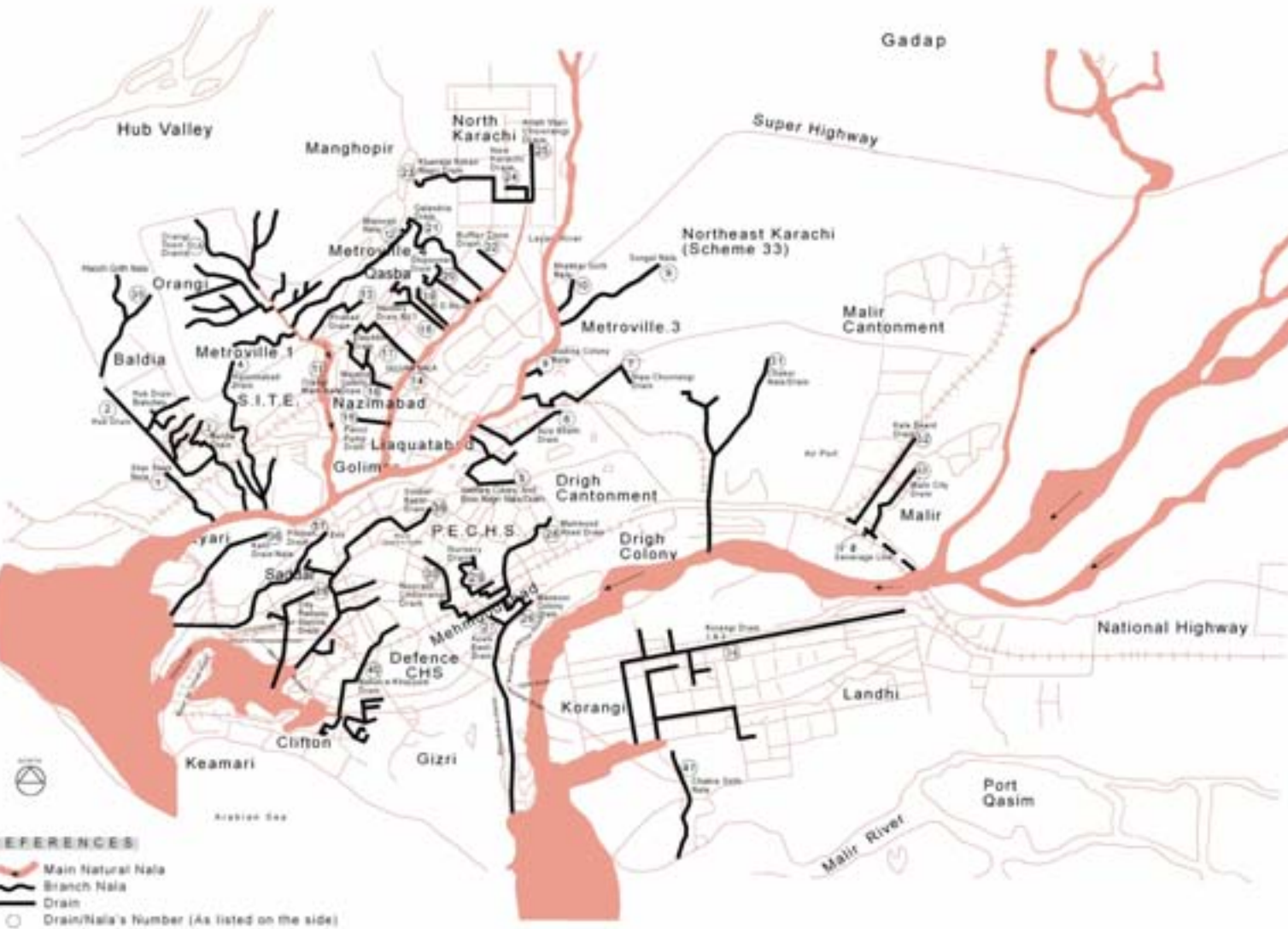


KARACHI RAINS AND THE DRAINAGE CHANNELS- ISSUES AND SOLUTIONS

Prepared by the OPP Research and Training Institute

Karachi map showing documented Natural Nalas & Drains: These are the main disposals for sewage and rain water
 OPP-RTI Survey as of September 2005
 Detail of each nala and drain is available



