|---|
| 1 | Layyah City Protection Bund | RD 8+000 |

### 13.3.3 DUTIES OF OFFICERS/OFFICIALS AND THEIR CAMPS SITES ( Camp No.01 )

| Camp No. | Location / Camp RD | Name of Officer/Designation/Cell Number | Name of Official/Designation/Cell Number |
|---|---|---|---|
| 1 | RD 8+000 of Layyah City Flood Protection Bund | Muhammad Shoaib<br>Sub Divisional Officer<br>0344-6606997 | Muhammad Ashraf<br>Sub Engineer<br>0300-8766409 |

- The Executive Engineer of Layyah Canal Division oversees of all flood related activities, including maintenance, supervision and co-ordination with civil and military authorities.
- The Sub Divisional Officer monitors key flood protection structures, ensures low lying Katcha area & Layyah city safety, coordinates with relevant authorities.
- The Sub Engineer of City Flood Bund Section managed Layyah City Flood Bund, ensuring 24/7 monitoring with the dedicated labour force for infrastructure protection.

**XEN,LYH**

## 13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Departmental Machinery will be available during flood season.

## 13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

If machinery is needed, it will be arranged / hired from private source. The machinery can be hired in case of emergency as per detail provided in chapter 14.

## 13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

### CAMP # 01 AT RD 8+000 (Layyah City Protection Bund)

| Sr. # | Item | Unit | Total Required Quantity | Available Quantity | Balance Quantity | Remarks |
|---|---|---|---|---|---|---|
| 1 | Shouldari/Tent | No | 1 | 1 | - | The required quantity will be purchased before coming flood season through Govt Contractor subject to availability of fund & by the approval of competent authority. |
| 2 | Chairs | No | 6 | 3 | 3 | |
| 3 | Table | No | 1 | 1 | - | |
| 4 | Generator | No | 1 | 1 | - | |
| 5 | Pedestal Fans | No | 1 | 1 | - | |
| 6 | Charpois | No | 2 | 2 | - | |
| 7 | Symbolic Jackets | No | 50 | - | 50 | |
| 8 | Polyethene Sheet | Kg | 100 | - | 100 | |
| 9 | Bamboos (4" dia and 10 ft long) | No | 100 | 50 | 50 | |
| 10 | Water Coller | No | 1 | 1 | - | |
| 11 | Portable umbrella | No | 2 | 2 | - | |
| 12 | Life Jackets | No | 5 | 2 | 4 | |
| 13 | Utensils (10 person serving) | No | 1 | - | 1 | |
| 14 | Jute/Plastic bags | No | 1000 | 200 | 800 | |
| 15 | Walke Talkie Set | Sets | 2 | - | 2 | |
| 16 | Raincoats | No | 10 | 5 | 5 | |
| 17 | LED flood light | No | 10 | - | 10 | |
| 18 | Extension Cable (10 ft) | No | 2 | 1 | 1 | |
| 19 | Rechargeable torches | No | 20 | 10 | 10 | |
| 20 | Kassi | No | 20 | 10 | 10 | |
| 21 | Axes | No | 20 | 10 | 10 | |
| 22 | G.I Buckets | No | 6 | - | 6 | |
| 23 | 7/44 cable | Ft | 500 | - | 500 | |
| 24 | Sutli | Kg | 2 | - | 2 | |
| 25 | Sewing Needles | No | 10 | - | 10 | |
| 26 | Emergency Medical Kit | No | 1 | - | 1 | |
| 27 | Wire crates (3x3x3) (at only those camp near river action and reserve stock exists) | No | 100 | - | 100 | |

## 13.3.7 FLOOD FIGHTING MATERIAL AVAILABLE

Detailed information already provided in Section 13.3.6

**XEN,LYH**

**Site # 02 (F. North Flood Bund RD 13+000 To 40+000)**

## 13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS

Plan Attached in section 13.1 of site-1

## 13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLANS.

SITE = F.NORTH FLOOD BUND
REACH = FROM RD 13+000 TO 40+000
CAMP LOCATION = RD 30+000 AT F.NORTH FLOOD BUND

### ABADIES LIKELY TO BE AFFECTED

- **Nai Wala**
- **Sohian Wala**
- **Ludy Wala**
- **Basti Jakhar**
- **Basti Gut Nashaib**

## 13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL THIS MAY INCLUDE

In case of flood emergency / breaches, strategy and action taken is as under:-

### 13.3.1 ARRANGEMENTS

in case of breach or emergency situation, immediate countermeasures will include.

