



GOVERNMENT OF WEST BENGAL
IRRIGATION AND WATERWAYS DEPARTMENT
NATIONAL HYDROLOGY PROJECT

Bid No.: WBIWD/NHP/IFB-05/2019-20

NAME OF WORK:- PROCUREMENT OF TOTAL STATION AND DIGITAL LEVEL MACHINES INCLUDING COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT FOR 4 YEARS (after 1 year warranty) UNDER NATIONAL HYDROLOGY PROJECT

CORRIGENDUM – 1

In view of the queries raised by some Bidders for the **Bid No WBIW/IFB-05/2019-20** circulated vide **Memo No-280/ NHP-02 / 02, Dated- 10/07/2019**, the Technical Specifications and Technical Specifications Compliance Sheet of the Digital level and Total Station have been revised as per the enclosed proforma.

The Bidders are requested to follow the Revised Technical Specifications and fill up the Revised Technical Specifications Compliance Sheet for both Digital level and Total Station and upload them with the Bid. All others terms & conditions of the Bid will remain unchanged.

Date:-02.08.2019

Sd/-
Executive Engineer
Burdwan Investigation & Planning Division
I & W Dte.

REVISED TECHNICAL SPECIFICATIONS FOR TOTAL STATION:

Sr. No.	Description	Specifications
1	TELESCOPE	
1.1	Telescope Magnification	30X
1.2	Field view	1°30' or Better
1.3	Minimum Focusing Distance	1.7 m or better
1.4	Image-	Erect
2	ANGLE MEASUREMENT	
2.1	Angle Accuracy as per DIN 18723	(0.5" or 1" or better)
2.2	Least Count	0.5 " or better
2.3	Method	Absolute Encoders
3	DISTANCE MEASUREMENT	
3.1	WITH PRISM	
3.1.1	Using Long Range	EDM 4 to 5 km or better
3.1.2	Accuracy	1mm±2 ppm
3.1.3	Least Count	0.1 mm or better
3.2	WITHOUT PRISM	
3.2.1	Range	Minimum 500m or more Kodak White 90%
3.2.2	Reflector Less Accuracy	3mm+2ppm
4	MEASURING TIME	
4.1	Fine Mode	Less than 3 Sec
5	COMPENSATOR	
5.1	Axis	Dual Axis or better
5.2	Compensating Range	± 3' or better
5.3	Setting Accuracy	0.5" or better
6	TEMPERATURE	
6.1	Operating	-20 °C to + 50°C
6.2	Storage	-40 °C to + 70°C
6.3	Humidity	0 to ≥90% RH
6.4	Protection	splash waterproof(IP 65 or Better)
7	KEY BOARD	
7.1	Type	Alphanumeric Hard Keyboard on both faces, field compatible easy to use full and simple control of all functions
8	Display	Color display on both faces, LCD/QVGA or better DISPLAY, clearly readable under field light conditions with Touch Screen.
8.1	Marking	clear non-removable identification of each key
9	I/O ports PC soft ware	for set-up data retrieval, processing, presentation and archiving
10	Internal data storage	Approx 40000 points Or Better
11	For Quick Layout	Guide Light or Similar Options
12	Data interface	USB flash drive(8 GB minimum) or USB memory

13	Rechargeable battery(Detachable Li-ion) (min 15 Hr. to 18Hr. battery life of Each Battery). And observation time	1 set (with instrument 1 number battery + same 1 number EXTRA battery i.e. Total 2 number battery)
14	battery charger cables	power and battery cables
15	external power	power socket for connection of car battery
16	power supply to battery charger	220 VAC \pm 25%; 47 to 53 Hz
17	power voltage range	12 VDC, nominally, matching car battery voltage range (10 to 15 VDC)
18	DATA OUTPUTS	Should be capable of outputting the data In all standard formats including DXF and other customized formats directly from the total station
19	SURVEY DATA	Graphical Display of the surveyed points, Lines & Areas with Codes & Symbols
20	UPLOAD OPTIONS	DXF, shape files
21	Accessories:	
21.1	A) Wooden Telescopic Tripod Stand	1 no.
21.2	B) Single Prism assembly consisting of Range Pole, Prism Target Plate, Spirit Bubble, STAND for range pole.	2 no.
21.3	Calibration certificate	Calibration certificate of instrument should be provided during each CAMC period.
21.4	Manuals	cds , operational and maintenance manual
21.5	Additional spare batteries (i.e. 2 number of batteries with instrument and 2 no as a spare)	2 no, rechargeable, no memory effect
21.6	water proof cover	made of durable plastic material
21.7	Tubular Compass	1no.
21.8	Warranty certificate	Warranty certificate