S.NO	NAME OF DRAIN/NALA	LENGTH (FT)
1.	Nalas/drains no 1 to 25 dispose into the Lyari Nadi and then into the sea.	
1.	Sher Shah Nala	6603
2.	Hub Drain + Branches	36438
3.	Baldia Nala/Drain	15715
4.	Haroonabad Drain	25980
5.	Welfare Colony And	1667
	Essa Nagri Nala/Drain	
6.	Aziz Bhatti Drain	13856
7.	NIPA Chowrangli Drain	15588
8.	Madina Colony Nala	1000
9.	Sungai Nala/Drain	8660
10.	Bhakar Goth Nala	3565
11.	ORANGI NALA MATRI (Drain to Lyari River)	38250
11A.	Orangi Town Drain/Nala (6 Branches)	94234
12.	Hianwali Colony Nala	11256
13.	Pirabad/Hujlumbad Drain	5550
14.	GUJJAR NALA	40000
15.	Petrol Pump Drain	3350
16.	Hujahid Colony Drain	12500
17.	Ziauddin Hospital Drain	7000
18.	Haidary Drain - I	8000
19.	Haidary Drain - II	7600
20.	Shipowner College Drain	6570
21.	Qalandaria Drain	17200
22.	Buffer Zone Drain	1500
23.	Khawaja Ajamir Nagri Drain	19000
24.	New Karachi Drain	2500
25.	Allah Wali Chowrangli Drain	10500
	Nalas/drains no 26 to 34 dispose into the Malir Nadi and then into the sea.	
26.	Hanzoor Colony Drain	11700
27.	Azam Basti Drain	1750
28.	Mahmoodabad Drain main	13480
29.	Nursery Drain (branch H.B.)	697
30.	Noonani Chowrangli Drain (branch H.B.)	15950
31.	Chakor Nala/Drain	23080
32.	Kala Board Drain	9310
33.	Malir City Drain	9959
34.	Korangi Drain 1 & 2	48496
	Nalas/drains no 35 to 41 dispose into the back water and then into the sea.	
35.	Maach Goth Nala	23500
36.	Kalri Drain / Nala	94234
37.	Pitcher Drain	12124
38.	City Railway Station Drain	10825
39.	Solder Bazar Drain + 4 Branches	40000
40.	Nahar-e-Khayyam Drain	5629
41.	Chakra Goth Nala	7000

REFERENCES

Main Natural Nala

Branch Nala

Drain

Drain/Nala's Number (As listed on the side)

Orangi

Construction of Underground Sewerage Lines
(financed, managed and maintained by the residents)



Statistical Data May-2005

Mohallas	113
Lanes	7,289
Houses	105,247

Internal Development

Lane sewers	6493 (89.07%)
Sec sewers	449
Sanitary Latrines	97572
Peoples investment	96.3 million

