CHAPTER NO. 1

SALIENT FEATURES OF RAJANPUR CANAL DIVISION, RAJANPUR

Rajanpur Canal Division was commenced in 1966. The Irrigation network of this Division comprises of two main canals i.e. Dajal Branch (RD: 99+000-190+000) & Link No. III (Rd: 23+000 – 227+820), which off-take from tail D.G. Khan Canal (Zero Head Regulator). The discharge of Link No. III is 3043 Cusecs at its head & 2739 Cusecs at RD: 23+000. The revised discharge of Dajal Branch at head is 1786 cusecs RD: 0+000 & 1582 cusec at RD: 99+000 (The Indent Point of Rajanpur Canal Division).

The other two major channels are Dhundi Kutab Canal (DKC) & Kadra Canal, which off-take from Link No. III and their respective discharges are 689 & 1340 cusecs respectively. A brief of the salient features is given in the table below: -

Table 1: Salient Features of Rajanpur Canal Division

Total Number of Distributaries.	40
Total No. of Minors.	33
Total No. of Branch Canal.	2
Total No. of Channels	**75**
Total length of Channels	590 Miles
Length of Link No. III, RD: 23000-227820	40 Miles
Length of Dajal Branch, RD: 99000-190000	18 Miles
Length of Distributaries.	412 Miles
Length of Minors	120 Miles
Number of Hill Torrent Crossing at Dajal Branch.	6
Number of X-ing at DKC, Raj Disty, Hamid Disty & Kadra Canal	04 No. Crossings (1 for each)
Gross Command Area	GCA-503919 Acres
Culture-able Command Area	CCA-463732 Acres
Total Number of Outlets	1720

1.1 Location

Rajanpur District is located in the extreme southwest part of Punjab, Pakistan (29:06N, 70:19E) with a geographical span of 12,319 km2. It is pertinent to mention here that District Rajanpur is one of the main districts of southern Punjab located at right side of the River Indus which is directly suffered by hill torrent floods and River Indus. The land of the district Rajanpur is sandwiched between River Indus and Suleman Mountains Range. According to the National Census Report 2023, it had a population of 2,381,049, and under the local administrative break up, whole district is divided into three Tehsils, Jampur (32 Union Councils), Rajanpur (32 Union Councils), Rojhan Mazari (15 Union Councils) and a vast belt of provincially administered tribal area (PATA). Rajanpur Canals Division was commenced in 1966. The Irrigation network of this Division comprises of three main systems i.e. Dajal Branch, Link No. III and Kadra Canal. The Irrigation supply is received through Dera Ghazi Khan Canal, off taking from the right side of Taunsa Barrage D.G. Khan Canal, a non-perennial channel with an original design capacity of 8900 Cusec. The Capacity D.G. Khan Canal was revised to 11549 Cusec, inclusive of 2#. Silt ejector-having capacity of 2500 cusecs however same has not been implemented as of today due to capacity constraints of DG Khan canal. The supply up to a maximum of 8900 cusecs is possible in D.G. Khan Canal.

1.2 General Description

The entire irrigation network is under the direct hit of Hill Torrents of Koh Suleman Range. The main torrents are Kaha, Kala Bagga Khosra, Chachar, Pitok, Zangi, Sori Shumali & Sori Janobi. The quantum and velocity of the flood water cannot be ascertained by normal procedure but losses can be minimized by taking prompt action. Dajal Branch, Kadra Canal and D.K.C. along with Distys are under the direct hit of Kaha, Kala Bagga Khosra, Chachar, Pitok, Zangi, Sori Shumali and Sori Janobi Hill Torrents. As earlier mentioned, that the quantum and velocity of this flash flood water cannot be ascertained by normal procedure, therefore full protective and precautionary measures have to be adopted to cater these torrential floods during entire Monsoon Season so that minimum losses have to be faced.

As per previous record of Hill Torrents, flood water accumulates in shape of pond on the right side of the Dajal Branch. Hill Torrent structures have been provided at various active routes over Dajal Branch to drain off flood water into River Indus through their traditional routes. These Hill Torrent structures are the control point of this Division. These traditional routes have been shown on the attached index plan. The torrential flood also damages Zam Zam, Abe Hayat, Hajipur, Fatehpur, Sadiq Feeder, Sadiq Disty, NDC, Islampur, Taskeen, DKC, Mubarik Distys, Tariq Minor and their allied systems along with standing crops, private properties and government infrastructures on its way. It also attacks on D.K.C. at RD: 65+000 to 120+000/R just after crossing at RD: 94+750. Ultimately, this flood water proceeds to storm water drain namely Qutab Drain, Musharaf drain and out falls in River Indus.

Kachhi Canal has been constructed all along on the right side of Dajal Branch. Before the construction of Kachhi Canal, the right bank of Dajal Branch was the defense bank against Hill Torrent flood. After the construction of Kachhi Canal, the 1st defense is the right bank of Kachhi Canal. The flood water is supposed to pass through Hill Torrent crossing of Kachhi Canal and Dajal Canal. After passing through these crossing structures, this flood ultimately falls in River Indus by adopting traditional routes. Unfortunately, the incomplete banks and crossing structures on Kachhi Canal are behaving adversely.

Branch Canals and their off takes are as under:-

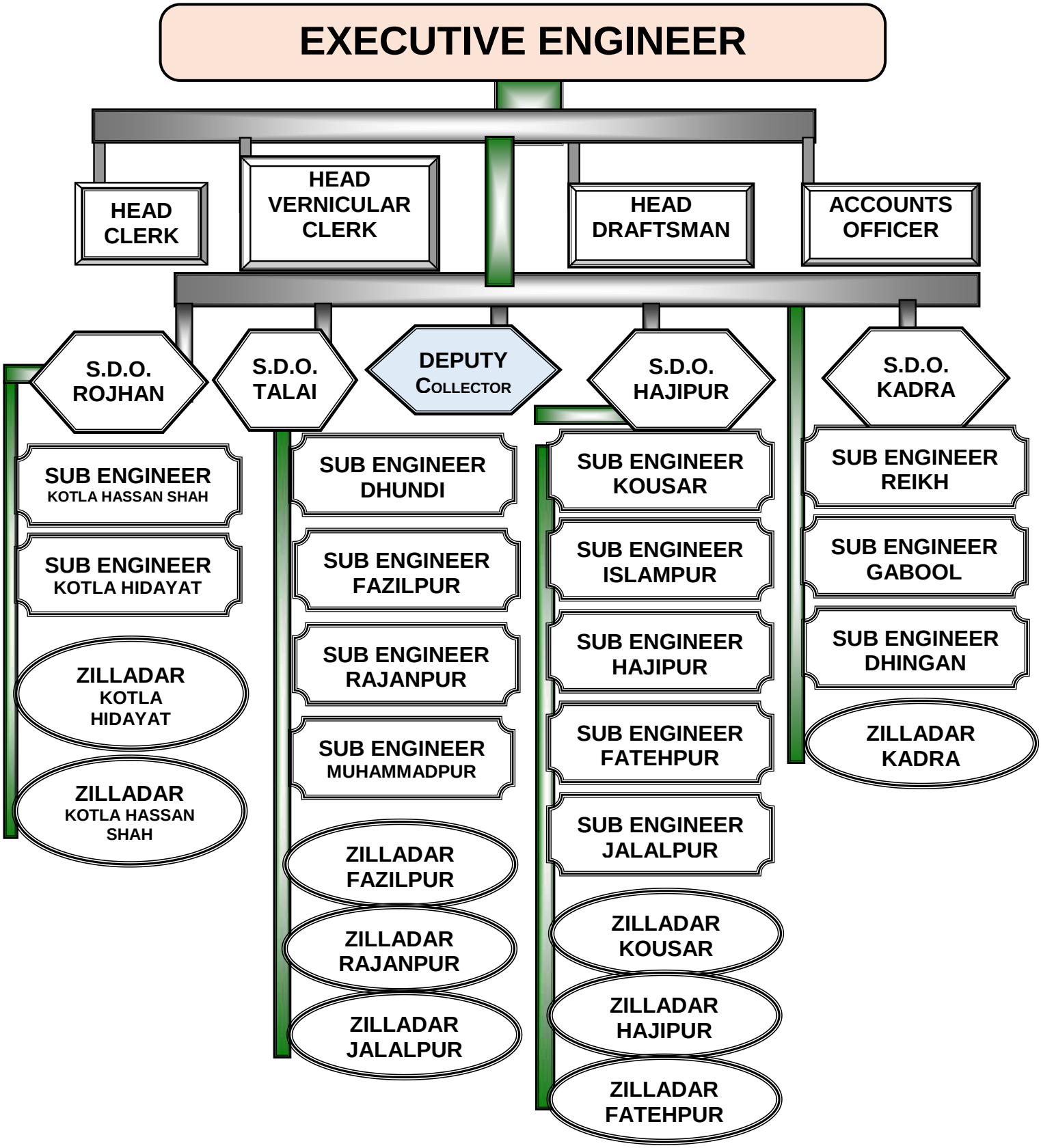
i. Dajal Branch consists of Kousar Disty, 1-L Kousar Minor, Zam Zam Disty, 1-L Zam Zam, 1-R Zam Zam Minor, Noushera Disty, 1L Noushera Minor, 1-R Noushera Minor, Hajipur Disty, 2-R Hajipur, 1-R Hajipur, Islampur Disty, Abehayat Disty, Chang Minor, Channer Minor, Fatehpur Disty, 1-L Fatehpur Minor, Taskeen Disty, NDC, Jalalpur Disty, Jalalpur Minor, Sadiq Feeder, Sadiq Disty, Jahanpur Minor having canal command area.

ii. Link No. III consists of Lunda Disty, Mehray Wala Disty, Kauray Wala Disty, Hazrat Wah, Upper Talai Disty, Lower Talai Disty, Noorpur Disty, Dhundi Kutab Canal Pir Bux Minor, Murad Abad Minor, Bakhat Minor, Barera Disty, Fazil Disty, Bosan Minor, Kalu Disty, Hazoori Minor, Raj Disty, Mubarik Disty, Asni Minor having Canal Command Area.

iii. Kadra Canal consists of Tariq Minor, Bukhari Disty, Hamid Disty, Forest Disty, Hussain Disty, Jadu Minor, Nazik Disty, Wang Disty, Fareed Disty, Fakhar Minor, Bhagsari Disty, Bhagsari Minor, Umerkot Disty, Umerkot Minor, Hidayat Disty, Saleemabad Disty, Safdar Abad Disty, Rojhan Disty, Matwah Disty, Ghous Bux Minor, Machka Minor having canal command area.

Rajanpur Canal Division also maintains watch and ward of new Hairo Flood Bund at river Indus from RD 7+500 to 73+500 along with three J-Head Spurs at RD 27+000, 43+000 and 53+000.

1.3. Administration Setup of Rajanpur Canal Division, Rajanpur



CHAPTER NO. 2

FLOOD PROTECTION & RIVER TRAINING WORKS

2.1. Design Parameters of River Training Works

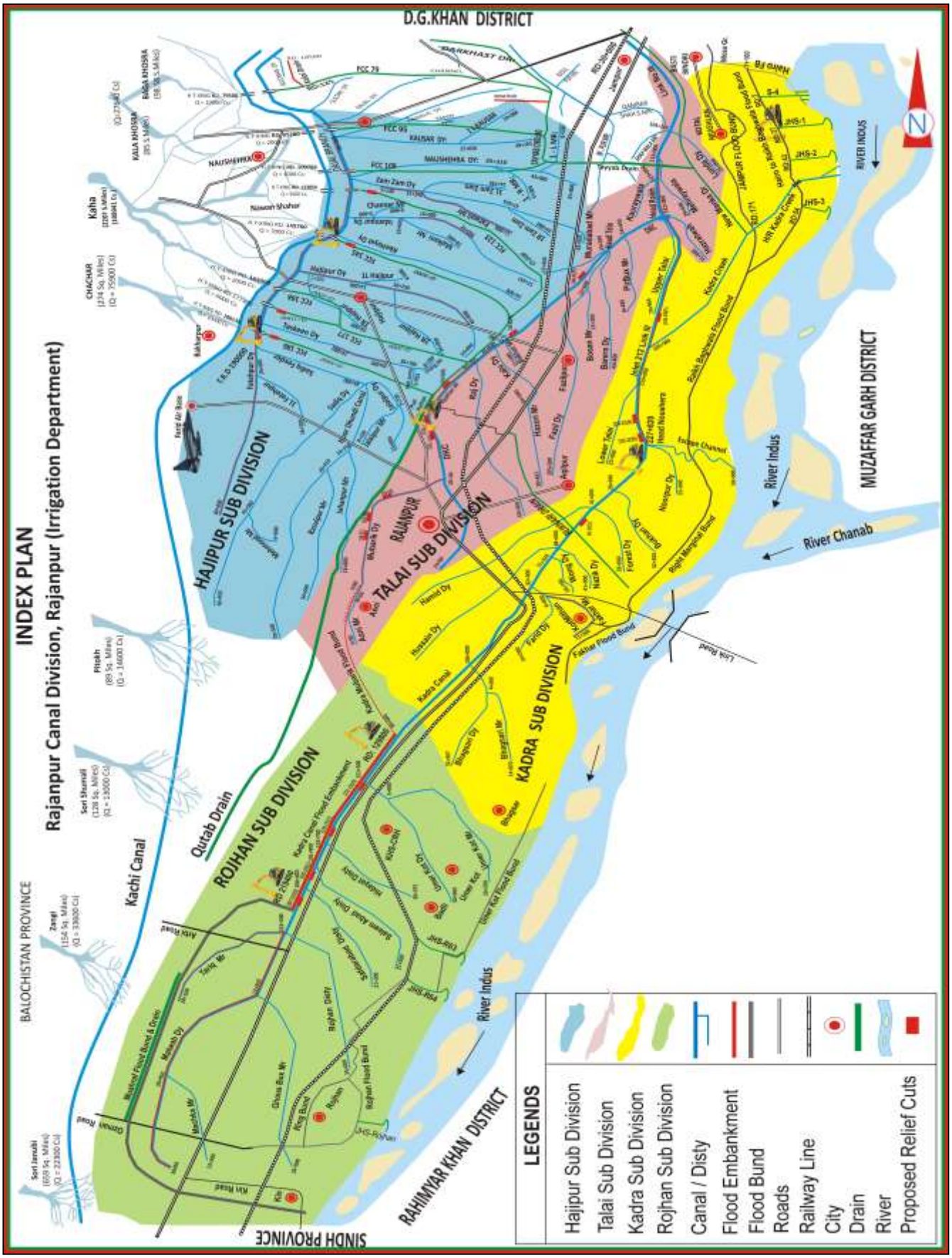
Three River Training Structure exist in Rajanpur Canal Division. All these river training structures exist at new Hairo flood bund. Instant flood bund comprises of total 73+500 RDs. However, watch and ward of RDs 0+000 to 7+500 have already been transferred to Executive Engineer, Jampur Construction Division, Rajanpur vide Chief Engineer, Irrigation Zone, DG Khan letter No. Works/2025/1028/331/15-RJP dated 06.02.2025 due to their ongoing scheme of construction of J-Head and Hockey Spurs at different reaches of old Hairo Flood Bund. Total length of flood bund within administrative control of Rajanpur Canal Division is 12.50 miles. Besides due to drifting of river edge towards New Hairo Flood Bund between RD 16+000 to 27+000, some river training works have also been proposed. Detail of existing and proposed River Training Works is as under: -

Table 2: River Training Works

Sr. #	Description	Earthen Shank (Length ft)	J-Head Portion (Length ft)	Top Width (ft)	Side Slope	Design Top Level	Apron Top Level	H.F.L. 2010
1	J-Head Spur No. 1 (RD:27+000 of new Hairo FB)	2850	1669	30	2:1/2:1	355.11	338.32	348.11
2	J-Head Spur No. 2 (RD: 43+000 of new Hairo FB)	1000	1669	30	2:1/2:1	351.43	334.64	344.43
3	J-Head Spur No. 3 (RD: 54+000 of new Hairo FB)	3000	1669	30	2:1/2:1	348.9	332.11	341.9
4	Stud at RD 20+800 of new Hairo Flood Bund (Yet to be executed)	873	50’ solid portion within river	15	2:1/2:1	355.80	338.68	348.80
5	Stud at RD 24+000 of new Hairo Flood Bund (Yet to be executed)	1183	50’ solid portion within river	15	2:1/2:1	355.80	338.68	348.80

2.2. Location Map

Location Map of Rajanpur Canal Division and its river training works is attached herewith.



