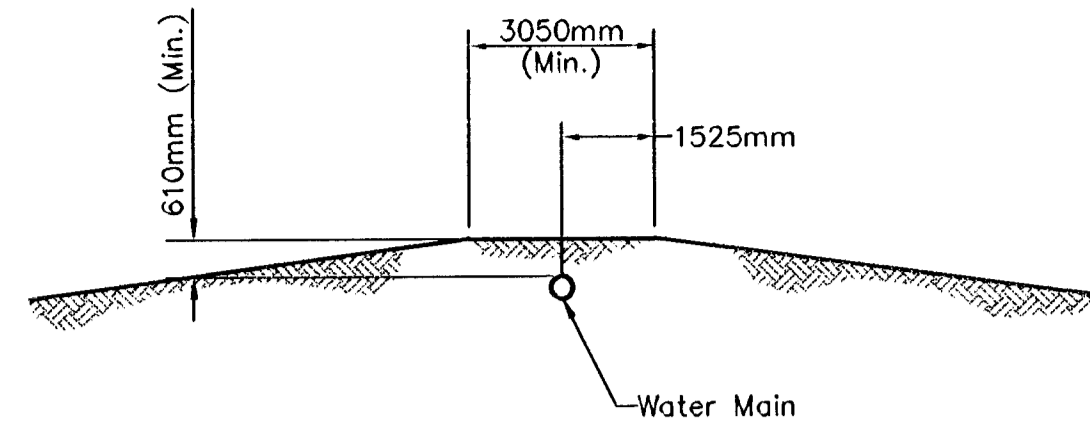


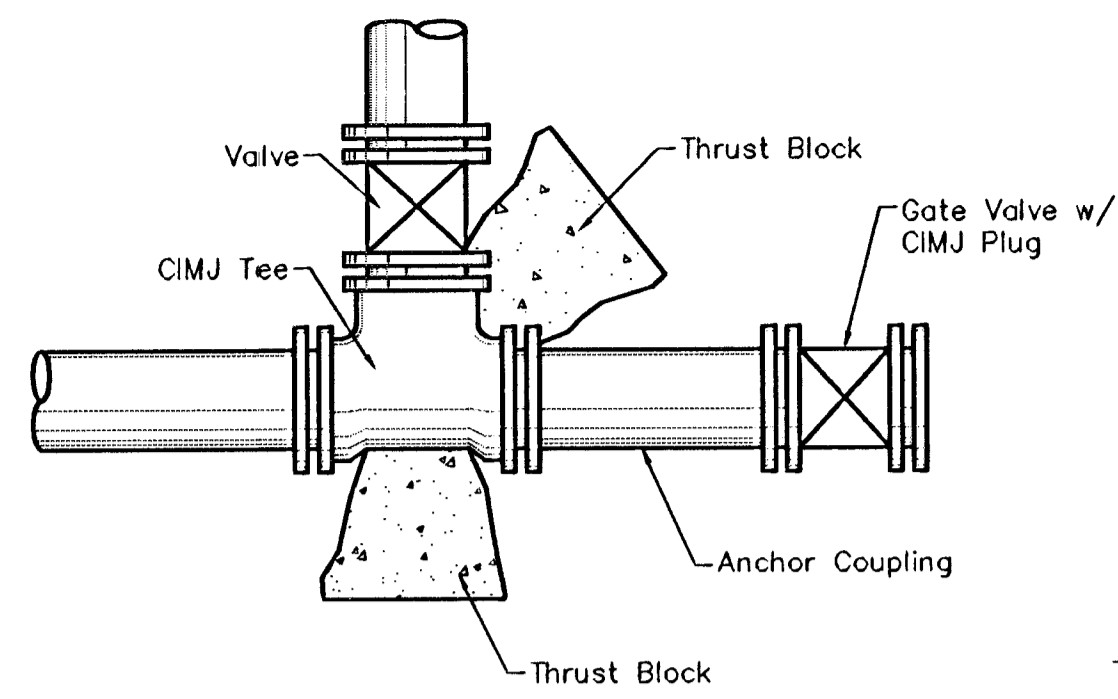
FHWA REGION NO.	STATE	PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER	TOTAL SHEETS
7	KANSAS	87N-0127-01	1999	40	90

