

## 8.4 現地再委託調査結果概要

### 現地再委託調査の結果概要

#### 1. 測量調査

- 基準点位置 (基本設計時に設置した基準点サンプル )
- 基準点位置 (関連する国家基準点サンプル)

#### 2. 既存構造物調査

- 既存橋梁調査 (調査票サンプル)
- 既存カルバート調査 (調査票サンプル)

#### 3. 土質調査

- 骨材調査 (調査票サンプル)
- 砂材調査 (調査票サンプル)
- 客土材調査 (調査票サンプル)
- 切土材調査 (調査票サンプル)
- 水質調査 (調査票サンプル)

#### 4. 既存道路状況調査

- 既存舗装の材料調査
- 既存舗装厚調査
- 既存道路の状況写真 (1 km五と

#### 5. 地質調査




- ボーリング調査概要表
- ボーリング調査による柱状図




#### 6. 交通量調査



- 交通量調査 (調査票サンプル)
- OD調査 (調査票サンプル)

## 1. 測量調査



- 基準点位置 (基本設計時に設置した基準点サンプル )
- 基準点位置 (関連する国家基準点サンプル)

Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-25 in the Pakistan	
Sketch	No. 1	Photo (short range view)	
	Northing =		
	Easting =		
	Elevation =		
	Local coordinates System (no projective method was adopted)		
	Grid North is approximate True North		
	Origin SBM Kararo		
	False Easting = 1,981,964.620 m		
	False Northing = 1,004,199.600 m		
	Scale factor = 1.000000		
	Datum Level is Pakistan National D.L.		
	Photo (middle range view)	Photo (distant view)	
			



Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-25 in the Pakistan	
Sketch	No. 2	Photo (short range view)	
	Northing =		
	Easting =		
	Elevation =		
	Local coordinates System (no projective method was adopted)		
	Grid North is approximate True North		
	Origin SBM Kararo		
	False Easting = 1,981,964.620 m		
	False Northing = 1,004,199.600 m		
	Scale factor = 1.000000		
	Datum Level is Pakistan National D.L.		
	Photo (middle range view)	Photo (distant view)	
			



Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-25 in the Pakistan	
Sketch	<p>No. 3</p> <p>Northing =</p> <p>Easting =</p> <p>Elevation =</p> <p>Local coordinates System (no projective method was adopted)</p> <p>Grid North is approxinmate True North</p> <p>Origin SBM Kararo</p> <p>False Easting = 1,981,964.620 m</p> <p>False Northing = 1,004,199.600 m</p> <p>Scale factor = 1.000000</p> <p>Datum Level is Pakistan National D.L.</p>	Photo (short range view)	
		Photo (middle range view)	Photo (distant view)
			






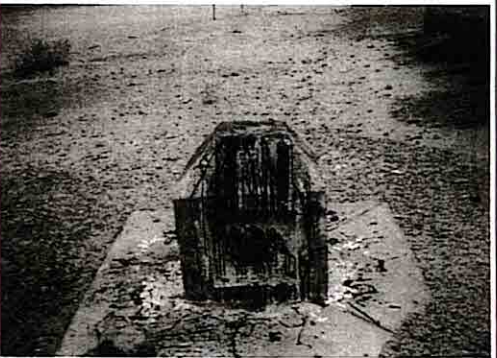


Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-26 in the Pakistan	
Sketch	<p>No. 4</p> <p>Northing =</p> <p>Easting =</p> <p>Elevation =</p> <p>Local coordinates System (no projective method was adopted)</p> <p>Grid North is approxinmate True North</p> <p>Origin SBM Kararo</p> <p>False Easting = 1,981,964.621 m</p> <p>False Northing = 1,004,199.601 m</p> <p>Scale factor = 2.000000</p> <p>Datum Level is Pakistan National D.L.</p>	Photo (short range view)	
		Photo (middle range view)	Photo (distant view)
			



Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-61 in the Pakistan	
Sketch	<p>SBM Kararo</p> <p>Northing =</p> <p>Easting =</p> <p>Elevation =</p> <p>Local coordinates System (no projective method was adopted)</p> <p>Grid North is approxinmate True North</p> <p>Origin                   SBM Kararo</p> <p>False Easting =       1,981,964.656 m</p> <p>False Northing =     1,004,199.636 m</p> <p>Scale factor =         37.000000</p> <p>Datum Level is Pakistan National D.L.</p>	Photo (short range view)	
		<p>Photo (middle range view)</p> 	<p>Photo (distant view)</p> 

Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-62 in the Pakistan	
Sketch	<p>SBM Alikoh</p> <p>Northing =</p> <p>Easting =</p> <p>Elevation =</p> <p>Local coordinates System (no projective method was adopted)</p> <p>Grid North is approxinmate True North</p> <p>Origin                   SBM Kararo</p> <p>False Easting =       1,981,964.657 m</p> <p>False Northing =     1,004,199.637 m</p> <p>Scale factor =         38.000000</p> <p>Datum Level is Pakistan National D.L.</p>	Photo (short range view)	
		<p>Photo (middle range view)</p> 	<p>Photo (distant view)</p> 