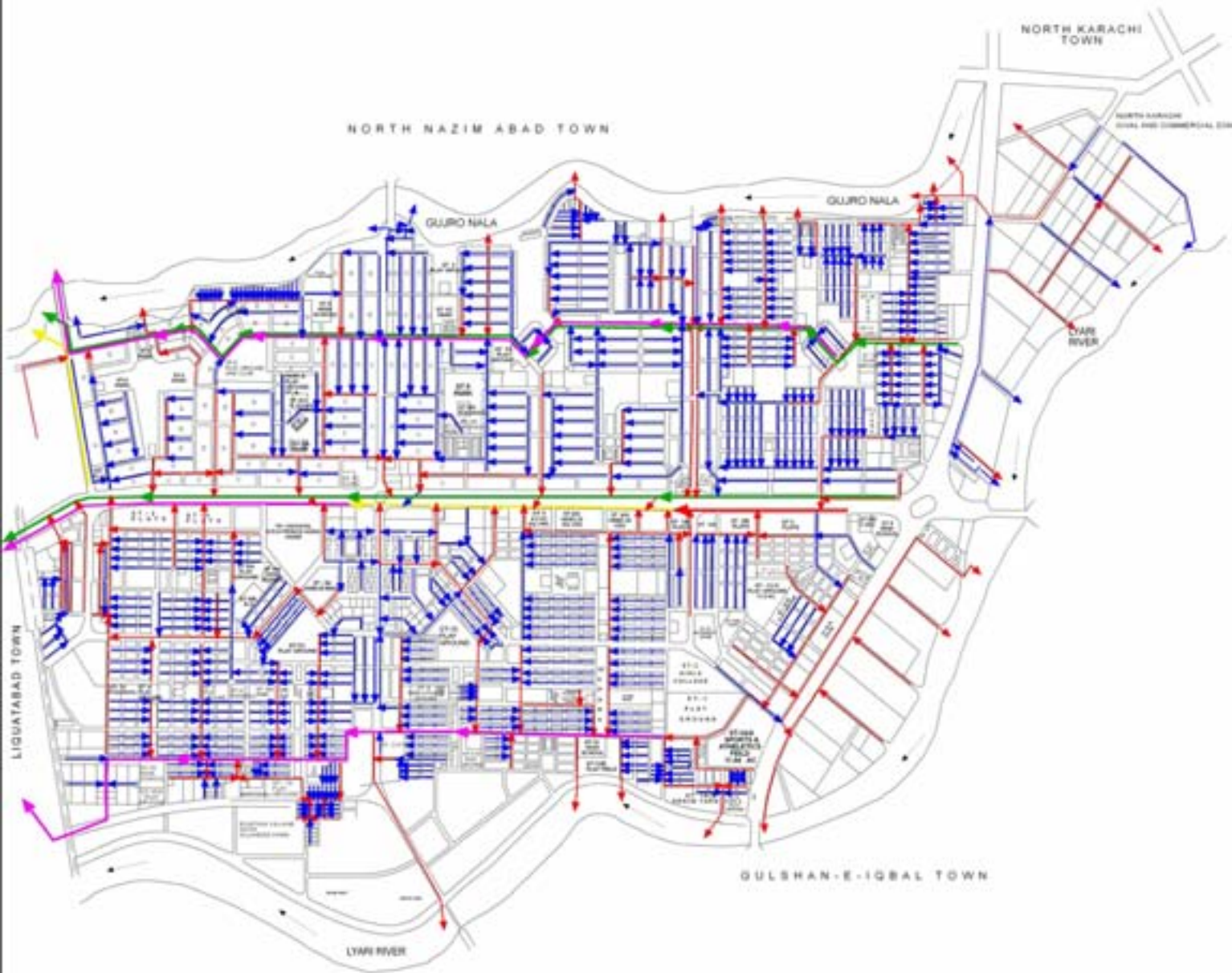
External Development

Trunks	137 (145188 cft)
Nala Development	8 (29,732 cft)
Govt. investment Rs.	91.54 million

■	Underground Sewerage
■	Open Drain (KMC)
■	KMC/AOB Trunk Sewer

GULBERG TOWN

Map Showing Existing Sewerage



Map provided by XEN, KW & SE
Received dated: 28 July 2004
Map digitized by OPP-RTI dated: January 2005

