

COMPLETE BIDDING DOCUMENT VOLUME-II

**SR to Providing fire Fighetening System at Taluka
Seva Sadan Vinchhiya Dist. Rajkot (Job
No.Dist/Raj/SR/NR/ 2025-26/03)**



GOVERNMENT OF GUJARAT
ROAD AND BUILDING DEPARTMENT

This is a generic SBD to be used for Civil works. Each user/concern department needs to examine and put up their particular bidding requirement like; qualification criteria, contract Data etc., marked at [#] while finalizing their own bidding process.

SECTION - 5
TECHNICAL SPECIFICATION

Name of work :- SR to Providing Fire Fighetening System at Taluka Seva Sadan, Vinchhiya, Di : Rajkot Job No. Dist / Raj / S.R. / N.R. / 2025 - 2026 / 03

Specification Index

Sr. No.	Description	Vol. No.	Page No.	Para No.	Remarks
1	2	3	4	5	6
1	Supply and Installing of ABC type 6 - Kg Capacity duly ISI marked confirmed to IS 15863 : 2006 with IS 14609 ISI marked powder complete with squeeze grip release valve, locking arrangement, pressure gauge operation manual with bracket	II		As per Seprate Specification attached	
2	Supply and Installing of gas Co2 type 4.5 - Kg capacity duly ISI marked conforming to IS 15683 with horn, valve locking arrangement, operation manual with bracket	II		As per Seprate Specification attached	
3	Supply, Installing, Testing & Commissioning of Fire Hotter, manual call point and ON - OFF switch with PVC pipe, wire and panel for hotter and call point etc. compel.	II		As per Seprate Specification attached	

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|---|--|----|---|
| 4 | <p>Providing, supplying and fixing in position Fire protection safety sign as per 15:12349-1988 etc complete. This safety signage board shall be printed on acrylic sheet with sticker. The red, green & yellow colour shall confirm to shade No : 536, 221 and 309 of IS code : S-1978 (colours for ready mixed paints and enamels- third Revision). this signages shall have night glow in dark region. (A) 12" X 18" Size</p> | II | <p>As per Seprate
Specification attached</p> |
| 5 | <p>Providing supplying, installing and testing of ISI mark "B" class 150mm dia under ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)</p> | II | <p>As per Seprate
Specification attached</p> |
| 6 | <p>Providing supplying, installing and testing of ISI mark "B" class 100mm dia under ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)</p> | II | <p>As per Seprate
Specification attached</p> |

7	Providing supplying, installing and testing of ISI mark "B" class 150mm dia above ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)	II	As per Seprate Specification attached
8	Providing supplying, installing and testing of ISI mark "B" class 100mm dia above ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)	II	As per Seprate Specification attached
9	Providing supplying, installing and testing of ISI mark "B" class 80mm dia above ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)	II	As per Seprate Specification attached
10	Providind, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 150mm dia sluice valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.	II	As per Seprate Specification attached

11	Providind, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 150mm dia non return valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.	II	As per Seprate Specification attached
12	Providind, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 100mm dia sluice valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.	II	As per Seprate Specification attached
13	Providind, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 100mm dia non return valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.	II	As per Seprate Specification attached
14	providing, Supplying, installing & testing of ISI mark SS metal single head Hydraul valve of 63mm dia with Nut bolts, Flange, Gasket and other accessories etc complete as per instruction of Engineer-in-charge.	II	As per Seprate Specification attached

15	Providing, Supplying, Installing and testing of 100mm dia with 1% accuracy direct bottom 3/8" BSP Connection pressure guage in brass socket having range of 0 to 16 kg/cm2 etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached
16	Providing, Suppling, Installing and testing of Air valve of 25mm dia for Riser. Main line for air release etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached
17	Providing, Supplying, Installing and testing of 25mm dia gun metal wheel valve with nipples, Gasket and other accessories etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached
18	Providing, Supplying, Installing and Testing of 63mm dia two way fire bridge inlet valve with SS non-return valve Flange, Gasket etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached

19	Providing, Supplying, Installing and testing of ISI mark 63mm dia 15meter length long hose pipe with SS Metal male & female coupling with Aluminum wire etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached
20	Providing, Supplying, Installing and Testing of 63mm dia SS metal branch pipe with nozzles etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached
21	Providing, Supplying, Installing & Testing of 25mm & 45 meter length long hose red with M.S. drum and other accessories etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached
22	Providing, Supplying, Installing & Testing of Double door M.S. Hose box for 2 no of hose pipe & 2 no of branch pipe with handle and other accessories etc complete as per instruction of Engineer-in-charge	II	As per Seprate Specification attached

