State of Tennessee
Military Department, VTS-Milan
Domestic Water Project
Specifications

This project will connect the VTS-Milan, 324 Arsenal Lane, Lavinia, TN 38348 onto the Cedar Grove Utility District, 3100 Hwy 220, Lavinia, TN 38348. A 6"" waterline will be ran from the Cedar Grove Utility main running along Spring Creek Road and tie into the existing Milan Army Ammunition Plant water main.

The contractor shall provide all labor, equipment and materials to complete the job as specified in the attached Installation Specifications and Engineer Drawings and those listed below:

1. The Contractor shall bore Spring Creek Road with 12" casing pipe and install a 6"carrier pipe.

2. The Contractor shall cut parking lot in front of Bldg. 1200. Tap on to the existing Cedar Grove Utility main line. Install a saddle tap, sleeve, valve and box. Patch parking plot when finished,compact base with 12"" of rock, compact asphalt to finish grade.

3. The Contractor shall trench and install 1000 LF of 6 inch pipe from Cedar Grove Utility main line along Spring Creek Road to existing VTS-Milan line supplying barracks, dining facilities and admin support buildings. Install wire and detector tape to line prior to seeding and mulching the disturbed ground areas.

4. The Contractor shall install poured in place concrete meter and backflow vault, with traffic rated lid. Tie line to existing line at barracks with tee, sleeve, valve and box

5. The Contractor shall remove existing 4 inch backflow and cap line. Dispose off of state property in accordance with State and local laws.

6. Trace Wire: The Contractor shall install Magnetic detectible conductor the complete length of the line with brightly colored plastic covering imprinted with 'CAUTION BURIED WATER LINE" in large letters.

7. Inspections. Cedar Grove Utility will inspect taps at both their mainline and the training site tap, meter and backflow vault construction, meter and backflow installation. Cedar Grove Utility will be responsible for providing a schedule of inspections to the Contractor and the agency upon award of the purchase order.

8. Disinfect and Bleaching: New lines shall NOT be placed in service until they are disinfected in accordance with the Tennessee Department of Environment & Conservation (TDEC), Division of Water Supply Manual dated 2003 (see attached), and to the satisfaction of Cedar Grove Utility. The Contractor shall place plugs in end of uncompleted pipe at end of day and whenever work stops. Upon instruction from the agency or Cedar Grove Utility, the Contractor shall disinfect and bleach the new lines.

9. Cleaning Pipe: The Contractor shall clear interior of pipe of dirt and other superfluous material as work progresses. The Contractor shall maintain swab and drag in line and pull each joint as it is completed.

10. Thrust Block: The Contractor shall install thrust blocks at each tap or fitting that changes the direction of the pipe main.

11. Erosion: The Contractor shall install erosion barriers around backflow and meter vault area and along downhill side of the trench.

12. Traffic Controls: The Contractor shall be responsible for providing traffic control as required to include at a minimum signage and safety vests.

13. Licenses and Permits: The Contractor shall be responsible for obtaining and maintaining all required licenses and permits as per Federal, State and local laws. The Contractor shall provide a copy of the license or permit to the agency representative upon request.

Acceptable Brands/Models:

Double Check Valve Assembly:
Watts Series LF709
Zurn Wilkins Model 350AR
Or Equal as approved by the Cedar Grove Utility

Specifications:

- Shall be designed to prevent the reverse flow of polluted water from entering into the potable water supply system.
- Shall be approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California.

Cold Water Turbine Meter (6 inch)
Elster AMCO Model T3000
Sensus WP/Dynamic Model 828607
Or Equal as approved by the Cedar Grove Utility

Specifications:

- For use in cold water up to 120 degrees F
- Operating Flow: 150 psi.
- Have round flanged ends
- Continuous Flow: 1982 GPM (Minimum)
- Register can be rotated 360 degrees
- Measuring element can be removed
- Body Material: Cast Iron or Bronze

Job to start within twenty (20) days after receipt of purchase order and end within seventy-five (75) days.