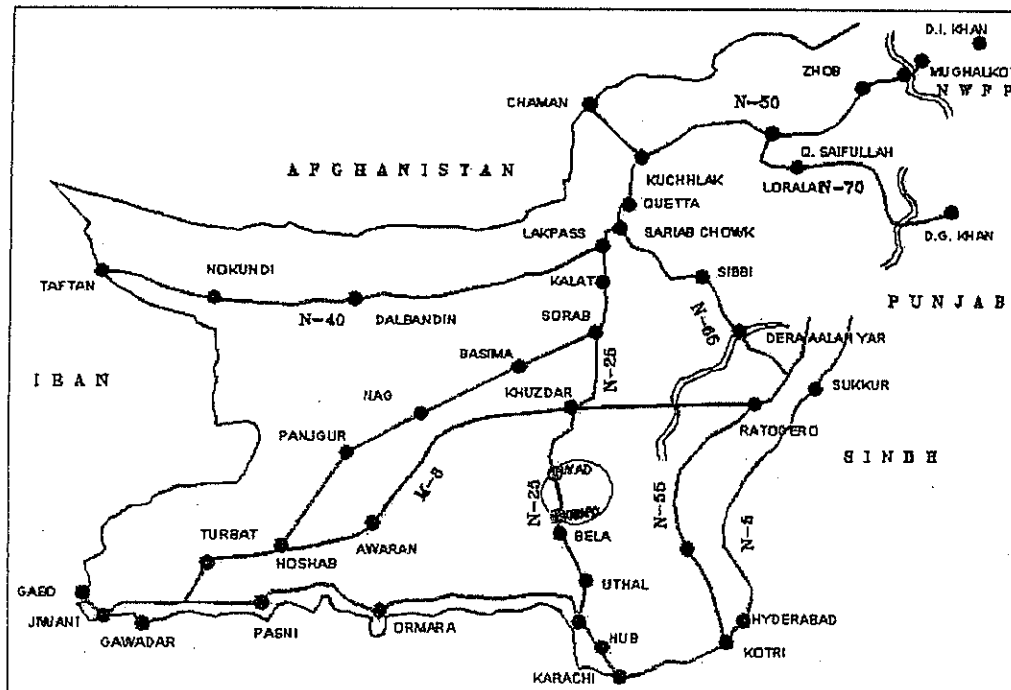
Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-64 in the Pakistan	
Sketch	<p>SBM Darakala</p> <p>Northing =</p> <p>Easting =</p> <p>Elevation =</p> <p>Local coordinates System (no projective method was adopted)</p> <p>Grid North is approxinmate True North</p> <p>Origin SBM Kararo</p> <p>False Easting = 1,981,964.659 m</p> <p>False Northing = 1,004,199.639 m</p> <p>Scale factor = 40.000000</p> <p>Datum Level is Pakistan National D.L.</p>	Photo (short range view)	
			
		Photo (middle range view)	Photo (distant view)
			

Permanent Control Point Description		The B/D Study on The Project for Improvement of Kararo-Wad Section of National Highway N-65 in the Pakistan	
Sketch	<p>SBM Wadh</p> <p>Northing =</p> <p>Easting =</p> <p>Elevation =</p> <p>Local coordinates System (no projective method was adopted)</p> <p>Grid North is approxinmate True North</p> <p>Origin SBM Kararo</p> <p>False Easting = 1,981,964.660 m</p> <p>False Northing = 1,004,199.640 m</p> <p>Scale factor = 41.000000</p> <p>Datum Level is Pakistan National D.L.</p>	Photo (short range view)	
			
		Photo (middle range view)	Photo (distant view)
			

## 2. 既存構造物調査

- 既存橋梁調査（調査票サンプル）
- 既存カルバート調査（調査票サンプル）

**EXISTING STRUCTURES SURVEY (BRIDGES )**  
**ON**  
**THE BASIC DESIGN STUDY ON THE PROJECT**  
**FOR**  
**IMPROVEMENT OF KARARO – WAD SECTION**  
**OF NATIONAL HIGHWAY N-25**  
**IN THE ISLAMIC REPUBLIC OF PAKISTAN**

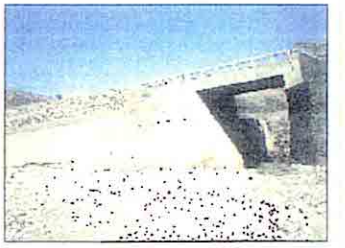
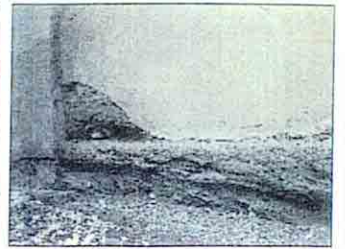


**JANUARY 2005**

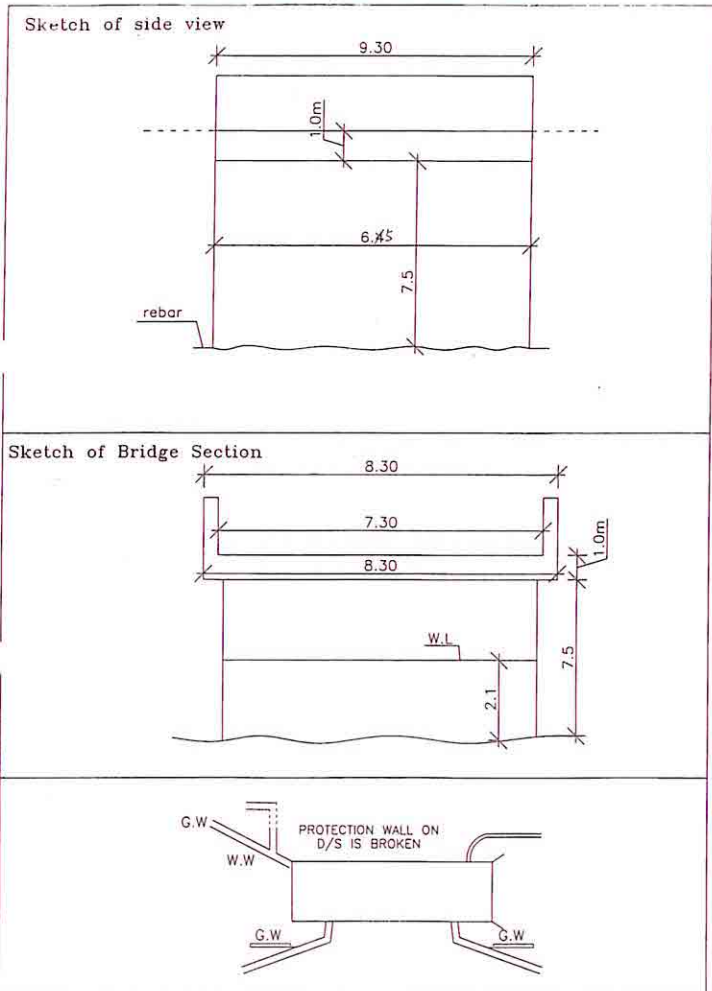


DATE SHEET FOR BRIDGE (1/2)