REVISED TECHNICAL SPECIFICATIONS FOR DIGITAL LEVEL:

Sr. No.	Description	Specifications
1	Magnification :	Minimum 24X or better
2	Image :	Erect
3	Resolving Power :	3" to 3.5"
4	Objective Aperture:	Minimum 36 mm or better
5	Minimum Focus distance :	Maximum 1.5 M
6	Angle Measurement	360 degree/400 gon
7	Height Accuracy Standard Deviation for 1KM double run leveling	1.5 mm
8	Electronic measurement range	100 m or better
9	Selectable Distance Measurement	Multiplication Factor: 100
10	Circular Bubble	8' to 10' / 2mm or better.
11	Horizontal Drive	both sides, endless
12	Data Storage	2000 sets or more of points or more.
13	Data download	USB cable (From instrument to computer) or USB pen drive
14	Power Supply	
14.1	Rechargeable Battery :	Rechargeable type.
14.2	Operating Time. :	6 Hrs to 8 Hrs or more.
14.3	Battery charger :	Quick type
15	Compensator:	
15.1	Working range	More than $\pm 10'$ to $\pm 15'$
16	Display	LCD type or better
17	Water and Dust Resistance	IP55 or X4 or better.
18	Temperature Range Operation	-20 to +50 °C
19	Temperature Range Storage	-40 to +70 °C
20	ACCESSORIES	
20.1	Aluminum Telescopic Tripod:	1 no.
20.2	Aluminum BAR-code staffs (5 mtrs Length):	2 no.
20.3	USB Data transfer cable or pen drive	1 no.
20.4	Tool Kit	1 no.
20.5	plastic carrying case, silicon cloth, plastic rain covers	1 no.
20.6	Battery extra	1 set
20.7	Manuals	Cds, operational and maintenance manuals
20.8	Certificate	Calibration certificate of instrument should be provided during each CAMC period.
20.9	Warranty certificate	Warranty certificate

REVISED TECHNICAL SPECIFICATIONS COMPLIANCE SHEET

(Bidder to fill up column 4 of this sheet and submit)

Instrument: TOTAL STATION

Offered Make:

Offered Model:

Sl no	Description	Desired Specification	Specification offered by bidder
1	TELESCOPE		
1.1	Telescope Magnification	30X	
1.2	Field view	1°30' or Better	
1.3	Minimum Focusing Distance	1.7 m or better	
1.4	Image	Erect	
2	ANGLE MEASUREMENT		
2.1	Angular Accuracy per DIN 18723	0.5' or 1" or better	
2.2	Least count	0.5" or better	
2.3	Method	Absolute Encoders	
3	DISTANCE MEASUREMENT		
3.1	WITH PRISM		
3.1.1	Using Long Range	EDM 4 to 5 km or better	
3.1.2	Accuracy	1 mm ± 2 ppm	
3.1.3	Least Count	0.1 mm or better	
3.2	WITHOUT PRISM		

3.2.1	Range	Minimum 500m or more Kodak White 90%	
3.2.2	Reflector Less Accuracy	3mm+2ppm	
4	MEASURING TIME		
4.1	Fine Mode	Less than 3 Sec	
5	Compensator		
5.1	Axis	Dual-axis or better.	
5.2	Compensating Range	± 3' or better	
5.3	Setting Accuracy	0.5" or better	
6	TEMPERATURE		
6.1	Operating	-20 °C to + 50°C	
6.2	Storage	-40 °C to + 70°C	
6.3	Humidity	0 to ≥90% RH	
6.4	Protection	splash waterproof(IP 65 or Better)	
7	KEY BOARD		
7.1	Type	Alphanumeric Hard Keyboard on both faces, field compatible easy to use full and simple control of all functions	
8	Display	Color display on both faces, LCD/QVGA or better DISPLAY, clearly readable under field light conditions with Touch Screen.	
8.1	Marking	clear non-removable identification of each key	
9	I/O ports PC software	for set-up data retrieval, processing, presentation and archiving	
10	Internal data storage	Approx 40000 points Or Better	