Site Visit Contact: Jeff Gordon, 731-222-5318, Jeffrey.A.Gordon@tn.gov.

Military Procurement Office Contact: Crystal Lysinger, 615-313-0691, crystal.m.lysinger@tn.gov.

VTS-Milan Water Project
Installation Specifications

1. All Reduced Pressure Principal devices approved by the State of Tennessee's Division of Water Supply are acceptable. However no vertical installation is permitted.

2. Assemblies shall be horizontally installed with 18-inch minimum clearance between relief valve discharge opening and concrete pad. Maximum height above the floor surface shall not exceed 60 inches.

3. The device shall be installed just down stream of the meter before any branch connections.

4. All devices shall be installed in accordance with manufactures instructions and shall possess appropriate water tight test adapters and caps for testing the device.

5. Y-strainers to be installed on all devices that do not have an approved strainer installed at the meter. Y-strainers shall be plugged with no valves allowed for flushing

6. Three-quarter-inch thru Two-inch devices shall be of bronze construction and installed with bronze, full port, ¼ turn, resilient seat ball valves immediately upstream and downstream.

7. Two and a half-inch thru ten-inch devices are to be installed with epoxy coated, resilient seat, wedge type, OS&Y valves.

8. Two and a half-inch thru ten-inch, devices shall be epoxy coated except those made of stainless steel.

9. The entire device shall be easily accessible for testing and repair.

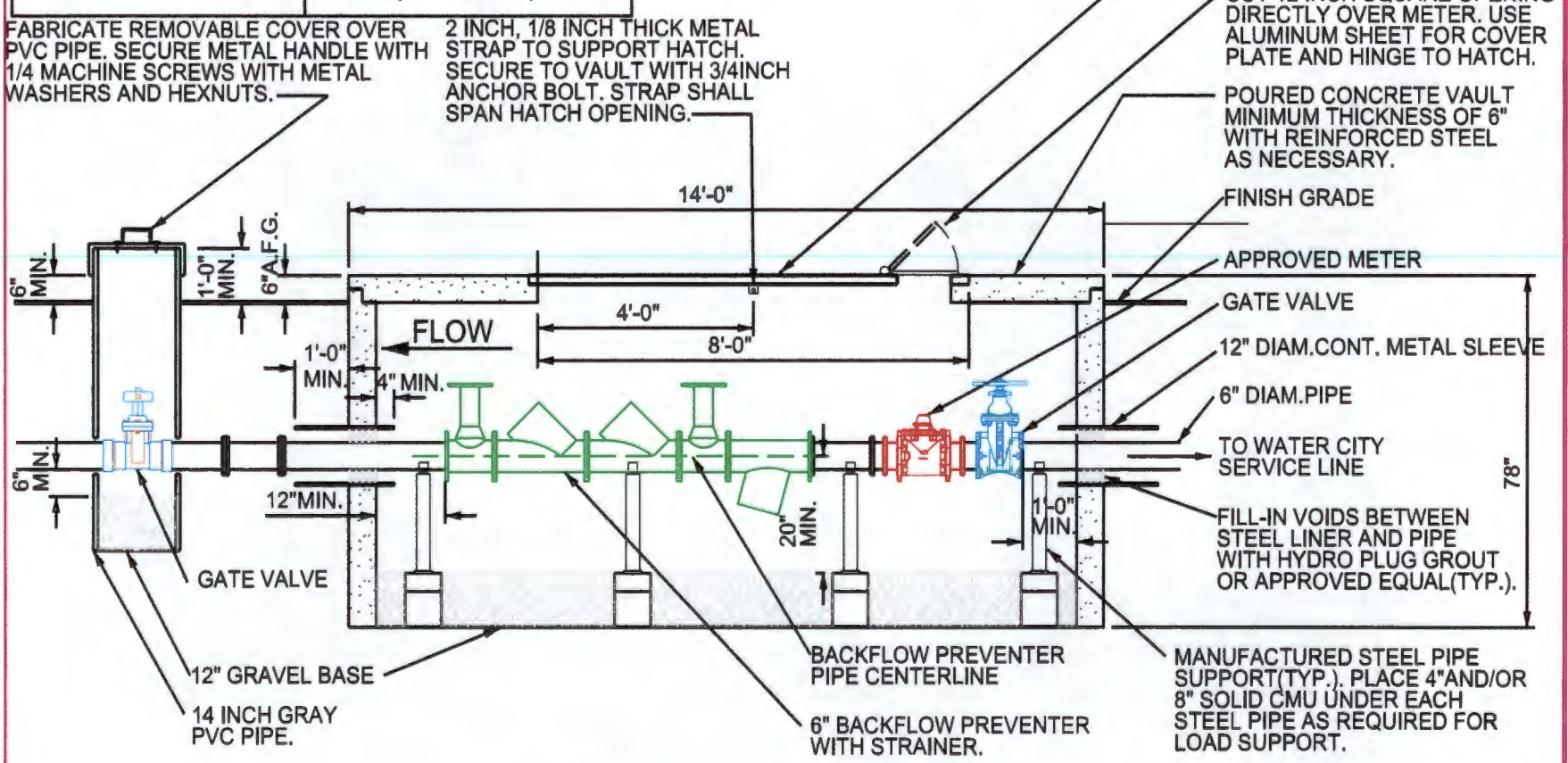
10. Devices shall be located in an area free from submergence or flood potential.