Bridge Name: Bridge No. 1					
Distance: ..... Km from Karachi, River Name: .....					
Identified No.: -	Station No.: I+964				
Type of Bridge: Slab Bridge	Year of Built: 1960				
Number of Lane: 2	Availability of detour: No / Yes (0.2 Km from Bridge)				
Bridge Length: 01 Span @ 6.5 m = 6.5 m	Skew: 90 degree				
Bridge Width: 7.3 m (Carrageway), - m (Sidewalk), 7.3 m (Total)					
Maximum Flood Level: - m (above / under) the bridge surface					
Bridge Conditions (G: good, C: Cracked, P: Partly lack, R: Re-bar Exposed, B: Broken, S: Scored, E: Eroded, V: Vegetated)					
Extent and Degree (X: Serious Condition, M: Moderate Condition, O: Sound Condition)					
Surface:	Carrageway (Asphalt Pavement / Concrete Pavement), Damage ( G )				
	Sidewalk (Asphalt Pavement / Concrete Pavement), Damage (No Side Walk)				
Deck Slab:	RC Slab / Damage (C,M)				
Girder	Type: RC / Other (-)	Abutment:	Type: RC		
	Damage:	Left G1 (-)	Damage:	Karao A1 (G)	
		G2 (-)		Wad A2 (G)	
		G3 (-)	Pier:	Type: RC / Other (-)	
		G4 (-)		Damage:	Karao P1 (-)
		G5 (-)			P2 (-)
		Right G6 (-)			P3 (-)
	Cross Beam:	Type: RC / Other (-)		P4 (-)	
		Damage:	Karao Side B1 (-)		P5 (-)
			B2 (-)		P6 (-)
			B3 (-)		Wad P7 (-)
			B4 (-)	Wing Wall:	Type: RC
			B5 (-)		Damage:
			B6 (-)		Wad Side (G)
B7 (-)			Hand Rail:	Type: RC	
B8 (-)				Damage:	Left Side (C,O)
B9 (-)				Right Side (C,O)	
B10 (-)	Revetment:		Type: RC		
B11 (-)		Damage:	Karao Side (S,M) (Up / Downstream)		
B12 (-)			Wad Side (S,M) (Up / Downstream)		
B13 (-)		Rever Bank:	Damage:	Karao Side (G) (Up / Downstream)	
B14 (-)			Wad Side (G) (Up / Downstream)		
B15 (-)					
Utility Line: None / Electric/Water / Gas / Telecommunication / Optical fiber / Others (None)					
Attached Photos (General view, Side view (Left and Right), Defects, Damages, etc..)					



BRIDGE NO:1 (STATION NO: I+964)

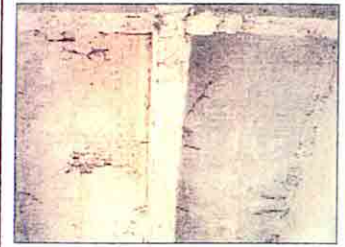
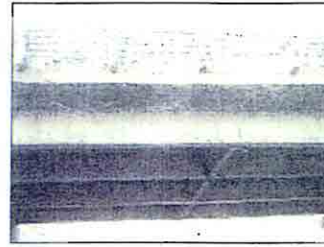


BRIDGE AT CHAINAGE 01+820

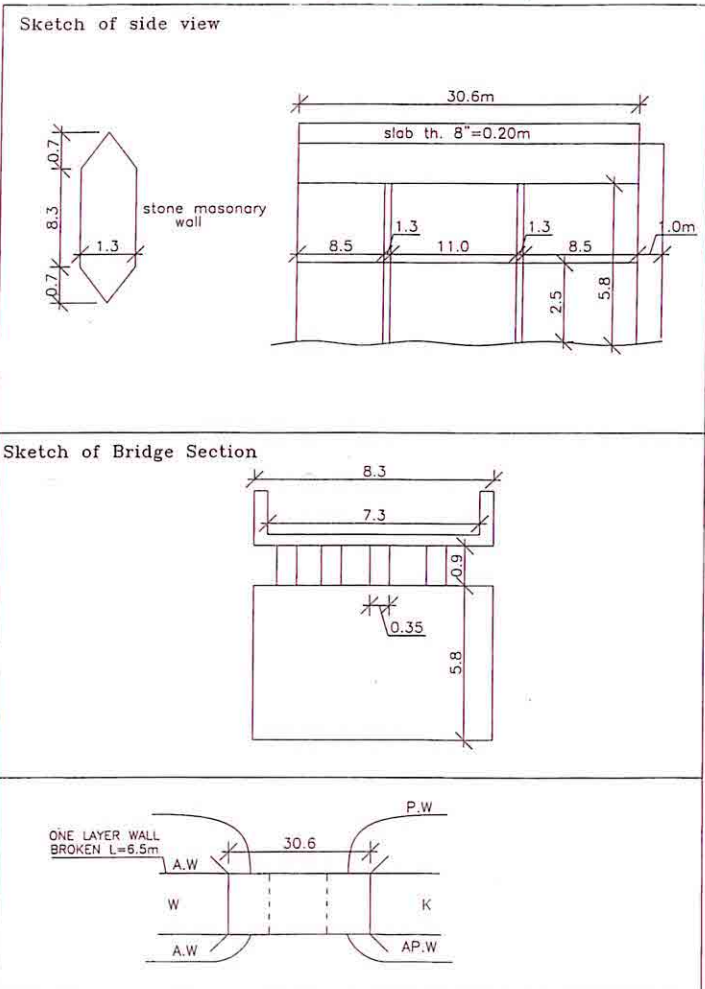


DATE SHEET FOR BRIDGE (1/2)