- Tree Launching
- Gunny Bags.
- Stone Dumping

### 13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

The Field staff will be deployed during flood season at below proposed camps site to control the situation and flood camp is also maintained at site to protect the main embankments, critical structures and vulnerable site.

| Sr. No. | Name of Bunds / Structures | Camp RD |
|---|---|---|
| 1 | F. North Flood Bund | 30+000 |

### 13.3.3 DUTIES OF OFFICERS/OFFICIALS AND THEIR CAMPS SITES ( Camp No.02 )

| Camp No. | Location / Camp RD | Name of Officer/Designation/Cell Number | Name of Official/Designation/Cell Number |
|---|---|---|---|
| 1 | F. North Flood Bund at RD 30+000 | Muhammad Shoaib<br>Sub Divisional Officer<br>0344-6606997 | Naeem Akbar<br>Sub Engineer<br>0300-0045112 |

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- The Executive Engineer, Layyah Canal Division, is responsible for overall management of flood-related operations, including maintenance, supervision, and coordination with civil and military authorities.
- The Sub-Divisional Officer is tasked with overseeing critical flood protection structures, ensuring the safety of low-lying Katcha areas and Layyah city, and maintaining coordination with concerned departments.
- The Sub-Engineer of the F. North Section is entrusted with the management of F. North Flood Bund, ensuring round-the-clock surveillance through deployment of dedicated labour for safeguarding the infrastructure.

## 13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Departmental Machinery will be available during flood season.

## 13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

If machinery is needed, it will be arranged / hired from private source. The machinery can be hired in case of emergency as per detail provided in chapter 14.

## 13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

| Sr. # | Item | Unit | Total Required Quantity | Available Quantity | Balance Quantity | Remarks |
|---|---|---|---|---|---|---|
| 1 | Shouldari/Tent | No | 1 | 1 | -- | The required quantity will be purchased before coming flood season through Govt Contractor subject to availability of fund & by the approval of competent authority. |
| 2 | Chairs | No | 6 | 3 | 3 | |
| 3 | Table | No | 1 | - | 2 | |
| 4 | Generator | No | 1 | 1 | - | |
| 5 | Pedestal Fans | No | 1 | - | 1 | |
| 6 | Charpois | No | 2 | 2 | - | |
| 7 | Symbolic Jackets | No | 50 | - | 50 | |
| 8 | Polyethene Sheet | Kg | 100 | - | 100 | |
| 9 | Bamboos (4" dia and 10 ft long) | No | 100 | 50 | 50 | |
| 10 | Water Coller | No | 1 | 1 | - | |
| 11 | Portable umbrella | No | 2 | 2 | - | |
| 12 | Life Jackets | No | 5 | 2 | 4 | |
| 13 | Utensils (10 person serving) | No | 1 | - | 1 | |
| 14 | Jute/Plastic bags | No | 1000 | 200 | 800 | |
| 15 | Walke Talkie Set | Sets | 2 | - | 2 | |
| 16 | Raincoats | No | 10 | - | 10 | |
| 17 | LED flood light | No | 10 | - | 10 | |
| 18 | Extension Cable (10 ft) | No | 2 | - | 2 | |
| 19 | Rechargeable torches | No | 20 | - | 20 | |
| 20 | Kassi | No | 20 | - | 20 | |
| 21 | Axes | No | 20 | - | 20 | |
| 22 | G.I Buckets | No | 6 | - | 6 | |
| 23 | 7/44 cable | Ft | 500 | - | 500 | |
| 24 | Sutli | Kg | 2 | - | 2 | |
| 25 | Sewing Needles | No | 10 | - | 10 | |
| 26 | Emergency Medical Kit | No | 1 | - | 1 | |
| 27 | Wire crates (3x3x3) (at only those camp near river action and reserve stock exists) | No | 100 | - | 100 | |