LEGEND

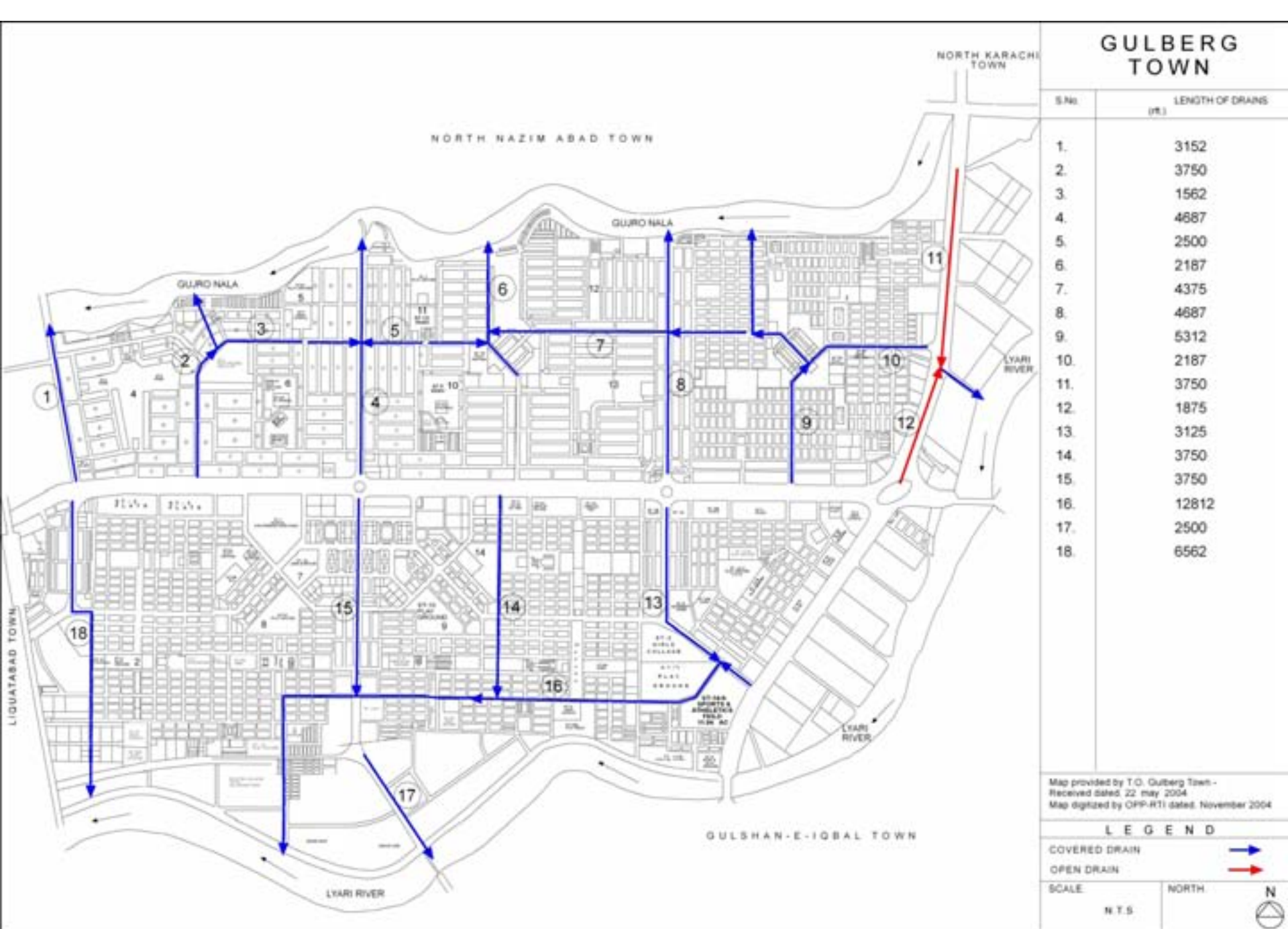
8" Ø	
12" Ø	
15" Ø	
24" Ø	
36" Ø / 48" Ø	

SCALE:

N.T.S.

NORTH





S.No.	LENGTH OF DRAINS (ft.)
1.	3152
2.	3750
3.	1562
4.	4687
5.	2500
6.	2187
7.	4375
8.	4687
9.	5312
10.	2187
11.	3750
12.	1875
13.	3125
14.	3750
15.	3750
16.	12812
17.	2500
18.	6562

Map provided by T.O. Gulberg Town -
 Received dated: 22 May 2004
 Map digitized by OPP-RTI dated: November 2004