Bridge Name: Bridge No. 2		
Distance: ..... Km from Karachi, River Name: Jani Nadi		
Identified No.: -	Station No.: 3+625	
Type of Bridge: RC Grider	Year of Built: 1960	
Number of Lane: -	Availability of detour: No / Yes (No Km from Bridge)	
Bridge Length: 03 Span, 9.15m + 12.3m + 9.15m = 30.6 m	Skew: 90 degree	
Bridge Width: 7.3 m (Carriageway), - m (Sidewalk), 7.3 m (Total)		
Maximum Flood Level: - m (above / under) the bridge surface		
Bridge Conditions (G: good, C: Cracked, P: Partly lack, R: Re-bar Exposed, B: Broken, S: Scored, E: Eroded, V: Vegetated)		
Extent and Degree (X: Serious Condition, M: Moderate Condition, O: Sound Condition)		
Surface: Carriageway (Asphalt Pavement / Concrete Pavement), Damage (G)		
Sidewalk (Asphalt Pavement / Concrete Pavement), Damage (No Side Walk)		
Deck Slab: RC Slab, Damage (C,M)		
Girder	Type: RC	Abutment: Type: S.M
	Damage: Left G1 (C,M)	Damage: Karao A1 (P,M)
	G2 (C,M)	Wad A2 (P,M)
	G3 (C,M)	Type: S.M
	G4 (C,M)	Damage: Karao P1 (B,M)
	G5 (-)	P2 (B,M)
	Right G6 (-)	P3 (-)
		P4 (-)
		P5 (-)
		P6 (-)
		Wad P7 (-)
Cross Beam:	Type: RC / Other (R.C)	
Damage: Kararo Side B1 (C,M)		
B2 (C,M)		
B3 (C,M)		
B4 (C,M)		
B5 (C,M)	Wing Wall: Type: RC	
B6 (C,M)	Damage: Karao Side (G)	
B7 (C,M)	Wad Side (G)	
B8 (C,M)	Type: RC / Other (S.M)	
B9 (C,M)	Damage: Left Side (B,M)	
B10 (-)	Right Side (G)	
B11 (-)	Type: RC	
B12 (-)	Damage: Karao Side (C,O) (Up / Downstream)	
B13 (-)	Wad Side (C,O) (Up / Downstream)	
B14 (-)	Karao Side (G) (Up / Downstream)	
B15 (-)	Wad Side (G) (Up / Downstream)	
	Rever Bank: Damage:	
Utility Line: None / Electric/Water / Gas / Telecommunication / Optical fiber / Others (None)		
Attached Photos (General view, Side view (Left and Right), Defects, Damages, etc..)		



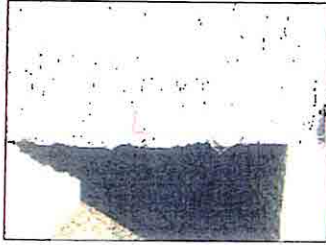
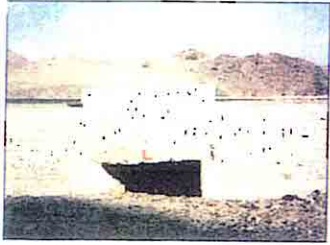
BRIDGE NO:2 (STATION NO: 3+625)



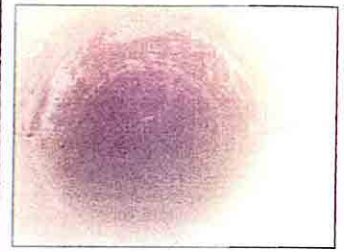
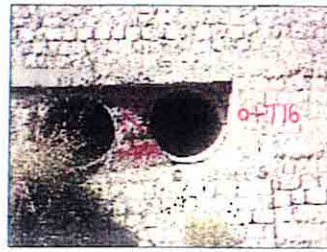
BRIDGE AT CHAINAGE 03+625



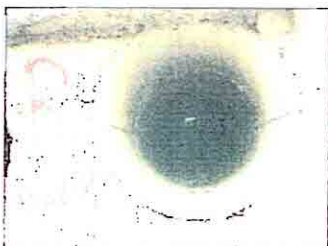
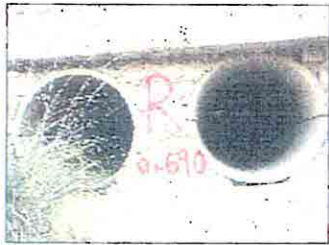
CULVERT AT CHAINAGE 00+115



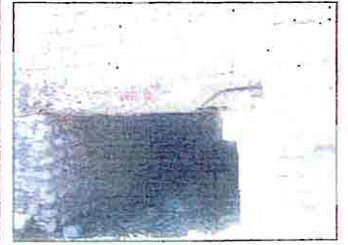
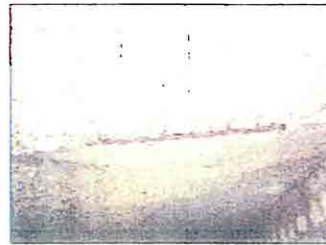
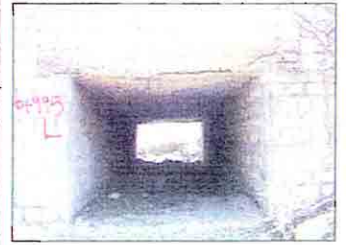
CULVERT AT CHAINAGE 00+776