## 13.3.7 FLOOD FIGHTING MATERIAL AVAILABLE

Detailed of flood fighting material available is provided in Section 13.3.6

**XEN,LYH**

**Site # 03, 04 and 05 (Shahwala Groyne Flood Bund)**

- RD 0+000 To 9+000
- RD 15+000 To 35+000
- RD 47+500 To 66+000

## 13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS

Plan Attached in section 13.1 of site-1

## 13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLANS.

| Sr. No | Structure | RD | Abadies |
|---|---|---|---|
| 1 | SHAHWALA GROYNE FLOOD BUND | 0+000 TO 9+000 | • Basti Shah Wali<br>• Basti Rangila<br>• Basti Sardar , Bati |
| 2 | | 15+000 TO 35+000 | • BastiTaruri<br>• Bastikhokhar Wala<br>• Khan Wala |
| 3 | | 47+500 TO 66+000 | • Basti Sayed Wali<br>• Basti Machi<br>• Bait Musava Wali<br>• Basti Uth Mar |

## 13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL THIS MAY INCLUDE

In case of flood emergency / breaches, strategy and action taken is as under.

### 13.3.1 ARRANGEMENTS

In case of breach or emergency situation, immediate countermeasures will include.

- Tree Launching
- Gunny Bags.
- Stone Dumping
- In case Shah wala Groyne breaches, the flood water will be stopped by LMB Dholewala Groyne will be cut to deplete this flood water back into river.

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## 13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

In order to effectively manage flood conditions, field staff will be deployed during the flood season at the identified camp locations. Flood camps will be properly established and maintained at these sites to ensure continuous vigilance and operational readiness. These arrangements are aimed at providing protection to the main embankments, securing critical structures, and closely observing vulnerable reaches. The stationed staff will remain actively engaged in monitoring, enabling timely interventions and ensuring prompt response to any emerging flood threats.

| Sr. No. | Name of Bunds / Structures | Camp RD |
|---|---|---|
| 1 | Shahwala Groyne Flood Bund | 5+000 |
| | Shahwala Groyne Flood Bund | 29+000 |
| | Shahwala Groyne Flood Bund | 59+000 |

## 13.3.3 DUTIES OF OFFICERS/OFFICIALS AND THEIR CAMPS SITES (Camp No.03)

| Camp No. | Location / Camp RD | Name of Officer/Designation/Cell Number | Name of Official/Designation/Cell Number |
|---|---|---|---|
| 1 | Shahwala Groyne RD 5+000 | Muhammad Shoaib<br>Sub Divisional Officer<br>0344-6606997 | 1. Muneer Ahmad<br>Sub Engineer<br>0303-0724984 |
| 2 | Shahwala Groyne RD 29+000 | Muhammad Shoaib<br>Sub Divisional Officer<br>0344-6606997 | Sohail Ahmad<br>Sub Engineer<br>0304-9932277 |
| 3 | Shahwala Groyne RD 59+000 | Muhammad Shoaib<br>Sub Divisional Officer<br>0344-6606997 | Muhammad Asif Alvi<br>Sub Engineer<br>0301-3067159 |

- The Executive Engineer, Layyah Canal Division, exercises overall control and supervision of flood management activities, including upkeep of infrastructure and liaison with civil and military authorities.
- The Sub-Divisional Officers ensure effective monitoring of important flood protection works, safeguards low-lying Katcha areas and Layyah city, and maintains close coordination with all concerned departments.

## 13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Departmental Machinery will be available during flood season.

## 13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

If machinery is needed, it will be arranged / hired from private source. The machinery can be hired in case of emergency as per detail provided in chapter 14.