Nala/Drains of Karachi



Pitched Drain

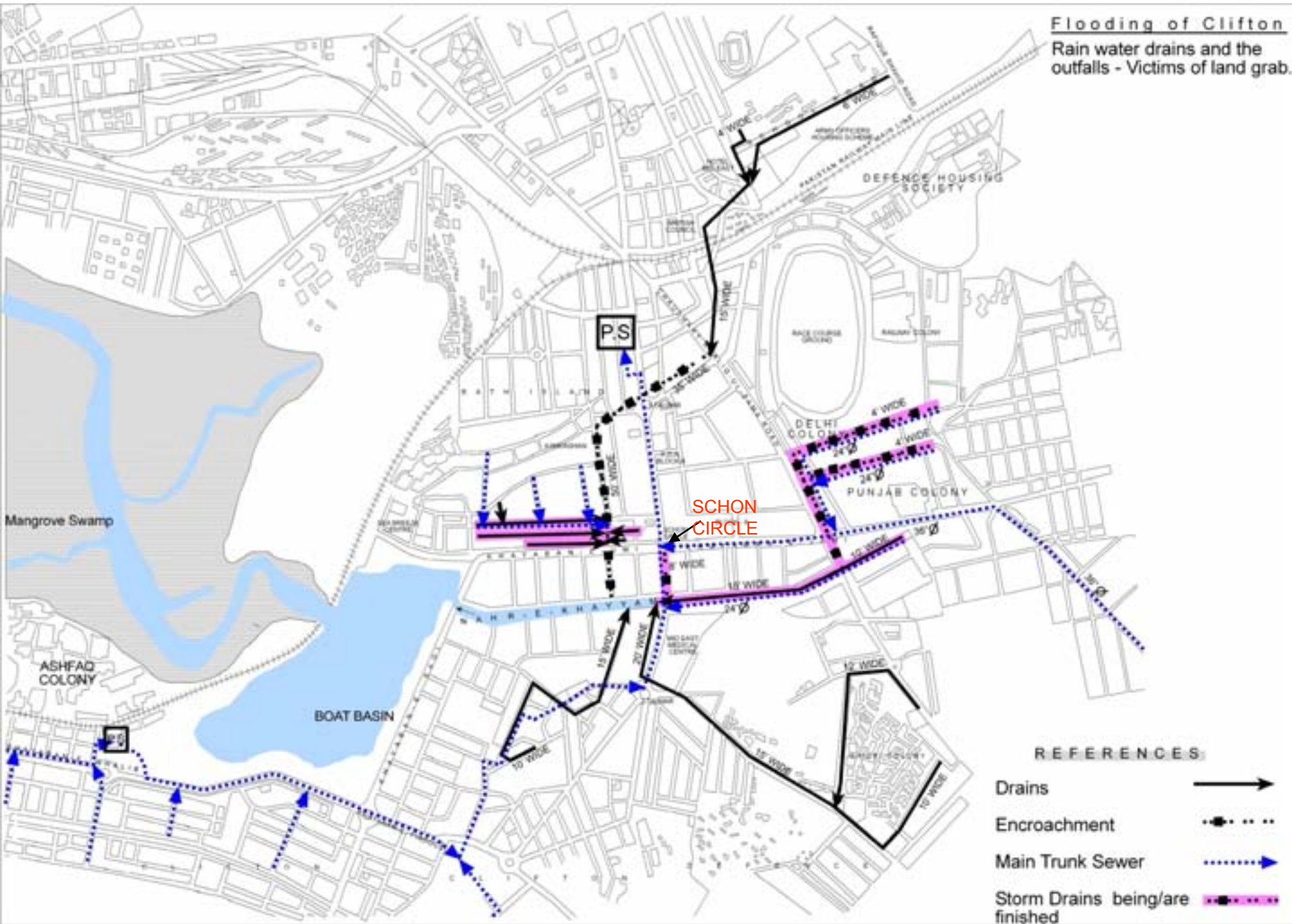


Naher-e-Khyam Nala



Branch of city station railway nala at Jubilee Chowk.

outfalls - Victims of land grab.





Nehr-e-Khyam nala 125 ft wide being covered into a box drain on one side 15 feet wide & 18 feet deep Remaining land is being reclaimed for Plotting.



Branch drain 50 ft wide joins Nehr-e-Khyam.
36" dia pipes, Sample shown in photo, mostly filled up with debris are the connections of the branch drain to Nehr-e-Khyam.

Nehr-e-Khayyam Nala



Nahr-e-Khayyam Branch nala near Bath Island: Lawns of Bunglows encroach over the drain



Piped culverts are bottlenecks causing choking - need box culverts



Aga Khan Jamaat Khana at Khayaban-e-Rumi over the drain

Rich encroach over the nalas/drains,while the poor give space for the development of these.



Nahr-e-Khayyam Branch nala near Bath Island:
Lawns of Bunglows Encroach over the drain

Orangi town Islam nagar nala: Residents undertake voluntary dismantling of portions of their houses to give space for the development of nalas in Orangi. City govt. is developing these main disposals as box drains.