CULVERT AT CHAINAGE 00+690



CULVERT AT CHAINAGE 00+995



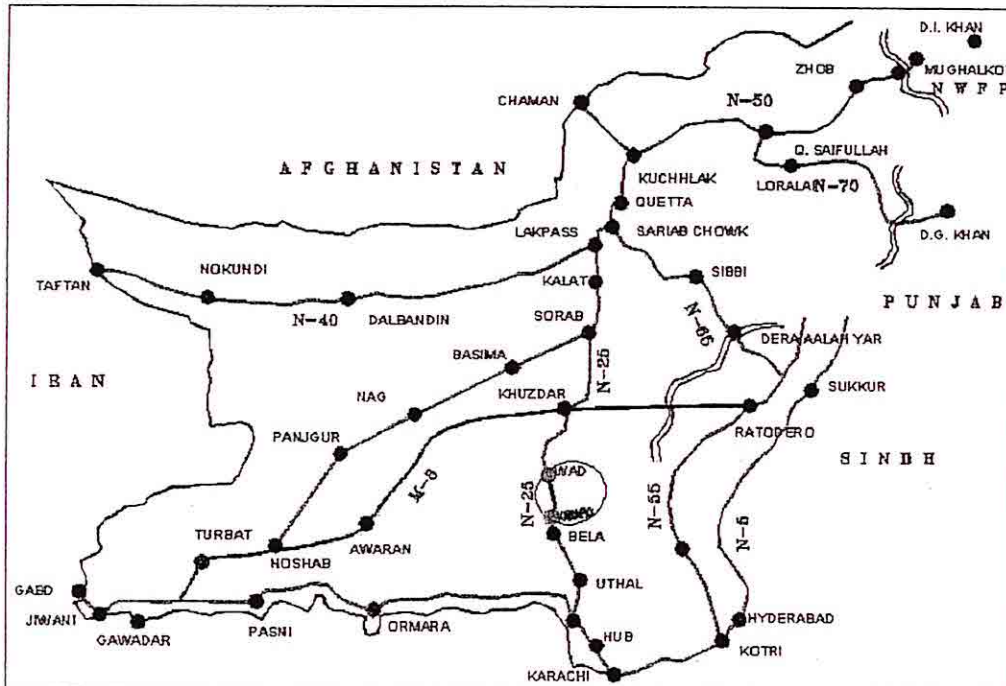
**EXISTING STRUCTURES SURVEY (CULVERTS)**

**ON**

**THE BASIC DESIGN STUDY ON THE PROJECT**

**FOR**

**IMPROVEMENT OF KARARO – WAD SECTION  
OF NATIONAL HIGHWAY N-25  
IN THE ISLAMIC REPUBLIC OF PAKISTAN**



**JANUARY 2005**

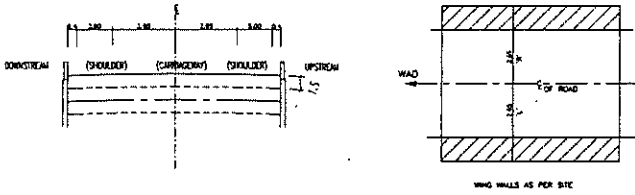
CONDITION SURVEY OF STRUCTURES  
(CULVERTS)  
Inventory Forms

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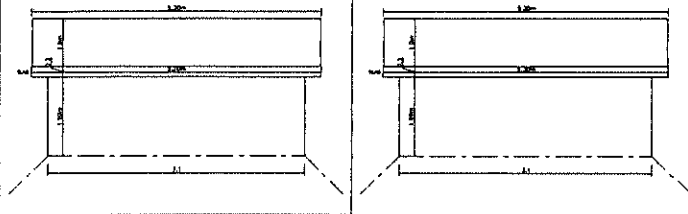
DATA SHEET FOR CULVERT (1/1)

Distance : .....	km from Karachi, River Name : .....
Identified No. : .....	Station No. : 00+115
Type of Culvert : Box/Pipe/Other: (SAR)	Year of Built : OVER 20 YEARS
Road Width : 5.30 m(Carriageway), 2.80 m(Sidewalk), 13.1 m(Total)	
Number of Cell : 01	Skew : 90 degree
Size of Culvert : Inner: 2.10 m x 1.90 m, Thickness: top: 0.40 m, Vertical: ....., Bottom: ....., Total Width : 2.20 m	
Length : From inlet to outlet : 21.2 m	Earth covering : .....
Maximum Flood Level : .....	
Culvert Conditions: (G: Good, C: Cracked, P: Partly lack, R: Re-bar exposed, B: Broken, S: Scored, E: Eroded, V: Vegetated) Extent and Degree: (X: Serious Condition, M: Moderate Condition, S: Sound Condition)	
Headwall : Type : RC / Steel / Other (SM) Damage : Upstream (00%) , Downstream (00%)	
Inlet : Type : RC / Steel / Other (RC) Damage : (M) 90%	
Outlet : Type : RC / Stone / None / Other (SM) Damage : (00%)	
Erosion : Damage : None / Upstream (50) , Downstream (50)	
Net Opening : 100% , Sedimentation : None / Yes (YES m from the top of inner)	
Hydraulic capacity: Inadequate / Adequate	
Flow capacity: Inadequate / Adequate	
Frequent of flood: No-flooding / Once a year / Frequent (once year)	
Attached Photos (General View, Inlet, Outlet, Defects, Damages, etc..)	

Sketch of Side View



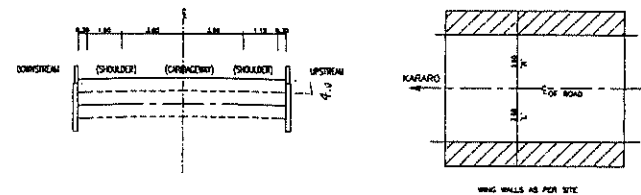
Sketch of Inlet and Outlet



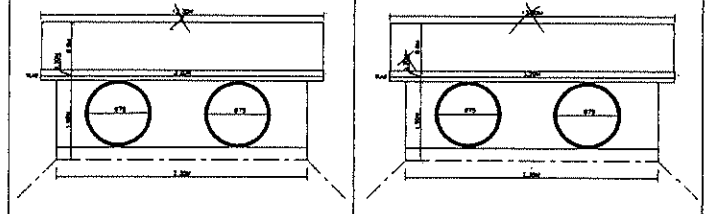
DATA SHEET FOR CULVERT (1/1)