**XEN,LYH**

## 13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

**(03 Camps of Shahwala Groyne Flood Bund)**

| Sr. # | Item | Unit | Total Required Quantity | Available Quantity | Balance Quantity | Remarks |
|---|---|---|---|---|---|---|
| 1 | Shouldari/Tent | No | 3 | 1 | 2 | The required quantity will be purchased before coming flood season through Govt. Contractor subject to availability of fund & by the approval of competent authority. |
| 2 | Chairs | No | 18 | - | 18 | |
| 3 | Table | No | 3 | - | 3 | |
| 4 | Generator | No | 3 | 1 | 2 | |
| 5 | Pedestal Fans | No | 3 | - | 3 | |
| 6 | Charpois | No | 6 | - | 6 | |
| 7 | Symbolic Jackets | No | 150 | - | 150 | |
| 8 | Polyethene Sheet | Kg | 300 | - | 300 | |
| 9 | Bamboos (4" dia and 10 ft long) | No | 300 | - | 300 | |
| 10 | Water Coller | No | 3 | - | 3 | |
| 11 | Portable umbrella | No | 6 | 2 | 4 | |
| 12 | Life Jackets | No | 15 | - | 15 | |
| 13 | Utensils (10 person serving) | No | 3 | - | 3 | |
| 14 | Jute/Plastic bags | No | 3000 | 100 | 2900 | |
| 15 | Walke Talkie Set | Sets | 6 | - | 6 | |
| 16 | Raincoats | No | 30 | - | 30 | |
| 17 | LED flood light | No | 30 | - | 30 | |
| 18 | Extension Cable (10 ft) | No | 6 | - | 6 | |
| 19 | Rechargeable torches | No | 60 | - | 60 | |
| 20 | Kassi | No | 60 | - | 60 | |
| 21 | Axes | No | 60 | - | 60 | |
| 22 | G.I Buckets | No | 15 | -- | 15 | |
| 23 | 7/44 cable | Ft | 1500 | - | 1500 | |
| 24 | Sutli | Kg | 6 | - | 6 | |
| 25 | Sewing Needles | No | 30 | - | 30 | |
| 26 | Emergency Medical Kit | No | 3 | - | 3 | |
| 27 | Wire crates (3x3x3) (at only those camp near river action and reserve stock exists) | No | 300 | - | 300 | |

## 13.3.7 FLOOD FIGHTING MATERIAL AVAILABLE

Detailed information already provided in Section 13.3.6

**XEN,LYH**

## Site # 06 ( Bhakhri Ahmad Khan Protection Bund RD 0+000 To 11+000)

## 13.1 PLAN SHOWING ROUTE OF FLOOD WATER COMING OUT OF THE BREACH SUPPORTED WITH LEVELS

Plan Attached in section 13.1 of site-1

## 13.2 DETAIL OF VILLAGES ABADIES LIKELY TO BE AFFECTED AND THIS SHOULD ALSO BE SHOWN ON THE PLANS.

SITE = BAKHRI AHMAD KHAN PROTECTION BUND
REACH = FROM RD 0+000 TO 11+000
CAMPS LOCATION = RD 3+700 AT BAKHRI AHMAD KHAN

### ABADIES LIKELY TO BE AFFECTED

- **Bakhri Ahmad khan**
- **Basti Sikhani**
- **Basti Ghurmani**

## 13.3 STRATEGY AND ACTION TAKEN BE EXPLAINED IN DETAIL THIS MAY INCLUDE

In case of flood emergency / breaches, strategy and action taken is as under:-

### 13.3.1 ARRANGEMENTS

in case of breach or emergency situation, immediate countermeasures will include.

- Tree Launching
- Gunny Bags.
- Stone Dumping
- In case Shah wala Groyne breaches, the flood water will be stopped by LMB Dholewala Groyne will be cut to deplete this flood water back into river.