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| 23 | Providing, Supplying, Installing & Testing of Electric Driven Main Fire Pump End Suction Back Pullout type Cap 1620 LPM & 56-Mtr Head In CI Casing And Bronze Inpaller with Suitable H.P Squirrel cage Motore TEFC speed 2900RPM with coupling, coupling gard , Base fram and AVM Pade etc necessary | II | As per Seprate
Specification attached |
| | | | |
| 24 | Providing, Supplying, Installing & Testing of Diesel Engine Driven Fire Pump End Suction Back Pullout type Cap 1620 LPM & 56-Mtr Head In CI Casing And Bronze Inpaller with Suitable H.P speed 2300RPM water cooled with radiator, Diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12/24 volts battry starting equipment, diesel tank, battery, silencer, Base plate, coupling and coupling gard, AVM pade etc necessary | II | As per Seprate
Specification attached |

25	Providing, Supplying, Installing & Testing of Electric Driven Jockey pump, Pump should be End Suction Back Pullout type Cap 180 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P Squirrel cage Motore TEFC speed 2900RPM with coupling, coupling guard , Base frame and AVM Pade etc necessary	II	As per Seperate Specification attached
26	Providing, Supplying, Installing & Testing of main Electric Panel for main , diesel engine and jockey pump	II	As per Seperate Specification attached
27	Providing, Supplying, Installing & Testing of Pressure switch range 0 to 10 kg with necessary fitting.	II	As per Seperate Specification attached
28	Providing, Supplying, Installing & Testing of smoke detector For Fire Fightinging System etc complete as per Instruction of Engineer-in-Charge.	II	As per Seperate Specification attached
29	Providing, Supplying, Installing & Testing of 1.50 Sq mm X 2 core round flexible cable for smoke detector with 20mm dia PVC pipe saddle, clamp etc necessary	II	As per Seperate Specification attached

30	Demolition including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift. (i) R.C.C. work	I	147-148	20.3	
31	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	I	29	4.0.0(A)	The work shall be carried out for all depth and excavated materials shall be disposed off with all lead and lift.
32	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(B) Dense or Hard soil	I	29	4.0.0(B)	The work shall be carried out for all depth and excavated materials shall be disposed off with all lead and lift.
33	Providing and laying Cement Concrete 1:3:6 using 40mm size crushed agg. in foundation and plinth.	I	38	5.3.2(A)	The work shall be carried out for 1:3:6 using 40mm nominal size crushed stone agg.
34	Filling in foundation and plinth with murrum or selected soil in layers of 20cm. thickness including watering, ramming and consolidating etc. complete.	I	35	4.00.4	The filling of foundation shall be done with sand under floors including consolidating each deposited layer by ramming and watering with all lead and lift

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| 35 | <p>Providing and fixing pre-cast Rubber Dye / steel Dye inter locking concrete block 60mm thick with grade of concrete M300 pneumatic compressed / vibrated mechanically and as per approved design Confirming to IS 15658 : 2006 including 35 mm Sand layer for levelling and filling the joint with sand in proper line and level as per guidelines of IRC : SP 63-2018 etc. Complete.</p> | II | <p>As per Seprate
Specification attached</p> |
| 36 | <p>Carying Out Core Cutting in R.C.C. Structure / Brick Wall by Core Cutting Drilling Machine as per instruction of Engineer-in-Charge. The Dia of Core Cutting shall be 4" to 5" and shall be decided based on Site Condition. The rate shall include all lead and lift and unserviceable material shall be disposed off from site.</p> | II | <p>As per Seprate
Specification attached</p> |

**Deputy Executive Engineer
Gondal (R&B) Sub Division
Gondal**

**Executive Engineer
Dist. (R&B) Division
Rajkot**

Item No. 1 Supply and Installing of ABC type 6 - Kg Capacity duly ISI marked confirmed to IS 15863 : 2006 with IS 14609 ISI marked powder complete with squeeze grip release valve, locking arrangement, pressure gauge operation manual with bracket

ABC Type 6-Kg Fire Extinguisher shall be made from M. S. Heavy Gauge Sheet. The Fire Extinguisher shall be ISI-Mark, As per IS-2171 and shall be approved by the TAC. Fire Extinguisher shall painted with Post Office Red colour .

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 2 Supply and Installing of gas Co2 type 4.5 - Kg capacity duly ISI marked conforming to IS 15683 with horn, valve locking arrangement, operation manual with bracket

Gas Co² Type-4.5 Kg. Capacity Fire Extinguisher shall be made from M. S. Heavy Gauge Sheet. The Fire Extinguisher shall be ISI-Mark, As per IS-2171 and shall be approved by the TAC. Fire Extinguisher shall painted with Post Office Red colour

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number

- Item No. 3** Supply, Installing, Testing & Commissioning of Fire Hotter, manual call point and ON - OFF switch with PVC pipe, wire and panel for hotter and call point etc. compel.

FIRE HOTTER OR FIRE ALARM :-

Fire Hotter should be made from M. S. sheet box.. and it should be paint with post office red colour. There should be good quality speaker for fire siren. Upper part of the box should be covered by the Iron net OR holes on the upper side of cover for the convenience of sound. Wire for power supply and for series should be ISI or any reputed company . Size of M. S. box not more then 180mm Lx 130mm W x 60mm T

MANUAL CALL POINT.