Distance : .....	km from Karachi, River Name : .....
Identified No. : .....	Station No. : 00+775
Type of Culvert : Box/Pipe/Other: (PG)	Year of Built : OVER 20 YEARS
Road Width : 6.20 m(Carriageway), 3.05 m(Sidewalk), 9.25 m(Total)	
Number of Cell : 01	Skew : 02 degree
Size of Culvert : Inner: 2.30 m x 1.90 m, Thickness: top: 0.30 m, Vertical: ....., Bottom: 0.30 m, Total Width : 2.55 m	
Length : From inlet to outlet : 22.7 m	Earth covering : 4 m
Maximum Flood Level : .....	
Culvert Conditions: (G: Good, C: Cracked, P: Partly lack, R: Re-bar exposed, B: Broken, S: Scored, E: Eroded, V: Vegetated) Extent and Degree: (X: Serious Condition, M: Moderate Condition, S: Sound Condition)	
Headwall : Type : RC / Steel / Other (RC) Damage : Upstream (00%) , Downstream (00%)	
Inlet : Type : RC / Steel / Other (RC) Damage : (G) 80%	
Outlet : Type : RC / Stone / None / Other (RC) Damage : (00%)	
Erosion : Damage : None / Upstream (50) , Downstream (50)	
Net Opening : 90% , Sedimentation : None / Yes (YES m from the top of inner)	
Hydraulic capacity: Inadequate / Adequate	
Flow capacity: Inadequate / Adequate	
Frequent of flood: No-flooding / Once a year / Frequent (once year)	
Attached Photos (General View, Inlet, Outlet, Defects, Damages, etc..)	

Sketch of Side View



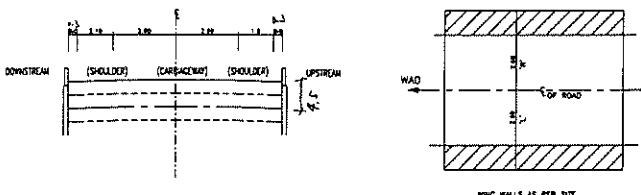
Sketch of Inlet and Outlet



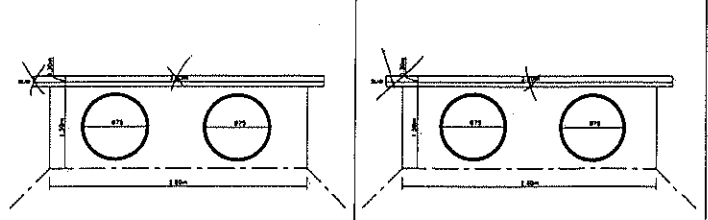
DATA SHEET FOR CULVERT (1/1)

Distance : .....	km from Karachi, River Name : .....
Identified No. : .....	Station No. : 00+590
Type of Culvert : Box/Pipe/Other: (PIPE)	Year of Built : OVER 20 YEARS
Road Width : 3.20 m(Carriageway), 3.10 m(Sidewalk), 8.30 m(Total)	
Number of Cell : 01	Skew : 90 degree
Size of Culvert : Inner: 2.80 m x 1.5 m, Thickness: top: 0.30 m, Vertical: ....., Bottom: ....., Total Width : 8.90 m	
Length : From inlet to outlet : 8.90 m	Earth covering : .....
Maximum Flood Level : .....	
Culvert Conditions: (G: Good, C: Cracked, P: Partly lack, R: Re-bar exposed, B: Broken, S: Scored, E: Eroded, V: Vegetated) Extent and Degree: (X: Serious Condition, M: Moderate Condition, S: Sound Condition)	
Headwall : Type : RC / Steel / Other (RC) Damage : Upstream (00%) , Downstream (00%)	
Inlet : Type : RC / Stone / None / Other (RC) Damage : (B) 50%	
Outlet : Type : RC / Stone / None / Other (RC) Damage : (100%)	
Erosion : Damage : None / Upstream (50) , Downstream (50)	
Net Opening : 50% , Sedimentation : None / Yes (YES m from the top of inner)	
Hydraulic capacity: Inadequate / Adequate	
Flow capacity: Inadequate / Adequate	
Frequent of flood: No-flooding / Once a year / Frequent (once year)	
Attached Photos (General View, Inlet, Outlet, Defects, Damages, etc..)	

Sketch of Side View



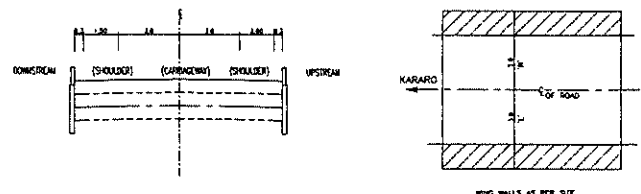
Sketch of Inlet and Outlet



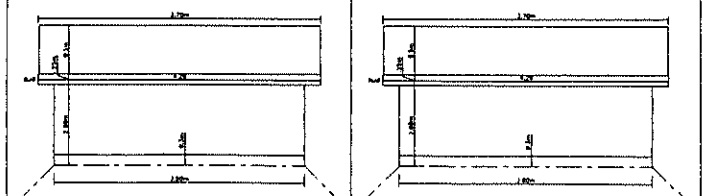
DATA SHEET FOR CULVERT (1/1)

Distance : .....	km from Karachi, River Name : .....
Identified No. : .....	Station No. : 00+995
Type of Culvert : Box/Pipe/Other: (BR)	Year of Built : OVER 20 YEARS
Road Width : 8.0 m(Carriageway), 4.1 m(Sidewalk), 12.1 m(Total)	
Number of Cell : 01	Skew : 0 degree
Size of Culvert : Inner: 3.80 m x 2.80 m, Thickness: top: 0.45 m, Vertical: ....., Bottom: 0.4 m, Total Width : 10.1 m	
Length : From inlet to outlet : 10.1 m	Earth covering : 0.5 m
Maximum Flood Level : .....	
Culvert Conditions: (G: Good, C: Cracked, P: Partly lack, R: Re-bar exposed, B: Broken, S: Scored, E: Eroded, V: Vegetated) Extent and Degree: (X: Serious Condition, M: Moderate Condition, S: Sound Condition)	
Headwall : Type : RC / Steel / Other (BRICK) Damage : Upstream (00%) , Downstream (00%)	
Inlet : Type : RC / Steel / Other (RC) Damage : (B) 90%	
Outlet : Type : RC / Stone / None / Other (SM) Damage : (G) 90%	
Erosion : Damage : None / Upstream (70) , Downstream (50)	
Net Opening : 90% , Sedimentation : None / Yes (YES m from the top of inner)	
Hydraulic capacity: Inadequate / Adequate	
Flow capacity: Inadequate / Adequate	
Frequent of flood: No-flooding / Once a year / Frequent (once year)	
Attached Photos (General View, Inlet, Outlet, Defects, Damages, etc..)	