CHAPTER NO. 03

BRIEF HISTORY OF PAST FLOOD EVENTS

Monsoon current over Koh-e-Suleman Range causes heavy stream flows from water shed areas of Kaha, Chacher, Pitok & Zangi Hill Torrents. This enormous surface run off, rushes towards the command area with furious velocity and momentum because of steep terrain slope. The heavy rains occur during the period from June to August. Floods of very high magnitude happened during the monsoon season 2008, 2010, 2012, 2013, 2022 & 2024. The flood observed during July-August-2022 was unprecedented historical which caused colossal damages to the public / private properties and infrastructures. There are 10 numbers of cross drainage structures on Dajal Branch i.e. 2 for Mithawan H/T, 6 for Kaha & 2 for Chachar Hill Torrents. The first four Hill Torrent x-ings structures come under the supervision of D.G. Khan Canal Division. The history of flood water peak discharges for the last 6 years is given below: -

Table 3: Data of Past Flood Events

Sr. No	Name of Hill Torrent	Name of Channel	Crossing Point RD:	Des. Capacity Cs	Peak Discharges (In Cs.)					
					March 2020	July 2021	July-Aug 2022	July 2023	July 2024	July 2025
1	Kaha	Dajal Br.	109+760	1000	--	--	>1000	--	>1000	--
2	Kaha	Dajal Br.	123+850	5000	1584	--	1296	--	>5000	--
3	Kaha	Dajal Br.	145+760	7000	2376	--	>10000	--	--	4042
4	Kaha	Dajal Br.	165+760	2000	744	297	>2000	--	>2000	--
5	Chachar	Dajal Br.	177+300	2000	888	--	>2000	--	>2000	--
6	Chachar	Dajal Br.	186+100	10000	6747	--	>10000	2540	>10000	6024
7	Kaha & Chachar	D.K.C.	94+750	2000	2079	--	>2000	1620	>2000	1836
8	Kaha & Chachar	Raj Disty	9+500	2000	--	--	--	--	--	--
9	Kaha & Chachar	Hamid Disty	18+350	2000	--	--	--	--	--	--
10	Kaha & Chachar	Kadra Canal	64+400	2000	--	--	--	--	--	--

Past Flood Events:

The excessive flood discharge caused a number of breaches in Dajal Branch and other irrigation channels during July-August-2022 Hill Torrent Flood. The detail of breaches and inundation caused due to these breaches has been depicted in the plan attached in Part 'B' of Flood Fighting Plan.

Detail of Hill Torrent Crossings

1. Kaha Hill Torrent

The flow of this Hill Torrent comes at Dajal Branch at the following x-drainage structure.

a. Crossing RD. 109+760

Probably, the design discharge may pass once a time in the period of 3 years. The peak discharge recorded at this Crossing was more than 1000 Cs in year 2022 and 2024. Its design capacity is 1000 Cs.

b. Crossing RD. 123+850

This crossing drainage structure is the main Crossing which remains under the direct hit of flood water throughout flood season, the peak discharge recorded at this x-ing was 7989 Cs in 1994. The flood water caused damages to the upstream pitching. The design capacity of this crossing is 5000 Cs. This crossing remains under the hit of floodwater throughout flood season every year. The flood water by passed through breaches occurred on u/s & d/s of the x-ing during flood 2022. The excessive flood water caused the breaches in the left bank of Dajal Branch. The muddy flood water also chocked the barrels of x-ing and canal bed, which have been cleared recently.

c. Crossing RD. 145+760

This cross drainage structure is important structure which receives storm water from Kaha Hill Torrent. Its designed capacity to pass flood water is 7000 Cs. During the year 2022, the discharge more than of 10000 Cs passed through this crossing and structure was collapsed. Accordingly work for restoration of said hill torrent crossing was taken up back in April 2023 by this department and accordingly completed in October 2024. However, under construction structure also sustained substantial flood water during torrential flood 2024. During flood 2025, torrential flood water safely passed through this structure.

d. Crossing RD. 165+760.

The design capacity of this Crossing is 2000 Cs and more than its design capacity was received at this crossing during the flood 2022 and then in 2024.

2. Chachar Hill Torrent

a. Crossing RD. 177+300.

This cross drainage structure is important structure which receives storm water from Chachar Hill Torrent. Its designed capacity to pass flood water is 2000 Cs and more than 2000 Cs was received and it over topped the syphon crossing structure during the flood 2022 and 2024. An additional syphon downstream crossing RD: 177+300 of Dajal Branch has also been constructed.

b. Crossing RD. 186+100

This crossing is important structure which receives storm water from Chachar Hill Torrent. Its designed capacity to pass flood water is 10,000 Cs and 11580 Cs was received at this crossing during the flood 2022.

3. Pitok & Zangi Hill Torrent

The floodwater of these Torrents directly hit Kadra Canal in between RD.131+000 to 223+500 & Matwah Disty from head to tail and serious damages occurred to the Kadra Canal during flood 2022. In Kadra Canal and Matwah Disty many breaches occurred as huge quantum of floodwater attacked certain reaches during the flood 2022. Maximum discharge received from Pitok Hill Torrent was 5000 Cs, Sori Shumali Hill Torrent was 7000 Cs, Zangi Hill Torrent was 9000 and Sori Janubi 17000 Cs. The storm water of Kaha and Chachar joined together between RD.65-103/R of Dhundi Kutab Canal, which has already been converted into flood embankment. Just after crossing through Crossing at RD. 94750 of Dhundi Kutab Canal, it hit the left bank of D.K.C. between RD. 95-104. The flood water then passed through crossing at RD. 95+00 Raj Disty where it damaged Raj Disty between RD.7000-9500/R. By Breaching D.K.C between RD. 95-104/L some water enters in the D.K.C. The right bank of D.K.C. between RD.104-142 was shattered badly, during flood 2022. Therefore to save Rajanpur city and Dhundi Kutab Canal, some relief cuts were made in the right bank of Mubarik Disty. The breaches in D.K.C and Raj Disty were closed to restore Canal water supply. The banks of DKC from RD: 33+500 to 60000/L&R and RD: 60+000 to 91+000/L have been raised to protect canal from damages during flood.

4. Effects of torrential flood water on canal network

The Rajanpur Canal Division is the most extensive and geographically remote components of the Dera Ghazi Khan (DG Khan) Canal System. Located strategically between the rugged Koh-e-Suleman mountain range and the River Indus, this division plays a crucial role in irrigating the agriculturally rich lands of Tehsils Jampur, Rajanpur, and Rojhan. Its expansive canal network ensures the delivery of irrigation water to a vast

command area, making it indispensable for agricultural sustainability in southern Punjab. The division comprises two major branch canals—Dajal Branch Canal and Link No. III Branch Canal both of which off-take from the tail end of the DG Khan Canal at RD 345+000. The Dajal Branch Canal has a design discharge capacity of 1786 cusecs and extends over 18.2 miles within the jurisdiction of Rajanpur Division, starting from RD 99+000 and ending at RD 190+000. In contrast, Link No. III is a larger and more significant channel with a design discharge of 2,693 cusecs, spanning 38.2 miles, from RD 40+000 to RD 227+000. Together, these canals form the hydraulic backbone of the division's irrigation system. This canal system is geographically situated between the Koh-e-Suleman mountain range and the River Indus. A total of seven major hill torrents originate from the foothills of Koh-e-Suleman, and these are Kala Baga Khosra, Kaha, Chachar, Pitok, Sori Shumali, Zangi and Sori Janubi. These torrents traverse through Kachi Canal and Dajal Branch Canal via designated hill torrent crossings. However, during periods of intense rainfall, these torrents pose a significant threat by adversely affecting the canal infrastructure and damaging adjacent abadies (settlements)

Critical control structures within the division are all the syphon crossings at of the Dajal Branch. These syphons facilitate the safe passage of hill torrent floodwater into the Flood Carrying Channel (FCCs). This makes it a vital point for regulating both the irrigation flow of the Dajal Branch and the emergency discharge of hill torrents. In addition to its irrigation functions, the area's drainage and flood management infrastructure play an essential role in safeguarding the canal system. One of the major problems with hill torrent crossings and FCCs observed over the years is that, the capacity of FCCs is half of the design capacity of hill torrent crossing. For example, Syphon at RD 145+760 and 186+000 of Dajal branch have design capacity of 7000 Cs and 10000 Cs respectively while the FCCs linked with these crossings have design capacity of 3500 Cs and 5000 Cs respectively. Due to capacity constraints of FCCs, these FCCs overtops leading towards breaches/ washing away banks and resultantly uncontrolled flood water enters into canals of Rajanpur which unfortunately runs parallel or cross these FCCs at different places. Due to entrance of uncontrolled torrential flood water into canals beyond the capacity of canals, these canals breaches/ banks are washed away hence allowing the flood water to enter into nearby crops and settled abadies.

During the 2024 flood season, the districts of Rajanpur, Dera Ghazi Khan (DG Khan), and eastern Balochistan experienced intense and widespread rainfall events just after a year of super torrential flood 2022. Consequently, hill torrents originating from Rajanpur and DG Khan carried exceptionally high flood discharges, far surpassing normal seasonal thresholds. These torrential flows try to breach embankments and enter in the Canal system, causing uncontrolled inflows into the canal network. Notably, floodwaters from Kaha catchment area collectively amassed a volume more than 90000 cusecs around syphon-145,

against a designed capacity of only 7000 cusecs. This exceeded capacity posed a serious risk to the structural stability and operational functionality of structure. Same is the case with all other hill torrent crossings. Flood water from syphon 109+000 enters into Tayyab drain. Tayyab drain after overtopping leads towards the damage of Kausar disty, 1-L Kausar Minor and Zama Zam disty. Similarly Syphon at RD 123+000 is linked with FCC 123+000 which upon overtopping affects Naushera disty, Islampur disty and their allied infrastructure. DKC canal of Talai Sub Division runs parallel to FCC 123+000 from RD 60+000 to 95+000 and damages right bank of DKC due to parallel flow. Same is the case with FCCs 145+000, 165+000, 177+000 and 186+000 which upon overtopping affects Abe Hayat disty, Hajipur disty, Taskeen disty, Sadiq Feeder and tail off takes of Sadiq disty.

Furtherance, all the flood water of FCCs is collected into Qutab Drain near RD 95+000 of DKC Canal. At said RD, there is a syphon which partially collects flood water upto 2000 Cs and drains it into Bukhari Drain. Bukhari drain is non-channelized in its head reach and upon overtopping/ breaching from RD 0+000/L, it adversely damages the Raj disty and Kalu disty of Talai Canal Sub Division. Qutab drain has design capacity of mere 9000 Cs and has different breaching sections both on left and right side. Breaching section of Qutab drain allows the flood water to flow either parallel to canal network or enter into canals particularly DKC and Mubarak disty hence damaging these channels. Qutab drain disposes of all the flood water into Aasni lake which is compounded by Kadra Canal right flood embankment from RD 129+000 to 219+500 and Mushraf flood bund. This ponded flood water also affects the canal infrastructure during the flood season due to wave action and sloughing. In this way, Rojhan Canal Sub Division and Talai Canal Sub Division remains under direct hit of torrential flood water particularly from Qutab Drain.

Due to non-existence of proper drainage system for Tayyab drain upto river Indus, Tayyab drain disposes of flood water into Kadra Creek at RD 33+000. Kadra Creek outfalls into Link No. III at RD 212+000 through outfall structure (severely damaged during flood 2022 & 2024 and is yet to be rehabilitated). It is matter of fact that Tayyab drain carries 2000 Cs flood water which is accumulated into Link No. III in its tail reach where the design capacity of the canal is about 1400 Cs. The uncontrolled flood water coupled with 1500 Cs discharge of Kadra creek is then dispersed partially through Kadra Canal and partially through escape channel through Naushera head regulator. Uncontrolled flood water at Naushera head regulator keeps it under extreme hydraulic pressure besides allowing unwanted excessive supply of flood water in Kadra canal as well. Similarly, old Manka drain of DG Khan Construction Division outfalls into Link No. III through outfall structure at RD 27-28+000/L. During flood season, flood water of old Manka drain enters into Link No. III. Link No. III has weak reaches between RD 112+000 to 142+000. Another critical control point at Link No. III is Head Raikh at RD 142+000. Due to entrance of flood water into Link No. III, Head Raikh also remains under excessive hydraulic forces. From here, flood water is disposed into DKC by allowing unwanted supply into DKC. DKC passes through Fazilpur city and places the city at risk.

CHAPTER NO. 4

DESIGN DATA, HISTORIC PEAK FLOOD DATA AND PREVIOUS FIVE YEARS FLOOD DATA OF HEAD WORKS / BARRAGES AND OR OTHER CONTROL POINTS.