Manual call point should be made from M. S. sheet box.. and it should be paint with post office red colour. The size of M. S. box not more then 115mm W x 90mm L x 55mm T. Ther should be a 3 to 4mm glass in the center of covered box . and in the glass there should be pressurized switch. When the glass broken from small steel hammer switch will released from the pressure and switch is ON. . Wire for power supply and for series should be ISI or any reputed company. Adhesive system will be

installed according to term and conditions of the chief Fire Officer Rajkot Municipal corporation.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item

Item No. 4 Providing, supplying and fixing in position Fire protection safety sign as per 15:12349-1988 etc complete. This safety signage board shall be printed on acrylic sheet with sticker. The red, green & yellow colour shall confirm to shade No : 536, 221 and 309 of IS code : S-1978 (colours for ready mixed paints and enamels- third Revision). thissignages shall have night glow in dark region. (A) 12" X 18" Size

FIRE HOTTER OR FIRE ALARM :-

Fire Hotter should be made from M. S. sheet box.. and it should be paint with post office red colour. There should be good quality speaker for fire siren. Upper part of the box should be covered by the Iron net OR holes on the upper side of cover for the convenience of sound. Wire for power supply and for series should be ISI or any reputed company . Size of M. S. box not more then 180mm Lx 130mm W x 60mm T

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installed according to term and conditions of the chief Fire Officer Rajkot Municipal corporation.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item

Item No. 5 Providing supplying, installing and testing of ISI mark "B" class 150mm dia under ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)

150mm Diameter Galvanized Pipe Must be "B" Class and the thickness of the pipe should be 4.85mm or as per IS 1239 / 1964 and Pipe must be ISI marked. The length of the Galvanized pipe should be 6 – Running Metter or more. End of the pipe should be socket type. Pipe should be from TATA, JINDAL, ASIAN OR equivalent company.

For joining the two pipe there should be 2mm or suitable gape during the welding and but-welding should be done as directed. Root welding that is first welding should be carried out with 8-No. rods and then second and final welding should be with 10-No. of rods. Welding rod of approved quality and quality make should be used for welding of pipes, welding rods should be of Metal Bond quality and as per IS – 814 & IS – 815. Welding rod No.-8 and No.-10 both should be use for the welding purpose.

Welded joints of the pipe should be sent to government laboratory for testing for this purpose necessary no of and length of pipe should be supplied as directed necessary testing chares for welded joints should be born by the contractor.

Qualified and experience and skilled welder should be engaged for the work,

and welder should have enough experience of such type of work

On completion of total welding of pipe line, Hydraulic testing of 10 to 13 Kg/Cm₂ should be achieved and necessary test for this should be varied by contractor at its own cost.

For underground pipeline, After completion of welding of pipe line necessary bitumen coating with approved quality and make of bitumen paint should be coated on pipe line.

Mode Of Measurement :- The measurement shall be taken on Running meter basis for the complete Item & contract rate shall be for unit of Rmt.

Item No. 6 Providing supplying, installing and testing of ISI mark "B" class 100mm dia under ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)

100mm Diameter Galvanized Pipe Must be "B" Class and the thickness of the pipe should be 4.85mm or as per IS 1239 / 1964 and Pipe must be ISI marked. The length of the Galvanized pipe should be 6 – Running Metter or more. End of the pipe should be socket type. Pipe should be from TATA, JINDAL, ASIAN OR equivalent company.

For joining the two pipe there should be 2mm or suitable gape during the welding and but-welding should be done as directed. Root welding that is first welding should be carried out with 8-No. rods and then second and final welding should be with 10-No. of rods. Welding rod of approved quality and quality make should be used for welding of pipes, welding rods should be of Metal Bond quality and as per IS – 814 & IS – 815. Welding rod No.-8 and No.-10 both should be use for the welding purpose.

Welded joints of the pipe should be sent to government laboratory for testing for this purpose necessary no of and length of pipe should be supplied as directed necessary testing chares for welded joints should be born by the contractor.

Qualified and experience and skilled welder should be engaged for the work,

and welder should have enough experience of such type of work

On completion of total welding of pipe line, Hydraulic testing of 10 to 13 Kg/Cm₂ should be achieved and necessary test for this should be varied by contractor at its own cost.

For underground pipeline, After completion of welding of pipe line necessary bitumen coating with approved quality and make of bitumen paint should be coated on pipe line.

Mode Of Measurement :- The measurement shall be taken on Running meter basis for the complete Item & contract rate shall be for unit of Rmt.

Item No. 7 Providing supplying, installing and testing of ISI mark "B" class 150mm dia above ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)

150mm Diameter Galvanized Pipe Must be "B" Class and the thickness of the pipe should be 4.85mm or as per IS 1239 / 1964 and Pipe must be ISI marked. The length of the Galvanized pipe should be 6 – Running Metter or more. End of the pipe should be socket type. Pipe should be from TATA, JINDAL, ASIAN OR equivalent company.