Sketch of Side View



Sketch of Inlet and Outlet



### 3. 土質調査

- 骨材調査 (調査票サンプル)
- 砂材調査 (調査票サンプル)
- 客土材調査 (調査票サンプル)
- 切土材調査 (調査票サンプル)
- 水質調査 (調査票サンプル)

**DRAFT REPORT  
ON  
SOIL & MATERIAL INVESTIGATION  
FOR  
IMPROVEMENT & UPGRADATION OF  
KARARO-WAD (SECTION 96.0 km)  
NATIONAL HIGHWAY (N-25)  
BALUCHISTAN**

***FEBRUARY***

***2005.***



# SOILMAT LABORATORIES

B-136, Block-1, Opp. N.E.D. University, Main University Road, Gulistan-e-Jauhar,  
 Karachi. Phone: 4623161-2, Fax : 4632483  
 E-mail: soilmatengineers@yahoo.com



CLIENT: M/s Construction Project Consultants Inc. (CPC)  
 PROJECT: Upgradation and Improvement of National Highway (N-25) Kararo to Wad (Section 96 KM)

Handwritten notes in Urdu: *پیمانہ کی کمی* (Scale error), *پیمانہ کی کمی* (Scale error), *پیمانہ کی کمی* (Scale error)

## SUMMARY OF ROCK QUARRY SAMPLES

Handwritten notes: *40% (As Conv)*, *30% (As Conv)*, *30% (As Conv)*

S.No.	SAMPLE MARK	SPECIFIC GRAVITY 2.65 to 2.75	ABSORPTION % 3.0 to 5.0	L.A. ABRASION LOSS (500 Cycles) % 30.0 to 35.0	SOUNDNESS Na <sub>2</sub> SO <sub>4</sub> LOSS % 4.0 to 6.0	FLAKINESS (% As Conv.) 25.0 to 30.0	POTENTIAL REACTIVITY OF AGGREGATES (ASTM C 289)		REMARKS
							Sc	Rc	
01	Pit # 1 CH: 2+850 L/S	2.639	0.909	30.5	4.4	27.2	33.9	60.9	Innocuous
02	Pit # 2 CH: 3+500 R/S	2.681	0.743	22.2	2.1	16.7	34.6	62.2	Innocuous
03	Pit # 3 CH: 4+200 L/S	2.681	0.695	20.6	1.6	22.4	33.8	61.3	Innocuous
04	Pit # 4 CH: 48+775 R/S	2.688	0.639	17.6	2.2	17.6	35.1	63.0	Innocuous
05	Pit # 5 CH: 50+910 L/S	2.689	0.659	18.4	1.8	15.5	34.2	62.4	Innocuous
06	Pit # 6 CH: 68+510 R/S	2.669	0.812	21.9	2.2	19.4	34.4	62.2	Innocuous
07	Pit # 7 CH: 70+500 L/S	2.693	0.601	24.1	2.7	20.3	33.9	61.6	Innocuous
08	Pit # 8 CH: 71+200 L/S	2.685	0.666	22.6	1.7	21.6	34.1	63.1	Innocuous
09	Pit # 9 CH: 76+550 R/S	2.693	0.619	23.8	1.9	20.8	34.5	63.3	Innocuous
10	Pit # 10 CH: 80+300 L/S	2.688	0.674	24.4	2.5	19.8	35.1	63.6	Innocuous
11	Pit # 11 CH: 87+000 L/S	2.691	0.700	22.9	1.9	21.6	34.7	62.1	Innocuous
12	Pit # 12 CH: 93+300 R/S	2.704	0.602	20.1	2.1	22.6	34.0	62.0	Innocuous
13	Pit # 13 CH: 94+500 L/S	2.709	0.598	20.8	1.5	21.7	35.1	62.2	Innocuous

Handwritten note: *of Sand (<10%)*

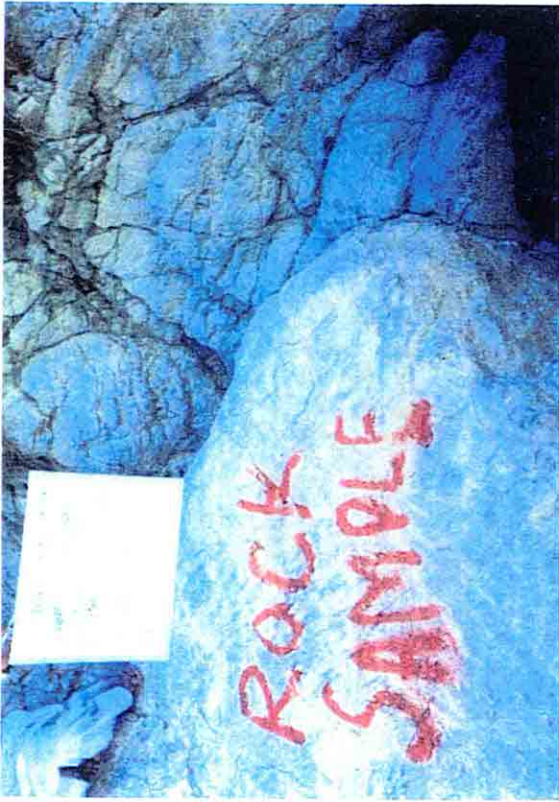
Handwritten notes in Urdu: *کامیاب ہے* (Successful), *کامیاب ہے* (Successful)



CH: 4+200 L/S (3)



CH: 50+910 L/S (5)



CH: 48+775 R/S (4)



CH: 68+510 R/S (6)

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B-136, Block-1, Opp. N.E.D. University, Main University Road, Gulistan-e-Jauhar,  
Karachi. Phone: 4623161-2, Fax : 4632483  
E-mail: soilmatengineers@yahoo.com