Nehr-e-Khayyam branch drain. Encroachments over it, demolitions by KWSB

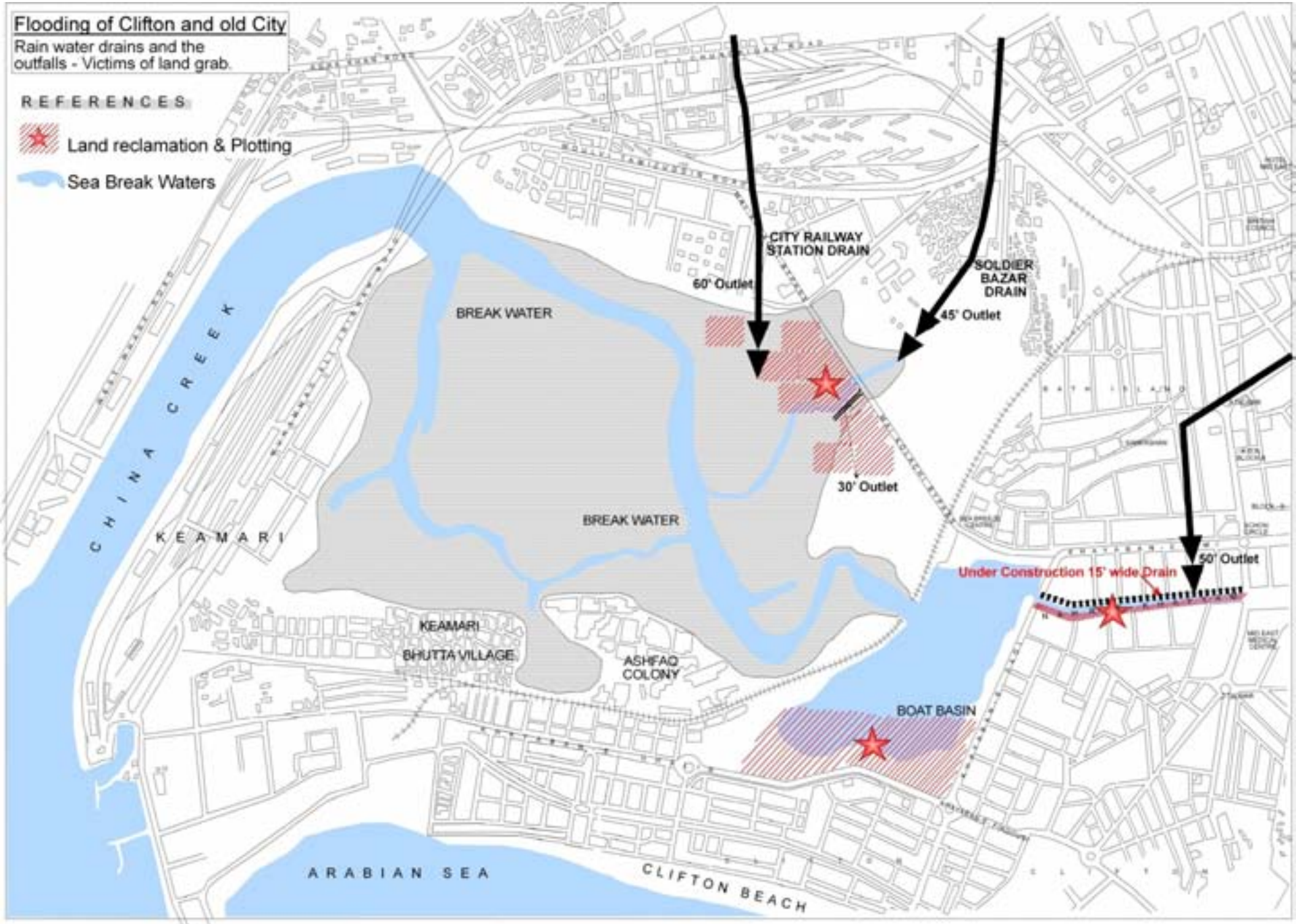


Flooding of Clifton and old City

Rain water drains and the
outfalls - Victims of land grab.