11. Duplicate units, installed in parallel, shall be provided in cases where the water supply cannot be interrupted for routine testing and maintenance.

12. A protective barrier must be installed to prevent damage from traffic or lawn equipment.

13. The concrete pad shall be constructed above final grade to help prevent eroded soil from obstructing the enclosure drain.

METER VAULT	
METER SIZE	VAULT DIMENSIONS
6"	168"L X60"W X78"H (OUTSIDE)



NOTES:
1. SEE PROFILE VIEW OF CONCRETE VAULT.
2. CAST IN PLACE VAULT STRUCTURES ARE NOT ALLOWED.
3. ALL EXTERIOR MECHANICAL JOINT FITTINGS THAT ARE SUBJECT TO THRUST SHALL BE RESTRAINED WITH MECHANICAL JOINT RESTRAINTS AND/OR CONCRETE THRUST BLOCKING.
4. A MINIMUM OF TWELVE INCHES(12") OF 3/4" CRUSHED STONE BEDDING(OR APPROVED EQUAL) IS REQUIRED FOR VAULT FLOOR.
5. DRAWINGS ARE NOT TO SCALE.
6. 18" MIN. CLEARANCE BETWEEN VAULT AND PIPE FITTINGS(TYP.)
7. DO NOT USE CEMENT OR CONCRETE TO FILL-IN VOIDS BETWEEN STEEL LINER AND PIPES.

STATE OF TENNESSEE
MILITARY DEPARTMENT
HOUSTON BARRACKS
P.O. BOX 41502
NASHVILLE, TN 37204-1501
CONSTRUCTION AND FACILITIES MANAGEMENT OFFICE