For joining the two pipe there should be 2mm or suitable gape during the welding and but- welding should be done as directed. Root welding that is first welding should be carried out with 8-No. rods and then second and final welding should be with 10-No. of rods. Welding rod of approved quality and quality make should be used for welding of pipes, welding roads should be of Metal Bond quality and as per IS – 814 & IS – 815. Welding road No.-8 and No.-10 both should be use for the welding purpose.

Welded joints of the pipe should be sent to government laboratory for testing for this purpose necessary no of and length of pipe should be supplied as directed necessary testing chares for welded joints should be born by the contractor.

Qualified and experience and skilled welder should be engaged for the work,

and welder should have enough experience of such type of work

On completion of total welding of pipe line, Hydraulic testing of 10 to 13 Kg/Cm₂ should be achieved and necessary test for this should be varied by contractor at its own cost.

For underground pipeline, After completion of welding of pipe line necessary bitumen coating with approved quality and make of bitumen paint should be coated on pipe line.

Mode Of Measurement :- The measurement shall be taken on Running meter basis for the complete Item & contract rate shall be for unit of Rmt.

Item No. 8 Providing supplying, installing and testing of ISI mark "B" class 100mm dia above ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)

100mm Diameter Galvanized Pipe Must be "B" Class and the thickness of the pipe should be 4.85mm or as per IS 1239 / 1964 and Pipe must be ISI marked. The length of the Galvanized pipe should be 6 – Running Metter or more. End of the pipe should be socket type. Pipe should be from TATA, JINDAL, ASIAN OR equivalent company.

For joining the two pipe there should be 2mm or suitable gape during the welding and but- welding should be done as directed. Root welding that is first welding should be carried out with 8-No. rods and then second and final welding should be with 10-No. of rods. Welding rod of approved quality and quality make should be used for welding of pipes, welding roads should be of Metal Bond quality and as per IS – 814 & IS – 815. Welding road No.-8 and No.-10 both should be use for the welding purpose.

Welded joints of the pipe should be sent to government laboratory for testing for this purpose necessary no of and length of pipe should be supplied as directed necessary testing chares for welded joints should be born by the contractor.

Qualified and experience and skilled welder should be engaged for the work, and welder should have enough experience of such type of work

On completion of total welding of pipe line, Hydraulic testing of 10 to 13 Kg/Cm₂ should be achieved and necessary test for this should be varied by contractor at its own cost.

For underground pipeline, After completion of welding of pipe line necessary bitumen coating with approved quality and make of bitumen paint should be coated on pipe line.

Mode Of Measurement :- The measurement shall be taken on Running meter basis for the complete Item & contract rate shall be for unit of Rmt.

Item No. 9 Providing supplying, installing and testing of ISI mark "B" class 80mm dia above ground G.I. pipe with flange, gasket, Nut bolts and other accessories etc complete as per instruction of engineers-in-charge (MA)

80mm Diameter Galvanized Pipe Must be "B" Class and the thickness of the pipe should be 4.85mm or as per IS 1239 / 1964 and Pipe must be ISI marked. The length of the Galvanized pipe should be 6 – Running Metter or more. End of the pipe should be socket type. Pipe should be from TATA, JINDAL, ASIAN OR equivalent company.

For joining the two pipe there should be 2mm or suitable gape during the welding and but-welding should be done as directed. Root welding that is first welding should be carried out with 8-No. rods and then second and final welding should be with 10-No. of rods. Welding rod of approved quality and quality make should be used for welding of pipes, welding rods should be of Metal Bond quality and as per IS – 814 & IS – 815. Welding rod No.-8 and No.-10 both should be use for the welding purpose.

Welded joints of the pipe should be sent to government laboratory for testing for this purpose necessary no of and length of pipe should be supplied as directed necessary testing chares for welded joints should be born by the contractor.

Qualified and experience and skilled welder should be engaged for the work,

and welder should have enough experience of such type of work

On completion of total welding of pipe line, Hydraulic testing of 10 to 13 Kg/Cm₂ should be achieved and necessary test for this should be varied by contractor at its own cost.

For underground pipeline, After completion of welding of pipe line necessary bitumen coating with approved quality and make of bitumen paint should be coated on pipe line.

Mode Of Measurement :- The measurement shall be taken on Running meter basis for the complete Item & contract rate shall be for unit of Rmt.

Item No. 10 Providind, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 150mm dia sluice valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.

