

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 14/09/2022, (To) Date 15/09/2022 . **“Monitoring measurements”**
Location: (Station and near sensitive receptors): Station No. 01 HADEAK AL ASHGAR / MOUNTIN IN VIWE city
Remarkable main emission source (Working Machines):The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m3	65.5	٣٩١	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Musuem <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m3	65.7	178	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	0.13	0.16	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m3	36.8	241.29	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)	-For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.		
SO ₂ (Sulphur Dioxide)	µg/m3	0.86	0.93	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 15/09/2022, (To) Date 16/09/2022 . “Monitoring measurements”

Location: (Station and near sensitive receptors): Station No. 02 HADEAK AL AHRAM

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m3	65.5	346	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High-Volume Sampler, EPA Reference method (EPA: United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m3	70.7	159	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	0.58	1.47	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m3	7.58	12.82	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m3	31.85	183.95	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 10/10/2022, (To) Date 11/10/2022 . “Monitoring measurements”

Location: (Station and near sensitive receptors): Station No. 03 EI NASR ..located in Cairo governorate, nearby Al Haram secondary school

Remarkable main emission source (Working Machines):The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m3	75.5	775	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High-Volume Sampler, EPA Reference method (EPA: United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m3	71.7	221	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	0.34	2.76	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m3	2.25	3.19	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m3	2.5	3.55	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 11/10/2022, (To) Date 12/10/2022. **“Monitoring measurements”**

Location: (Station and near sensitive receptors): Station No. 04 G. E MUSUEM ..located in Cairo governorate, nearby residential area

Remarkable main emission source (Working Machines):The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	90.5	577	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Musuem <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High-Volume Sampler, EPA Reference method (EPA: United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	85.7	179	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	0.13	0.58	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	7.7	13.2	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	4.98	18.42	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 09/05/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 05 EL REMAYA /

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m3	65.5	298	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Musuem <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m3	70.2	211	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	3.80	4.71	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m3	49.6	70.5	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m3	65.7	99.32	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 09/05/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 06 AL AHRAMAT / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m3	189.6	390.1	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m3	124.5	250.5	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	2.05	2.69	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m3	40	75.7	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m3	3.2	20.4	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 09/05/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No 07. Maryoutia / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	189.6	298.1	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	124.5	211	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	3.80	4.71	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	49.6	65.61	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	65.7	99.32	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 06/07/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No 08. AL ARISH / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	189.6	201.3	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	1.02	124.34	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	4.38	3.6	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	27.0	36.1	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	30.0	30.4	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 19/04/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No 09. EL MATBA'A / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	189.6	209.7	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	89	130	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	2.58	3.04	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	41.7	56	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	5.3	16.5	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 02/04/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 10 EL TALBIA / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	189.6	420	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	124.5	355	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	1.999	3.432	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	109.5	190.8	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	8.8	46.1	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 03/04/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 11 MADKOUR / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	245.8	530.4	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	105.4	372.6	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	0.63	1.16	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	36.8	144.55	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	3.4	11	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Attachment 9: Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date 11/09/2022, (To) Date 12/09/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 12 Al MESHAH / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standard	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Mean	Max				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
TSP (Total Suspended Particular)	µg/m ³	75.25.8	315	230 (24 hrs)	-	230 (24 hrs)	-At one monitoring station for each following section <u>Section 2</u> : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <u>Section 3</u> :From Sta.5 El Remayah till Sta.15 EL Roda <u>Section 4</u> :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <u>1</u> :Diaphragm wall construction <u>2</u> : Excavation of stations <u>3</u> : Concrete pouring of slab. <u>4</u> : Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex5 -Automatically Analyzer and/or High Volume Sampler, EPA Reference method (EPA :United State Environmental Protection Agency)
PM ₁₀ (Particulate Matter less than 10µm)	µg/m ³	88.5	190.6	150 (24 hrs)	50 (24 hrs Mean)	150 (24 hrs)			
CO (Carbon Monoxide)	PPM	0.51	2.69	30 (1 hr MAX) 10 (8hr)	-	30 (1 hr MAX) 10 (8hr)			
NO ₂ (Nitrogen Dioxide)	µg/m ³	8.56	18.82	300 (1 hr MAX) 150 (24hr)	200 (1 hrs Mean)	300 (1 hr MAX) 150 (24hr)			
SO ₂ (Sulphur Dioxide)	µg/m ³	46.36	163.71	300 (1 hr MAX) 125 (8hr)	500 (24 hrs Mean) 20 (24 hrs Mean)	300 (1 hr MAX) 125 (8hr)			

