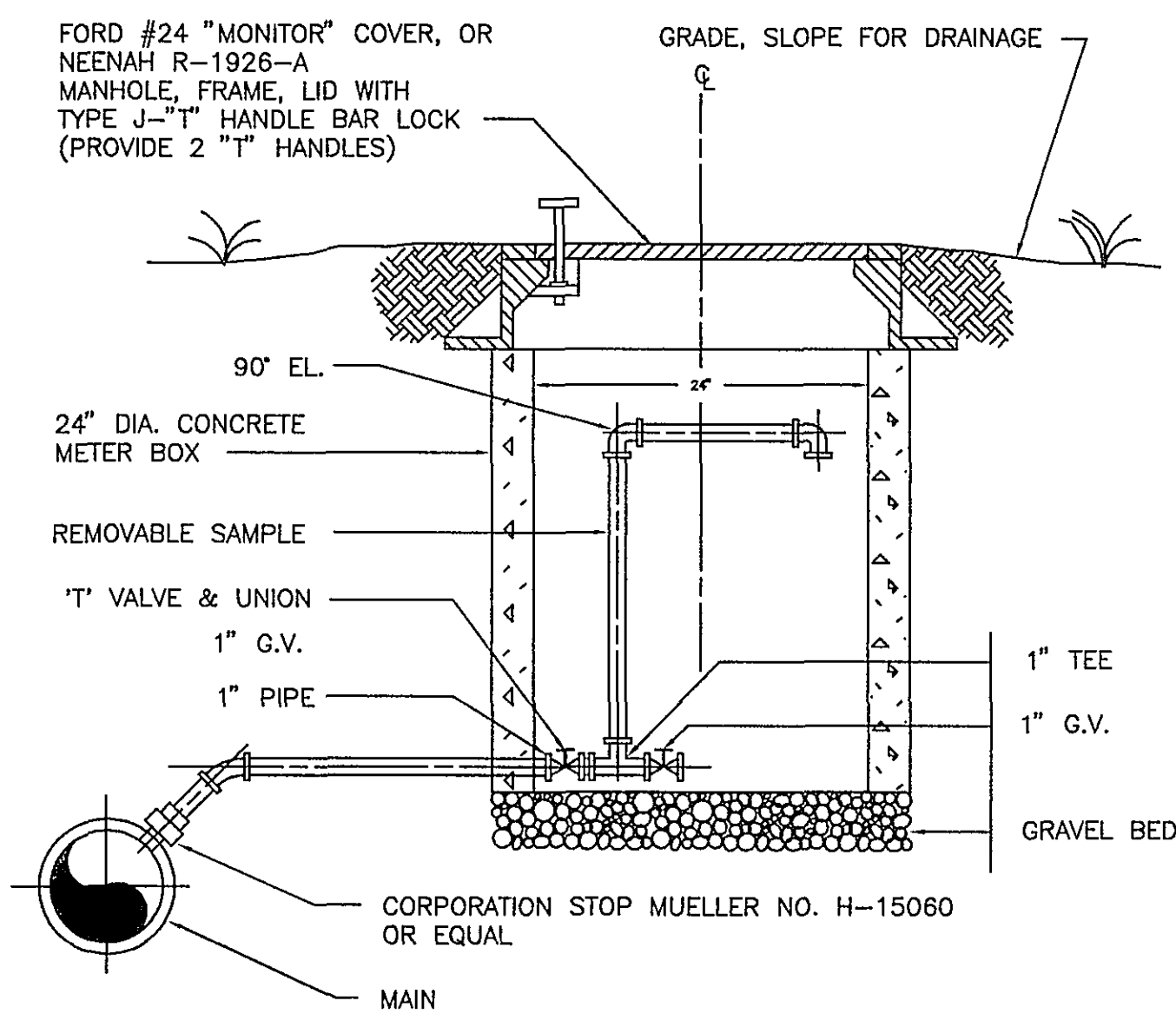
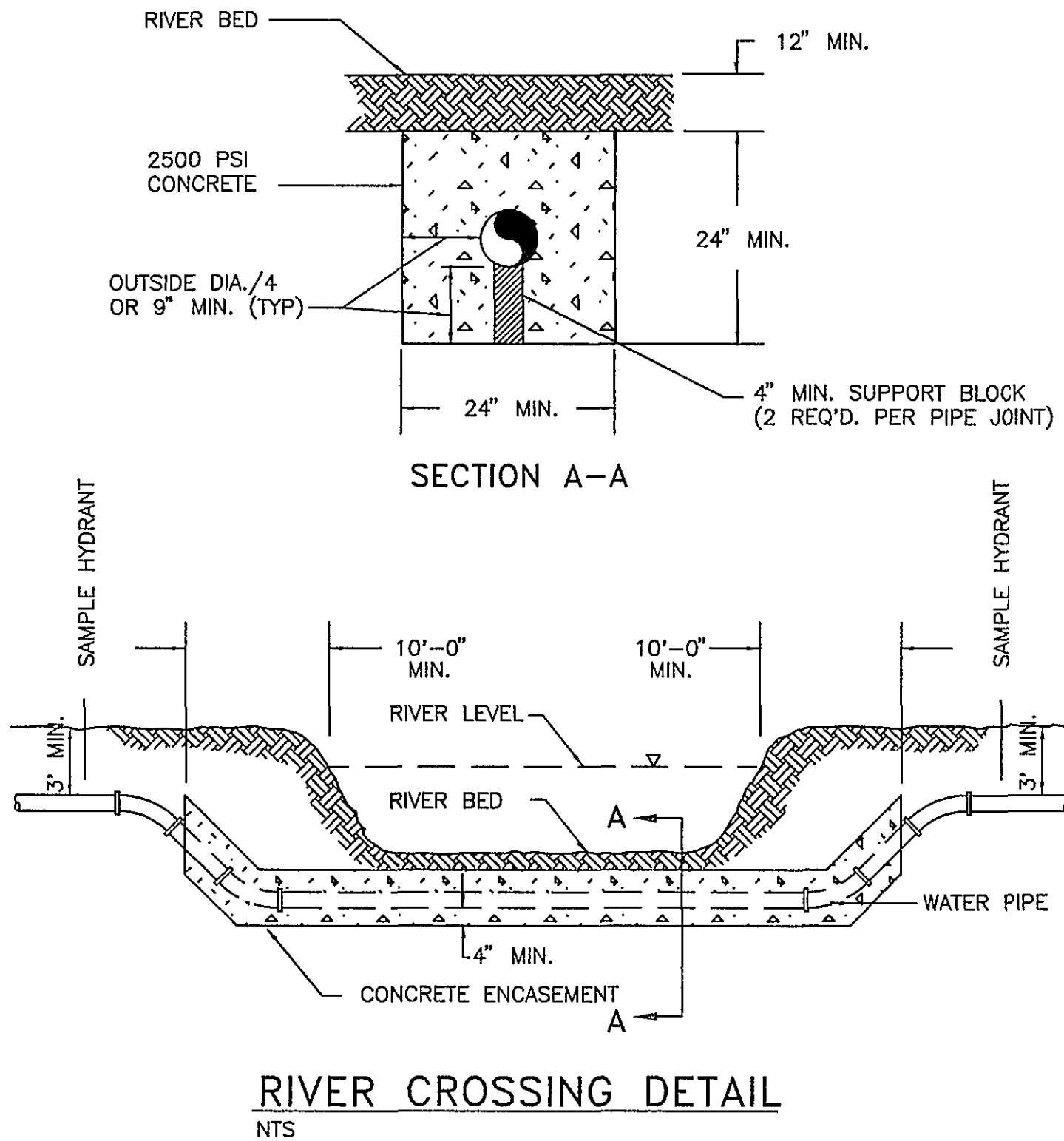


| MAJOR DIVISIONS   |  |                                   | LETTER SYMBOL   | TYPICAL DESCRIPTIONS   |
|---|--|-----------------------------------|---|--|
| Coarse Grained Soils More than 50% of Material by Weight is Coarser than No. 200 Sieve Size | Gravel and Gravelly Soils More than 50% of Coarse Fraction Retained on No. 4 Sieve | Clean Gravels<br>0–5% Fines*      | GW  | Fully–Graded Gravels, Gravel–Sand Mixtures, Little or No Fines   |
|   |  | Gravels with Fines<br>>12% Fines* | GP  | Gap or Uniform–Graded Gravels, Gravel–Sand Mixtures, Little or No Fines  |
|   |  |                                   | GM  | Silty Gravels, Gravel–Sand Silt Mixtures   |
|   | Sand and Sandy Soils More than 50% of Coarse Fraction Passing No. 4 Sieve          | Clean Sand<br>0–5% fines*         | GC  | Clayey Gravels, Gravel–Sand–Clay Mixtures  |