4.1. Flood Limits

Table 4: Flood Limits of Chenab River

Sr. No.	Discharge Lac (Cusec) Limit	Flood Stage
1	Below 1.50	Normal
2	1.50 or above but below 2.00	Low
3	2.00 or above but below 3.00	Medium
4	3.00 or above but below 4.50	High
5	4.50 or above but below 6.00	Very High
6	6.00 or above	Exceptionally High

Table 5: Flood Limits of River Indus

Sr. No.	Discharge Lac (Cusec) Limit	Flood Stage
1	Below 2.50	Normal
2	2.50 or above but below 3.75	Low
3	3.75 or above but below 5.00	Medium
4	5.00 or above but below 6.50	High
5	6.50 or above but below 8.00	Very High
6	8.00 or above	Exceptionally High

4.2. Time Lags of Floods

Table 6: Time lag of flood events of river Chenab

Sr. No.	Name of Head Work	Distance in KM	Time in Hour
1	Marala to Khanki	56	12
2	Khanki to Qadirabad Head Works	30	7
3	Qadirabad Head Works to Trimmu	214	72
4	Trimmu Barrage to Tail T.P Link	162	48
5	Tail T.P.Link to Sher Shah Bridge	32	10
6	Sher Shah to Punjnad Head works	63	20
7	Punjnad Head works to Mithan Kot	78	24

Table 7: Time Lag of Flood Events in River Indus

Sr. No.	Name of Head Work	Distance in KM	Time in Hour
1	Attock to Kala Bagh Head works	106	36
2	Kala Bagh H/works to Chashma Barrage	61	24
3	Chashma Barrage to Taunsa Barrage	152	48
4	Taunsa Barrage to Ghazi Ghat	40	12
5	Ghazi Ghat to Mithan Kot	89	28
6	Mithan Kot to Guddu Barrage	59	24

4.3. Highest Floods

CHENAB RIVER

The maximum discharge received down stream

Trimmu Head works on 08.07.1959 = 943,212 Cusecs

INDUS RIVER

The maximum discharge received down stream

Taunsa Barrage on 02.08.2010 = 959,177 Cusecs

4.4. Peak Discharges

Table 8: Peak Discharges D/S of Trimmu Barrage

Year	Date	Discharge (in Cs)
2011	20.09.2011	127790
2012	07.08.2012	67694
2013	20.08.2013	234487
2014	14.09.2014	767849
2015	31.07.2015	138000
2016	11.08.2016	132525
2017	26.07.2017	26979
2018	17.08.2018	266123
2019	22.08.2019	93021
2020	01.09.2020	196067
2021	31.07.2021	123167
2022	19.08.2022	122115
2023	26.07.2023	116786
2024	19.08.2024	87030
2025	07.09.2025	543579

Table 9: Peak Discharges on Indus River D/S Taunsa Barrage

YEAR	DATE	Discharge (in Cs)
2011	01.09.2011	227689
2012	10.08.2012	235389
2013	17.08.2013	468048
2014	18.07.2014	247412
2015	05.08.2015	597730
2016	08.07.2016	343024
2017	07.08.2017	418388
2018	28.08.2018	252725
2019	17.08.2019	373000
2020	09.02.2020	464560
2021	04.08.2021	304121
2022	31.08.2022	624159
2023	27.07.2023	439908
2024	11.08.2024	435170
2025	19.08.2025	509477

Time Lags of Floods

Lag time between Taunsa to Kot Mithan is 45 hours

Lag time between Panjnad to Kot Mithan is 24 hours

Data of Hill Torrents (Highest Floods)

Table 10: Highest Floods at Hill Torrents X-ings from 2019 to 2025

Sr. No.	Name of Hill Torrent	Name of Channel	Crossing Point RD	Des. Capacity	Peak Discharges (In Cs.)						
				Cusec	Aug 2019	March 2020	July 2021	July Aug: 2022	July 2023	July-2024	July-2025
1	Kaha	Dajal Br.	109+760	1000	234	--	--	>1000	--	>1000	--
2	Kaha	Dajal Br.	123+850	5000	3089	1584	--	1296	--	>5000	--
3	Kaha	Dajal Br.	145+760	7000	3026	2376	--	>10000	--	--	4042
4	Kaha	Dajal Br.	165+760	2000	93	744	297	>2000	--	>2000	--
5	Chachar	Dajal Br.	177+300	2000	436	888	--	>2000	--	>2000	--
6	Chachar	Dajal Br.	186+100	10000	5468	6747	--	>10000	2540	>10000	6024

Table 11: Peak Discharges of Hill Torrents Observed at Darrahs

Sr. No.	Name of Hill Torrent	Design Capacity (Cs)	Peak Discharges (In Cusecs)								
			2017	2018	2019	2020	2021	2022	2023	2024	2025
1	Kaha at Darra (Kala Khosra + Bagga Khosra)	118500	31032	31032	84100	41193	21158	108941	359685500	105276 27640	46235 17994
2	Chachar at Darra	85500	5250	3250	14500	21158	3250	75900	15000	63940	48901
3	Pitok at Darra	23900	0	0	1150	0	0	5000	1200	14600	11309
4	Sori Shumali at Darra	7713	0	0	1800	2500	0	7000	1000	5845	11539
5	Zangi at Darra	3500	2400	5850	2800	3500	0	9000	3500	33600	10739
6	Sori Janobi at Darra	41600	5000	2170	4047	9200	7000	17000	3500	16560	3240

Table 12: Peak Discharges of Hill Torrents during Flood 2025

Sr. No.	Name of Torrents	Discharge	Time	Dated
1	Kaha	46235	11:30 Hours	18.08.2025
2	Chachar	48901	06.00 Hours	12.07.2025

Table 13: Historical Peaks of River Indus, Chenab and Kaha Hill Torrent

Sr. No.	Taunsa Barrage 02.08.2010 21:00 Hrs	Panjnad 25.08.2013 06:00 Hrs	Kaha Hill Torrent 14.08.2022 17:00 Hrs
1	959177 Cs	650000 Cs	108941 Cs

CHAPTER NO. 5

FLOOD FIGHTING STRATEGY

Rajanpur Canal Division, being an integral component of the Dera Ghazi Khan Canal System and geographically located between the Koh-e-Suleman mountain range and the River Indus, remains exposed to two distinct types of flood events, namely riverine flooding in River Indus and torrential flooding originating from the hill torrents of Koh-e-Suleman ranges. Hill torrent floods generally commence by the end of June during every monsoon season and adversely affect major portions of the canal network, whereas riverine floods are usually encountered from July to October each year. In order to effectively cope with both flood regimes during Flood Season–2026, a comprehensive flood fighting strategy has been devised. The Executive Engineer, Rajanpur Canal Division shall remain overall in-charge of flood operations and shall ensure continuous mobility to all vulnerable and critical points during peak flood days. Close liaison shall be maintained with the Superintending Engineer, Chief Engineer, District Administration, PDMA Punjab and the Meteorological Department for timely receipt of rainfall forecasts and flood warnings so that proactive measures may be initiated well in time.

By 1st June 2026, the existing field establishment shall be strengthened through engagement of work charge staff as per guidelines of the Administrative Department. Jungle clearance from slopes and toes of embankments, removal of vegetation from spurs and flood bunds, and identification and plugging of burrows made by rodents and other animals shall be completed before 30th June 2026. Historically weak reaches shall be inspected and strengthened wherever required. Adequate quantities of flood fighting material including sandbags, bamboo, stone pitching material, wire crates and polythene sheets shall be arranged in advance and strategically stocked at vulnerable locations. Necessary machinery shall be deployed at critical sites and kept in operational condition with standby operators. For riverine flooding in River Indus, flood watching camps shall be established at vulnerable points along New Hairo Flood Bund to ensure round-the-clock vigilance. Continuous patrolling of embankments shall be carried out to monitor seepage, boils, slope sloughing and overtopping threats. Immediate protective measures including sandbagging and emergency strengthening works shall be undertaken wherever required to avert breaches and safeguard adjoining areas in case of any emergent situation. For safe monitoring and passing of torrential floods, flood watching camps shall also be established at the toe of critical hill torrent crossings, particularly at Syphon RD 145+760 and RD 186+000 of Dajal Branch Canal. Work charge establishment shall remain deployed for continuous discharge monitoring and prompt reporting of any abnormality under the supervision of concerned Sub-Divisional Officers. Machinery shall remain available at these locations for immediate response in case of entrance of flood water into canals due to FCC overtopping, bank erosion, or any structural stress.

A proper communication and reporting mechanism shall be ensured during flood season with regular situation reports to higher authorities and immediate intimation in case of any emergent situation. In the event of breach or critical failure, rapid mobilization of manpower and machinery shall be undertaken for temporary closure, strengthening of embankments, and protection of nearby settlements and canal infrastructure on priority basis. In case of emergency, flood information is generally received from the upper regions, enabling advance preparedness within Rajanpur Canal Division. Immediately upon receipt of such information, the Sub Engineer In-charge under the supervision of Sub Divisional Officer shall shift their headquarters to the respective vulnerable sites to ensure close supervision and timely decision-making. The field establishment shall be deployed in accordance with the prevailing flood stage, and round-the-clock vigilant watching shall be arranged along the entire embankment system to effectively address any eventuality. The deployed staff shall be properly equipped with necessary hand tools including chargeable torches, axes, kassies and other relevant implements to ensure effective monitoring, patrolling and immediate minor interventions where required. All information relating to river discharges, hill torrent flows and any untoward incident shall be promptly communicated to the concerned sectional in-charge and further reported through the established chain of command for necessary action.

In the event of exceptionally high flood stages, heavy earth-moving machinery including bulldozers from private sources as well as Machinery Circle shall be kept ready on alert and strategically positioned at historically vulnerable reaches as per departmental SOPs. Locations affected due to adversaries of torrential floods include Dajal Branch Canal at RD 140–145/L&R and RD 166–167/L&R; Patwali Minor RD 3–4/LR; Zam Zam Distributary RD 7148–15240/R; Islampur Distributary RD 23000/LR; Hajipur Distributary RD 11–34/LR and RD 44–45/LR; Taskeen Distributary RD 13–15/LR; Fatehpur Distributary RD 7–8/LR; Link No. III at RD 168–170/L, RD 193–194/L, RD 223–224/R and RD 116–142/L&R; DKC at RD 60000–123000/R; Mubarak Distributary RD 4000–5000/R; Kadra Mubarik Flood Bund RD 6000–70000 and RD 18000–200000; Head Naushera; Kadra Canal RD 129–219/R; Tariq Minor RD 17–18/R; Matwah Distributary RD 32–33/LR and RD 34–59/LR; and Fakhar Minor RD 6500–11300/LR. These deployed machineries will ensure immediate response capability for the protection of public and private infrastructure of the vulnerable locations, agricultural lands and settled abadies of District Rajanpur.

Wherever warranted by site conditions and hydraulic pressure, emergency relief cuts shall be made in a controlled manner to reduce stress on embankments and safeguard critical structures particularly on hill torrent side i.e., canal network at all such locations where minimal loss of public and private property occur. Such measures shall be undertaken strictly in accordance with technical feasibility and prevailing circumstances to minimize damage while ensuring maximum protection to life and property.

STAGE-1

i. **Normal Floods** (Below 2.5 Lac Cs)

When river discharge ranges between these limits, flood water remains within the lips of River, it does not approach any flood bund or embankment except RD 11+000 to 27+000 and 55+000 to 65+000 of new Hairo flood bund where river edge is available at critical close proximity of flood bund, watching establishment shall be deployed at the rate of **one person per two mile (1 shift) under the supervision of mate for every 12 person gang** of the flood bund. Sub Engineers concerned will supervise the entire watching operation along Spurs and Flood embankments. Sub Divisional Officer concerned will act as the officer in-charge of watching operation.

STAGE-II

ii- **Low Floods** (2.50 Lac Cs: to 3.75 Lac Cs)

When the discharge ranges between these limits, flood water approaches new Hairo flood bund and parallel flows are also observed between RD 11+000 to 27+000, 37 to 42+000, 47+000 to 62+000 as river edge is available at distances varying from 800 feet to 2000 feet. In these RDs, high flood levels are approached even at low flows. Accordingly, watching establishment shall be deployed at the rate of **One person per mile/per shift for one shift in a day under the supervision of mate for every 12 person's gang**. Sub Engineers concerned will supervise the entire watching operation along Spurs and Flood embankments. Sub Divisional Officer concerned will act as the officer in-charge of watching operation.

STAGE-III

iii- **Medium Floods** (3.75 Lac Cs: to 5.00 Lac Cs)

When the discharge ranges between these limits, flood water approaches new Hairo flood bund and parallel flows are also observed between RD 11+000 to 27+000, 37 to 42+000, 47+000 to 62+000 as river edge is available at distances varying from 800 feet to 2000 feet. In these RDs, high to very high flood levels are approached even at medium flows. Accordingly, watching establishment shall be deployed at the rate of **two persons per mile/per shift for two shifts in a day under the supervision of mate for every 12 person's gang**. Sub Engineers concerned will supervise the entire watching operation along Spurs and Flood embankments. Sub Divisional Officer concerned will act as the officer in-charge of watching operation.

STAGE-IV

iv- **High Floods (5.00 Lac Cs: to 6.50 Lac Cs)**

When the discharge ranges between these flood limits, flood water approaches new Hairo flood bund throughout its length along significant parallel flows and excessive pondage. Watching establishment **two persons per mile/per shift for two shifts in a day under the supervision of mate for every 12 person's gang**. Supervisory staff shall be the same as in stage-III, their headquarters will be shifted at most critical points.

STAGE-V

v- **Very High Floods** (6.50 Lac Cs: to 8.00 Lac Cs)

Watching establishment shall be deployed at the rate of **five person per mile/per shift for three shifts in a day** subject to approval from the Superintending Engineer, Derajat Canal Circle, DG Khan. Supervisory staff shall be the same as in stage IV, their headquarters will be shifted at most critical points.

STAGE-VI

vi- **Exceptionally High Floods** (Above 8.00 Lac Cs)

At this stage, establishment at rate of **five persons per mile/per shift for three shifts in a day** subject to approval from the Superintending Engineer, Derajat Canal Circle, DG Khan along with volunteer labors brought by Civil Administration and Army will help the watching operation. Police Guards will be deputed on vulnerable points to guard against any mishap/sabotage. Overall supervision of all operations will be done by the Executive Engineer.

Note: Machinery and watching establishment are also required to be deployed on critical hill torrent crossings as well as along canals which are vulnerable to the torrential floods. Detail of those has been incorporated in the successive chapter.

All the flood gauges from upper region are received through the wireless sets already installed at various Police Stations in the District. To control the flood and to meet with the emergencies wireless sets and V.II.F. Telephones have to be provided in the area for quick information and proper monitoring. The key points and vehicles in which wireless sets and V.H.F have to be installed are given below: -

Key Points for V.H.F Telephone/Wireless.

a. Rajanpur Canals Rest Houses.
b. Jampur Canal Rest Houses.
c. Dajal Canal Rest Houses.
d. Kotla Hidayat Rest Houses.
e. Fazilpur Canal Rest Houses.
f. Tail of Dajal Branch.

Wireless Sets for Officer's Vehicle during Flood Emergency:

a. Vehicles of Superintending Engineer, Derajat Canal Circle, (Irrigation).
b. Vehicles of Executive Engineer, Rajanpur Canal Division, Rajanpur.
c. No. Vehicles being used by SDO Talai, Kadra, Rojhan & Hajipur Sub Division.