### 13.3.2 ESTABLISHMENT OF FLOOD FIGHTING CAMPS

For effective flood management, field staff will be positioned during the flood season at the designated camp sites. Flood camps will be established and kept fully operational at these locations to ensure continuous monitoring and immediate response capability. These camps will support the protection of main embankments, safeguard critical infrastructure, and enable close surveillance of vulnerable areas. The deployment will ensure timely action and efficient handling of any flood-related situation

| Sr. No. | Name of Bunds / Structures | Camp RD |
|---|---|---|
| 1 | Bakhri Ahmad Khan Protection Bund | 3+700 |

### 13.3.3 DUTIES OF OFFICERS/OFFICIALS AND THEIR CAMPS SITES (Camp No.06)

| Camp No. | Location / Camp RD | Name of Officer/Designation/Cell Number | Name of Official/Designation/Cell Number |
|---|---|---|---|
| 1 | Bakhri Ahmad Khan Protection Bund RD 3+700 | Muhammad Shoaib<br>Sub Divisional Officer<br>0344-6606997 | Muhammad Hasnain<br>Sub Engineer<br>0306-7471373 |

- **XEN,LYH**

- The Executive Engineer, Layyah Canal Division, holds overall responsibility for planning, execution, and supervision of flood management operations, including maintenance of works and coordination with civil and military agencies.
- The Sub-Divisional Officer is responsible for regular inspection of flood protection structures, ensuring the safety of low-lying Katcha areas and Layyah city, and maintaining effective liaison with all concerned quarters.
- The Sub-Engineer is responsible for the upkeep and continuous watch of the Bakhari Ahmad Khan Protection Bund, ensuring round-the-clock monitoring through proper deployment of labour for safeguarding the structure.

### 13.3.4 DEPARTMENTAL MACHINERY AVAILABLE

Departmental Machinery will be available during flood season.

### 13.3.5 MACHINERY AVAILABLE FROM PRIVATE SOURCE

If machinery is needed, it will be arranged / hired from private source. The machinery can be hired in case of emergency as per detail provided in chapter 14.

### 13.3.6 FLOOD FIGHTING MATERIAL REQUIRED

Flood material is required as already mentioned in section 13.3.6 at page No. 38 of Site-02.

### 13.3.7 FLOOD FIGHTING MATERIAL AVAILABLE

Detailed of flood fighting material is same as provided in Section 13.3.6 of site-2

## 13.4 DETAIL OF OTHER INFRASTRUCTURE LIKE ELECTRIC, SUI GAS, TELEPHONE INSTALLATIONS, ROAD NETWORK, OTHER BUILDINGS, CANALS AND DRAINAGE NETWORK.

--NIL--

**Sub Divisional Officer**
Flood Bund Sub Division
Shahwala Groyne, Layyah

**Executive Engineer,**
Layyah Canal Division,
Layyah.

# CHAPTER-14

# ACTION PLAN

## 14.1 RE-SHIFTING / RECOUPING OF RESERVE STOCK OF STONE DEPARTMENTALLY.

| Sr. # | Name of Structures | Sanctioned Limit Reserve stock of stone | Available at site | Required | Remarks |
|---|---|---|---|---|---|
| 1 | J. Head Spur at RD: 13000 F. North flood bund | 1.50 | 1.237 | 0.263 | Procurement of Reserve stock is in progress. |
| 2 | Guide Head Spur at RD: 2500 F. North flood bund | 1.50 | 1.203 | 0.297 | |
| 3 | Guide Head Spur No. 2 at RD 7+000 of Shah Wala Groyne | 1.50 | 1.497 | 0.003 | |
| 4 | Guide Head Spur 1-A at RD 9+000 Shah Wala Groyne | 1.50 | 1.183 | 0.317 | |
| 5 | J-Head Spur 1-B at RD 29+000 Shah Wala Groyne | 1.50 | 1.50 | - | |
| 6 | J-Head Spur at RD 47+500 Shah Wala Groyne | 1.50 | 0.322 | 1.178 | |
| 7 | Sloping spur RD 37+750 Shah Wala Groyne | 1.00 | 0.997 | 0.003 | |
| 8 | Sloping spur RD 40+700 Shah Wala Groyne | 1.00 | 0.839 | 0.161 | |
| 9 | Inverted hockey spur of Link Bund Shah Wala Groyne | 1.00 | 0.193 | 0.807 | |
| 10 | 4 No. Stud at RD 44-47 of Shah Wala Groyne | 1.00 | - | 1.00 | |
| 11 | 4 No. Stone studs at Protection Bund Bakhri Ahmad Khan (0.25 Lac Cft of each) | 1.00 | 0.948 | 0.052 | |
| 12 | Inverted Hockey spur at Protection Bund Bakhri Ahmad Khan | 1.00 | - | 1.00 | |
| **Total:-** | | **15.00** | **9.919** | **5.081** | |