REFERENCES

-  Land reclamation & Plotting
-  Sea Break Waters



Soldier Bazar drain



Incoming at Mai Kolachi Bypass



Out fall culvert already choked



Out fall reduced to about 35 feet

Mai Kolachi Bypass. Reclaiming Of mangroves land and plotting



Mai Kolachi Bypass. Reclaiming Of mangroves land and plotting



Boat Basin-Reclaiming of land and plotting



Soldier Bazar drain- encroachments over it

OPP-RTI DATED : 02-08-2006



NBP Branch



Jewel palace



Habib Bank Branch

Soldier Bazar drain- encroachments over it

OPP-RTI DATED : 02-08-2006



Girls College



The Government
School

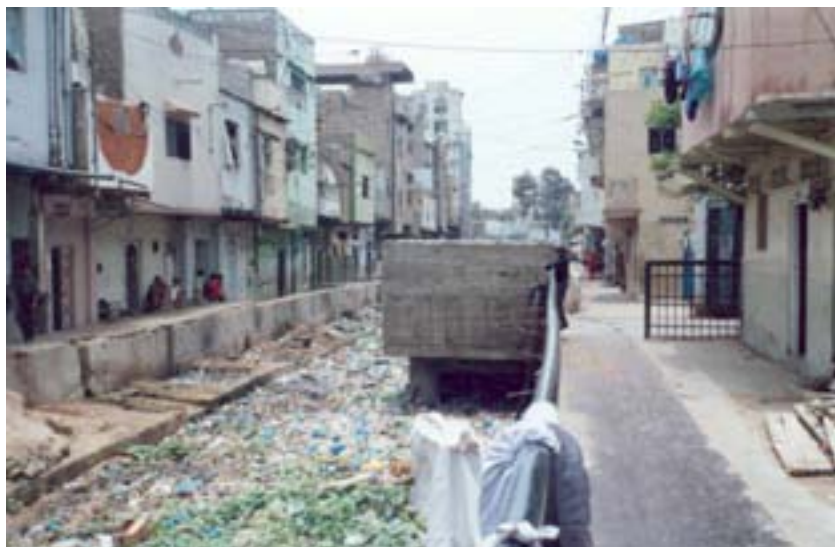


Shaheen Complex Car Parking

Soldier Bazar drain- encroachments over it



K.M.C Market



Side road



Aurangzaib Market

Soldier Bazar drain encroachments over it.

OPP-RTI DATED : 02-08-2006



Pitched nala



Kikri ground over the Pitcher nala at Sayed Muhammad Shah road



Masjid over the Nala



Ghowchat market.



Al- syed Muhammed Shan road.

Nalas /drain of Karachi - Besides desilting the issues in flow

OPP-RTI DATED : 02-08-2006

Piling - negligent dumping of earth at the openings



Korangi Road. Manzoor colony nala crosses here, then passes thru DHA reclaimed land (near Qayyumabad), and falls into the sea. Takes water from 70% Jamshed Town also from Nursery & Airport road. Piling for road construction, blocks the culvert openings restricting flow.



Wide drain reduced to piped connection: Branch drain starting from Karachi cantt station (6 feet wide) becomes 50 ft wide when passing below Aga Khan Jamaat Khana. Then thru Boat Basin the branch joins Nehr-e-Khyam. These 2 pipes, 36" dia shown in photos above, mostly filled up with debris are the connections of the branch drain to Nehr-e-Khyam.