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED

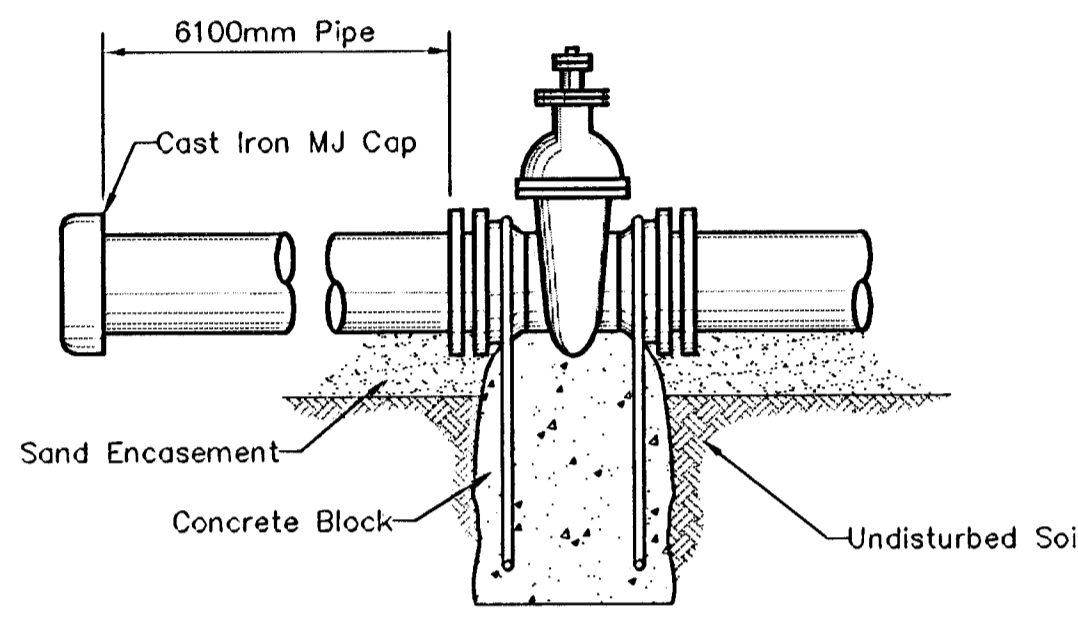
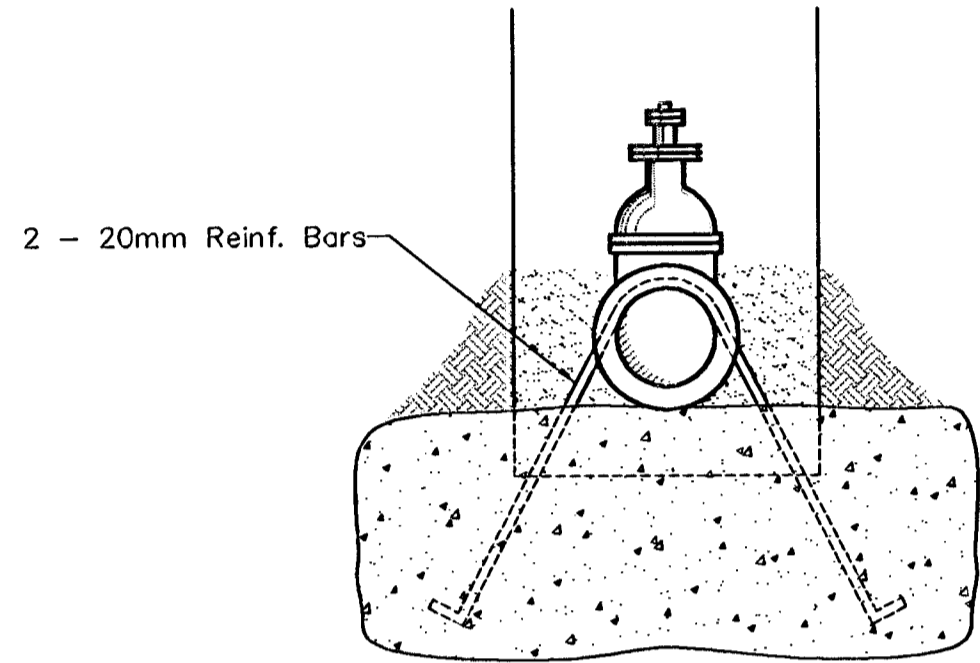