## 14.2 DETAIL OF INLET/OUTLET CROSSING ALONG WITH CLOSING METHODOLOGY.

There is no Inlet / Outlet crossing along with F. North flood bund, Layyah City Flood protection bund and Shahwala Groyne Layyah falls in the jurisdiction of Layyah Canal Division, Layyah.

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## 14.3 DEPLOYMENT OF MACHINERY (NORMAL TO LOW FLOOD)

| Sr. No. | Structure Name | Length (Miles) | Excavators | Trolleys | Dumpers | Tractor with Front blade (1 per 15 mile reach) |
|---|---|---|---|---|---|---|
| 1 | Layyah City Flood Protection Bund RD 0 - 24+600 | 4.92 | S.E shall allow deputation of one (1) excavator & four (4) Trolleys during low flood at camps/vulnerable points & LMB / RMB. | | - | - |
| 2 | F. North Flood Bund RD 0 – 51+500 | 10.30 | | | - | 1 |
| 3 | Shahwala Groyne RD 0 – 9+000 | 1.80 | | | - | - |
| 4 | Shahwala Groyne RD 15+000 - 35+000 | 4.00 | | | - | - |
| 5 | Shahwala Groyne RD 47+500 – 66000 | 3.80 | | | - | - |
| 6 | Bakhri Ahmad Khan Protection Bund 0-11+000 | 2.20 | | | - | - |
| | | Total | | | - | 1 |

## 14.4 DEPLOYMENT OF MACHINERY (MEDIUM TO HIGH FLOOD)

| Sr. No. | Structure Name | Length (Miles) | Excavators | Trolleys | Dumpers | Tractor with Front blade |
|---|---|---|---|---|---|---|
| | | | 1 per 7 mile reach | 4 per 7 mile reach | 2 per 7 mile reach | 1 per 7 mile reach |
| 1 | Layyah City Flood Protection Bund RD 0 - 24+600 | 4.92 | 1 | 3 | 1 | 1 |
| 2 | F. North Flood Bund RD 0 – 51+500 | 10.30 | 1 | 5 | 3 | 1 |
| 3 | Shahwala Groyne RD 0 – 9000 | 1.80 | 1 | 2 | 1 | 1 |
| 4 | Shahwala Groyne RD 15000 - 35000 | 4.00 | 1 | 2 | 1 | 1 |
| 5 | Shahwala Groyne RD 47500 - 66000 | 3.80 | 1 | 2 | 1 | 1 |
| 6 | Bakhri Ahmad Khan Protection Bund 0-11+000 | 2.20 | 1 | 2 | 1 | 1 |
| | | **Total** | **6** | **16** | **8** | **6** |