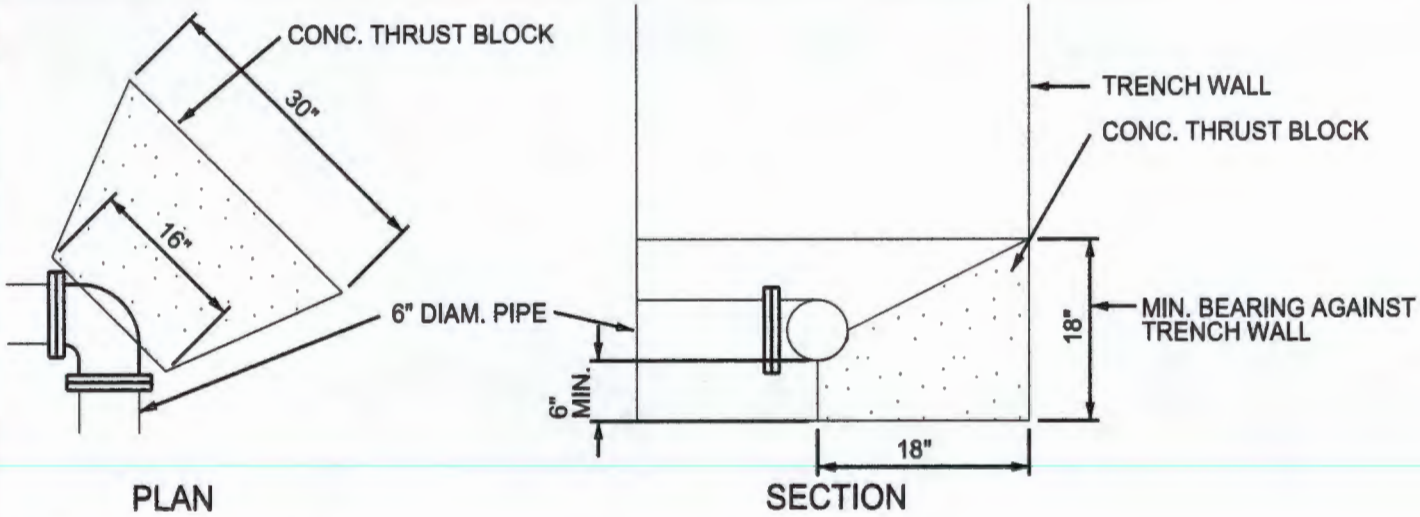
PROJECT TITLE

SHEET TITLE 6" CONCRETE METER VAULT PROFILE VIEW AND NOTES

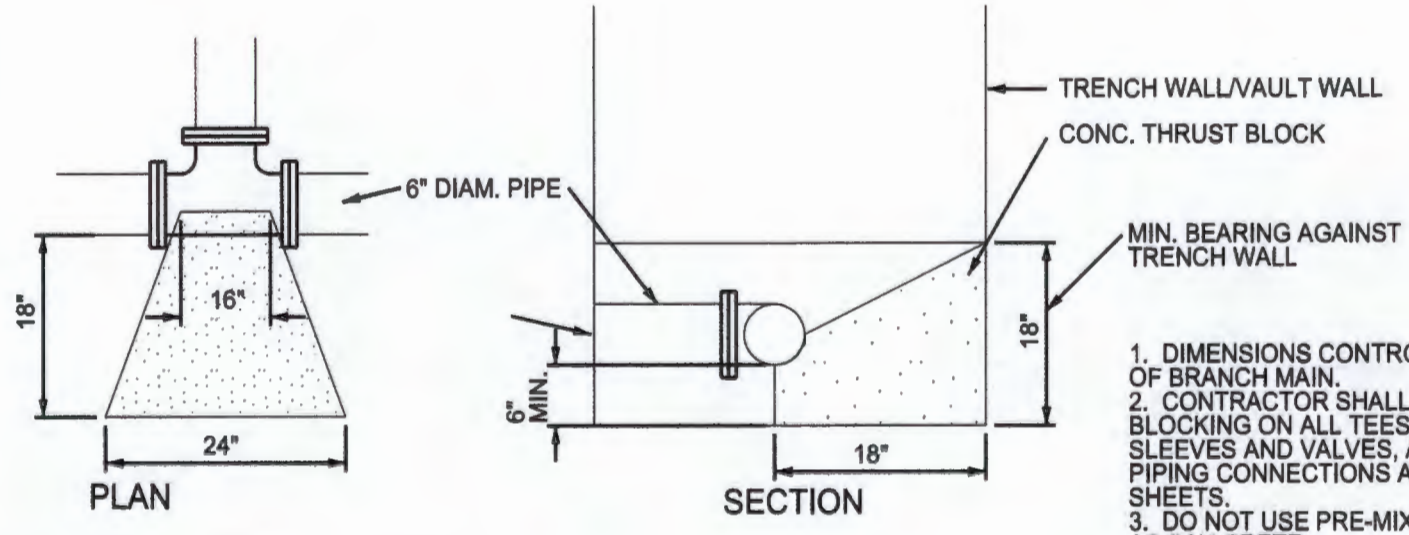
DRAWN BY:
DATE:

REVISED	DATE

SHEET NO.
SHT 1 OF 3



DETAIL 1



DETAIL 2

1. DIMENSIONS CONTROLLED BY DIAMETER OF BRANCH MAIN.
2. CONTRACTOR SHALL PROVIDE THRUST BLOCKING ON ALL TEES, BENDS, TAPPING SLEEVES AND VALVES, AND ANY OTHER PIPING CONNECTIONS AS SHOWN ON DETAIL SHEETS.
3. DO NOT USE PRE-MIX CONCRETE SUCH AS SAK-CRETE.
4. ALL THRUST BLOCKING SHALL BE VISUALLY INSPECTED PRIOR TO BACKFILLING BY THE CONTRACTOR.

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CONSTRUCTION AND FACILITIES MANAGEMENT OFFICE

PROJECT TITLE

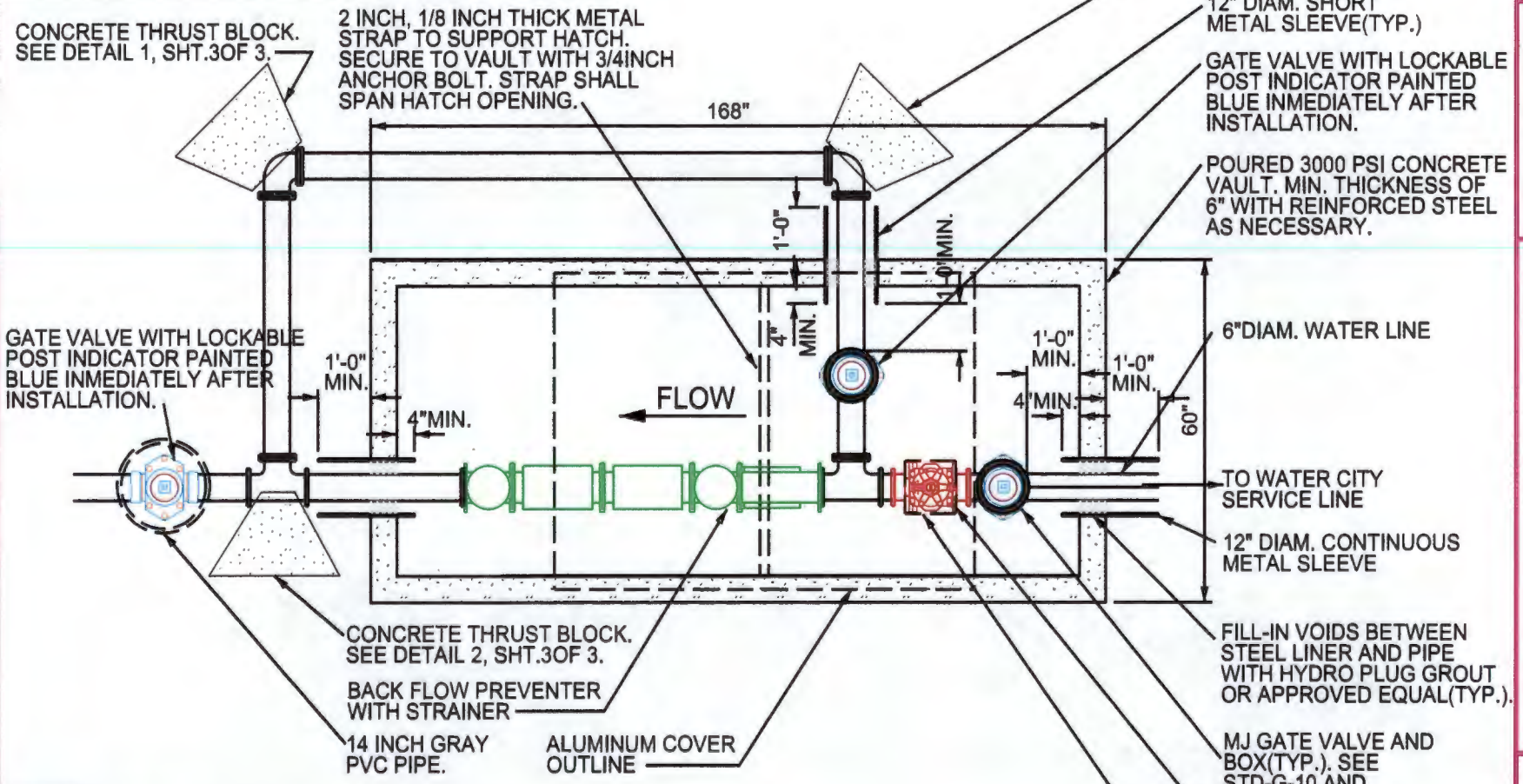
