

# **National Institute Of Cholera & Enteric Diseases (NICED). An Autonomous Body Funded by Govt. of India.**

P-33, C.I.T. Road, Scheme-XM, Beliaghata, Kolkata-700010.

Telephone No. : 2353 6479, 2370 4478, 2370 5533.

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No. D-3A/AMC/2016-17

Dated : 08.07.2016

## **Expression of Interest (EOI)**

Sealed two Bid system (Separate Technical & Price bids) tenders are invited from eligible contractors working with Govt. of India/ Govt. of West Bengal/Autonomous bodies of Govt. of India. Vendors must have vast knowledge and expertise in operation and non-comprehensive Maintenance Contract for HVAC, Electrical, Sanitary, Plumbing, Water Treatment Plant of JICA Building, NICED-I & II Building, Beliaghata, Kolkata.

Name of Work : Annual maintenance contract for JICA and NICED – 1 & 2 Building, HVAC, AC's, and Dr. B. C. Deb Auditorium AC.

## **INDEX**

Sl. No.	Description	Page
1	Introduction	2
2	Type and Nature of Work	3
3	Calendar Event	4
4	Submission of EOI	5
5	General Terms & Condition	6
6	Role of Contactor	7

## **INTRODUCTION**

National Institute Of Cholera & Enteric Diseases (NICED), Kolkata is a premiere Institute of ICMR , an Autonomous body funded by under Ministry of health & family welfare, Govt. of India and engaged for significant research work on Diarrhoeal diseases and others infectious diseases. NICED is also involved Collaborative scientific research work with various national and international organizations.

**TYPE AND NATURE OF WORK**

1. Electrical items that includes HT distribution system as detailed in Annexure 1 and LT distribution system as detailed in Annexure 2 (please consult with the enclosed list of inventory). All laboratory rooms & other offices like Director Office, all other offices and areas of total JICA building.
2. Maintenance of all water system which includes, water treatment plants, water tanks, plumbing & sanitary system (please consult with the enclosed list of inventory) of NICED I & II and JICA Buildings. Pump operation to fill up all water tanks at JICA Building.
3. Fire Fighting & Fire Protection system, all fire pumps, fire hydrant etc., (please consult with the enclosed list of inventory) at JICA Building.
4. All HVAC & AHU, Supply & Exhaust system (please consult with the enclosed list of inventory) at JICA Building.
5. Waste water Treatment plant at NICED I , II & JICA Buildings.
6. Miscellaneous electrical, Mechanical & Plumbing & sanitary items.
7. HVAC, all window and split type Air Condition Machine NICED I and NICED II Building, JICA Building.
8. 15 ton capacity Blue Star make Package Air Condition Machine at B.C. Deb Auditorium.

N.B. : For maintaining the work mentioned above minimum 7 nos. of staff should be deployed in distributed manner for maintaining round the clock duty. These staff should be of following category .

- i) For Electrician: Workmanship certificate holder from govt. body.
- ii) AC Mechanic for HVAC work: Any A.C. workmanship certificate from recognised/reputed training institute like ITI or previous working experience.
- iii) Plumber: Plumbing certificate from any municipal authority or any recognised body.

★ Before submitting the quotation parties are requested to inspect actual site and contact Mr. P. K. Ghosal, Maintenance Engineer for detailed job specification at the time of pre-bid conference.

**CALENDER EVENT**

Pre Bid Conference	14.07.2016 at 4.00 PM
Last Date of Submission	28.07.2016 at 1.30 PM
Place of Submission of EOI Documents	Tender Box kept on the 1 <sup>st</sup> Floor of NICED-I Building
Date of opening of Technical Bid	28.07.2016 at 3.00 PM
Date of Opening of Financial Bid	To be announced after Verification of Technical Documents
Place of Opening of EOI Documents	Dr. B. C. Deb Auditorium, NICED-I Building
Address	P-33, CIT Road, Scheme XM, Kolkata – 700010
Telephone No.	2370-5533, 2370-4478



### **SUBMISSION OF EOI**

Total Documents Content in Two Envelope .