- Note; * National Standard: Law4/1994.
 ** International Standard: WHO guideline Global update 2005
 *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
 Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
 **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 15/09/2022, (To) Date 16/09/2022 . **“Monitoring measurements”**

Location: (Station and near sensitive receptors): Station No. 01 HADEAK AL ASHGAR / MOUNTIN IN VIWE city

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	56.51 "Average of reading from 10:00 am to 10 ⁰⁰ pm	63.06 "Average of reading from 11:00 pm to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	88.22 "Average of reading from 10:00 am to 10 ⁰⁰ pm	87.55 Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135			
L _{As} (the level exceed for 5% of the time)	dB(A)	----	-----	Not Applicable	85	85			

- Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.
- ** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011
- *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
- **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 16/09/2022, (To) Date 17/09/2022 . **“Monitoring measurements”**

Location: (Station and near sensitive receptors): Station No. 01 HADEAK AL AHRAM

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	57.78 “Average of reading from 10:00 am to 10 ⁰⁰ pm	59.76 “Average of reading from 11:00 pm to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	80.55 “Average of reading from 10:00 am to 10 ⁰⁰ pm	80.9 Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135			
L _{AS} (the level exceed for 5% of the time)	dB(A)	----	-----	Not Applicable	85	85			

- Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.
- ** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011
- *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
- **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Source: JICA Design Consultant and EnviroNics

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 10/10/2022, (To) Date 11/10/2022 . “Monitoring measurements”

Location: (Station and near sensitive receptors): Station No. 03 EL NASR / EL RMAYA BUILDING

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure level)	dB(A)	62.09 "Average of reading from 10:00 am to 10 ⁰⁰ pm	60.1 "Average of reading from 11:00 pm to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1: Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	86.7 "Average of reading from 10:00 am to 10 ⁰⁰ pm	85.7 "Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135			
L _{As} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

- Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.
- ** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011
- *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
- **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 11/10/2022, (To) Date 12/10/2022 . “Monitoring measurements”

Location: (Station and near sensitive receptors): Station No. 04 G.E MUSEUM

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	63.1 "Average of reading from 10:00 am to 10 ⁰⁰ pm	55.59 "Average of reading from 11:00 pm to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	91 "Average of reading from 10:00 am to 10 ⁰⁰ pm	78.37 Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135			
L _{AS} (the level exceed for 5% of the time)	dB(A)	----	-----	Not Applicable	85	85			

- Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.
- ** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011
- *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.
- **** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent

methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 02/04/2022, (To) Date 03/04/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 05 EL REMAYA.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	65.7 "Average of reading from 10:00 am to 10 ⁰⁰ pm	69.2 "Average of reading from 11:00 am to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	93 "Average of reading from 10:00 am to 10 ⁰⁰ pm	95.1 "Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135			
L _{as} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.

135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.

** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the

monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 02/04/2022, (To) Date 03/04/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 06 AL AHRAMAT

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	63.2 "Average of reading from 10:00 am to 10:00 pm"	61.5 "Average of reading from 11:00 pm to 11:00 am"	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	89.8 "Average of reading from 10:00 am to 10:00 pm"	90.7 "Average of reading from 11:00 pm to 11:00 am"	135	-	135			
L _{as} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.

** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the

monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 02/04/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 07 MAROUTIA

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	69.1 "Average of reading from 10:00 am to 10 ⁰⁰ pm	64.9 "Average of reading from 11:00 pm to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	94.1 "Average of reading from 10:00 am to 10 ⁰⁰ pm	89.9 "Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135	-For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.		
L _{as} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.

** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the

monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 06/07/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 08 AL ARISH.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	66.3 "Average of reading from 10:00 am to 10 ⁰⁰ pm	67 "Average of reading from 11:00 pm to 11 ⁰⁰ am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	89.7 "Average of reading from 10:00 am to 10 ⁰⁰ pm	94.4 "Average of reading from 11:00 pm to 11 ⁰⁰ am	135	-	135			
L _{as} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

- Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.
- ** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011
- *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the

monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 09/05/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 09 AL MABA'A.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	66.3 "Average of reading from 10:00 am to 10:00 pm"	63.1 "Average of reading from 11:00 pm to 11:00 am"	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	89.7 "Average of reading from 10:00 am to 10:00 pm"	87.4 "Average of reading from 11:00 pm to 11:00 am"	135	-	135	-For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.		
L _{as} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.

** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the

monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 27/04/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 10 EL TALBIA / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	67.4 "Average of reading from 10:00 am to 10:00 pm	67.5 "Average of reading from 11:00 pm to 11:00 am	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <input type="checkbox"/> Section 2 : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <input type="checkbox"/> Section 3 :From Sta.5 El Remayah till Sta.15 EL Roda <input type="checkbox"/> Section 4 :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <input type="checkbox"/> 1:Diaphragm wall construction <input type="checkbox"/> 2: Excavation of stations <input type="checkbox"/> 3: Concrete pouring of slab. <input type="checkbox"/> 4: Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	85.8 "Average of reading from 10:00 am to 10:00 pm	91.6 "Average of reading from 11:00 pm to 11:00 am	135	-	135	-For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.		
L _{as} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

- Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.
135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.
- ** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011
- *** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area
Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the

monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 27/04/2022, (To) Date 06/07/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 11 MADKOUR / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	67.9 "Average of reading from 10:00 am to 10:00 pm"	67 "Average of reading from 11:00 pm to 11:00 am"	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <u>Section 2</u> : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <u>Section 3</u> :From Sta.5 El Remayah till Sta.15 EL Roda	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <u>1</u> :Diaphragm wall construction <u>2</u> : Excavation of stations <u>3</u> : Concrete pouring of slab. <u>4</u> : Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	86.9 "Average of reading from 10:00 am to 10:00 pm"	66.3 "Average of reading from 11:00 pm to 11:00 am"	135	-	135	<u>Section 4</u> :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.		
L _{As} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.

135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.

** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area

Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Source: JICA Design Consultant

Monitoring Form: Noise (Construction)

Monitoring Period: (From) Date 11/09/2022, (To) Date 12/09/2022 . **“BASE LINE MEASUREMENTS”**

Location: (Station and near sensitive receptors): Station No. 12 Al MESAHA / EL HARAM St.

Remarkable main emission source (Working Machines): The activities at the time of the monitoring was at the lowest level.

Items/ Parameter	Unit	Measured Value		National Standards	Referred International Standards	Standards for Monitoring	Remarks (Check Box where applicable)		
		Day Time	Night Time				Details of location	Frequency/Duration	Relevant Regulation and Methodology of sampling and analyzing
L _{Aeq} (Equivalent continuous A-weighted sound pressure Level)	dB(A)	72.5 "Average of reading from 10:00 am to 10:00 pm"	71.53 "Average of reading from 11:00 pm to 11:00 am"	Day 50-70 Night 40-60 (Depending on the type of area)	30-55	Day 50-70 Night 40-60 (Depending on the type of area)	-At one monitoring station for each following section <u>Section 2</u> : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <u>Section 3</u> :From Sta.5 El Remayah till Sta.15 EL Roda	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <u>1</u> :Diaphragm wall construction <u>2</u> : Excavation of stations <u>3</u> : Concrete pouring of slab. <u>4</u> : Backfilling and re-instatement works.	-Executive Regulation Law No.4/1984 Annex7 -The International Specifications ISO 9612/ISO 1996 (Parts 1 and 2) or Egyptian specifications No.2836 (Parts 1 and 2) and No.5525
L _{Amax} (Maximum level)	dB(A)	94.48 "Average of reading from 10:00 am to 10:00 pm"	94.27 "Average of reading from 11:00 pm to 11:00 am"	135	-	135	<u>Section 4</u> :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.		
L _{As} (the level exceed for 5% of the time)	dB(A)			Not Applicable	85	85			

Note; * National Standard: Law4/1994, Daytime: 7am to 10pm, Night time: 10pm to 7am.

135dB (A) is for reference value, since this is medium noise level value applied to permissible limits of the level of sound inside place of work and indoor Place.