1. Sluice valve shall, be double flanged and shall have disc. Manufactured in MEAHNITE or equal material under otherwise specified in data sheet. The seat and faces shall be or gun metal or bronze as specified in data sheet slice valves of nominal size 300mm and above shall be provided with channel arrangement so that the gate shall be guided throughout its bravel.
2. The driving and sealing shall be preferable of gland and stuffing box type. Stuffing box shall be easily accessible for adjustment and replacement of packing without disturbing any other part of valve or operator assembly. The depth of the stuffing box shall not be less than 50mm or diameter of shaft whichever is lower. As an alternative ring type selling may be provided at the driving.
3. Valve shaft shall have a minimum shaft diameter extending thought the valve bearing and in to the valve disc. As specified in AIS standards specifications.
4. Length of the extensions bonnets shall be selected us. Keep the height of the hand wheel about 1 meter above the floor, wherever necessary the extension bonnets shall be provided with suitable support brackets for supporting at the floor level.
5. Sluice valve shall be capable of withstanding the service condition i.e. flow, fluid, pressure, temperature under which they are required to be operated. Sluice valves shall be tested hydraulically as per relevant is standards. Body test and seat test shall be carried out and check for water tightness.
6. Sluice valves shall be with hand wheel and suitable for installation with valve shaft in any poison.
7. A shape cost of paint shall be applied to all steel and cast Iran exposed surfaces as required to prevent corrosion, after release has given for painting and before dispatch. All parts shall be adequately protected for prevention, Grease shall not be used mechanized surfaces.
8. Bidder shall furnish along with his bid the following drawing
 - a. Dimensional outline drawings.
 - a. Cross section drawing.

METERIAL OF CONSTRUCTION

200	BODY	:- Cast Iron - IS 210 Gr. FG
200	BOLTED BONNET	:- Cast Iron - IS 210 Gr. FG
	RINGING STEM	:- High Tensile Brass/Bronze
200	SOLID WEDGE DISE	:- Cast Iron - IS 210 Cr. FG
	TRIANGLE BODY & SEAT RING	:- Leaded Gunmetal or Bronze
	HAND WHEEL	:- Malleable Iron ASTM
	BONNET BOLT	:- ASTM A 307 Gr. B
	BONNET NUT	:- ASTM A 307 Gr. B
	BONNET GASKET	:- Compressed Asbestos

TECHNICAL SPACIFICATION

Hydro test Pressure of Body	:- 20 Ks/Cm IS/780 Class	14 Kg/Cm IS 2906
	Class	
Hydro test Pressure of Seat	:- 10 Ks/Cm IS/780 Class	7 Kg/Cm IS 2906
	Class	

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

COVER		:-	Cast Iron
BALL		:-	Nitrile Reinforced Rubber
COVER RING	:-		Nitrile Reinforced Rubber
BALL SEAT RING	:-		L. T. Bronze
FASTNERS		:-	Carbon Steel

TECHNICAL SPACIFICATION

Working Pressure:-15 Kg/Cm For 25mm to 125mm Dia

10 Kg/Cm For 150mm to 350mm Dia

**Test pressure:-22 Kg/Cm For 25mm to 125mm Dia
15 Kg/Cm For 150mm to 350mm Dia**

Hydro test Pressure of Body Class	:-	20 Ks/Cm IS/780 Class	14 Kg/Cm IS 2906
Hydro test Pressure of Seat Class	:-	10 Ks/Cm IS/780 Class	7 Kg/Cm IS 2906

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 12 Providind, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 100mm dia sluice valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.

1. Sluice valve shall, be double flanged and shall have disc. Manufactured in MEAHNITE or equal material under otherwise specified in data sheet. The seat and faces shall be or gun metal or bronze as specified in data sheet slice valves of nominal size 300mm and above shall be provided with channel arrangement so that the gate shall be guided throughout its bravel.
2. The driving and sealing shall be preferable of gland and stuffing box type. Stuffing box shall be easily accessible for adjustment and replacement of packing without disturbing any other part of valve or operator assembly. The depth of the stuffing box shall not be less than 50mm or diameter of shaft whichever is lower. As an alternative ring type selling may be provided at the driving.
3. Valve shaft shall have a minimum shaft diameter extending thought the valve bearing and in to the valve disc. As specified in AIS standards specifications.
4. Length of the extensions bonnets shall be selected us. Keep the height of the hand wheel about 1 meter above the floor, wherever necessary the extension bonnets shall be provided with suitable support brackets for supporting at the floor level.
5. Sluice valve shall be capable of withstanding the service condition i.e. flow, fluid, pressure, temperature under which they are required to be operated. Sluice valves shall be tested hydraulically as per relevant is standards. Body test and seat test shall be carried out and check for water tightness.
6. Sluice valves shall be with hand wheel and suitable for installation with valve shaft in any poison.
7. A shape cost of paint shall be applied to all steel and cast Iran exposed surfaces as required to prevent corrosion, after release has given for painting and before dispatch. All parts shall be adequately protected for prevention, Grease shall not be used mechanized surfaces.
8. Bidder shall furnish along with his bid the following drawing
 - a. Dimensional outline drawings.
 - a. Cross section drawing.