**Envelope 1 Contain** : 2% of estimated cost of Rs. 20 lakh as Earnest Money in the form of Bank Draft on any Nationalized Bank. Technical Bid documents, Notice Inviting EOI, Instruction for bidders, Terms & Condition, Obligation of Employer, Declaration of Contactor, Credential – 80% of estimated cost of Maintenance 20 lakh value in a single work order or 2 Nos. work order value of 10 lakh each of same type of Govt. Research Organization of National repute. Copy of License to be produced for contractor and works men. Electrical Supervisor License, ESI & EPF Registration Certificate, VAT Registration Certificate & CST, Bank Draft / Bankers Cheque No. with Date to be mentioned including the name of the Nationalized Bank, Last 3 years Income Tax & Service Tax Clearance Certificate, Professional Tax certificate, current bank solvency certificate, Agency must have vast knowledge and expertise in the similar maintenance job.

**Envelope 2 Contain** : Financial Bid Documents.

**Envelope 3 Contain:** Containing envelope 1 & 2 with superscripted with the Details address including the name of the work, tender no., address to Director-in-Charge, National Institute of Cholera & Enteric Diseases, P-33, C.I.T. Road, Scheme –XM, Beliaghata, Kolkata 700 010.

EMD in favour of Director, National Institute of Cholera and Enteric Diseases.

**GENERAL TERMS & CONDITIONS**

- 1) Soft Copy in the form the CD for Technical & Price Bid Separately along with the hard copy.
- 2) The tender documents should be typed. Any cutting / overwriting may be signed by the tenderer otherwise the rates in r/o that particular item may not be considered.
- 3) Each and every page of tender must be numbered and signed by the tenderer along with the seal of the firm.
- 4) Covering letter should clearly indicate the list of enclosures.
- 5) EMD is liable to be forfeited if the tenderer withdraws the tender or impairs or derogates the bid in any respect.
- 6) EMD shall be released unsuccessful bidder after completion of tender process, subject to compliance to all other terms & condition of Tender.
- 7) **THE RATES QUOTED WILL BE TAKEN AS FIRM AND FINAL.**
- 8) **Penalty Clause For Non-Compliance of Work Order :**  
EMD of the firm will be forfeited and necessary action will be initiated.
- 9) Triplicate bills duly pre receipted on appropriate revenue stamp affixed to be submitted in the name of the Director in respective store.
- 10) The bill should be in printed form having printed bill number, VAT/CST/TIN number as well as D.L.No. (which ever applicable).
- 11) All rejected stores shall be at risk of the supplier and must be removed immediately.
- 12) In case it is a computer-generated bill it must have the seal of the firm affixed on it.
- 13) Payment: Payment will be made after successful completion of work. Advance payment will be considered on necessary Bank Guarantee (100%).
- 14) **EXCLUSIVE RIGHT OF DIRECTOR/ DIRECTOR-IN-CHARGE:** Director, NIKED Kolkata has the full and exclusive right to accept or reject any or all the tenders without assigning any reasons whatsoever. No enquires, verbal or written shall be entertained in respect of acceptance / rejection of the tender.

### **ROLE OF CONTACTOR**

Work to be done in the Institute as per Institute norms. As this is a Govt. Institute (ICMR), so necessary precaution should be taken that no hazard or any untoward incident could be happened within the campus of the Institute . All work should be executed in consultation with the competent authority of NICED. Any damage of Institute assets/property during the execution of the work within the campus will be liable to the contractor. A maximum of one (1) authorized representative of the contractor will be permitted to be present during the opening of the tender. The representatives should possess appropriate letter of authorization in the letterhead of the company and duly signed, clearly indicating the name of the representative and that he / she has been authorized to represent and sign on behalf of the company. He/She should also possess the official seal of the company for signing necessary document as an when required.

Canvassing (directly / indirectly) for the tender is strictly prohibited and will be liable to rejection of the bid.