In case of emergency, the Telephone Nos. given in this plan may please be contacted during flood days. During the critical situation, flood gauges are to be supplied twice a day, by each Sub Engineer and SDOs to the nearest communication.

a. Gauges of Hill Torrents at Darrahs provided by Sub Divisional Officer Hill Torrent Sub Division.
b. Gauges of Hill Torrents at x-ings provided by Sub Divisional Officer Hajipur Sub Division.
c. Gauges of Hill Torrents at x-ings at RD: 95+000 DKC provided by Sub Divisional Officer Talai Sub Division.
d. Flood levels at different reaches of new Hairo Flood Bund by Sub Divisional Officer, Kadra Canal Sub Division.
e. Flood levels at different reaches of Kadra Flood Bund by Sub Divisional Officer, Rojhan Canal Sub Division.

Conveyance:

To meet with alarming situation and flood emergencies, each Sub Divisional Officer in Rajanpur Canals Division will be by equipped with Government vehicle.

Mobile Dispensaries:

4 Nos. mobile dispensaries are needed during flood emergencies in Rajanpur District at various places in the affected areas. District Health Officer, Rajanpur has to arrange all the Medical Facilities regarding dysentery Malaria, Cholera etc. during the flood days in Rajanpur District.

Excavators / Tractor Trolleys:

The concerned SDO will be responsible for managing / providing machinery as per SOPs in their respective Sub Divisions to be maintained at critical reaches to protect the flood embankment, Irrigation Channels and to meet with emergent situation during ensuring hill torrent flood either from outsources or from departmental machinery divisions. Boats Relates to District Administration.

CHAPTER NO. 6

FLOOD DAMAGES RESTORATION WORKS

Flood Damages Occurred in Flood 2025

During the riverine and torrential floods of 2025, significant damages were sustained by various critical components of Rajanpur Canal Division. The New Hairo Flood Bund suffered substantial erosion and structural distress at vulnerable reaches due to prolonged high flood levels in the River Indus coupled with intense hydraulic pressure. In addition, J-Head Spur No. 01 and J-Head Spur No. 03 were adversely affected as a result of river meandering and direct impact of high velocity flows, leading to partial damage of noses and shanks and J-Head portions. Similarly, the outfall structure of Kadra Creek at RD 212+000/L of Link No. III sustained considerable damage due to excessive torrential flood discharges originating from the Koh-e-Suleman ranges during the past year floods. Furthermore, slopes of Kadra Flood Bund also experienced localized erosion at certain reaches; however, such damages were comparatively minor in nature and confined to slope. Furthermore, the Head Regulator of Kadra Canal at Naushera sustained substantial damages owing to the passage of heavy torrential floodwater through Kadra Canal and the emergent regulation of escape channel gates under extreme hydraulic conditions during the past year floods. The excessive pressure and abrupt operational adjustments during peak flood contributed to structural wear and associated damages at the head regulator.

In view of the foregoing damages and to ensure structural stability and operational safety during the forthcoming flood seasons, this Division has taken up necessary flood restoration works for the year 2026 to rehabilitate the affected structures and strengthen vulnerable components of the flood protection and canal network system.

Table 14: Flood Restoration Works taken up after Flood 2025.

Sr. No.	Name of Work	T.S. Cost (Rs. M)	Status
1.	Restoration of J-Head spur No.1 damaged during riverine flood.	413.204	Work in progress at site and will be completed till 30.06. 2026.
2	Restoration of stone apron of JHS-3 damaged during flood 2025.	33.09	
3	Restoration of stone apron of Zokin Creek damaged during flood 2024.	1.406	

CHAPTER NO. 7

FLOOD FIGHTING WATCHING ARRANGEMENTS

7.1. Pre-Flood Arrangements:

The Executive Engineer, Irrigation, Canal Division and Executive Engineer, Jampur Construction Division Rajanpur will establish pre-flood information emergency centers equipped with Telephone, Wireless Set and Fax at District Headquarters. The Centre will function round the clock. They will be responsible to inform from time to time about the intensity of flood and areas which may be affected. The Officer In-charge would be responsible to submit information to the Deputy Commissioner, Rajanpur. Executive Engineer, Jampur Construction Division will be responsible to make the arrangement all the time to let flood water go on its traditional routes to fall in the Indus River.

Consolidated status of reserve stock.

Table 15: Status of Reserve Stock of Stone

Sr. No.	Name of Division	Reserve Stock Limit (as per yard stick)	Minimum Requirement 100%	Quantity Available	Balance Quantity Required	Tentative Cost of Stone (Rs. In Million)	Remarks
1	Rajanpur Canal Division	3.000	3.000	1.630	1.370	22.726	All the reserve stock of stone has been recouped.

7.2. Watching Establishment:

During the flood season, heavy rainfall occurs in the catchment area of hill torrents. This rainy water passes through the X-ings of Dajal Branch and attacks the adjoining abadies and crops. It also causes breaches in channels due to over flow which is watched by watching establishment. For safe passage of torrential flows, it is imperative to ensure day and night watching of channels and hill torrent crossings for safe passage of flows. All of this is possible by watching day and night at the critical reaches of Rajanpur Canal Division, Rajanpur through work charge and regular establishment during period 15.06.2026 to 15.10.2026. As per recommendations of the committee constituted by the Administrative Department vide No. SO(Floods) VII-22/2017 dated: 26.12.2025 to standardize emergency response protocols and optimize the department of Machinery and Human Resource across various irrigation infrastructures (river-wise) for the flood fighting plan (FFP), watching establishment will be deployed at critical sites:

Watching Establishment Detail / Criteria:

Table No. 16 Watching Establishment

Sr. No.	Structure Name	Length (Miles)	Flood Limits							
			Normal Flood		Low Flood		Medium/ High Flood		Very High/ Exp. High Flood	
			Men	Shift	Men	Shift	Men	Shift	Men	Shift
			1 Person/ 2 mile/Shift (1 Shift)		1 Person/ mile/Shift (1 Shift)		2 Person/ mile/Shift (2 Shift)		5 Person / mile/Shift (3 Shift)	
River Structures										
1	New Hairo Flood Bund	12.59	6		12		24		60	
2	JHS-1	0.9	-		1		2		5	
3	JHS-2	0.56	-		1		1		2	
4	JHS-3	1	-		1		2		5	
Hill Torrent Structures										
1	Dajal Branch	17.05	3		3		3		3	
2	Patwali Mr.	2.08	1		1		1		1	
3	Zam Zam Dy.	1.52	1		1		1		1	
4	Islampur Dy	1.52	1		1		1		1	
5	Hajipur Dy.	9.28	2		2		2		2	
6	Taskeen	1.14	1		1		1		1	
7	Fatehpur Dy.	4.92	1		1		1		1	
8	Syphon-109 at Dajal		1		1		1		1	
9	Syphon-123 at Dajal		1		1		1		1	
10	Syphon-145 at Dajal		1		1		1		1	
11	Syphon-166 at Dajal		1		1		1		1	
12	Syphon-177 at Dajal		1	1	1	1	1	2	1	3
13	Syphon-186 at Dajal		1		1		1		1	
14	DKC	2.46	1		1		1		1	
15	Mubarik Disty	10.70	2		2		2		2	
16	Link No. III	8.90	2		2		2		2	
17	Kadra Mubarik Flood Embankment	4.92	1		1		1		1	
18	DKC	7.58	2		2		2		2	
19	Syphon 95 at DKC		1		1		1		1	
24	Link No. III	2.94	1		1		1		1	
25	Head Naushera		1		1		1		1	
26	Kadra Canal	22.25	4		4		4		4	
27	Matwah Dy	11.26	2		2		2		2	
Total Beldars per Shift :-			**39**		**48**		**60**		**105**	

Total	**39**		**48**		**120**		**315**	
No. of Mates	**3**		**4**		**10**		**25**	

Note: 01 No. Mate is for every 12 No. Beldars

7.3. Arrangements at Sensitive Sites:

All the arrangements at the vulnerable sites will be made as per the SOPs issued by the administrative department. The permanent and temporary camps will be established and deployment of machinery and establishment will be made according the SOPs.

a. Before Flood: Flood preparation will be done during the month of June/July to prepare all flood embankments / structures by employing establishment and essential machinery as per site requirements.
b. During floods: During floods essential establishment will be employed as tabulated above.

Note: Payment for deployment establishment will be made subject to verification by TPM / Consultants.

Table 17: Establishment Vulnerable Sites, Permanent Camps,

Sr. No.	Structure Name	Length (Miles)	Vulnerable sites		No. of Camps Established except vulnerable site		
					Normal Flood season/ Low Flood	Medium /High Flood	Very High / Exp. High Flood
			Reach	No. of Camps	15 Miles	7 Miles	5 Miles
River Structures							
1	New Hairo Flood Bund from	12.59	RD: 11000 to RD: 27000	1	-	-	1
Hill Torrent Structures							
2	Kadra Canal Flood Bund	17.7	RD: 129+800 to RD: 219+500	1	-		
3	Syphon Structure at RD 145+000 of Dajal Branch	-	-	1	-		
4	Syphon Structure at RD 186+000 of Dajal Branch	-	-	1	-		
	Total			4	1		

7.4. Watching Material

As informed by the Sub Engineers, in the stock of Rajanpur Canal Division, quantity of Flood Fighting Material is not enough to cope with the serious flood condition. So, material

listed below will be purchased locally as per site conditions. Following material is required in coming flood season 2026 for Rajanpur Canal Division, Rajanpur as per recommendations of the committee constituted by the Administrative Department vide No. SO(Floods) VII-22/2017 dated: 26.12.2025 to standardize emergency response protocols and optimize the department of Machinery and Human Resource across various irrigation infrastructures (river-wise) for the flood fighting plan (FFP).

"Flood fighting material should be purchased on the basis of worst-case scenario i.e. for exceptionally high flood. The minimum requirement is as follows: -

Table 19: **Minimum requirement of Flood Fighting Materials for Permanent Camp (15 miles)**

Sr. No.	Item	Unit	Total Required Quantity	Available Quantity	Balance Quantity	Remarks
1	Shouldari / Tent	No.	01	0	01	Will be Purchased before coming of Flood Season 2026
2	Chairs	No.	06	0	06	
3	Table	No.	01	0	01	
4	Generator (2-3 KVA)	No.	01	0	01	
5	Pedestal Fans	No.	01	0	01	
6	Charpois	No.	02	0	02	
7	Symbolic Jackets	No.	50	0	50	
8	Polythene Sheets	Kg	100	0	100	
9	Bamboos (4" dia and 10 ft long)	No.	100	0	100	
10	Water Cooler	No.	01	0	01	
11	Portable Umbrella	No.	02	0	02	
12	Life Jackets	No.	05	0	05	
13	Utensils (10 person serving)	No.	01	0	01	
14	Jute / Plastic Bags	No.	1000	0	1000	
15	Walke Talkie Set	Set	02	0	02	
16	Raincoats	No.	10	0	10	
17	LED Flood Light	No.	10	0	10	
18	Extension Cable (10 ft)	No.	02	0	02	
19	Rechargeable Torches	No.	20	0	20	
20	Kassi	No.	20	0	20	
21	Axes	No.	20	0	20	
22	G.I Buckets	No.	05	0	05	
23	7/44 cable	Feet	500	0	500	
24	Sutli	Kg	02	0	02	
25	Sewing Needles	No.	10	0	10	
26	Emergency Medical Kit	No.	1	0	1	
27	Wire crates (3x3x3) (at only those camp near river action and reserve stock exists)	No.	100	0	100	

Table 20: Minimum requirement of Flood Fighting Materials for Temporary Camp: (7 or 5 miles during medium to exceptionally high flood to be outsourced)

Sr. No.	ITEM	UNIT	Total Required Qty	Sr. No.	ITEM	UNIT	Total Required Qty
1	Shouldari / Tent	No.	01	2	Walke Talkie Set	Set	01
3	Chairs	No.	06	4	Raincoats	No.	10
5	Table	No.	01	6	LED Flood Light	No.	10
7	Generator (2-3 KVA)	No.	01	8	Extension Cable (10 ft)	No.	02
9	Pedestal Fans	No.	01	10	Rechargeable Torches	No.	20
11	Charpois	No.	02	12	Kassi	No.	20
13	Symbolic Jackets	No.	50	14	Axes	No.	20
15	Water Cooler	No.	01	16	G.I Buckets	No.	05
17	Portable Umbrella	No.	02	18	7/44 cable	Feet	500
19	Utensils (10 person serving)	No.	01	20	Sutli	Kg	02
21	Jute / Plastic Bags	No.	500	22	Sewing Needles	No.	10

7.5. Arrangement for Sounding / Probing:

02 No. Motorboats with all accessories for sounding probing is required for new Hairo Flood Bund to ensure safety and watching of river training structure and flood bund.

7.6. Lighting Arrangements:

During flood days, the complete system for lightening arrangement will be available in each camp site of concerned Sub Engineer.

7.7. Ration Arrangements:

Not applicable in Canal Division, Rajanpur, it relates to Administration Department.

7.8. POL Arrangements for Vehicles:

POL will be purchased for use of any kind of emergency during coming flood 2024 from the Petrol Pump by Rajanpur Canal Division, Rajanpur.

7.9. Transportation:

To meet with alarming situation and flood emergencies, each Sub Divisional Officer in Rajanpur Canals Division has the facility of Government vehicles.

7.10. Law & Order:

In any flood emergency, help of local police and rangers will be required to maintain law and order in district.

7.11. Medical Arrangements for Labour:

Not applicable in Canal Division, Rajanpur, it relates to Administration Department.

7.12. Liaison with Allied Department:

Executive Engineer will remain fully contacted with District Administration, District Police Officer, Flood Control Centre, all the Civil Departments and Army to combat any mishap occurring due to floods well in time and will also make liaison with IRSA authority, ministry of water and power as well as flood forecasting centers Lahore for collection of flood related information.

7.13. Role of Army:

In case of exceptional flood, the help of Army will be required for safety of Rajanpur, Fazilpur & Kot Mithan Towns.

7.14. Duties of Telephone Attendant & Signalers

All the flood gauges from upper region are received through the wireless sets already installed at various Police Stations in the District. To control the flood and to meet with the emergencies, cellular phones available with the filed staff of area will be used for quick information and proper monitoring. Duties of telephone attendant as under:-

Table 18: Duty Roster of Signalers

Sr. No.	Name of Official	Period	Time	
			From	To
1	Abdul Ghafoor (Rajanpur)	15.06.2026 to 15.10.2026	6:00 am	6:00 pm
2	Allah Bakhsh (Rajanpur)		6:00 pm	6:00 am
3	Muhammad Sadique (Jampur)		6:00 am	6:00 pm

The key points and vehicles in which wireless sets and V.H.F. have to be installed are given below: -

Key Points for V.H.F Telephone / Wireless

i. Rajanpur Canals Rest Houses.
ii. Jampur Canal Rest Houses.
iii. Dajal Canal Rest Houses.
iv. Kotla Hidayat Rest Houses.
v. Fazilpur Canal Rest Houses.
vi. Tail of Dajal Branch.