METERIAL OF CONSTRUCTION

FG 200	BODY	:-Cast Iron - IS 210 Gr.
FG 200	BOLTED BONNET	:-Cast Iron - IS 210 Gr.
Brass/Bronze	RINGING STEM	:-High Tensile
FG 200	SOLID WEDGE DISE	:-Cast Iron - IS 210 Cr.
Bronze	TRIANGLE BODY & SEAT RING	:-Leaded Gunmetal or
	HAND WHEEL	:- Malleable Iron ASTM

BONNET BOLT :- **ASTM A**
307 Gr. B

BONNET NUT :- **ASTM A**
307 Gr. B

BONNET GASKET :-
Compressed Asbestos

TECHNICAL SPACIFICATION

Hydro test Pressure of Body	:- 20 Ks/Cm IS/780 Class	14 Kg/Cm IS 2906 Class
Hydro test Pressure of Seat	:- 10 Ks/Cm IS/780 Class	7 Kg/Cm IS 2906 Class

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 13 Providing, Supplying, Installing and testing of ISI mark double flange ISI mark C.I. 100mm dia non return valve with flange, Gasket, Nut bolts and other necessary accessories etc complete as per engineer-in-charge.

1. The Non-Return valves shall be suitable for smooth function under the Ball Float type design pressure. The valve shall have no slam closing characteristics without external clarifier arrangements, if specified in data sheet.
2. Valves ends shall be flat faced flanged flanges shall be to suit IS/BS/ASA standard. Eminence of the valve must be down with out removing the pipe line. And there is no other moving parts other than the free rolling ball inside the valve due to problem of jamming and slogging.
3. Non-Return valve have a clear passage equal to the nominal valve diameter for passing the large solid partial handling. If any deposits will be formed on the ball or on the valve passage. That deposits must be cleared by the ball rolling operation.
4. Non-Return valves in water service shall be Ball Float type and "Arrow be inscribed on these valves to indicate direction to no slam closing characteristics without external dampening arrangements.
5. Non-Return valve shall be capable of withstanding the service condition i.e. flow, fluid, pressure, temperature under which they are required to be operated. Non-Return valves shall be tested hydraulically as per relevant is standards. Body test and seat test shall be carried out and check for water tightness.
6. A shape coat of paint shall be applied to all steel and cast iron exposed surfaces as required to prevent corrosion, after release has given for painting and before dispatch. All parts shall be adequately protected for prevention, Grease shall not be used mechanized surfaces.
7. Bidder shall furnish along with his bid the following drawing
 - a. Dimensional outline drawings.
 - b. Cross section drawing.

METERIAL OF CONSTRUCTION

BODY :- Cast Iron

COVER		:-	Cast Iron
BALL		:-	Nitrile Reinforced Rubber
COVER RING	:-		Nitrile Reinforced Rubber
BALL SEAT RING	:-		L. T. Bronze
FASTNERS		:-	Carbon Steel

TECHNICAL SPACIFICATION

Working Pressure:-15 Kg/Cm For 25mm to 125mm Dia

11 Kg/Cm For 150mm to 350mm Dia

**Test pressure:-22 Kg/Cm For 25mm to 125mm Dia
15 Kg/Cm For 150mm to 350mm Dia**

Hydro test Pressure of Body Class	:-	20 Ks/Cm IS/780 Class	14 Kg/Cm IS 2906
Hydro test Pressure of Seat Class	:-	10 Ks/Cm IS/780 Class	7 Kg/Cm IS 2906

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 14 providing, Supplying, installing & testing of ISI mark SS metal single head Hydraul valve of 63mm dia with Nut bolts, Flange, Gasket and other accessories etc complete as per instruction of Engineer-in-charge.

63mm dia Gun Metal single Hade Hydrant Valve body and working Parts should be made from SS – Metal. Hydrant valve must be with standard flange thickness and ISI mark & as Per IS 5290.. For operating the Hydrant valve there shall be a Cast-Iron hand wheel. That wheel shall be painted with black colour and valve will be post-office Red colour.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

- Item No. 15** Providing, Supplying, Installing and testing of 100mm dia with 1% accuracy direct bottom 3/8" BSP Connection pressure gauge in brass socket having range of 0 to 16 kg/cm² etc complete as per instruction of Engineer-in-charge

This specification covers design manufacture testing and supply of pressure gauges.

Pressure gauge with bourdon tube type unit of approved manufacture shall be provided directly to the delivery pipe of each pump before Non-return valve. All gauges shall be mounted with isolation globe valve. A drain valve shall be provided on the pressure gauge piping so that it can be used for flushing the unit. Range of the pressure gauge shall be such for that pointer shall be in between 30% to 70% of the range. 150mm dial pressure gauge shall be bourdon

tube type with stainless steel bourdon and movements. Pressure gauges shall comply with IS 1780, Chemical seal unit filled with silicon oil with S.S. Teflon diaphragm, shall be provide.