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## SUMMARY OF SAND QUARRY SAMPLES

S.No.	SAMPLE MARK	PASS % BY WEIGHT					SPECIFIC GRAVITY	ABSORPTION %	ORGANIC IMPURITIES %	SAND EQUIVALENT %	SOUNDNESS Na <sub>2</sub> SO <sub>4</sub> LOSS %	POTENTIAL REACTIVITY OF AGGREGATES (ASTM C 289)		REMARKS
		3/8"	# 4	# 16	# 50	# 100						Sc	Rc	
		100	95-100	45-80	10-35	2-10								
01	Pit # 1 CH: 4+900 L/S	100	78.8	36.9	21.3	16.4	2.714	1.136	0.17	41	3.1	19.3	34.2	Innocuous
02	Pit # 2 CH: 14+878 L/S	100	92.8	44.5	14.9	9.5	2.731	1.193	0.19	52	2.9	18.5	34.0	Innocuous
03	Pit # 3 CH: 17+884 L/S	100	92.8	42.3	16.2	8.9	2.753	1.164	0.21	64	3.0	19.6	34.5	Innocuous
04	Pit # 4 CH: 22+850 R/S	100	81.7	18.1	6.5	4.5	2.759	1.262	0.14	69	3.0	19.8	35.1	Innocuous
05	Pit # 5 CH: 36+210 L/S	100	86.4	42.2	10.4	4.5	2.766	1.116	0.15	65	3.1	19.2	34.9	Innocuous
06	Pit # 6 CH: 37+765 R/S	100	94.3	56.8	21.8	13.0	2.729	1.222	0.16	46	2.6	19.4	35.5	Innocuous
07	Pit # 7 CH: 41+350 L/S	100	89.0	48.4	22.5	11.1	2.731	1.206	0.12	54	2.8	22.1	36.2	Innocuous
08	Pit # 8 CH: BC 264/2 R/S	100	76.1	24.0	12.6	7.6	2.761	1.210	0.14	57	3.1	19.6	35.5	Innocuous
09	Pit # 9 CH: 48+775 R/S	100	86.3	32.9	9.8	5.9	2.763	1.163	0.12	58	3.0	19.2	34.9	Innocuous
10	Pit # 10 CH: 60+000 L/S	100	82.9	32.0	7.5	5.3	2.752	1.216	0.14	60	3.6	19.1	34.8	Innocuous
11	Pit # 11 CH: 64+438 L/S	100	97.8	35.4	8.8	3.6	2.774	1.101	0.16	69	3.8	19.4	35.5	Innocuous
12	Pit # 12 CH: 69+800 R/S	100	92.7	67.0	42.9	35.0	2.789	1.732	0.50	44	3.2	20.1	38.1	Innocuous
13	Pit # 13 CH: 96+000 R/S	100	96.0	80.8	21.7	4.7	2.475	1.207	0.02	82	3.4	11.5	13.4	Innocuous
14	Sample # 1 BC 323/1	100	99.9	91.5	21.9	12.5	2.724	1.515	0.04	69	2.2	11.9	14.2	Innocuous
15	Sample # 2 BP 29.5 km	100	100	99.5	88.3	38.6	2.819	1.729	0.09	39	12.6	16.5	40.0	Innocuous

Wahid's FM



CH: 64+438 L/S (11)



CH: 96+000 R/S (13)



CH: 69+800 R/S (12)

CLIENT: M/s Construction Project Consultants Inc. (CPC)  
PROJECT: Upgradation and Improvement of National Highway (N-25) Kararo to Wad (Section 96 KM)

## SUMMARY OF BORROW SAMPLES

S.No.	SAMPLE MARK	SOIL CLASS	ATTERBERG LIMIT		M.D.D gm/cc	O.M.C %	C.B.R VALUE				#4 SIEVE RETAINED	ABRASION %
			L.L	P.I			90%	95%	98%	100%		
01	Pit # 1 CH: -0+100 R/S	A-1-a	18,000	N P	2.289	7.0	66.8	79.8	89.0	96.1	2.662	0.720
02	Pit # 2 CH: 4+950 R/S	A-1-b	14,000	3.6	2.248	7.8	56.1	69.7	79.4	88.3	2.673	0.659
03	Pit # 3 CH: 7+500 L/S	A-1-b	7,500	3.2	2.236	8.2	46.6	59.9	68.6	75.4	2.658	0.693
04	Pit # 4 CH: 12+500 R/S	A-1-a	50,000	N P	2.274	7.4	68.7	80.8	89.1	95.3	2.656	0.732
05	Pit # 5 CH: 22+850 L/S	A-1-a	9,000	N P	2.283	5.9	71.1	82.1	89.9	95.9	2.687	0.664
06	Pit # 6 CH: 28+650 R/S	A-1-b	21,000	5.2	2.219	8.1	43.7	53.6	60.9	67.0	2.651	0.743
07	Pit # 7 CH: 44+500 L/S	A-1-a	50,000	N P	2.265	7.9	70.7	80.9	88.2	93.2	2.680	0.684
08	Pit # 8 CH: 48+700 R/S	A-2-4	25,000	6.4	2.176	9.8	40.5	50.7	58.3	64.7	2.643	0.821
09	Pit # 9 CH: 57+500 L/S	A-1-b	80,000	N P	2.256	8.3	66.3	76.4	83.8	89.8	2.666	0.684
10	Pit # 10 CH: 68+000 R/S	A-2-4	30,000	7.1	2.158	10.3	36.0	44.9	52.0	57.7	2.649	0.812
11	Pit # 11 CH: 80+257 L/S	A-4	80,000	9.8	1.965	12.2	22.9	33.8	39.5	44.5	2.661	0.739
12	Pit # 12 CH: 88+500 R/S	A-1-a	50,000	N P	2.265	8.4	70.4	81.3	89.4	95.2	2.689	0.626



CH: 57+500 L/S (9)



CH: 81+500 L/S (11)



CH: 68+000 R/S (10)



CH: 88+500 R/S (12)