7.15. Wireless Arrangement (Installed by Police Department)

Wireless sets will be installed in the officer's vehicles during flood emergency, as detail below:-

a. Vehicles of Superintending Engineer, Derajat Circle.
b. Vehicles of Executive Engineer Rajanpur Canal Division.
c. 04 No. Vehicles being used by SDO Talai, Kadra, Rojhan & Hajipur Sub Division.

In case of emergency, during the critical situation, flood gauges are to be supplied twice a day, by each Sub Engineer, to the nearest communication.

CHAPTER NO. 8

Detail of Encroachment

There are no critical encroachments in Rajanpur Canal Division, Rajanpur.

Chapter No. 9

DUTY ROSTER / FLOOD FIGHTING PROGRAM

Battle Stations of Key Personnel during High Flood Flow

All Officer's / Official's up to the level of Executive Engineer, will be vigilant and watch-full during flood days. The entire dangerous / weak sites will be frequently inspected. All the field staff will be deputed on their relevant duties during the flood days.

Executive Engineer

The Executive Engineer is in-charge of the flood fighting programming in Rajanpur Canals Division. He will inspect all the flood bunds in flood area and issue necessary instruction to the lower staff time to time.

Sub Divisional Officer

The Sub Divisional Officer is personally responsible for all the matters which occur in the Sub Divisions. He will be very watch full and vigilant regarding regulation flood gauges, flood embankment etc. and relief cuts. He will mobilize and activate his Sub-Ordinate staff for any required assignment/task during flood emergencies days. He is also duly bound to inform any type of mishap occurring in his sub Division to The Executive Engineer Rajanpur Canal Division, so that further necessary step at site in this regard may be taken.

Sub Engineer

The Sub Engineer, in-charge will not leave his station head quarter without prior permission of higher officers during the flood emergency days. It is his responsibility to convey all the flood gauges to the higher authorities or nearest communication station during the flood days. He is duly bound to assign all important duties to his sub-ordinate staff prior to the flood season. He will watch and maintain all the flood bunds before the expected flood day so that he may be able to control the alarming situation. He will have very good relations with the concerned Zamindars/public & administration force, which are usually beneficial and help full in the flood days. All the data regarding flood will be submitted by him to up keep the record in Sub Divisional Officer. He will have to take immediate steps at site if required without waiting orders from the higher authorities to minimize the public and Government loss.

Work Mistri / Mate Gauge Reader/ Dak Runners/Signaler

During the flood days all the field staff including Mistri, Mate, Gauge Reader, Dak Runner, Signaler, Regulation Beldar and Beldar etc. are duly bound perform their duties day and night. They are not allowed to leave their respective place during flood emergency days. They will have to obey the orders issued by their seniors to watch the Government and public interest. The field staff regularly in their own assigned position will perform night watching and patrolling. Sub Engineer in-charge is bound to equip and furnish his field staff with all T&P articles prior to the flood season.

Chapter No. 10

EMERGENCY TELEPHONE NUMBERS

Following important telephone number of concerned officers/ officials of District Administration, Police Force, Irrigation Department and other allied departments will be contacted in case of any emergency.

Table 19: Telephone Directory for Rajanpur District

Name of Officer	Designation	Office No.	Residence No.	Fax No	Official Mobile No.
IRRIGATION DEPARTMENT					
Wasif Khursheed	Secretary Irrigation	04299212117-18	04299203037	04299212116	0304-0920033
Muhammad Akram	Chief Engineer, D&F Zone, Lahore	042-99733551	042-99230602	04299230731	0321-9485218
Rana Zulfiqar Ali	Chief Engineer, Irrigation DGK Zone	064-9260245	--	064-9260246	0322-2228637
Munir Ahmed Abbasi	Superintending Engineer, DJT Circle.	064-9260247	--	--	0300-6920400
Zeshan Ali	S.E., Project Circle D.G. Khan.	064-9260248	--	0649260426	0333-0508781
Ameer Taimour	XEN (OP) Irrigation Zone, D.G. Khan.	064-9260251	--	0429260252	0332-6206393
Hafiz Muhammad Junaid	Executive Engineer, D.G.Khan Canal Div: I	064-9260249	--	--	0334-7178578
Mohsin Shabir	Executive Engineer, D.G.Khan Canal Div: II	--	--	--	0311-7861909
Mujahid Kalim	XEN, Dera Const; Division D.G. Khan	--	--	--	0304-2616750
Muhammad Munawer Iqbal	XEN, Jampur Const: Division, Rajanpur	0604-690690	--	--	0300-0425111
Umer Abdul Rehman	XEN, Rajanpur Canal Division Rajanpur	0604-689064	--	064689064	0333-1871816
Nouman Baig	XEN, Taunsa Barrage Division, Kot Adu.	066-2242796	--	0662240296	0300-6306140
--	Flood Emergency Cell, Lahore	042-99212116	042-5900049	0429212132	042-99212166
--	Flood Emergency Cell, Lahore	042-7572091-93	--	0427572092	042-99212166
--	Director Flood, Lahore	042-99231614	042-6653943	--	0323-4864378

Name of Officer	Designation	Office No.	Residence No.	Fax No	Official Mobile No.
Abid Hussain	Telegraph Office, DGK	064-9260253	--	--	0336-6615223
Muhammad Nasrullah	SDO-Mechanical	--	--	--	0333-3625555
Qazi Faiz-ul-Hassan	SDO-HT-I		--	--	0333-6431973
Muhammad Mueed	SDO-HT-II		--	--	0333-8821632
Abdul Ghafoor Allah Bakhsh	Signaler	0604-690690	--	--	0333-6439136 0333-6097657
CIVIL ADMINISTRATION					
Imran Hussain	D.C. Rajanpur	0604-920001	--	0604-689131	0304-0920093
Zahoor Hussain	ADCR Rajanpur	0604-689495	--	0604-920008	0320-9111111
Muhammad Imran	D.P.O. Rajanpur	0604-689055	--	0604-920055	0333-9339090
M Siffat Ullah	ADCG Rajanpur	0604-689288	--	0604-00008	03338595003 0345-7077606
M Ahmad Khan	A.C.RJP	0604-689904	--	0604-920020	0300-6973555
Saqib Adnan	A.C. Jampur	0604-567509	--	--	0343-7668762
M Ashraf Saleh	A.C. Rojhan	0604-610001	--	--	0300-6735633
Amir Rauf	C.O. Rajanpur	0604-689320	--	0604-920032	0333-8574146
ARMY AUTHORITY					
Military Officer Head Quarter Engineers 2 Corps Multan Cantt.			--	--	061/5313388
Military Officer, Head Quarter Engineers 31-Corps Bahawalpur Cantt.			--	--	062-89132511

Chapter No. 11

STANDARD OPERATING PROCEDURE (SOP) FOR BREACHING SECTIONS.

11.1. History of Breaching Section:

There is no breaching section in Rajanpur Canal Division, Rajanpur but during the flood season, the floodwater comes out and along the Canals thereby passing threat to life and property.

As per TORs of committee constituted by the Administrative Department vide No. SO(Floods) VII-22/2017 dated: 26.12.2025 to standardize emergency response protocols and optimize the department of Machinery and Human Resource across various irrigation infrastructures (river-wise) for the flood fighting plan (FFP).

Minimum Requirement of Machinery at Breaching Section

At each breaching section there should be arrangement of two (2) Excavators, one (1) Dozer and three (3) Dumpers at Exceptionally high flood.

Recommendation for Operation during Flood

i. The Superintending Engineer (SE) will notify all vulnerable points on the recommendations of Executive Engineer (XEN) and if the vulnerable site falls within 15 miles of embankment, then camp will be established at vulnerable site.

ii. Superintending Engineer shall allow deputation of one (1) excavator and four (4) Trolleys during low flood at Camps/vulnerable points and LMB/RMB.

iii. The Superintending Engineer (SE) shall approve one additional shift during low to high flood based on necessity of site but he shall clearly mention the reach where additional shift is allowed.

iv. For emergent situation when very high flood levels are attained at lower flood discharges, additional camps may also be established with the approval of Superintending Engineer.

v. The concerned division shall procure flood fighting material as per requirement of seasonal flood fighting camps.

vi. Jackets with official emblem of the PID should be purchased by the concerned Division, to be used during the worst-case scenario, i.e., for exceptionally high flood.

vii. All others camps and supplies along with establishment i.e. Beldars and mates shall be outsourced before the flood season for operational efficiency during the flood fighting activities.

viii. The above mentioned yard stick of human resource is inclusive of 100% of regular flood establishment of the division at normal and low flood and for medium and above flood situation 50% of total regular establishment of the division and backup division in Flood Fighting Plan.

ix. The **Trigger Point** upstream of a Canal Division for commencing preparations shall be mentioned in the flood fighting plan and it shall be such point upstream with lag time of 3 days / 72 hours. The division shall initiate preparation corresponding to discharge magnitude expected to receive at their jurisdiction with respect to discharge at trigger point with 2025 flood data.

x. Superintending Engineers shall approve additional resources above the approved FFP on the recommendations of Executive Engineer based on site necessity with copy to TPM and respective Chief Engineer but must mentioned the reach and justify the reason for additional resources in approval.

xi. Executive Engineers (XEN) shall decide the location and relocation of flood camps.

xii. The machinery mentioned above should be hired to remain standby for 24/7 to fight any extreme situation. The working of deployed machinery during normal situation shall be with prior approval of Superintending Engineer.

xiii. Communication means must be arranged through the Government. It is recommended to allocate a unique frequency for irrigation department.

xiv. In the event that water levels reach the 'High Flood' threshold even if the recorded discharge remains below established benchmarks, all field preparations and personnel deployments must immediately escalate to Critical Level protocols.

To avert more serious damage it was advice-able to make relief cuts for more the public safety. Relief cuts are normally needed on the following Canals.

Table 23: Detail of Proposed Relief Cuts and Areas likely to be affected.

Sr. No.	Name of Tehsil	Name of Channels	Proposed sites of Relief Cuts	Rout of Water Coming from Relief Cut	Village Likely to be Affected from Relief Cut
1	Jampur	Dajal Branch	500 ft D/S of Structure D/S of H/T Crossing RD: 123850	In the rout of HT x-ing RD: 123850	Raqba Nushera, Patwali, Channer, Islampur, Shahni, Nwan Shehar, Chak Ahmedpur, Bakharpur, Miranpur
2		Dajal Branch	500 ft D/S of Structure D/S of HT x-ing RD: 145760	In the rout of HT x-ing RD: 145760	Noorpur, Muhammad Hora Kanwala, Rakh Gouspur and Patti Ghulam Muhammad, Tufki, Esra, Hoti
3		Dajal Branch	500 ft D/S of Structure D/S HT x-ing RD: 177300	In the rout of HT x-ing RD: 177300	Miranpur, Hajipur, Patti Mian Saboo Khan and Kalam Sahib, Chak Talab, Patwali
4	Rajanpur	Dajal Branch	500 ft D/S of Structure D/S RD: 186/L	In the rout of HT x-ing RD: 186100	Soonwah,Patti Jumma Arrain, Kotla Rubait Chak Hamoon wala, Chak Patyat, Chak Mehisar, Kotla Esin, Chak Shaheed, Chak Hulwani, Chak Dat.

5		Dajal Branch	500 ft D/S of Structure D/S RD: 190/R at tail of Dajal Branch	In the rout of abounded upper Asni Minor.	Bakharpur, Chak Burera, Chak Babul, Chak Dreshak, Chak Talook, Jahanpur
6	Jampur	Link No. III	500 ft D/S of Structure D/S RD: 194-95/L	Left Bank 100 ft	Jhook Mahar, Naseerpur, Kotla Mughlan, Jampur City and surrounded rural area
7	Rajanpur	DKC Mubarik Disty	500 ft D/S of Structure D/S RD: 40-41, 50-60/R, 93-95, 102-121, 122 to 123 RD: 14-15, 18-19, 20-21	In the rout of HT x-ing entered in the DKC	Kotla Khan Muhammad, Kotla Esin, Kotla Kabir, Hanmoowala, Chak Sohrani, Chak Seri, Rakh Diama Gherbi, Kotla Jinda, Jagir Gabool, Patti Khurd Miran, Rajanpur No. 2, Aqilpur
8	Rajanpur	Kadra Creek	RD: 104+000 Left Side	In the route of escape channel to River Indus	Noushera Sharqi, Sahin Wala, Bait Sountra

These relief cuts are deemed to be operated only in case of imminent structure damage as well as depending upon the vulnerability of densely populated abadies subject to approval of breach committee. In case of any emergency, the relief cuts should be made at site according to situation with the coordination of District Administration and Police.

Procedure

Deputy Commissioner, Rajanpur will frame the relief Committee of each of the Channels mentioned above. This Committee comprises the following: -

a) Deputy Commissioner, Rajanpur (Chairman)
b) Executive Engineer, Rajanpur Canal Division (Member)
c) A.D.C. (Revenue) Rajanpur (Member)
d) A.C. Rajanpur (Member)

This Committee should be framed by 15.06.2026 and start functioning as soon as flood Warning is received. The Exact timing and location of each relief cuts will be fixed by the Committee, keeping in view the intensity of the flood. The relief cut will be made at site under supervision of at least 2 Members of relief cut Committee and suitable Police Force. A gang of at least 50 No. strongmen with kassies or one No. excavator will be needed to make each relief cut in the embankment. After making and developing the relief cut at the site, Police guard, Sub Engineer and Sub Divisional Officer will be deputed to watch the grieved public resistance and interference in the interest of smooth flow. The relief cuts must be closed at site after the decision of Relief Cut Committee under the Supervision of Sub Divisional Officer & Sub Engineer.

11.2. Location, Design, Quantity & Variety of explosive required for detonation

Nil

11.3. Arrangement of explosive and security of explosive stores

Nil

11.4. List of the security staff along-with detail of their training etc.

Nil

11.5. Detail of mechanical means as standby arrangements in case of detonation failure

Nil

11.6. Duty roster in case of critical situation

Nil

11.7. Breaching committee with their action plan

No breaching section in Rajanpur Canal Division, Rajanpur.

11.8. List of Villages Likely to be Inundated in case of breach:

Table 24: List of Villages to be inundated during Flood 2026.