PROTECTIVE FILL DETAIL

Minimum protective fill shall be provided in all instances where cover over the proposed water line is less than 610 millimeters. (cost subsidiary to pipe installation).



KEY BLOCK DETAIL

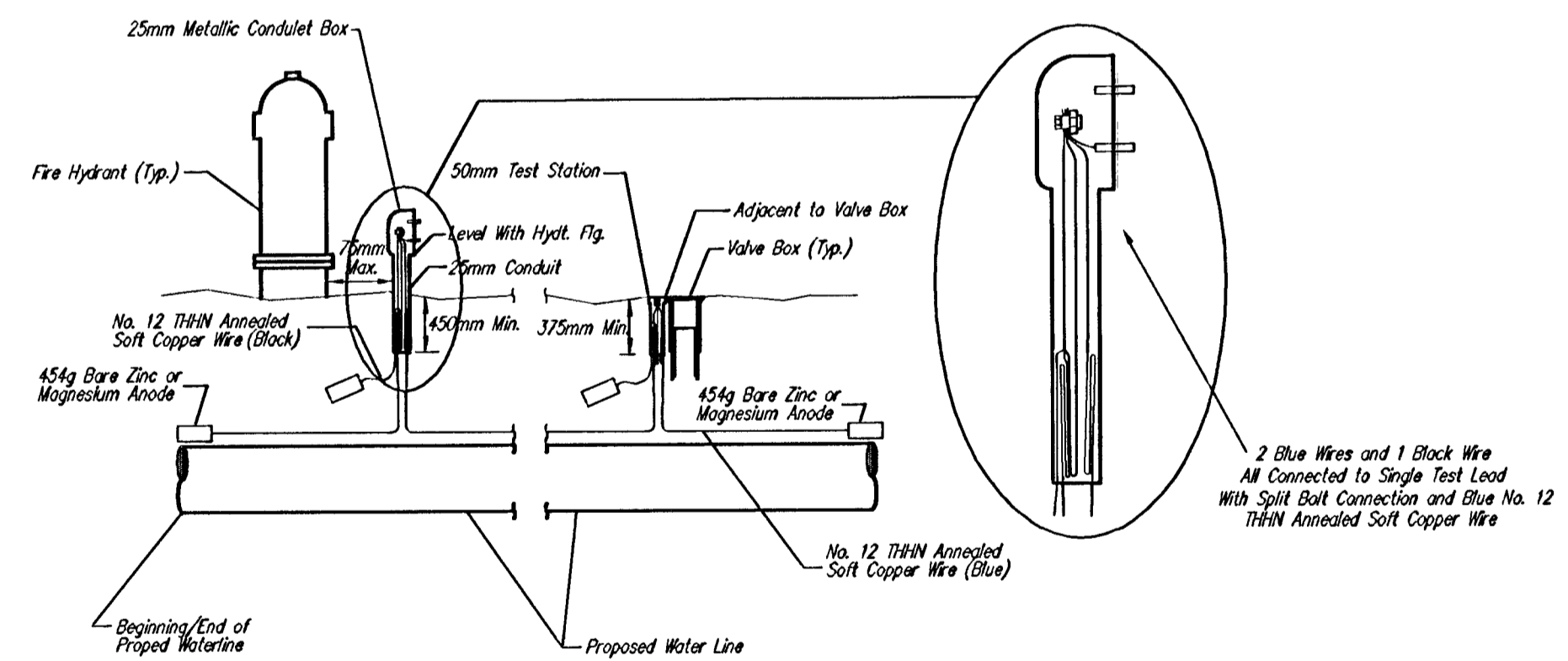


Notes:

1. Concrete Block of Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
2. Provide clearance around flanges to M.J. accessories.
3. Valve Block to be included in bid item of concrete for thrust blocks.
4. All valves of dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES	
VALVE	THRUST @ 1.03 MPa
100mm	855 kg
150mm	1925 kg
200mm	3420 kg
305mm	7695 kg

ANCHORED VALVE ASSEMBLY (SPECIAL)



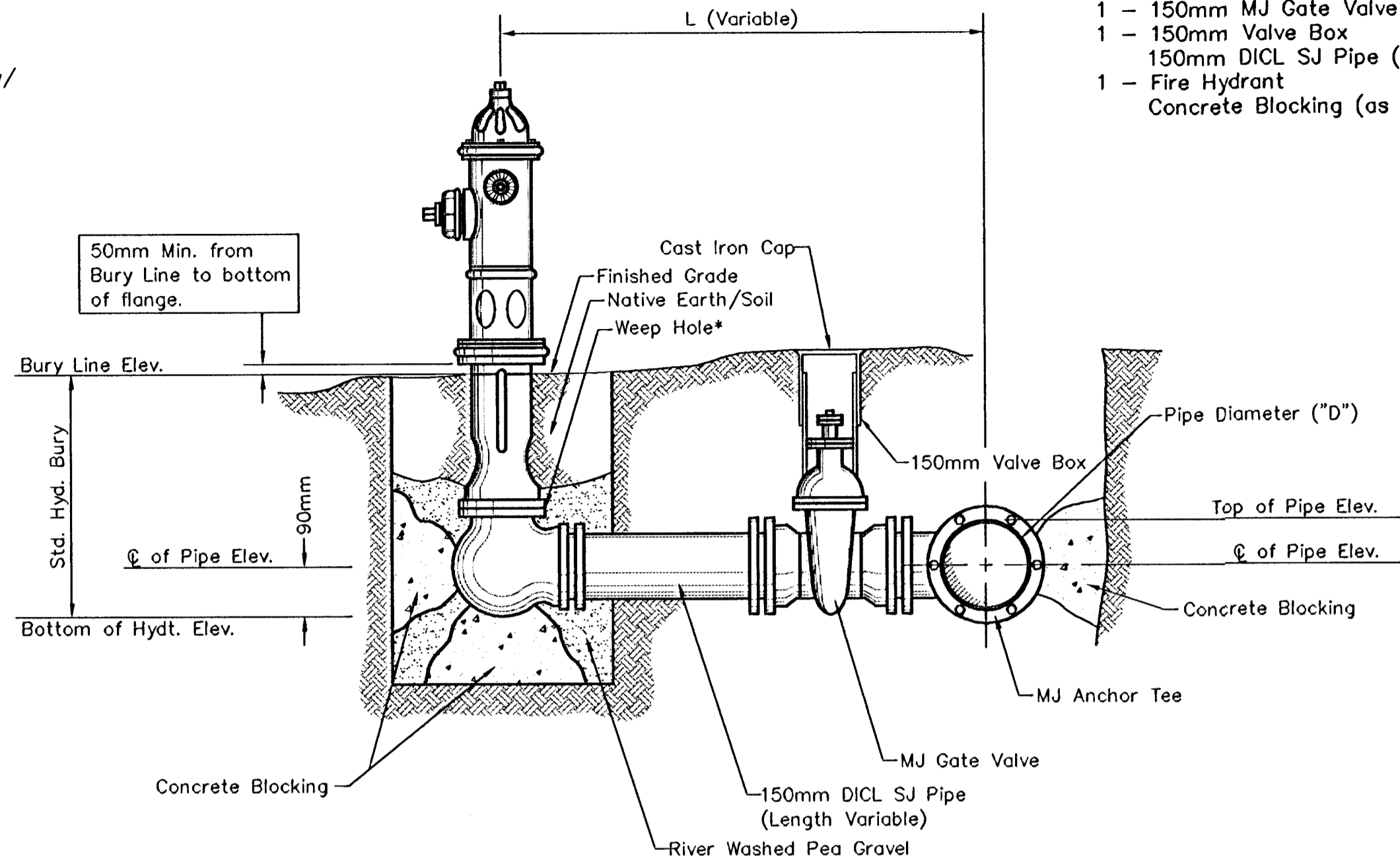
TRACER WIRE
Conductive type pipe locator/tracer wire shall be installed to locate Polyvinyl Chloride (PVC) or any nonmetallic waterline pipes. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. Split-ball connectors shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of the waterlines. Any exceptions to the location of test stations shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 45kg Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed waterline. A typical layout of the tracer wire and test station is provided in the above figure.