** International Standard: L_{Aeq} is evaluated by WHO Guideline 1990, L₁₀ is evaluated by Japanese Noise Regulation Regarding Specified Construction Work, Amended 2011

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area

Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.

**** Sampling and analysis methodology shall be adopted in accordance with Egyptian Relevant Regulation or Global Standard. Other equivalent methods approved by the Department may be used.

Source: JICA Design Consultant

Monitoring Form: Vibration (Construction)

Monitoring Period: (From) Date Month Year , (To) Date Month Year .

Location: (Station and near sensitive receptors): _____ .

Remarkable emission source (Working Machines): _____ .

Items / parameter	Unit	Measured Values	National Standards	Referred International Standards	Standards for monitoring	Remarks (Check Box where applicable)		
						No. of Monitoring points Data/Location	Frequency Duration	Relevant Regulation and Methodology of sampling analyzing
-L _{Max} , L ₁₀ (Maximum Level and the level exceed for 10 of the time)	dB		Not Applicable	<u>Evaluated in PPV (Peak Particle Velocity)</u> i) < 10 Hz: 5 mm /s ii) 10-50Hz: 5-10 mm/s iii) 50-100Hz: 15-20 mm/s <u>Evaluated in L₁₆</u> :75 dB (Vibration Acceleration L _{vel} =10 μm/s ²)	<u>Evaluated in PPV (Peak Particle Velocity)</u> i) < 10 Hz: 5 mm /s ii) 10-50Hz: 5-10 mm/s iii) 50-100Hz: 15-20 mm/s <u>Evaluated in L₁₆</u> :75 dB (Vibration Acceleration L _{vel} =10 μm/s ²)	-At one monitoring station for each following section <u>□Section 2</u> : Sta.2 Hadaek Al Ahram, Sta.3 El Naser and, Sta.4 G.E.Museum <u>□Section 3</u> :From Sta.5 El Remayah till Sta.15 EL Roda <u>□Section 4</u> :Sta.16 El Malek El Salah and, Turn-Back Point at Fustat -For the choosing of the monitoring location, it could be at the monitoring station where the most sensitive receptors (hospital, schools, etc.) exist and considering the actual distance from the construction.	-24 hours/station at the start of the critical activities for the environment. -Critical activities are as follows: <u>□1</u> :Diaphragm wall construction <u>□2</u> : Excavation of stations <u>□3</u> : Concrete pouring of slab. <u>□4</u> : Backfilling and re-instatement works.	c

Note; * National Standard: There is no applicable regulation in Egypt

** International Standard: PPV is evaluated by DIN 4150 (1986), German standardization L₁₀ is evaluated by Japanese Vibration Regulation Specified construction Work, Amended. 1995

*** Except Section 1 (Sta.1 Hadaek El Ashgar), where is desert area Section 3 will be divided in accordance with contract-packages, and each contractor select one station from each package to conduct the monitoring tests.

PZ 10(PZ-SC22)	18.0 meter	Station 08 EL ARISH	Elevation 21.080 m	E :630476.076 N:809378.360	14/12/2021										
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Note; Monitoring Location : Set one piezometer between stations ,and two piezometers next to constructed stations (at least)
Frequency: Weekly (at least)
Duration: Monitoring station shall be set as soon as possible before excavation activities. Monitoring of groundwater levels after construction should be continued until the water level reaches the steady state at no-damaged piezometer.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: HADEAK AL SHGAR station 01

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note;

Monitoring Location : Constructed Site

Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items

Methodology : Visual check and/or Photographic record

Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: HADEAK AL AHRAM station 02

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: EL NASR station 03

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: GE.MUSEM station 04

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: EL REMAYA station 05

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: AL AHRMAT station 06

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: AL MARYUOTIA station 07

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: EL ARISH station 08

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Monitoring Form: Check List for Soil Conservation (Construction)

Monitoring Period: (From) 01/03/2022 , (To) 10/04/2022.

Location: AL MATBA'A station 09

Description of work: Steel fixing , concrete casting , formworks and others .