IN PANEL & MAIN DISTRIBUTION PANEL SHALL BE PROVIDED WITH THE FOLLOWING ITEMS					
NO.	ITEM	LOADING LAMP		BLIND	DOWN OUTSIDE ALARM PANEL
		STATUS	TRIP	TRIP	
<u>(IN PANEL)</u>					
1	IN-PANEL VICE OR ICE TRIP	-	o	-	o
2	TRANSFORMER THERMAL ABNORMAL	-	-	-	-
<u>(MAIN DISTRIBUTION PANEL)</u>					
1	COMMERCIAL POWER ON	o	-	-	o
2	GENERATOR POWER ON	-	-	-	-
3	WBS MAIN BREAKER TRIP	-	o	-	o+12
4	WBS BRANCH BREAKER TRIP	-	-	-	o
5	WBS VICE TRIP	-	-	-	o
6	WBS THERMAL ABNORMAL	-	o	o	o
7	WBS THERMAL ABNORMAL	-	o	o	o
<u>(GENERATOR, TRANSFORMER, AND LOADS NOT MENTIONED AS ABOVE)</u>					
		-	-	-	-





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DISTRIBUTION BOARD LIST									
LEGEND	PANEL NAME AND CONNECTION DIAGRAM	BRANCH BREAKER NO.	TYPE	AT	AT	LOAD CAPACITY (KW)	LOAD NAME	REMARKS	PANEL NAME AND CONNECTION DIAGRAM
1. SEQUENCE NUMBER									
2. TYPE OF PANEL									
3. LIGHTING DISTRIBUTION									
4. POWER PANEL									
5. PRODUCTION EQUIPMENT									
6. MOTOR									
7. MINOR EQUIPMENT									
8. BATH LAMP									
9. MAGNETIC CONTACTOR									
10. RELAY									
11. BRANCH CIRCUIT									
12. EQUIPMENT									
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NIHON SEKKEI, INC.

2004

REVISIONS

1. *not*

The Project for Construction of  
Biorheal Research and Control Centre

TITLE
-------

Load Table Production Panel-5

50

N.T.S

On

ELECTRICAL







 NIHON SEKKEI, INC.		Address	Name	The Project for Construction of Diamond Research and Control Centre	Title As Built Load Table AC/Utility Panel-3	No. 3025
	Model N.T.S	Electrical				