WIRE
The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 300mm of excess wire shall be coiled at the bottom of the test station for all wires. The insulation sheathing shall be removed such that 25mm bare copper wire is exposed at all points of connection. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

TEST STATIONS
The test station for fire hydrant applications shall be a 25mm galvanized conduit style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 50mm flush style test station 12PS38 as manufactured by HANDLEY Industries or approved equal. The conduit style shall be attached to a 25mm rigid galvanized conduit with a minimum length of 900mm and plastic end bushing. The flush style shall have the word "MATEX" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be installed to allow 250mm of wire within the test station. In concrete environments such as sidewalks or in the downcast area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

ANODES
The anodes shall be 45kg bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

TRACER WIRE DETAIL
COST IS SUBSIDIARY TO PIPE INSTALLATION

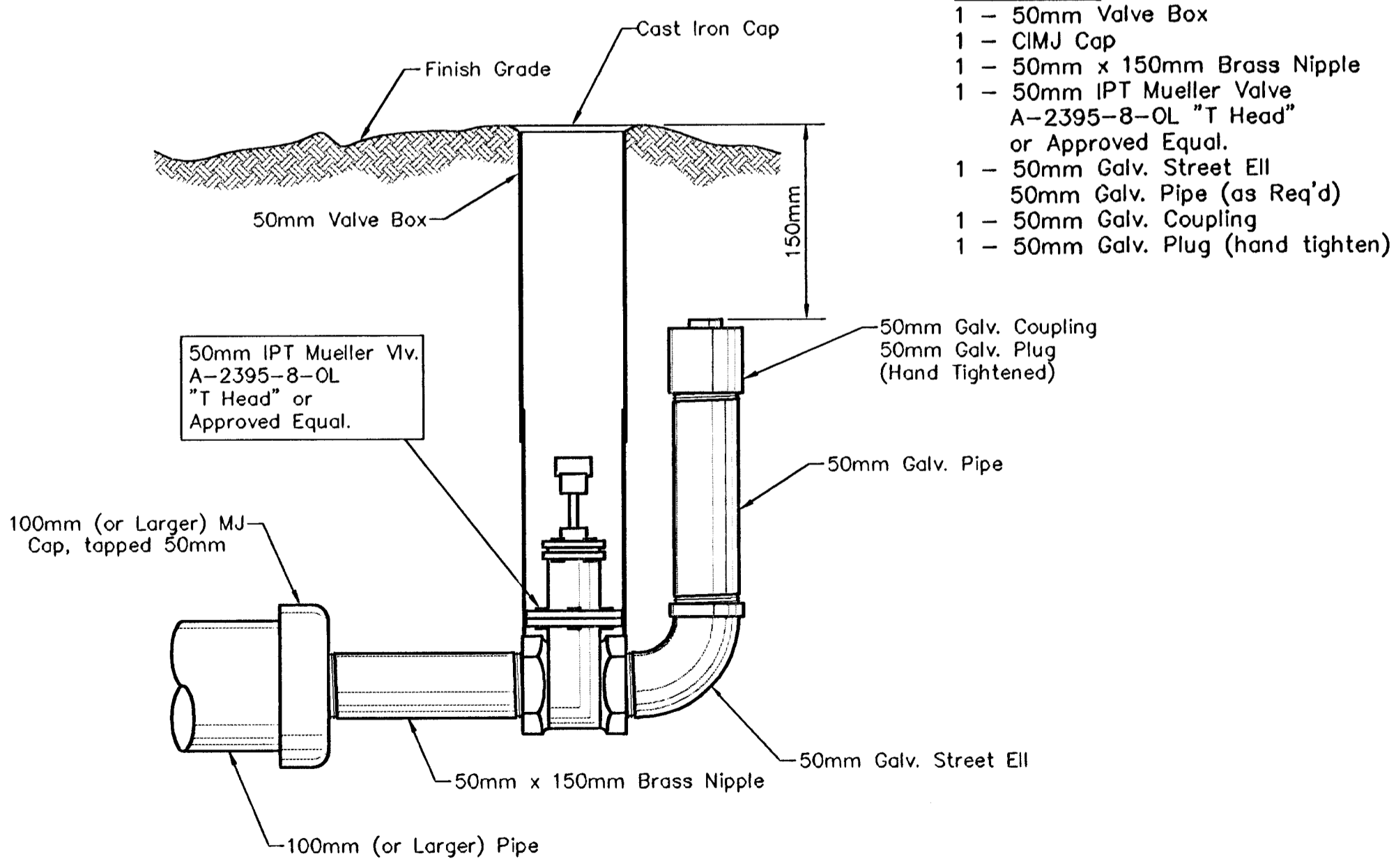


* CAUTION! Weep holes to be kept clear during construction and backfill. Concrete for thrust blocking shall not obstruct weep holes.
Concrete thrust blocking shall be kept clear of bolts, nuts and MJ accessories.

FIRE HYDRANT ASSEMBLY
PER CITY OF WCHITA SPECIFICATIONS

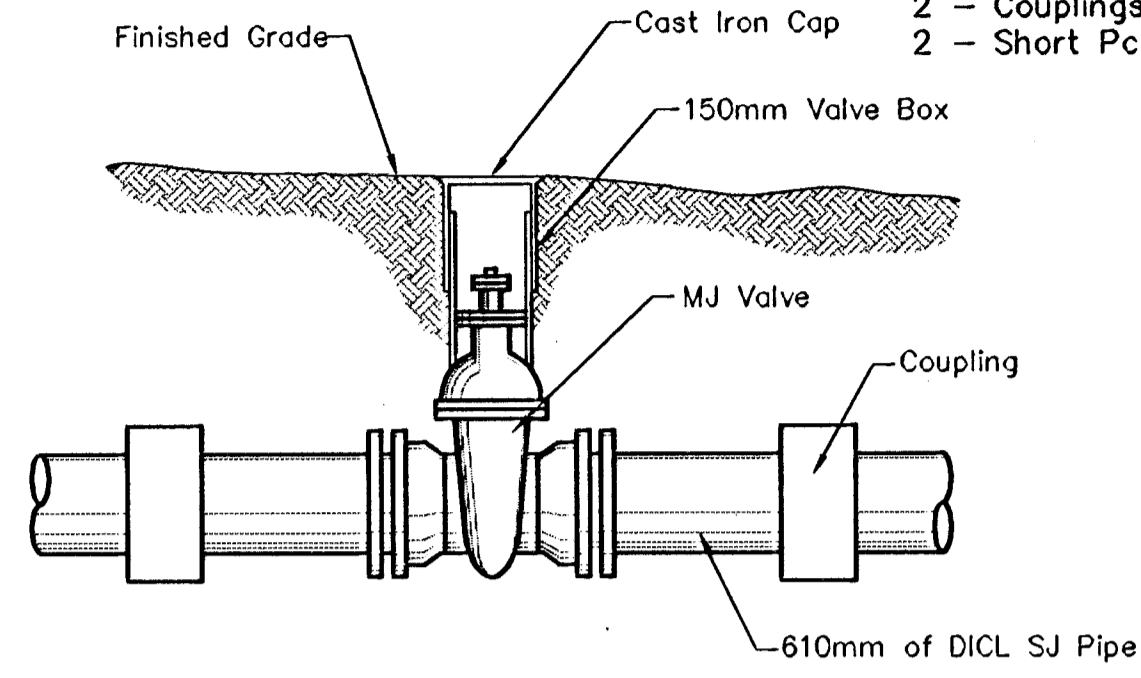
FIRE HYDRANTS REQUIRED				
LINE NO.	STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQ'D
2A	0+042.35	408.40	407.07	1525mm
SHEFFORD	10+708.94	406.73	405.40	1525mm
CEDAR CREST	10+201.61	406.22	404.59	1825mm