Sr. No.	List of Villages Likely to be Inundation during various floods Limits.	List of Villages to be marooned
1	Shani	Chak Jalalpur
2	Raqba Noushera	Chak Darishak
3	Patwali	Chak Dumra
4	Nawan Shaher	Kotla Rubait
5	Channer	Kotla Essan
6	Islampur	Patti Khurd Miran
7	Bukhara	Kotla Jindu
8	Chak Ahmad Pur	Chak Lakh
9	Hajipur	Chak Jindu Shah
10	Noor Pur	Jahan Pur
11	Muhammad Hora	Theer Joia
12	Bakhar Pur	Chak Talook
13	Soonwah	Rakh Diama Gherbi
14	Miranpur	Wong II
15	Jahanpur	Chak Dilber
16	Rakh Kotla Essan	Chak Mat No. 1
17	Jaggier Gabool	Wah Machka
18	Chak Mishear	Chak Mosani
19	Chak Burrara	Chak Sohrani
20	Chak Shahid	Chak Shaheed
21	Chak Fareed Abad	Chak Burera
22	Chak Ahamdani	Chak Dat

23	Hamoonwala	Kotla Esin
24	Kotla Rubait	Rakh Kotla Esin
25	Chak Pattyat	Kotla Khan Muhammad
26	Chak Shah Pur	Wah Bohar
27	Fazil Pur	Shahani
28	Chak Shorani	Danwar
29	Chak Jalalpur	Esran
30	Chak Darishak	Tufki
31	Patti Khurd Miran	Hoti
32	Chak Lakh	Chak Talab
33	Kotla Jindu	Miranpur
34	Hajipur	Nwan Shehar
35	Kanwala	Bakharpur

11.9 Announcement and detail of Evacuation Arrangement.

The essential announcements during flood days will be made through revenue staff (Patwari / Zilladari) of Rajanpur Canal Division, Rajanpur.

11.10 Detail of Coordination with Civil / Army Authorities.

Regular meetings are being conducted with civil / army authorities as well as Rescue 1122 Officers in the chairman ship of Deputy Commissioner Rajanpur in connection with civil defence keeping in view of exceptional floods in Rajanpur District.

11.11 Parallel communication arrangement.

In addition to complete system of communication of administration of Rajanpur a complete wireless system is also maintained in Rajanpur Canal Division, Rajanpur.

11.12 Index Plan

Not related.

Chapter No. 12

VULNERABLE SITES ON FLOOD BUNDS / STRUCTURES

Detail of Vulnerable Flood Bunds/ Structures:

Rajanpur Canal Division, Rajanpur flood embankments are present, list of flood embankments with design criteria is given below:-

Table 25: List of Flood Embankments

Sr. No.	Name of Embankment / Bund	Reach			Length (ft)	Width (ft)	Canal Mile	Free Board	Side Slope
		From RD	To RD	Side					
1	Dajal Branch	100000	190000	R	90000	15	18.00	5 ft	3:1/1:5:1
2	Patwali Minor	0	11000	R	11000	15	2.20	2.50 ft	3:1/1:5:1
3	Zam Zam Disty	7148	15240	R	8092	15	1.62	5 ft	3:1/1:5:1
4	Islampur Disty	16000	24000	L	8000	15	1.60	5 ft	3:1/1:5:1
5	Hajipur Disty	0	45000	L	45000	15	9.00	5 ft	3:1/1:5:1
6	Taskeen Disty	14000	20000	R	6000	15	1.20	5 ft	3:1/1:5:1
7	Fatehpur Disty	0	60000	R	60000	20	12.00	5 ft	3:1/1:5:1
8	Link No. III	112000	227820	L	115820	20	23.16	7 ft	3:1/1:5:1
	Link No. III	210000	227820	R	17820	25	3.56	5 ft	3:1/1:5:1
9	D.K.C.	60000	130000	R	70000	20	14.00	3 ft	3:1/1:5:1
10	Mubarik Disty	0	55000	R	55000	15	10.57	5 ft	3:1/1:5:1
11	Kadra Mubarik Flood Embankment	0	60000	R	60000	15	12.00	5 ft	3:1/1:5:1
12	Kadra Canal	129800	223500	R	93500	20	18.70	5 ft	3:1/1:5:1
13	Tariq Minor	0	28160	R	28160	15	5.63	5 ft	3:1/1:5:1
14	Matwah Disty	0	59500	R	59500	15	11.90	4 ft	3:1/1:5:1
15	Fakhar Minor	0	11300	L	11300	15	2.26	Bank Top RL 305.71	3:1/1:5:1
16	New Hairo Flood Bund	7500	73500		66000	25	12.60	7 ft	3:1/2:1
						Total	**160.00**		

Table 26: Detail of Vulnerable Flood Structures

Sr. No.	Name of Embankment	RD: of Vulnerable Sites	Village effected
1.	Dajal Branch RD:100-190/R	RD: 140000 – 145000/L+R RD: 166000 – 167000/L+R	Mouza Islampur, Basti Babbar, Basti Lund
2.	Patwali Minor RD.0-11/R	RD: 3000 - 4000/L+R	Mouza Patwah, Basti Channer
3.	Zam Zam Disty RD.7-15/R	RD: 7148 - 15240/R	Raqba Noushera
4.	Islampur Disty RD.16-24/L	RD: 23000/L+R	Raqba Noushera
5.	Hajipur Disty RD: 0-45/L	RD: 11000 – 34000/L+R RD: 44000 - 45000/L+R	Mouza Hajipur, Miranpur, Chak Hoora
6.	Taskeen Disty RD.14-20/R	RD: 13000 – 15000/L+R	Basti Mehh
7.	Fatehpur Disty RD.0-26/R	RD: 7000 – 8000/L+R	Basti Mehh
8.	Link No. III RD: 112-227	112-142/L&R, 168-170/L, 193-194/L, 223-224/R	Mouza Sahinwala, Qasimpur, Rangpur, Raqba Daat
9.	D.K.C RD.60-130/R	RD: 60000 to 61000/R RD: 93000 to 95000/R RD: 95000 to 102000/R RD: 102000 to 111000/R RD: 122000 to 123000/R	Chak Khas, Rakh Chak Khas, Kotla Rubait, Fazilpur, Kotla Esin
10.	Mubarik Disty RD.0-55000/R	RD: 0 to 55000/R	Rajanpur No. 1 Rajanpur No. 2
11.	Kadra Mubarik Flood Bund RD.0-60000/R	RD: 0 to 60000	Asni, Patti Kalan Miran Khan
12.	Kadra Canal RD: 130-223500/R	RD: 130000 to 223500	Mouza Gianmal, Umer Kot, Kotla Hidayat
13	Tariq Minor Flood Embankment	RD:17000 to 18000/R	Chak Dilber
14	Matwah Disty RD.0-59500/R	RD: 32000 to 33000/ R+L RD: 34000 to 59500 tail/ R+L	Chak Mat 1, Chak Mat 2, Chak Mat 3
15	Fakhar Minor RD: 0-11300.	RD: 6500 – 11300/L+R	Kot Mithan, Basti Phali, Basti Mohib Ali, Mouza Shahpur
16	New Hairo Flood Bund	RD 11+000 to 27+000,	Basti Yaqeen Gopang, Mad Lal Khan, Sharin wala Khokha, Basti Ahmdani, Bait Bosan, Basti Sarfraz Gopang,
		J-Head Spur No.1 at RD 27+000/L	Basti Burra, Basti Gopang, Thul Muhtam
		J-Head Spur No. 2 at RD 43+000/L	Mad Lal Khan Gopang, Basti Ikram Khan Gopang, Fidao Chowk, Sherein Wala, Basti Yakeen Gopang
		J-Head Spur No. 3 at RD 54+000/L	Basti Sarfraz Gopang, Basti Ahmdani, Basti Bosan, Mouza Raikh Bagh Wala

12.1. Apprehended breaches in Flood Bunds / Structures.

New Hairo flood bund RD 11+000 to 27+000

12.2. Operation of Breaching Sections:

There is no breaching section.

12.3. Breaches due to rise of flood water, deterioration of flood bunds etc:

No flood bund breached during past flood events.

CHAPTER NO. 13

EMERGENCY CONTINGENCY PLAN FOR VULNERABLE SITE (SITES)

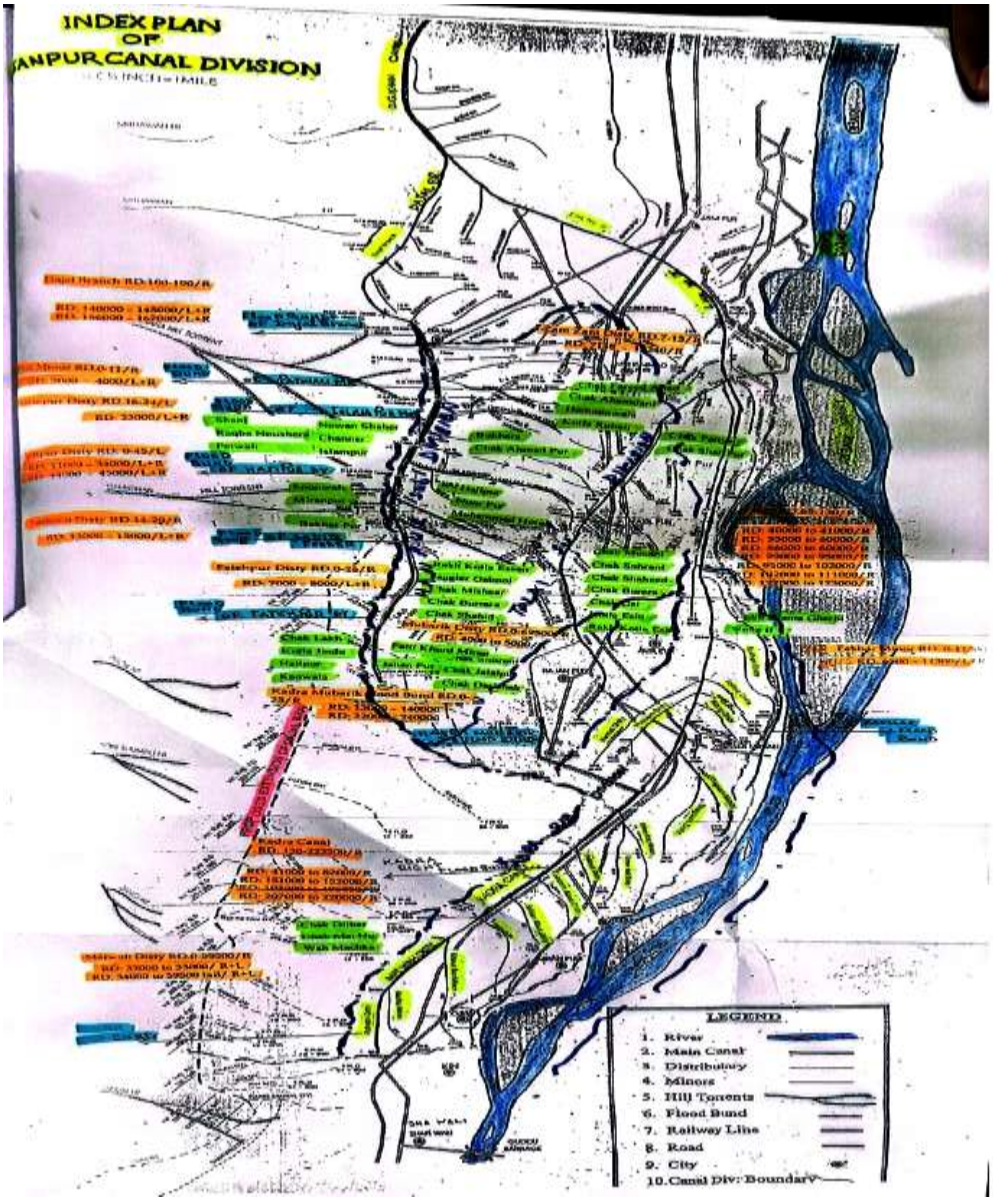
Emergency Contingency Plan for Vulnerable Sites

All the flood embankments are vulnerable due to flash floods of hill torrents. These sites affect the canal command area of this Division, which are all combined together. Similarly reach of new Hairo Flood Bund from RD 11+000 to 27+000 besides J-Head Spur No. 1 at RD: 27+000, J-Head Spur No. 2 at RD: 43+000 and J-Head Spur No. 3 at RD 53+000 along with Zookin Creek at RD 59+000 to 63+000 of New Hairo Flood Bund are also vulnerable site.

13.1 Plan showing route of flood water coming out of the breach supported with levels. (For hill Torrents Structures)

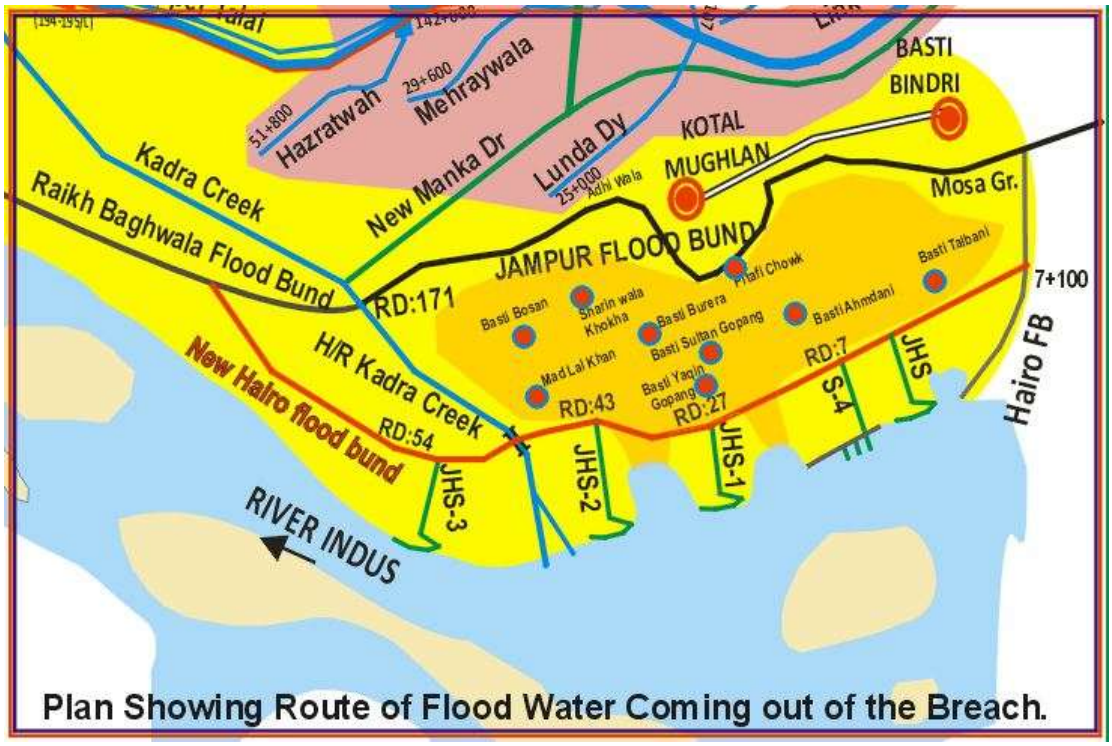
Plan is given below:- (Large Hard Copy is attached).