S.N	Items	Check-Point	Remark/Description
1	Condition on excavated materials (diaphragm walls, station box and tunnels).	Are the Unusual signs on the characteristic of excavation materials?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Contamination / <input type="checkbox"/> Smell / <input type="checkbox"/> Color / <input type="checkbox"/> Rheology / <input type="checkbox"/> Others)
2	Soil erosion/slope stability	Are there instability signs on the site, especially storage condition of excavation materials? (Diaphragm walls, station box and tunnels)	<input type="checkbox"/> Yes/ <input checked="" type="checkbox"/> No (<input type="checkbox"/> Soil erosion / <input type="checkbox"/> Slope stability / <input type="checkbox"/> Water sediment loads / <input type="checkbox"/> Others)
3	Soil conservation measures	Is a soil conservation measure effective (if any)?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No (<input type="checkbox"/> Crack / <input type="checkbox"/> Water leakage / <input type="checkbox"/> Others)
4	Soil conservation measures	Is it necessary to prepare the additional soil conservation measures?	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
5	Size of soil erosion / land slide (if any) Nearest Past record (if any)	N/A	m x m.
6	Reason of land slide/soil erosion (if any)	N/A	There are no land slides or soil erosion
7	Nearest water source(if any)	Has the nearest water source been confirmed before excavation activities?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Nos., kind)

Note; Monitoring Location : Constructed Site
 Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
 Methodology : Visual check and/or Photographic record
 Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Environ

Monitoring Form: Check List for Flora and Fauna (Construction)

Monitoring Period: (From) Date Month Year , (To) Date Month Year .

Location: _____ , **Construction Block:** _____ .

Description of work: **Presentation Work** / **Reinstatement Work** / **Others (** _____ **)** .

Visual Inspection

S.N	Items	Check-Point	Remark/Description
1	Biodiversity changes	Has number of pests (rodents, insects, etc.) increased apparently due to the impertinent management of the labor's waste?	<input type="checkbox"/> Yes / <input type="checkbox"/> No
2	Cutting trees	Is there a possibility of cutting trees?	<input type="checkbox"/> Yes / <input type="checkbox"/> No (The case falling under Yes: Conduct Tree Census)
3	Supervision of proper removal and re-plantation of valuable trees	Is there valuable tree in proposed area?	<input type="checkbox"/> Yes / <input type="checkbox"/> NO (Check with the result of the Tree Census)
4	Restoration of green areas	(If accepted by the concerned authority)	<input type="checkbox"/> Yes / <input type="checkbox"/> NO

Tree Census (if there is a possibility of cutting trees)

S. N	Tree species	Category	Number s	H2eight of trees (m)	Diameter of height (DBH)(cm)	Aged trees	Growth	Status	Remark
		<input type="checkbox"/> Common <input type="checkbox"/> Valuable ()			<input type="checkbox"/> < 25 cm <input type="checkbox"/> 25-50 cm <input type="checkbox"/> > 50 cm	<input type="checkbox"/> Young <input type="checkbox"/> Adult <input type="checkbox"/> Old	<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Poor	<input type="checkbox"/> Cut <input type="checkbox"/> Repair <input type="checkbox"/> Untouched	

Note; Monitoring Location : Constructed Site

Frequency : Periodical Check Daily/Weekly/Monthly in accordance with items
Detail Check items and Frequency shall be finalized by Contractor.

Source: JICA Design Consultant and Envirionics

Item/Parameter	Location	Frequency
<u>Safety</u> -Regular visual inspection and medical checkups -Usage of safety and protective gear	▪ HSE site visit inspection is held on a regular basis with the join of the contractor, Engineer, and NAT at all stations.	Weekly basis and Monthly

*Location of the Monitoring Wells (G1-G3) is shown in the Map.

Monitoring Form: Air Quality (Construction)

Monitoring Period: (From) Date Month Year , (To) Date Month Year .

Location: _____ .

Description of Work: _____ .

Items	Detail Check Items	Provided/ Good/ Compliance	Not Provided/ Poor/ Not-Compliance	Remarks/Recommendations
1.Safety Signs				
2.Public Safety				
3.Excavation and others				
4.Houses keeping				
5.Personal Protected Equipment				
6.Fire Protection and Control				
7.Equipment Fund at Project Site				
8.Medical and Emergency Capabilities				

9.Number of Employees on Site				

Note; Check location : Constructed Site
Frequency : Periodical Check Daily/Weekly/Monthly
Detail Check items and Frequency shall be arranged by Contractor.
Source: JICA Design Consultant and Environics