If hydrant bury is in excess of 1525mm, contractor shall use standard 1525mm hydrant bury and hydrant barrel extensions as necessary.



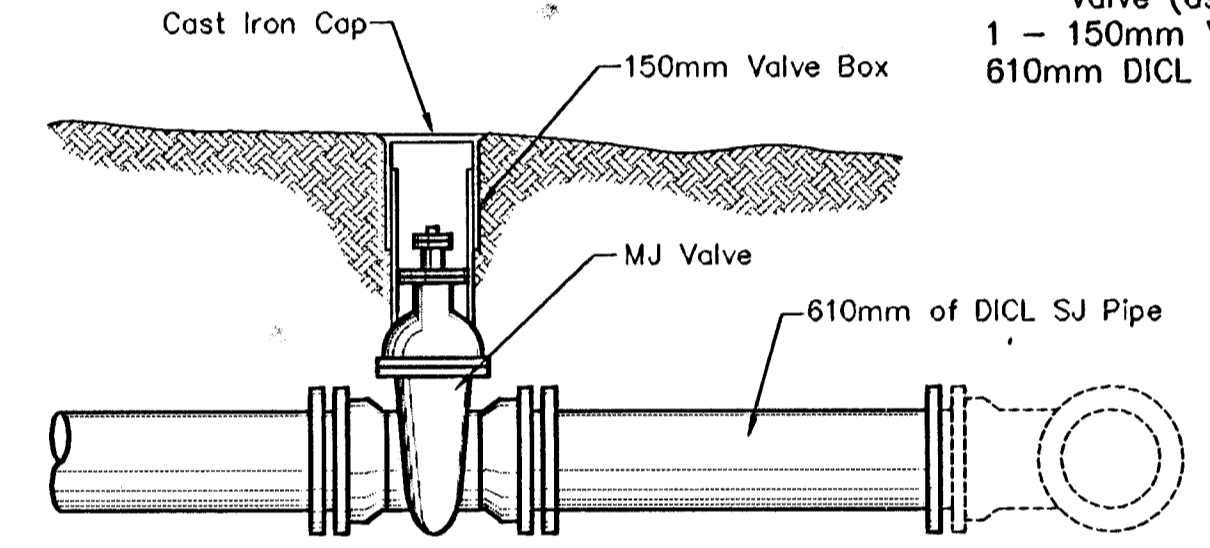
50mm BLOWOFF ASSEMBLY

- MATERIALS LIST**
1 - MJ Anchor Tee ("D" x 150mm)
1 - 150mm MJ Gate Valve
1 - 150mm Valve Box
1 - 150mm DI CL SJ Pipe (Length Var.)
1 - Fire Hydrant
Concrete Blocking (as Needed)