Main Soldier Bazar drain KMC Market



Madina Colony Nala
Gulshan-e-Iqbal

Singar Chowrangi Korangi



Water Lines in Nala /Drains of Karachi

OPP-RTI DATED : 02-08-2006

Pir Pagara road drain – Gulshan KESC office



Orangi Main Nala



Haroonabad Nala





Other services too



Gujjar nala North Nazimabad



Mianwali Nala

**Piped culverts are bottlenecks causing
chocking - need box culverts**

Developed in to box trunk thru KMC/CDGK



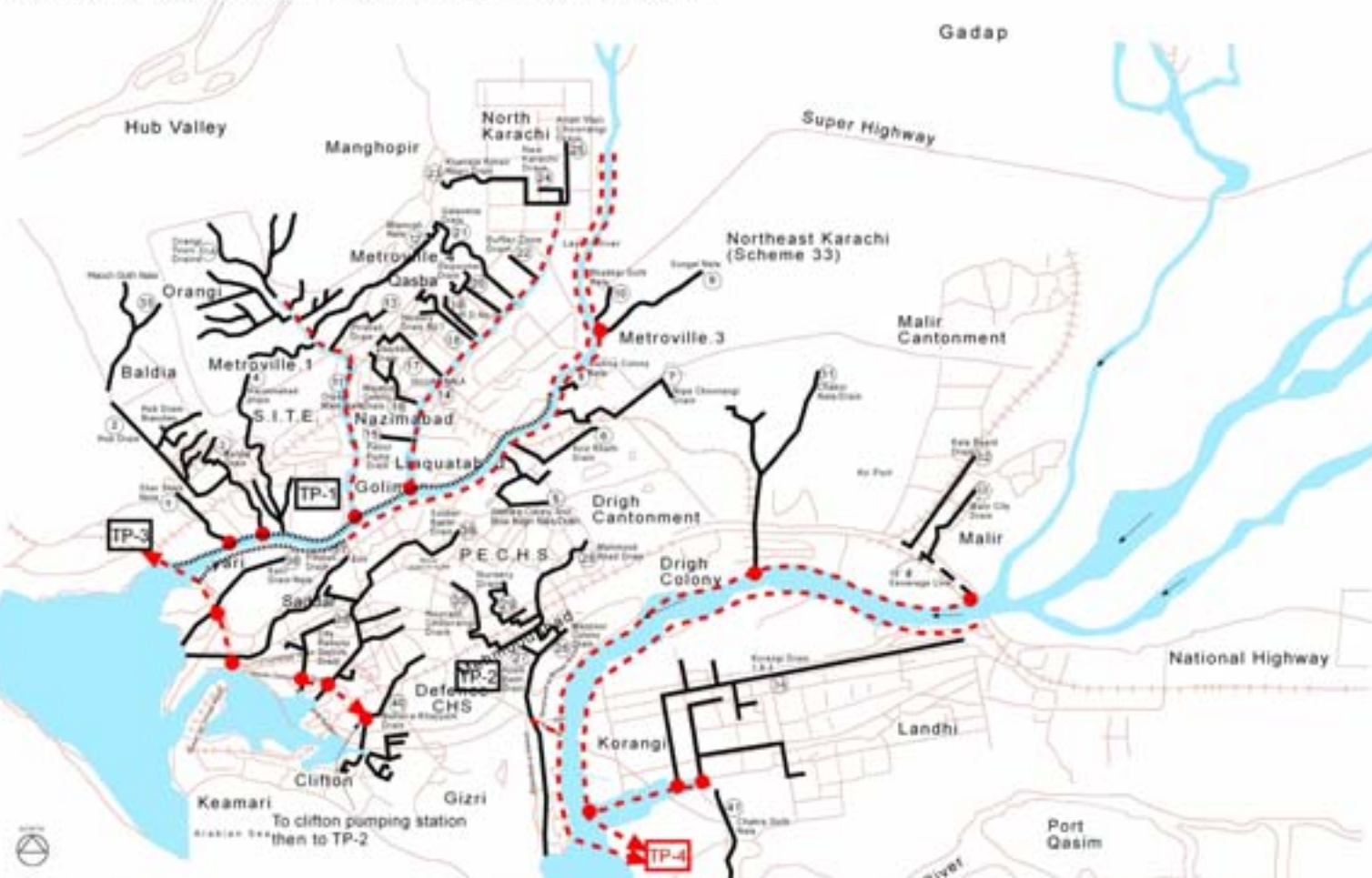
Before



After

Karachi map showing the documented natural nalas & drain (which are the main disposals for sewage and rain water) and the integration of these with the mains & STPs.

Conceptual plan for a realistic sewage disposal system



REFERENCES:



EXISTING	PROPOSED
Main Natural Nala	Interceptors/box trunk
Branch Nala	Sewage treatment plant
Drain	Intake chambers
Drain/Nala's Number	
Interceptors/box trunk	
Sewage treatment plant	

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