Each gauges shall be tested in accordance with BS 1780 at work. Manufacture's test certificate for a accuracy shall be furnished to engineer-in-charge,

TECHNICAL SPACIFICATION

Type of Pressure Gauge	:- Bourdon Type Pressure Gauge
Dial Size	:- 6" (150mm)
Range (Kg/Cm/Psi)	:- 0 to 16 Kg/Cm (0 to 210 Psi)
Scale :-	Kg/Cm and Psi (Double)
Case :-	SS 304
Accuracy	:- + 1%
Bourdon	:- SS 316
Socket	:- SS 316
Movement :-	SS 304
Mounting :-	Direct Bottom
Connection :-	3/8 BSP
Opposition :-	Glycerin Filled

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 16 Providing, Suppling, Installing and testing of Air valve of 25mm dia for Riser. Main line for air release etc complete as per instruction of Engineer-in-charge

Supply, Installing and Testing of 25mm Dia Air Valve for riseing main line for air release including supply, Installing, Testing and commissioning etc. complete.

25mm dia Single acting Air valve should me made from cast – iron material grade should be FG – 200 and as per IS – 210. and inside boll for relishing air should be timber core with vulcanite coating .

TECHNICAL SPACIFICATION

BODY	:- C. I. to IS –210 Gr. FG – 200
L. P COVER	:- C. I to IS – 210 Gr. FG – 200
COWL	:- C. I. to IS – 210 Gr. FG – 200
L. P. FLOAT / BALL	:- Timber Core with Vulcanite Coating
NUT AND BOLTS	:- Carbon Steel to IS 1363 Gr. 4 / 4.6
GASKET	:- rubber to IS : 638 Type B
HYDRAULIC TEST	:- PN – 1.0 For Body & 0.5 for H.P. Orifice
PRESSURE IN PN	Seat
RATING	

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number

Item No. 17 Providing, Supplying, Installing and testing of 25mm dia gun metal wheel valve with nipples, Gasket and other accessories etc complete as per instruction of Engineer-in-charge

Gate Valve must be made from the Gun-Metal material. There must be a threaded portion of the both of ends for joining the pipes, There will be a hexagonal part outside the threaded portion for valve tightening. For opening and closing the valve there must be a round handle. Handle must be made from the Cast-Iron Material. Globe Valve must be operated like Gate Type. Gate must be made from the Gun-Metal Material.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete item & contract rate shall be for unit

Item No. 18 Providing, Supplying, Installing and Testing of 63mm dia two way fire bridge inlet valve with SS non-return valve Flange, Gasket etc complete as per instruction of Engineer-in-charge

63mm dia fire Bridged In-Let valve have four way connection with SS. Non-Return valve. Body of Valve made from the Cast – Iron material. Valve Connection must be Flanged and there must be Black colour Cape for close the None-Return Valve.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 19 Providing, Supplying, Installing and testing of ISI mark 63mm dia 15meter length long hose pipe with SS Metal male & female coupling with Aluminum wire etc complete as per instruction of Engineer-in-charge

63mm dia RRL/Cp Hose Pipe shall be ISI-mark and as per IS 636 and Coupling should be made from Gun – Metal and it should be ISI mark with SI 903. The Length of House Pipe shall be 15-Mtr. House Pipe shall be Cotton Synthetic Fiber Circular Woven Jacketed, Rubberized Fabric Reinforced Rubber line. Hose Pipe shall bearing a Working Pressure of 14-Kg/Cm² . 63mmDia Gun-Metal Mail and Female Coupling shall be Fitted on the both Ends of Hose Pipe.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number

Item No. 20 Providing, Supplying, Installing and Testing of 63mm dia SS metal branch pipe with nozzles etc complete as per instruction of Engineer-in-charge

63mm dia Branch pipe shall be made from SS-Metal material and It shall be ISI mark & as per IS 903. Branch should be in a two parts just like a pipe and nozzle. Diameter of the Shout of Nozzle shall be 19mm dia.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number

Item No. 21 Providing, Supplying, Installing & Testing of 25mm & 45 meter length long hose reel with M.S. drum and other accessories etc complete as per instruction of Engineer-in-charge

The Material of the Hose Reel should be Rubber and the Diameter of Rubber Reel should be 25mm. There should be a Gun-Metal Nozzle at the One End of Rubber Nozzle. The Rubber Reel should be made from good quality Rubber OR Manufactured by well known Company. The Length of Rubber Reel Should be 30-Rmt.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete item & contract rate shall be for unit of one Number

Item No. 22 Providing, Supplying, Installing & Testing of Double door M.S. Hose box for 2 no of hose pipe & 2 no of branch pipe with handle and other accessories etc complete as per instruction of Engineer-in-charge

Hose box shall be made from 18-Gauge M.S. sheet. Hose box shall be accommodate for 2-Nos. of 15-Mtr. length Hose Pipe & 1-No. of Branch Pipe. Hose box hall be painted by Post-Office Red Colour. The box shall have two 4mm thick glass doors with lock and key arrangement

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number

Item No. 23 Providing, Supplying, Installing & Testing of Electric Driven Main Fire Pump End Suction Back Pullout type Cap 1620 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P Squirrel cage Motor TEFC speed 2900RPM with coupling, coupling guard , Base frame and AVM Padeetc necessary