POWER CONTROL PANEL BOARD LIST														
PANEL NAME AND CONNECTION DIAGRAM	NO.	BRANCH BREAKER TYPE/NO.	LOAD CAPACITY (KW)	LOAD NAME	CONNECTION SYMBOL	WAVEFORM	INDICATE	INDICATE	INDICATE	INDICATE	INDICATE	INDICATE	INDICATE	INDICATE
W-401-1	W-401-2	W-401-3	W-401-4	W-401-5	W-401-6	W-401-7	W-401-8	W-401-9	W-401-10	W-401-11	W-401-12	W-401-13	W-401-14	W-401-15
AC-02 3P/3W 400V/500V														
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
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4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
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Signature No.	Name	Specifications	Qty	Electric Power Supply Phase/Voltage/Hz/Type	Location	Subject	Remarks
232	232W Solar Transformer	Power Standing Hot Water 1 (Steel Container)	1	3	400V 50 Hz	Exterior	Specified by Contract documents
232	232W Solar Transformer	As Conditioned					
		Initial Unit					
		Control Capacity	15.0kW	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power	1,500W (100%)	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power Size	115.5 x 115.5		2	400 V, 5.0+5.0	Specified by Contract documents
		Material Unit			2	400 V, 5.0	Specified by Contract documents
		Power					
		Control Capacity					
		Power					
		W / Accessories					
233	233W Solar Transformer	Power Standing Hot Water (Steel Container)	1		Exterior	Specified by Contract documents	
233	233W Solar Transformer	As Conditioned					
		Initial Unit					
		Control Capacity	15.0kW	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power	1,500W (100%)	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power Size	115.5 x 115.5		2	400 V, 5.0+5.0	Specified by Contract documents
		Material Unit			2	400 V, 5.0	Specified by Contract documents
		Power					
		Control Capacity					
		Power					
		W / Accessories					
234	234W Solar Transformer	Power Standing Hot Water (Steel Container)	1		Exterior	Specified by Contract documents	
234	234W Solar Transformer	As Conditioned					
		Initial Unit					
		Control Capacity	15.0kW	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power	1,500W (100%)	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power Size	115.5 x 115.5		2	400 V, 5.0+5.0	Specified by Contract documents
		Material Unit			2	400 V, 5.0	Specified by Contract documents
		Power					
		Control Capacity					
		Power					
		W / Accessories					
235	235W Solar Transformer	Power Standing Hot Water (Steel Container)	1		Exterior	Specified by Contract documents	
235	235W Solar Transformer	As Conditioned					
		Initial Unit					
		Control Capacity	15.0kW	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power	1,500W (100%)	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power Size	115.5 x 115.5		2	400 V, 5.0+5.0	Specified by Contract documents
		Material Unit			2	400 V, 5.0	Specified by Contract documents
		Power					
		Control Capacity					
		Power					
		W / Accessories					
236	236W Solar Transformer	Power Standing Hot Water (Steel Container)	1		Exterior	Specified by Contract documents	
236	236W Solar Transformer	As Conditioned					
		Initial Unit					
		Control Capacity	15.0kW	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power	1,500W (100%)	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power Size	115.5 x 115.5		2	400 V, 5.0+5.0	Specified by Contract documents
		Material Unit			2	400 V, 5.0	Specified by Contract documents
		Power					
		Control Capacity					
		Power					
		W / Accessories					
237	237W Solar Transformer	Power Standing Hot Water (Steel Container)	1		Exterior	Specified by Contract documents	
237	237W Solar Transformer	As Conditioned					
		Initial Unit					
		Control Capacity	15.0kW	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power	1,500W (100%)	100% (Extreme)	2	400 V, 5.0	Specified by Contract documents
		Power Size	115.5 x 115.5		2	400 V, 5.0+5.0	Specified by Contract documents
		Material Unit			2	400 V, 5.0	Specified by Contract documents
		Power					
		Control Capacity					
		Power					
		W / Accessories					

Accession No.	Name	Description	Electric Power (kW)				Location	Subject	Remarks			
			Diesel Generator									
			A	V	Hz	Volts						
F20 - 400kW Diesel Powerplant	400 kW Diesel Generator	Four Standby Heat Pumps (Boat Connect)	1			240V	3P, 4W, 3W	Three Standby Heat Pumps (Boat Connect)	Used for emergency power			
		Generator Capacity	100 kW					Generator Capacity	100 kW			
		Power	3.0 MW					Power	3.0 MW			
		Water	1000 gpm					Water	1000 gpm			
		Flow	1000 gpm					Flow	1000 gpm			
		Water Unit	400 x 100 x 100					Water Unit	400 x 100 x 100			
		Flow	1000 gpm					Flow	1000 gpm			
F20 - 400kW Diesel Powerplant	400 kW Diesel Generator	Four Standby Heat Pumps (Boat Connect)	1			240V	3P, 4W, 3W	Three Standby Heat Pumps (Boat Connect)	Used for emergency power			
		Generator Capacity	100 kW					Generator Capacity	100 kW			
		Power	3.0 MW					Power	3.0 MW			
		Water	1000 gpm					Water	1000 gpm			
		Flow	1000 gpm					Flow	1000 gpm			
		Water Unit	400 x 100 x 100					Water Unit	400 x 100 x 100			
		Flow	1000 gpm					Flow	1000 gpm			

Design#	Name	Description	Electrical Power Supply			Location	Subsidiary	Remarks
			Phase	Current	Voltage			
			A	B	C			