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13.1 Plan showing route of flood water coming out of the breach supported with levels. (For Rivers Structures, New Hairo Flood Bund RD 11+000 – 27+000)

Plan is given below:- (Large Hard Copy is attached).



13.2 Detail of Villages Abadies likely to be affected and this should also be shown on the plan (For Hill Torrent Structures)

Table 27: List of Abadies likely to be affected in District Rajanpur

TEHSIL RAJANPUR

Sr. No.	Name of Villages	Sr. No.	Name of Villages
1.	Rajanpur No.2	2.	Raqba Ahmad
3.	Basti Burani	4.	Raqba Gulan
5.	Kotla Jinda	6.	Rakh Raqba Naseer
7.	Jageer Gabol	8.	Noshehra Sharqi
9.	Muhammadpur Gam Wala	10.	Rakh Noshehra
11.	Thul Machi	12.	Bait Arain
13.	Darkhast Haji Muhammad	14.	Pati Mutnaza
15.	Pati Makhdoom Sahib	16.	Kohar Markand
17.	Pati Zaman Shah	18.	Bait Sountra
19.	Pati Khurd Meeran Khan	20.	Rakh Bait Sountra
21.	Pati Jindu Marral	22.	Aizad Abad
23.	Peer Bakhsh Sharqi	24.	Bait Ghazlani
25.	Ratan Therr	26.	Katcha Drigh Khas
27.	Kallanpur	28.	Katcha Drigh Pati Daha
29.	Rakh Hazrat Wala	30.	Katcha Drigh Pati Murad
31.	Hazrat Wala	32.	Katcha Drigh Katchi Meeran
33.	Rakh Reikh	34.	Katcha Drigh Pati Ali
35.	Reikh	36.	Katcha Drigh Amda Riyasat Bahawalpur
37.	Mehray Wala	38.	Katcha Drigh Kaath Parr
39.	Mushtarqa Mehray Wala	40.	Katcha Drigh Awairra

41.	Thehrri	42.	Katcha Drigh Chak Keehal
43.	Bait Gull Muhammad	44.	Katcha Drigh Bait Waghwarr
45.	Kotla Androon	46.	Katcha Drigh Pati Behram Khan
47.	Rakh Thul Menghraj	48.	Katcha Drigh Mushtarqa Gambhir
49.	Mad Gasoora	50.	Katcha Drigh Katchi Gambhir
51.	Rangpur	52.	Katcha Drigh Kotla Muhammad Khan
53.	Rakh Sahan Wala	54.	Katcha Drigh Amda Bait Mughal
55.	Rakh Kotla Sher Muhammad	56.	Noorpur
57.	Kotli Khudai	58.	Rakh Noorpur Gharbi
59.	Said Pur	60.	Rakh Noorpur Sharqi
61.	Kotla Sher Muhammad Pacca	62.	Raqba Naseer
63.	Kotla Sher Muhammad Katcha	64.	Basti Khawaja
65.	Bagh Wala	66.	Wong Gulu Wali
67.	Darkhawast Meeran Khan	68.	Wong Dom
69.	Rakh Bait Bagh Shah	70.	Toung
71.	Qasimpur	72.	Rakh Toung
73.	Basti Rindan	74.	Baghoon
75.	Shikarpur	76.	Rakh Baghoon
77.	Rakh Shikarpur	78.	Wong Awal
79.	Marri	80.	Wong Chak Malanhas
81.	Lunda Baraham	82.	Wong Daha
83.	Rakh Lunda Braham	84.	Thul Karam Chak Khas
85.	Jahanpur	86.	Pati Kalan Meeran Khan
87.	Sindh Gabol	88.	Asni
89.	Kotla Hazoori	90.	Kot Mithan Pacca
91.	Rakh Marri	92.	Kot Mithan Jadeed
93.	Raqba Dad	94.	Kot Mithan Katcha
95.	Aqilpur	96.	Bait Mughal
97.	Kotla Hussain Chak Dom	98.	Kotla Hussain Chak Awal
99.	Basti Mohib Ali Chak Awal	100.	Chak Lakha
101.	Shahpur	102.	Chak Bangla
103.	Basti Phalli	104.	Chak Shaheed
105.	Rakh Kot Mithan	106.	Chak Haji
107.	Kotla Said Khan	108.	Chak Kot Zubairi
109.	Mad Gola	110.	Chak Hulwani
111.	Kotla Meeran	112.	Chak Domrah
113.	Mad Moulvi	114.	Chak Azam Abad
115.	Rakh Mad Moulvi	116.	Chak Pandh
117.	Mad Sain Dad	118.	Chak Sundha
119.	Bangala	120.	Chak Musani
121.	Rakh Bangala	122.	Chak Chowki
123.	Rakh Machka Pacca	124.	Chak Allah Abad
125.	Raqba Khalti Katcha	126.	Pati Ahmad Khan
127.	Raqba Khalti Pacca	128.	Chak Lashari
129.	Katcha Sher Mahar	130.	Chak Dalail
131.	Murghai	132.	Chak Chach
133.	Rakh Murghai	134.	Pati Seith Molchand
135.	Kotla Ghulam Murtaza Shah	136.	Chak Jindo Shah
137.	Abdullah Shaheed	138.	Chak Dreshak
139.	Shah Garh	140.	Rakh Dama Gharbi
141.	Rakh Shah Garh	142.	Rakh Dama Sharqi
143.	Kotla Imam Bakhsh	144.	Baroos Abad
145.	Katchi Khan Muhammad	146.	Paharpur
147.	Mad Meeran	148.	Hanmoon Wala
149.	Machka	150.	Chak Fareed Abad
151.	Rakh Machka Katcha	152.	Chak Kotla Rubait

153.	Pati Sarkari	154.	Chak Ahmadani
155.	Chak Sher Purrah	156.	Chak Patiyat
157.	Chak Hafiz Abad	158.	Paharpur
159.	Chak Lundan	160.	Hanmoon Wala
161.	Chak Gabol	162.	Chak Fareed Abad
163.	Chak Baranda	164.	Chak Kotla Rubait
165.	Chak Patiyat	166.	Chak Ahmadani
TEHSIL JAMPUR			
1.	Jampur	2.	Basti Meeran
3.	Kot Tahir	4.	Kaloi Wala
5.	Tibba Chandia Kalan	6.	Ganeehar
7.	Tibba Chandia Khurd	8.	Basti Jindu Khan
9.	Basti Rindan	10.	Thul Hairo
11.	Kotla Daha	12.	Thul Janan
13.	Bhanu Wala	14.	Thul Seerak
15.	Sahoo Wala	16.	Raqba Dodiyani
17.	Nawan Begraj	18.	Basti Shah Ali Bohar
19.	Basti Gaddan	20.	Thul Gaman
21.	Tatar Wala	22.	Thul Ali Muhammad
23.	Rakh Azmat Wala	24.	Ali Abad
25.	Muhammadpur Hanbhi	26.	Beta
27.	Cheitr Faqeer	28.	Tibbi Lundan
29.	Leek Wala	30.	Thul Alam Khan
31.	Khosa	32.	Raqba Lundan
33.	Rakh Registan Shumali	34.	Kotli Jamal
35.	Basti Cheena	36.	Dajal
37.	Pati Machi	38.	Dinpur
39.	Pati Qazi	40.	Barkhurdar Purah
41.	Allah Abad Gharbi	42.	Eesran
43.	Rasoolpur	44.	Qasab
45.	Azmat Wala	46.	Onarr
47.	Raqba Dhingana	48.	Darkhan Mahtam
49.	Tal Shumali	50.	Shahani
51.	Basti Dhandla	52.	Wah Bohar
53.	Tufki	54.	Noshehra
55.	Hothi	56.	Danwar
57.	Tal Janubi	58.	Wah Khokhar
59.	Mahal Mahtam	60.	Raqba Noshehra
61.	Basti Meo	62.	Wah Lashari
63.	Raqba Dhandla	64.	Jhok Makwal
65.	Kotla Gujar	66.	Meeranpur
67.	Wah Kandhil	68.	Alipur
69.	Basti Hanbhi	70.	Lundi Saidan
71.	Bochrra	72.	Kalhot Pur
73.	Chak Lucky	74.	Rakh Registran Janubi
75.	Hajo	76.	Darkhast Ghulam Haidar
77.	Gandha Lucky	78.	Chatool
79.	Binda Bur'rah	80.	Bambli
81.	Wah Alkani	82.	Soma
83.	Wah Saidan	84.	Garkna Wazeeri
85.	Harrand	86.	Barkato
87.	Basti Panah Ali	88.	Thul Said Khan
89.	Basti Nawab	90.	Shaloba
91.	Sorri	92.	Thul Chang

93.	Bilhar	94.	Thul Baqir
95.	Bhambha	96.	Thul Wazeer
97.	Raqba Aqil Muhammad	98.	Rakh Registan Gharbi
99.	Kotla Mughlan	100.	Raqba Lundi Saidan
101.	Dhora Hajana	102.	Muhammadpur No.1
103.	Khan Wah	104.	Muhammadpur No.2
105.	Makwal Wala	106.	Bukhara
107.	Kotla Sial	108.	Islampur
109.	Dingora	110.	Channar
111.	Shahwala	112.	Pat Wali
113.	Mad Ahmad Khan	114.	Bulaywala
115.	Malani Wala	116.	Qazi Wala
117.	Rakh Khan Wah	118.	Patni
119.	Basti Bakhsh	120.	Dhora Rindan
121.	Adam Garh Nou	122.	Hairo
123.	Kotla Deewan	124.	Thul Mahtam
125.	Pati Gadi	126.	Katchi Bakhsh
127.	Babul Wali	128.	Basti Sikhani
129.	Rustam Leghari	130.	Gulab Shah
131.	Shah Nawaz Purah	132.	Chak Korewala
133.	Seelra	134.	Chak Ahmadpur
135.	Jhok Mahar	136.	Chak Shahwala
137.	Naseerpur	138.	Rakh Noorpur
139.	Bur'rah	140.	Chak Peerowala
141.	Qasim Wala	142.	Chak Lunda
143.	Dukarr	144.	Chak Mungeri
145.	Basti Hafiz	146.	Chak Nau Abad
147.	Adam Garh Kohna	148.	Raqba Nawan Shahar
149.	Rakh Muhammadpur	150.	Gulabi
151.	Hajipur	152.	Wah Meo
153.	Son Wah	154.	Gerro Lashari
155.	Noorpur	156.	Bulhi
157.	Kanwala	158.	Bahar Hussain
159.	Malkani	160.	Mirza Wah
161.	Rakh Charroha	162.	Ellahi Wah
163.	Drighri	164.	Golay Wah
165.	Bakhirpur	166.	Khumbi Garang
167.	Nawan Shehar	168.	Thehr Basti Joiya
169.	Muhammad Horra		

TEHSIL ROJHAN			
1.	Chak Dim	2.	Mahal Thul Nawab
3.	Chak Karrya	4.	Peer Bakhsh
5.	Chak Chandka	6.	Dera Bhai
7.	Pacca Mian Wali	8.	Kareema Khor
9.	Mat No.1	10.	Karriya Jat
11.	Mat No.2	12.	Chak Jadeed
13.	Mat No.3	14.	Meeranpur
15.	Wah Machka	16.	Safdar Abad
17.	Makeehan	18.	Kotla Gulsher
19.	Dera Dildar	20.	Mushtarqa Mazari
21.	Mandhri	22.	Mad Muhammad Shah
23.	Dera Jeewan	24.	Thul Naseer
25.	Kin Khas	26.	Badli Khas
27.	Bambli Khairpur	28.	Rakh Meeranpur
29.	Dilbar	30.	Thoyani

31.	Dingri Sori	32.	Lat
33.	Sheikhwala	34.	Mohri
35.	Tariq Abad	36.	Katcha Chohan
37.	Giamal	38.	Rakh Katcha Chohan
39.	Rakh Qadra	40.	Chakir Wali
41.	Qadra Khas	42.	Katcha Mian Wali No.1
43.	Dhora	44.	Katcha Mianwali No.2
45.	Luteri	46.	Shahwali
47.	Lala	48.	Charagh Shah
49.	Purewar	50.	Gari Sori
51.	Rakh Purewar	52.	Gadda Narr
53.	Dahir Wali	54.	Jongo Thandi
55.	Rakh Sabzani	56.	Patti Shahwali
57.	Kaheeri	58.	Rakh Shahwali
59.	Sabzani Tukrra No.1	60.	Barra
61.	Sabzani Tukrra No.2	62.	Leeni
63.	Sabzani Katchi Islam	64.	Sorri
65.	Sabzani Garkan	66.	Hithar
67.	Sabzani Panjwani	68.	Katcha Razi
69.	Sabzani Bolani	70.	Katcha Bhot
71.	Sabzani Pacca	72.	Chakar Bhot
73.	Bhagsar	74.	Danwani

13.2 Detail of Villages Abadies likely to be affected and this should also be shown on the plan (For Rivers Structures, New Hairo Flood Bund RD 11+000 – 27+000)

TEHSIL JAMPUR		
1	Jampur	Basti Yaqeen Gopang, Mad Lal Khan, Sharin wala Khokha, Basti Ahmdani, Bait Bosan, Basti Sarfraz Gopang,

13.3. Strategy and action taken, explained in details; this may include:

13.3.1 Arrangements.

The entire flood fighting material along with watching establishment will be arranged at site before the commencement of flood period.

13.3.2. Establishment of Flood Fighting Camps.

As per TORs of committee constituted by the Administrative Department vide No. SO(Floods) VII-22/2017 dated: 26.12.2025 to standardize emergency response protocols and optimize the department of Machinery and Human Resource across various irrigation infrastructures (river-wise) for the flood fighting plan (FFP), establishment of camps criteria is as under:-

Normal Flood:	15 miles / vulnerable points
Low Flood:	15 miles
Medium Flood/High Flood:	7 miles
Very High/Exceptionally High:	5 miles

According to criterial flood fighting camp will be established **Syphon at RD 145 of Dajal Branch, Syphon at RD 186 of Dajal Branch (At Head Bakharpur), New Hairo Flood Bund (At J-1) & Kadra Canal Flood Embankment (At Bangla Hidayat Canal Rest House).**

Relief camps will be established at elevated places near affected areas. Following Departments will establish their Relief Camps.

i. Revenue.
ii. Health.
iii. Live Stock.

Revenue Department will establish their relief camps near flood area at suitable places to provide food and tent to the flood affecters to accommodate them. Health Department will establish their health camps and provide medical facilities of all kinds to flood affectees. District Live Stock Officer will ensure the supply of medicine and fodders for animals in affected areas.

13.3.3. Duties of Officers / Officials & their Camp at Sites;

All concerned Sub Divisional Officer & their Staff will remain in the area round the clock. Staff of Division will be set on high alert during day and night from 15 June up-to 15 September. Consequently, flood watching camps will be installed at vulnerable points. Adequate arrangements to fight against the flood according to its magnitude will be made by all Sub Divisions. Any unwanted happenings will be reported by Sub Divisional officer to the Executive Engineer Rajanpur Canal Division, Superintending Engineer Derajat Canal Circle, Chief Engineer DG Khan Irrigation Zone and Secretary, Irrigation Department. It will also be duty of the Sub Divisional Officer to deliver messages well in time to the local civil authorities in addition to military personnel.