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## 14.5 DEPLOYMENT OF MACHINERY (VERY HIGH TO EXCEPTIONALLY HIGH FLOOD)

| Sr. No. | Structure Name | Length (Miles) | Excavators | | Trolleys | Dumpers | Tractor with Front blade | |
|---|---|---|---|---|---|---|---|---|
| | | | Very High Flood | Exp. High Flood | 4 per 5 mile reach | 2 per 5 mile reach | Very High Flood | Exp. High Flood |
| | | | 1 per 5 mile reach | 2 per 5 mile reach | | | 1 per 5 mile reach | 2 per 5 mile reach |
| 1 | Layyah City Flood Protection Bund RD 0 - 24+600 | 4.92 | 1 | 2 | 4 | 2 | 1 | 2 |
| 2 | F. North Flood Bund RD 0 – 51+500 | 10.30 | 2 | 4 | 8 | 4 | 2 | 4 |
| 3 | Shahwala Groyne RD 0 – 9000 | 1.80 | 1 | 1 | 2 | 1 | 1 | 1 |
| 4 | Shahwala Groyne RD 15000 - 35000 | 4.00 | 1 | 2 | 3 | 2 | 1 | 2 |
| 5 | Shahwala Groyne RD 47500 – 66000 | 3.80 | 1 | 2 | 3 | 2 | 1 | 2 |
| 6 | Bakhri Ahmad Khan Protection Bund 0-11+000 | 2.20 | 1 | 1 | 2 | 1 | 1 | 1 |
| | **Total** | | **7** | **12** | **22** | **12** | **7** | **12** |

## 14.6 POLICE DEPLOYMENT PLAN

**1. Name of Zone: - Irrigation Zone Sargodha**

| Sr. # | Site breaching section | Concerned Canal Division | Concerned Police station | Police personal to be | | Remarks (If any) |
|---|---|---|---|---|---|---|
| | | | | Inspector / S.I / A.S.I | Constables | |
| 1 | No breaching Section | Layyah Division | Police station Layyah City / Thana Sadar | - | - | - |

| Sr. # | Vulnerable sites used for illegal cuts during floods | Concerned Canal Division | Concerned Police station | Police personal to be | | Remarks (If any) |
|---|---|---|---|---|---|---|
| | | | | Inspector / S.I / A.S.I | Constables | |
| 1 | Nil | Layyah Division | Nil | - | - | - |

## 14.7 DETAILS OF SYNTHETIC BAGS WITH CAPACITY OF 50 KG AND 100 KG

Not required.

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## 14.8 DETAILS OF POLYTHENE SHEET OF BLACK COLOR TO PROTECT UPSTREAM SLOPE AGAINST WAVE ACTION AND TO CONTROL SEEPAGE THROUGH EMBANKMENTS.

| Sr. # | Description | Name of embankment | Quantity Required (In No.) | Quantity available | Balance Quantity Required | Remarks |
|---|---|---|---|---|---|---|
| 1 | Polythene sheet of black color | F. North Flood Bund RD: 0+000 to 51+500 | 100000 Sft | - | 100000 Sft | The required quantity will be purchased through Government contractor before coming flood season 2023 |
| 2 | Polythene sheet of black color | Layyah City Flood Protection Bund RD: 0+000 to 24+600 | 70000 Sft | - | 70000 Sft | The required quantity will be purchased through Government contractor before coming flood season 2023 |
| 3 | Polythene sheet of black color | Shahwala Groyne Flood Protection Bund RD: 0+000 to 66+000 | 100000 Sft | - | 100000 Sft | The required quantity will be purchased through Government contractor before coming flood season 2023 |
| **Total** | | | **270000 Sft** | | **270000 Sft** | |

## 14.9 ANY OTHER DETAILS AS PER SOPs APPROVED BY THE ADMINISTRATIVE DEPARTMENTS.

SOPs shared vide No.SO(FLOODS)VII-22/2017 DATED 26-12-2025 shall be strictly followed.

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# CHAPTER-15

## BACKUP DIVISIONS (IN CASE OF BREACH)

In case of emergency Taunsa Barrage Division, Bhakkar Canal Division Bhakkar & Khansar Canal Division Kallurkot will be requested for help.

**Sub Divisional Officer**
Flood Bund Sub Division
ShahwalaGroyne, Layyah

**Executive Engineer,**
Layyah Canal Division,
Layyah.

**Superintending Engineer**
Bhakkar Canal Circle,
Bhakkar.

**Chief Engineer**
Sargodha Irrigation Zone,
Sargodha.