Electric Driven Main Fire Pump End Suction Back Pullout type Cap 1620 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P Squirrel cage Motor TEFC speed 2900RPM with coupling, coupling guard , Base frame and AVM Padeetc necessary

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 24 Providing, Supplying, Installing & Testing of Diesel Engine Driven Fire Pump End Suction Back Pullout type Cap 1620 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P speed 2300RPM water cooled with radiator, Diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12/24 volts battery starting equipment, diesel tank, battery, silencer, Base plate, coupling and coupling guard, AVM pipe etc necessary

Diesel Engine Driven Fire Pump End Suction Back Pullout type Cap 1620 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P speed 2300RPM water cooled with radiator, Diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12/24 volts battery starting equipment, diesel tank, battery, silencer, Base plate, coupling and coupling guard, AVM pipe etc necessary

Mode Of Measurement :- The measurement shall be taken on number basis for the complete item & contract rate shall be for unit of one Number.

Item No. 25 Providing, Supplying, Installing & Testing of Electric Driven Jockey pump, Pump should be End Suction Back Pullout type Cap 180 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P Squirrel cage Motor TEFC speed 2900RPM with coupling, coupling guard , Base frame and AVM Padeetc necessary

Electric Driven Jockey pump, Pump should be End Suction Back Pullout type Cap 180 LPM & 56-Mtr Head In CI Casing And Bronze Impeller with Suitable H.P Squirrel cage Motor TEFC speed 2900RPM with coupling, coupling guard , Base frame and AVM Padeetc necessary

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 26 Providing, Supplying, Installing & Testing of main ElectricPanle for main , diesel engine and jocky pump

Main ElectricPanle for main , diesel engine and jocky pump

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 27 Providing, Supplying, Installing & Testing of Pressure switch range 0 to 10 kg with necessary fitting.

Pressure switch range 0 to 10 kg with necessary fitting.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 28 Providing, Supplying, Installing & Testing of smokedetector For Fire Fighting System etc complete as per Instruction of Engineer-in-Charge.

Smoke detector For Fire Fighting System etc complete as per Instruction of Engineer-in-Charge.

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 29 Providing, Supplying, Installing & Testing of 1.50 Sq mm X 2 core round flaxible cable for smoke detector with 20mm dia PVC pipe sadel, clampeetc necessary

1.50 Sq mm X 2 core round flaxible cable for smoke detector with 20mm dia PVC pipe sadel, clampeetc necessary

Mode Of Measurement :- The measurement shall be taken on number basis for the complete Item & contract rate shall be for unit of one Number.

Item No. 35 Providing and fixing pre-cast Rubber Dye / steel Dye inter locking concrete block 60mm thick with grade of concrete M300 pneumatic compressed / vibrated mechanically and as per approved design Confirming to IS 15658 : 2006 including 35 mm Sand layer for levelling and filling the joint with sand in proper line and level as per guidelines of IRC : SP 63-2018 etc. Complete.

1.0 Material

Pre-cast Rubber Dye/ Steel dye inter locking concrete block 60 mm thick with grade of concrete M30 compressed/ vibrated mechanically and as per approved design confirming to IS 15658: 2006 shall be used. Sand shall conform to general Technical Specifications for building works I. No. M6.

2.0 Workmanship

Work of sand layer shall be carried out as per General Technical specifications for Building works I. No. 4.24. Testing of the block shall be carried out in laboratory as per IS 15658: 2006. The work shall be carried out in true line and level as per guidelines of IRC : SP 63-2018 and as directed by the Engineer-in – charge.

3.0 Mode of Measurement and payment

The rate shall be inclusive of the cost of all materials, tools, plants, labour etc. required for satisfactory completion of item.

The rate shall be for a unit of one Sqmt.

Item No. 36 Carrying Out Core Cutting in R.C.C. Structure / Brick Wall by Core Cutting Drilling Machine as per instruction of Engineer-in-Charge. The Dia of Core Cutting shall be 4" to 5" and shall be decided based on Site Condition. The rate shall include all lead and lift and unserviceable material shall be disposed off from site.

GENERAL:-

This work shall be carried out for drilling holes in R.C.C. structures like beam, column, slab or fins. The diameter of core cutting shall be carried from 90mm to 130mm. The work shall be carried out with drilling machines having tool bit as approved by Engineer-in-charge. The work shall be carried out in such a way that adjoining structure is not disturbed. Proper care and safety precautions shall be taken at site while executing this item. This work shall be carried out in supervision of qualified Engineer or works professionals. The diameter of core shall accommodate rain water pipe of adequate diameter. The dia of core cutter shall be decided by Engineer-in-charge. The residue material shall be disposed off with all lead and lift.

MODE OF MEASUREMENT & PAYMENT:-

The payment shall be made on mo. Basis. The rate shall include complete items with all lead and lift.
The rate of this item is for all height.