13.3.4. Departmental Machinery available.

There is no departmental machinery available in Rajanpur Canal Division, Rajanpur for Flood Fighting.

13.3.5. Machinery available from Private Source

Essential Machinery will be arranged from the registered government contractors according to flood situation.

13.3.6. Flood Fighting Material Required

Detail of Flood Fighting Material Required given in table below;

Sr. No.	Item	Unit	Total Required Quantity	Available Quantity	Balance Quantity	Remarks
1	Shouldari / Tent	No.	01	0	01	Will be Purchased before coming of Flood Season 2026
2	Chairs	No.	06	0	06	
3	Table	No.	01	0	01	
4	Generator (2-3 KVA)	No.	01	0	01	
5	Pedestal Fans	No.	01	0	01	
6	Charpois	No.	02	0	02	
7	Symbolic Jackets	No.	50	0	50	
8	Polythene Sheets	Kg	100	0	100	
9	Bamboos (4” dia and 10 ft long)	No.	100	0	100	
10	Water Cooler	No.	01	0	01	
11	Portable Umbrella	No.	02	0	02	
12	Life Jackets	No.	05	0	05	

Sr. No.	Item	Unit	Total Required Quantity	Available Quantity	Balance Quantity	Remarks
13	Utensils (10 person serving)	No.	01	0	01	
14	Jute / Plastic Bags	No.	1000	0	1000	
15	Walke Talkie Set	Set	02	0	02	
16	Raincoats	No.	10	0	10	
17	LED Flood Light	No.	10	0	10	
18	Extension Cable (10 ft)	No.	02	0	02	
19	Rechargeable Torches	No.	20	0	20	
20	Kassi	No.	20	0	20	
21	Axes	No.	20	0	20	
22	G.I Buckets	No.	05	0	05	
23	7/44 cable	Feet	500	0	500	
24	Sutli	Kg	02	0	02	
25	Sewing Needles	No.	10	0	10	
26	Emergency Medical Kit	No.	1	0	1	
27	Wire crates (3x3x3) (at only those camp near river action and reserve stock exists)	No.	100	0	100	

13.3.7. Flood Fighting Material Available.

Nil

13.4 Detail of other infrastructure like electric, Sui Gas, Telephone installations, road network, other buildings, Canals & drainage network.

- **Canal**
  Dajal Canal, Link No. III and Kadra Canal along with their infrastructure explained supra.
- **Road**
  Indus Road (N-55) and other village road network
- **Hospital**
  District Head Quarter Hospital, Rajanpur.
- **Sui Gas**
  Related to SNGPL.
- **Telephone installation**
  Related to PTCL
- **Drainage Network**
  Tayyab Drain, New Manka Drain, Qutab Drain, Bukhari Drain.

Chapter No. 14

ACTION PLAN

14.1. Reshuffling / recouping plan of reserve stone departmentally.

Reserve Stock of Stone is available at J-Head Spur No. 1, 2 and 3 at RD 27+000, 43+000 and 54+000 of New Hairo Flood Bund and will be transported at any critical location on the flood bund as and when required by hiring machinery from resourceful contractor.

14.2. Detail of inlet/outlet crossing along with closing methodology.

Inlet / outlet will be plugged well in time by mechanical means / sand filled plastic bags by work charge establishment.

14.3. Deployment Machinery (Normal to Low Flood)

Following Machinery will be deployed at critical sites of flood embankments during flood season 2026.

Table No. 30 (Deployment of Machinery (Normal to Low Flood)

Sr. No.	Structure Name	Length (Miles)	Excavators	Trolleys	Dumpers	Tractor with Front blade (1 per 15 mile)
1	*Head Bakharpur Syphon RD: 186 of Dajal Branch	-	S.E shall allow deputation of one (1) excavator & four (4) Trolleys during low flood at camps/ vulnerable points.		0	0
2	*Syphon RD 145 of Dajal Branch	-			0	0
3	*DKC Right Flood Embankment from RD 55+000 to 95+000.	-			0	0
4	*Pull Pathan Hill Torrent Crossing of DKC Canal	-			0	0
5	*Head Reikh (RD 142+000 of Link No. III)	-			0	0
6	*Kadra Mubarik Flood Bund	4.92			0	0
7	*Head Regulator Kadra canal (Head Noushera)	-			0	0
8	New Hairo Flood Bund (At J-Head Spur No. 01)	12.59			0	1
9	*Kadra Flood Bund RD (RD 120+000 to 219+500)	17.7			0	1
		Total			0	**2**

* For hill torrents structures

Payment for deployment of machinery and work charge establishment subject to verification by TPM / Consultants.

14.4. Deployment of Machinery (Medium to high flood)

Following Machinery will be deployed at critical sites of flood embankments during flood season 2026 during medium to high flood situation.

Table 31: Detail of Machinery to be deployed at Medium to High Flood

Sr. No.	Structure Name	Length (Miles)	Excavators	Trolleys	Dumpers	Tractor with Front blade
			1 per 7 mile	4 per 7 mile	2 per 7 mile	1 per 7 mile
1	*Head Bakharpur Syphon RD: 186 of Dajal Branch	-	1	4	1	1
2	*Syphon RD 145 of Dajal Branch	-	1	4	1	1
3	*DKC Right Flood Embankment from RD 55+000 to 95+000.	-	1	4	1	1
4	*Pull Pathan Hill Torrent Crossing of DKC Canal	-	1	4	1	1
5	*Head Reikh (RD 142+000 of Link No. III)	-	1	4	1	1
6	*Kadra Mubarik Flood Bund	4.92	1	4	1	1
7	*Head Regulator Kadra canal (Head Noushera)	-	1	4	1	1
8	New Hairo Flood Bund (At J-Head Spur No. 01)	12.59	2	7	4	2
9	*Kadra Flood Bund RD (RD 120+000 to 219+500)	17.7	2	10	4	2
		Total	**11**	**45**	**15**	**11**

* For hill torrent Structures

Payment for deployment of machinery and work charge establishment subject to verification by TPM / Consultants.

14.5. Deployment of Machinery (Very high to exceptionally high flood).

Table : Detail of Machinery to be deployed during 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	2 per 5 mile	Very High Flood	Exp. High Flood
			1 per 5 mile	2 per 5 mile			1 per 5 mile	2 per 5 mile
1	*Head Bakharpur Syphon RD: 186 of Dajal Branch	-	2	3	8	4	2	3
2	*Syphon RD 145 of Dajal Branch	-	2	3	8	4	2	4
3	*DKC Right Flood Embankment from RD 55+000 to 95+000.	-	1	2	4	2	1	2
4	*Pull Pathan Hill	-	1	2	4	2	1	2

	Torrent Crossing of DKC Canal							
5	*Head Reikh (RD 142+000 of Link No. III)	-	1	2	4	2	1	2
6	*Kadra Mubarik Flood Bund	4.92	2	3	6	4	1	2
7	*Head Regulator Kadra canal (Head Noushera)	-	1	2	4	2	1	2
8	New Hairo Flood Bund (At J-Head Spur No. 01)	12.59	2	4	8	4	2	4
10	*Kadra Flood Bund RD (RD 120+000 to 219+500)	17.7	3	6	12	6	3	6
		Total	**15**	**27**	**58**	**30**	**14**	**27**

* For hill torrents Structures

Payment for deployment of machinery and work charge establishment subject to verification by TPM / Consultants.

14.6. Police Deployment Plan

Table 33: Breaching Section

Sr. No.	Site breaching section	Concerned Canal Division	Concerned Police Station & District	Police Personal to be deployed		Remarks (if Any)
				Inspector / SI / ASI	Constables	
1	There is No Breaching Section in this Division.					

Table 34: Deployment of Police at Vulnerable Sites

Sr. No.	Vulnerable sites used for illegal cuts during floods	Concerned Canal Division	Concerned Police Station and District	Police Personnel to be deployed		Remarks (If any)
				Inspection /SI/ASI	Constables	
1	Dajal Branch RD:100-190/R	Rajanpur Canal Division, Rajanpur	PS Dajal	SI =1 No. ASI =2 No.	5 No.	-
2	Patwali Minor RD.0-11/R		PS Dajal	SI =1 No. ASI =1 No.	3 No.	-
3	Zam Zam Disty RD.7-15/R		PS Dajal	SI =1 No. ASI =1 No.	3 No.	-
4	Islampur Disty RD.16-24/L		PS Dajal	SI =1 No. ASI =1 No.	3 No.	-
5	Hajipur Disty RD: 0-45/L		PS Hajipur	SI =1 No. ASI =1 No.	3 No.	-
6	Taskeen Disty RD.14-20/R		PS Hajipur	SI =1 No. ASI =2 No.	5 No.	-
7	Fatehpur Disty RD.0-26/R		PS Rajanpur	SI =1 No. ASI =2 No.	5 No.	-

8	Link No. III RD: 112-227		PS Fazilpur	SI =1 No. ASI =4 No.	10 No.	-
9	D.K.C RD.60-130/R		PS Fazilpur	SI =1 No. ASI =3 No.	10 No.	-
10	Mubarik Disty RD.0-55000/R		PS Rajanpur	SI =1 No. ASI =2 No.	5 No.	-
11	Kadra Mubarik Flood Bund RD.0-30600/R		PS Umerkot	SI =1 No. ASI =2 No.	5 No.	-
12	Kadra Canal RD: 130-223500/R		PS Umerkot	SI =1 No. ASI =3 No.	15 No.	-
13	Hairo to Raikh Bagh Wala Flood Bund (S-4)		PS Jampur Saddar	SI =1 No. ASI =3 No.	15 No.	-
14	Tariq Minor Flood Embankment RD: 0- 28160		PS Rojhan	SI =1 No. ASI =3 No.	8 No.	-
15	Matwah Disty RD: 0-59500/R		PS Rojhan	SI =1 No. ASI =2 No.	5 No.	-
16	Fakhar Minor RD: 0-11300.		PS Kotmithan	SI =1 No. ASI =2 No.	5 No.	-

14.7. Details of synthetic bags with capacity of 50 Kg and 100 Kg

These bags will be filled with manual and mechanical means and placed wherever required.

Table 35: Synthetic Bags

Sr. No	Required (Qty)	Available (Qty)	Balance (Qty)	Requirement
1	Hajipur Sub Division	0	0	9000
2	Talai Sub Division	0	0	6500
3	Kadra Sub Division	0	0	9500
4	Rojhan Sub Division	0	0	8500
			Total	33500

14.8. Details of polythene sheets of black color to protect upstream slope against wave action and to control seepage through embankments.

Apparently no strong wave action is expected near flood embankments. Only Kadra Canal flood embankment from 129800 to 219500 is under direct threat of wave action. For its protection, this division has already completed work of armoring it. Similarly in case of any untoward situation, polythene sheets of black color to protect upstream slope against wave action to control seepage through embankment will be required at RD 129+800 to 219+500 of Kadra Canal and will be purchased through resourceful contractor as and when needed.

New Hairo flood bund is also vulnerable to wave action due to spill water of River Indus. In order to protect the slopes from wave action, polythene sheets black colour will be provided on slopes as per lesson learnt from flood 2024.

14.9 Any other detail as per SOPs approved by the Administrative Department. (Recommendation for operation during flood)

Recommendations for Operation During Flood

i. The Superintending Engineer (SE) will notify all vulnerable points on the recommendations of Executive Engineer (XEN) and if the vulnerable site falls within 15 miles of embankment, then camp will be established at vulnerable site.

ii. Superintending Engineer shall allow deputation of one (1) excavator and four (4) Trolleys during low flood at Camps/ vulnerable points and LMB/RMB.

iii. The Superintending Engineer (SE) shall approve one additional shift during low to high flood based on necessity of site but he shall clearly mention the reach where additional shift is allowed.

iv. For emergent situation when very high flood levels are attained at lower flood discharges, additional camps may also be established with the approval of Superintending Engineer.

v. The concerned division shall procure flood fighting material as per requirement of seasonal flood fighting camps.

vi. Jackets with official emblem of the PID should be purchased by the concerned Division, to be used during the worst-case scenario, i.e., for exceptionally high flood.

vii. All others camps and supplies along with establishment i.e. Beldars and mates shall be outsourced before the flood season for operational efficiency during the flood fighting activities.

viii. The above mentioned yard stick of human resource is inclusive of 100% of regular flood establishment of the division at normal and low flood and for medium and above flood situation 50% of total regular establishment of the division and backup division in Flood Fighting Plan.

ix. The **Trigger Point** upstream of a Canal Division for commencing preparations shall be mentioned in the flood fighting plan and it shall be such point upstream with lag time of 3 days / 72 hours. The division shall initiate preparation corresponding to discharge magnitude expected to receive at their jurisdiction with respect to discharge at trigger point with 2025 flood data.

6

SE MBN

x. Superintending Engineers shall approve additional resources above the approved FFP on the recommendations of Executive Engineer based on site necessity with copy to TPM and respective Chief Engineer but must mentioned the reach and justify the reason for additional resources in approval.

xi. Executive Engineers (XEN) shall decide the location and relocation of flood camps.

xii. The machinery mentioned above should be hired to remain standby for 24/7 to fight any extreme situation. The working of deployed machinery during normal situation shall be with prior approval of Superintending Engineer.

xiii. Communication means must be arranged through the Government. It is recommended to allocate a unique frequency for irrigation department.

xiv. In the event that water levels reach the 'High Flood' threshold even if the recorded discharge remains below established benchmarks, all field preparations and personnel deployments must immediately escalate to Critical Level protocols.

(Abdul Qayyum Qadume)
Member / SE, Mailsi Canal Circle, Multan

(Zeeshan Ali)
Member/ SE, Project Circle DG Khan

(Mohib Ullah Ali)
Member / SE, Sukhrawa Canal Circle, Sahiwal

(Imtiaz Hussain)
Member / SE, Bahawalpur Canal Circle

(Sammar Iqbal)
Member / SE, LCC(West) Canal Circle, Faisalabad

(Hafiz Ijaz Ahmed)
Member / SE, Mandi Bahauddin Canal Circle

(Mudassar Rehan)
Member / SE Link Circle, Lahore

(Khurram Amin)
Convener / Chief Engineer, Drainage & Flood Zone, Lahore.

7

CHAPTER NO. 15

BACKUP DIVISIONS (IN CASE OF BREACH)

Jampur Construction Division, Rajanpur will be the ‘Backup Division’ with fully support and backup to pass the flood safely.

Executive Engineer	**Superintending Engineer**	**Chief Engineer**
Rajanpur Canal Division Rajanpur	Derajat Canal Circle D.G. Khan	D.G. Khan Irrigation Zone D.G. Khan