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Subject	Topic	Specifications	Electrical Power Supply	Electrical Distribution		Location	Subject	Remarks	
				Phase/Line/Voltage	Current/Power				
PA1 - 220VAC Control Power/Signal	No Connection	Max Uninterrupted Control Delay	3			Control	Surveillance		
		Signal Unit	1	240	50	0.000			
		Control Circuitry	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
PA1 - 220VAC Control Power/Signal	No Connection	Max Uninterrupted Control Delay	3			Control	Surveillance		
		Signal Unit	1	240	50	0.000			
		Control Circuitry	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
PA1 - 220VAC Control Power/Signal	No Connection	Max Uninterrupted Control Delay	3			Control	Surveillance		
		Signal Unit	1	240	50	0.000			
		Control Circuitry	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
PA1 - 220VAC Control Power/Signal	No Connection	Max Uninterrupted Control Delay	3			Control	Surveillance		
		Signal Unit	1	240	50	0.000			
		Control Circuitry	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
PA1 - 220VAC Control Power/Signal	No Connection	Max Uninterrupted Control Delay	3			Control	Surveillance		
		Signal Unit	1	240	50	0.000			
		Control Circuitry	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
PA1 - 220VAC Control Power/Signal	No Connection	Max Uninterrupted Control Delay	3			Control	Surveillance		
		Signal Unit	1	240	50	0.000			
		Control Circuitry	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240	50	0.000			
		Control Unit	1	240	50	0.000			
		Power Unit	1	240					

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## EQUIPMENT SCHEDULE - 5

Equipment No.	Name	Specifications	QTY	Unit	Remarks
<b>Unit - 1000 Control Package</b>					
1000	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1001	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1002	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1003	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1004	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1005	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1006	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1007	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1008	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1009	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1010	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1011	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1012	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1013	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1014	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1015	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1016	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1017	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1018	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1019	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1020	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package

Equipment No.	Name	Specifications	QTY	Unit	Remarks
<b>Unit - 1000 Control Package</b>					
1000	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1001	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1002	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1003	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1004	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1005	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1006	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1007	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1008	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1009	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1010	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1011	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1012	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1013	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1014	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1015	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1016	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1017	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1018	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1019	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package
1020	Control Package	1000Watt, 1000V, 1000A	1	Set	Control Package

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Supply #	Name	Description	Quick View Summary				Location	Subst	Remarks
			QTY	Unit Price	Subst Price	Subst Price			
			#	\$	#	\$			
W-100	Supply Package	For Refrigerator							
	1/2 Condenser	In Refrigerator for Temp. A/C 1			Direct	Base Room	Reception Point	Operational	
	Controlling Capacity	4.00 Fm					1.0m x 1.0m x 2.0m	Operational	
	Flow Rate	450.0 Fm x 1.0 Fm	3	200.00		0.40		Operational	
	W/ Accessories								
W-101	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-102	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-103	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-104	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-105	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-106	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-107	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-108	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-109	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-110	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-111	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								
W-112	Supply Fan	Centrifugal							
	1/2 Flow Rate	1.00 Fm			Direct	W/ A/C RM 1, 2	Operational		
	Static Pressure	100.0 Fm	3	400.00		1.0		Operational	
	W/ Accessories								

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Sequence No.	Name	Specifications	Qty	Onsite Power Rating Phase/Line/Volts/Amperes/Hz	Delivery Location	Subject	Remarks
01 - 01	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Station Box	Station Box	
02 - 02	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Storage 1	Storage 1	
03 - 03	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Meeting Room	Meeting Room	
04 - 04	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - MC 1	MC 1	
05 - 05	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Export Office 1	Export Office 1	
06 - 06	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Reference	Reference Room	
07 - 07	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Break Room	Break Room	
08 - 08	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Surveillance	Surveillance Network Room	
09 - 09	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - Server Room	Server Room	
10 - 10	Exhaust Fan	Type: Ceiling Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - File Room 1	File Room 1	
11 - 11	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 1	A/C Room 1	Open door to Surveillance Room
12 - 12	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 2	A/C Room 2	Open door to Surveillance Room
13 - 13	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 3	A/C Room 3	Open door to Surveillance Room
14 - 14	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 4	A/C Room 4	Open door to Surveillance Room
15 - 15	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 5	A/C Room 5	Open door to Surveillance Room
16 - 16	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 6	A/C Room 6	Open door to Surveillance Room
17 - 17	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 7	A/C Room 7	Open door to Surveillance Room
18 - 18	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 8	A/C Room 8	Open door to Surveillance Room
19 - 19	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 9	A/C Room 9	Open door to Surveillance Room
20 - 20	Exhaust Fan	Type: Wall Mounted (Blower Motor Type) 44 Pin Rate: 200 CFM Static Pressure: 50 Pa	1	1 240 50 0.041	Office - A/C Room 10	A/C Room 10	Open door to Surveillance Room