SHEET TITLE 6" CONCRETE METER VAULT THRUST BLOCK DETAILS

DRAWN BY:
DATE:

REVISED	DATE

SHEET NO.
SHT 3 OF 3

METER VAULT SIZES	
METER SIZE	VAULT DIMENSIONS
6"	168"L X60"W X78"H (OUTSIDE)



NOTES:
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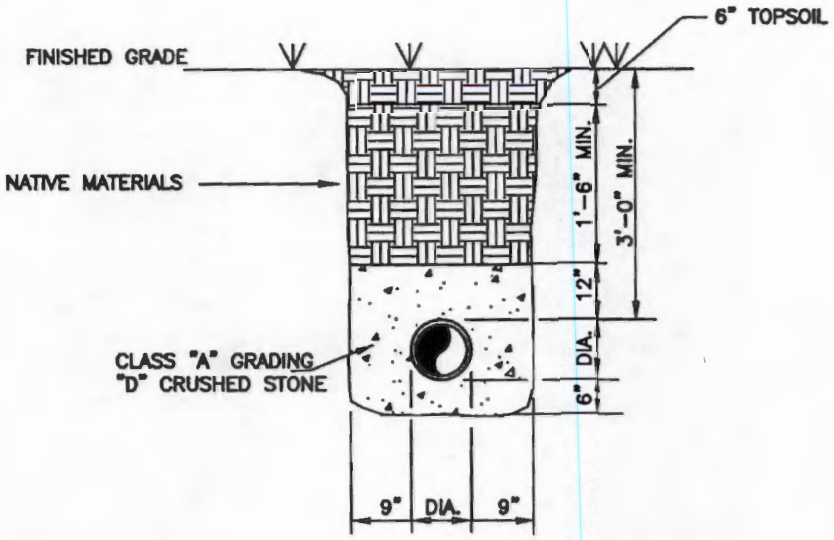
PROJECT TITLE

SHEET TITLE 6" CONCRETE METER VAULT PLAN VIEW AND NOTES

DRAWN BY:
DATE:

REVISED	DATE

SHEET NO.
SHT 2 OF 3


6" TOPSOIL
FINISHED GRADE
NATIVE MATERIALS
1'-6" MIN.
3'-0" MIN.
12"
DIA.
6"
CLASS "A" GRADING
"D" CRUSHED STONE
9"
DIA.
9"