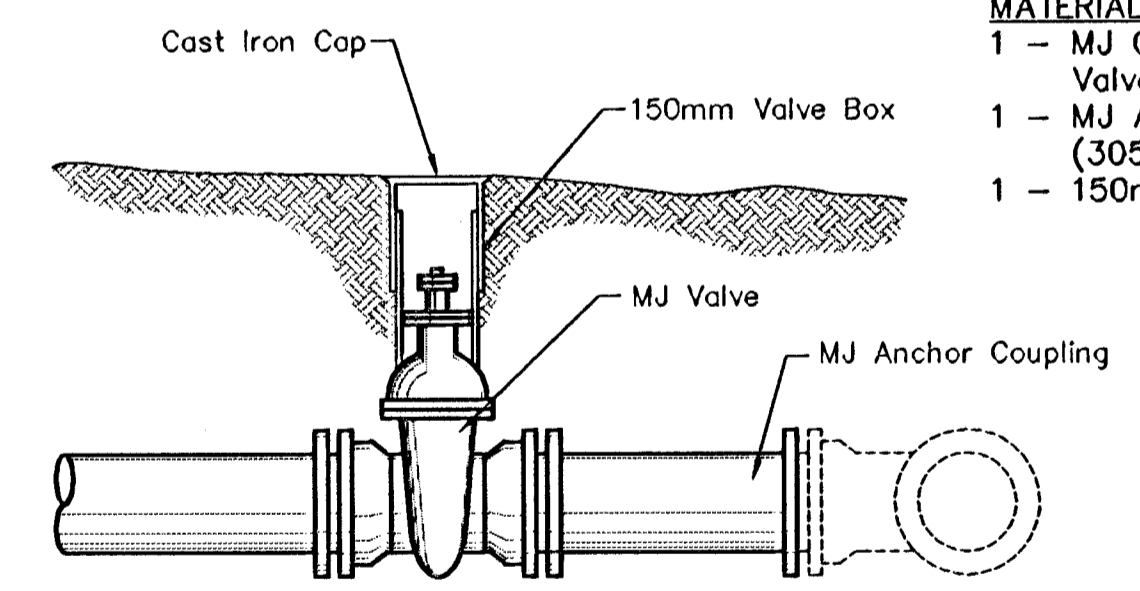
LINE VALVE ASSEMBLY

- MATERIALS LIST**
1 - MJ Gate or Butterfly Valve (as per plans).
1 - 150mm Valve Box
2 - Couplings
2 - Short Pcs. (DI CL SJ Pipe)



VALVE ASSEMBLY

- MATERIALS LIST**
1 - MJ Gate or Butterfly Valve (as per plans).
1 - 150mm Valve Box
610mm DI CL SJ Pipe



ANCHORED VALVE ASSEMBLY

- MATERIALS LIST**
1 - MJ Gate or Butterfly Valve (as per plans).
1 - MJ Anchor Coupling (305mm or smaller)
1 - 150mm Valve Box

- MATERIALS LIST**
1 - 50mm Valve Box
1 - CIMJ Cap
1 - 50mm x 150mm Brass Nipple
1 - 50mm IPT Mueller Valve A-2395-8-OL "T Head" or Approved Equal.
1 - 50mm Galv. Street Ell
50mm Galv. Pipe (as Req'd)
1 - 50mm Galv. Coupling
1 - 50mm Galv. Plug (hand tighten)

MAPLE ST. IMPROVEMENTS - 119TH ST. W. TO MAIZE RD. WATER ASSEMBLY DETAILS

SRB 324 NORTH MAIN WICHITA, KANSAS 67203 http://www.felix.com/~srb

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PROJECT NUMBER: 472-76-245-83853-000-000-001

DATE: 5-25-99

DESIGN: Staff

REVIEW: Staff

DATE: 5-25-99

UTILITY: Staff

JOB NO: 1218T

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