Order #	Notes	Specifications	CU	Earth/Air Power Supply Phase/Voltage/Hz	Original Control	Location	Subject	Comments
07 - 300	Exhaust Fan	Type: Ceiling Mounted Storm Water Fan Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa	2	1	240 V 50 0.125	Street	Stormwater Management	
07 - 301	Exhaust Fan	Type: Centrifugal Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa W/ vibration isolating frame base, accessories	3	1	240 V 50 0.1	Street	Stormwater Management	
07 - 304	Exhaust Fan	Type: Ceiling Mounted Exhaust Storm Water Fan Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa	2	1	240 V 50 0.125	Street	Storm Water	Change
07 - 305	Exhaust Fan	Type: Centrifugal Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa W/ vibration isolating frame base, accessories	3	1	240 V 50 0.125	Street	W/ A/C, RM 3 W/ A/C, RM 3	Replaced by Stormwater
07 - 306	Exhaust Fan	Type: Centrifugal Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa W/ vibration isolating frame base, accessories	3	1	240 V 50 0.125	Street	W/ A/C, RM 4 W/ A/C, RM 4	Replaced by Stormwater
07 - 307	Exhaust Fan	Type: Ceiling Mounted Exhaust Storm Water Fan Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa	2	1	240 V 50 0.125	Street	Storage Storage	
07 - 308	Exhaust Fan	Type: Ceiling Mounted Exhaust Storm Water Fan Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa	2	1	240 V 50 0.125	Street	Underpinning Underpinning	
07 - 309	Exhaust Fan	Type: Ceiling Mounted Exhaust Storm Water Fan Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa	2	1	240 V 50 0.125	Street	Utility Utility	
07 - 310	Exhaust Fan	Type: Centrifugal Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa W/ vibration isolating frame base, accessories	3	1	240 V 50 0.125	Street	W/ A/C, RM 1 W/ A/C, RM 1	Replaced by Stormwater
07 - 311	Exhaust Fan	Type: Centrifugal Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa W/ vibration isolating frame base, accessories	3	1	240 V 50 0.125	Street	W/ A/C, RM 2 W/ A/C, RM 2	Replaced by Stormwater
07 - 312	Exhaust Fan	Type: Centrifugal Air Flow Rate: 1000 cfm Static Pressure: 0.0 Pa W/ vibration isolating frame base, accessories	3	1	240 V 50 0.125	Street	W/ A/C, RM 3 W/ A/C, RM 3	Replaced by Stormwater

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## EQUIPMENT SCHEDULE - 1

Equipment No.	Name	Specifications	Electric Power Supply (V, Hz, Phase, Power)	Location	Remarks
SP-1	Deep Well Pump	Flow Rate: 100 l/min Total Head: 10 m Power & Control Panel: Pump will be operated by motor level of Raw water tank. Automatically emergency stop will be operated by motor level of Deep well. Automatically. W / Control Panel, Protection Relay.	1 1 3 415 V, 50 Hz, 3-Phase	Level: Out door	Warranty One Year
SP-101	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-102	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-103	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-104	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-105	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-106	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-107	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-108	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-109	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-110	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-111	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-112	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-113	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-114	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-115	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-116	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-117	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-118	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-119	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-120	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-121	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-122	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-123	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-124	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-125	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-126	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-127	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-128	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-129	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-130	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-131	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-132	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-133	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-134	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-135	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-136	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-137	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-138	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-139	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-140	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-141	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-142	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-143	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-144	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-145	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-146	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-147	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-148	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-149	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-150	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-151	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-152	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-153	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-154	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-155	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-156	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-157	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-158	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-159	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-160	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-161	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-162	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-163	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-164	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-165	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-166	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-167	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-168	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-169	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-170	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-171	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-172	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-173	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-174	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-175	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-176	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-177	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-178	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-179	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-180	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-181	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-182	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-183	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-184	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-185	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-186	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-187	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-188	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-189	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-190	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-191	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-192	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-193	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-194	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-195	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-196	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-197	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-198	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-199	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	
SP-200	Water Supply Pump	Cartridge Pump	3	Level: Pump Room	