11	For Quick Layout	Guide Light or Similar Options	
12	Data interface	USB flash drive(8 GB minimum) or USB memory	
13	Rechargeable battery(Detachable Li-ion) (min 15 Hr. to 18Hr. battery life of Each Battery). And observation time	1 set (with instrument 1 number battery + same 1 number EXTRA battery i.e. Total 2 number battery)	
14	Battery charger cables	power and battery cables	
15	External power	Power socket for connection of car battery	
16	Power supply to battery charger	220VAC $\pm 25\%$; 47 to 53Hz	
17	Power voltage range	12 VDC, nominally, matching car battery voltage range (10 to 15 VDC)	
18	DATA OUTPUTS	Should be capable of outputting the data In all standard formats including DXF and other customized formats directly from the total station.	
19	SURVEY DATA	Graphical Display of the surveyed points, Lines & Areas with Codes & Symbols	
20	UPLOAD OPTIONS	DXF, shape files	
21	Accessories:		
21.1	A) Wooden Telescopic Tripod Stand	1 no.	
21.2	B) Single Prism assembly consisting of Range Pole, Prism Target Plate, Spirit Bubble, STAND for range pole.	2 nos.	

21.3	Calibration certificate	Calibration certificate of instrument should be provided during each CAMC period.	
21.4	Manuals	cds , operational and maintenance manual	
21.5	Additional spare batteries (i.e. 2 number of batteries with instrument and 2 no as a spare)	2 no ,rechargeable, no memory effect	
21.6	Waterproof cover	Made of durable plastic material	
21.7	Tubular Compass	1 no.	
21.8	Warranty certificate	Warranty certificate	

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Signature of the agency with stamp

REVISED TECHNICAL SPECIFICATIONS COMPLIANCE SHEET

(Bidder to fill up column 4 of this sheet and submit)

Instrument: DIGITAL LEVEL

Offered Make:

Offered Model:

Sl no	Description	Desired Specification	Specification offered by bidder
1. 2. 3. 4. 5. 6.	Magnification: Image: Resolving power: Objective Aperture: Minimum Focus distance: Angle Measurement:	Minimum 24X or better Erect Erect 3'' to 3.5'' Minimum 36 mm or better Maximum 1.5 M 360 degree/400 gon	
7.	Height Accuracy Standard Deviation for 1Km double run leveling:	1.5mm	
8.	Electronic measurement range:	100 m or better	
9	Selectable Distance Measurement	Multiplication Factor: 100	
10	Circular Bubble	8' to 10' / 2mm or better.	
11	Horizontal Drive	both sides, endless	
12	Data Storage	2000 sets or more of points or more.	
13	Data download	USB cable (From instrument to computer) or USB pen drive	
14 14.1 14.2 14.3	Power Supply: Rechargeable Battery: (should be from manufacturer) Operating Time: Battery charger:	Rechargeable type. 6 Hrs to 8 Hrs or more. Quick type	

15	Compensator:		
15.1	Working range:	More than $\pm 10'$ to $\pm 15'$	
16	Display	LCD type Or better	
17	Water and Dust Resistance	IP55 or X4 or better.	
18	Temperature Range Operation	-20 to +50 °C	
19	Temperature Range Storage	-40 to +70 °C	
20	ACCESSORIES:		
20.1	Aluminium Telescopic Tripod:	1 No.	
20.2	Aluminium BAR-code staffs (5 mtrs Length):	2 Nos.	
20.3	USB Data transfer cable or pen drive:	1 No.	
20.4	Tool Kit	1 no.	
20.5	plastic carrying case, silicon cloth, plastic rain covers	1 no.	
20.6	Battery extra	1 set.	
20.7	Manuals	Cds, operational and maintenance manuals	
20.8	Certificate	Calibration certificate of instrument should be provided during each CAMC period.	
20.9	Warranty certificate	Warranty certificate	

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Signature of the agency with stamp