NIHON SEKKEI, INC.  
Architect & Engineer

Project No. 10-01  
Drawing No. 10-01-01  
Scale: 1/100

Revision

Date

By

Check

Approved

Signature

Stamp

The Project for Construction of  
Damaged Research and Control Centre

File

Equipment Schedule - 1  
10-01-01  
10-01-01

Sheet

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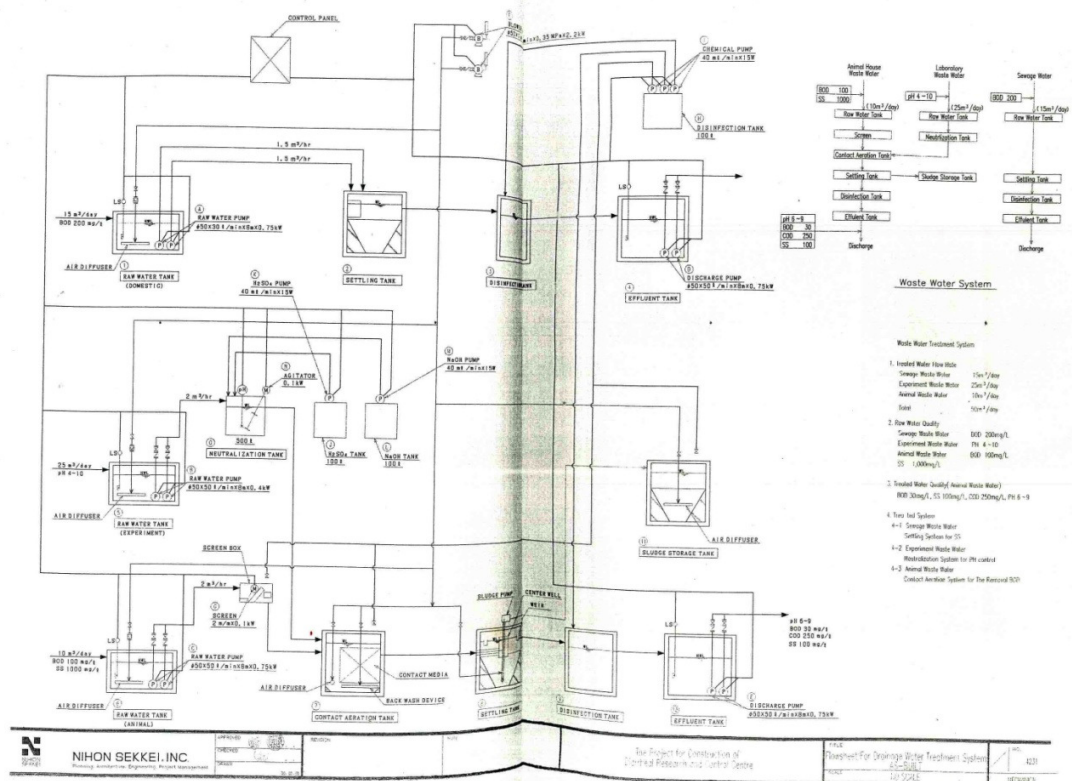
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NIHON SEKKEI, INC.

Engineering, Architecture, and Construction

Design Report for Construction of  
Drainage and Water Supply System

Project: Drainage and Water Supply System  
Sheet: 10/22/2018

4238