|   |  | Sands with Fines<br>>12% Fines    | SW  | Well–Graded Sands, Gravelly Sands, Little or No Fines  |
|   |  |                                   | SP  | Gap or Uniform Graded Sands, Gravelly Sands, Little or No Fines  |
| Fine Gravels Soils More than 50% of Material by Weight is Finer than No. 200 Sieve Size     | Sils and Clays Low Compressibility Liquid Limit Less than 50%                      |                                   | SM  | Silty Sands, Sand–Silt Mixtures  |
|   |  |                                   | SC  | Clayey Sands, Sand–Clay Mixtures   |
|   |  |                                   | ML  | Inorganic Silts and Very Fine Sands, Rock Flour, Silty or Clayey Fine Sands or Clayey Silts with Slight Plasticity |
|   | Sils and Clays High Compressibility Liquid Limit Greater than 50%                  |                                   | CL  | Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays                              |
|   |  |                                   | OL  | Organic Silts and Organic Silty Clays of Low Plasticity  |
|   |  |                                   | MH  | Inorganic Silts, Micaceous or Diatomaceous Fine Sands or Silty Soils   |
| Highly Organic Soils  |  | CH                                | Inorganic Clays of High Plasticity                        |  |
|   |  | OH                                | Organic Clays of Medium to High Plasticity, Organic Silts |  |
| Highly Organic Soils  |  |                                   | PT  | Peat, Humus, Swamp Soils with High Organic Contents  |
| * For soils having 5 to 12% fines, use dual symbol such as SP–SM.                           |  |                                   |   |  |
| UNIFIED SOIL CLASSIFICATION SYSTEM  |  |                                   |   |  |

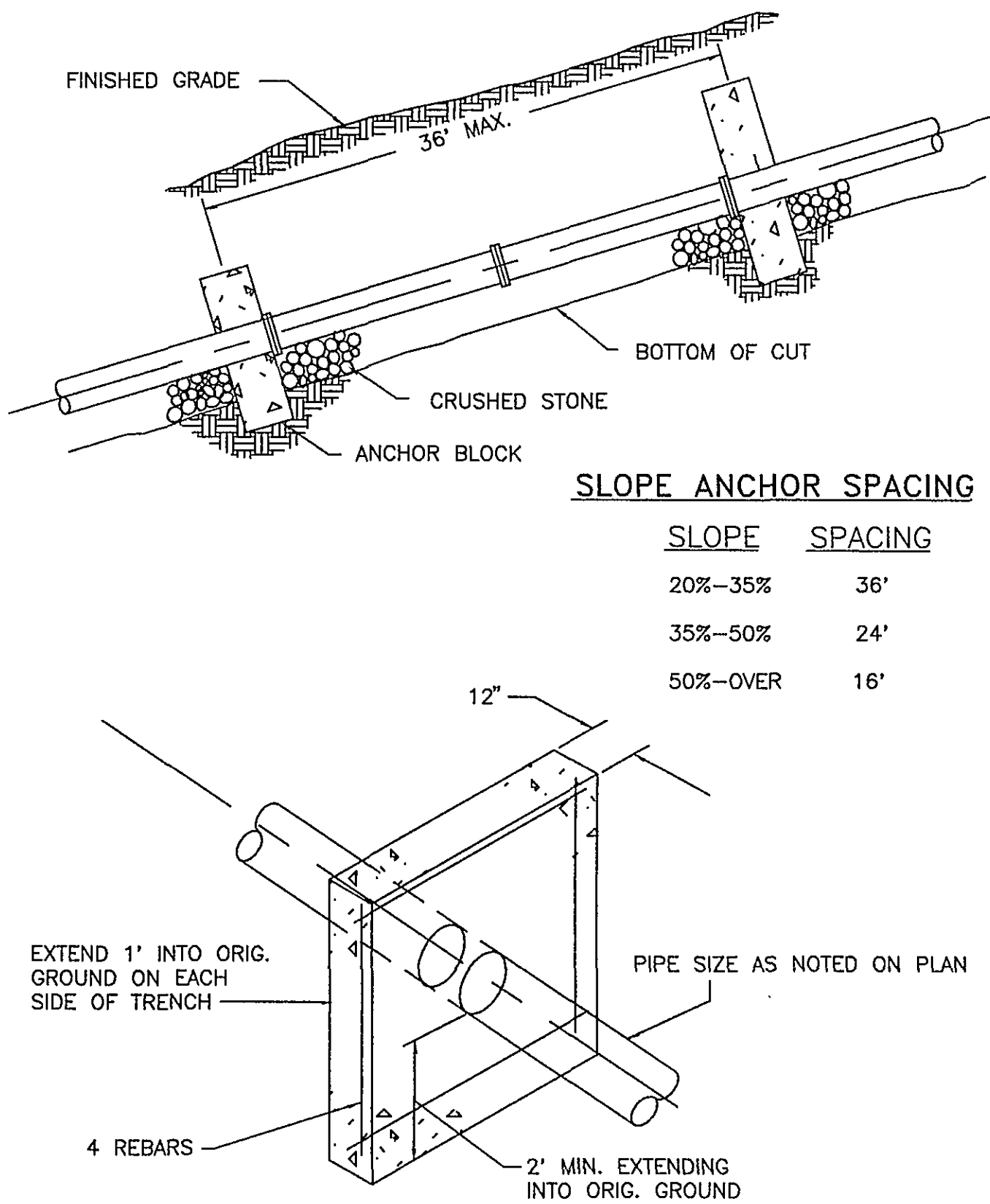
### UNIFIED SOIL CLASSIFICATION SYSTEM



TYPICAL SAMPLE HYDRANT  
NTS



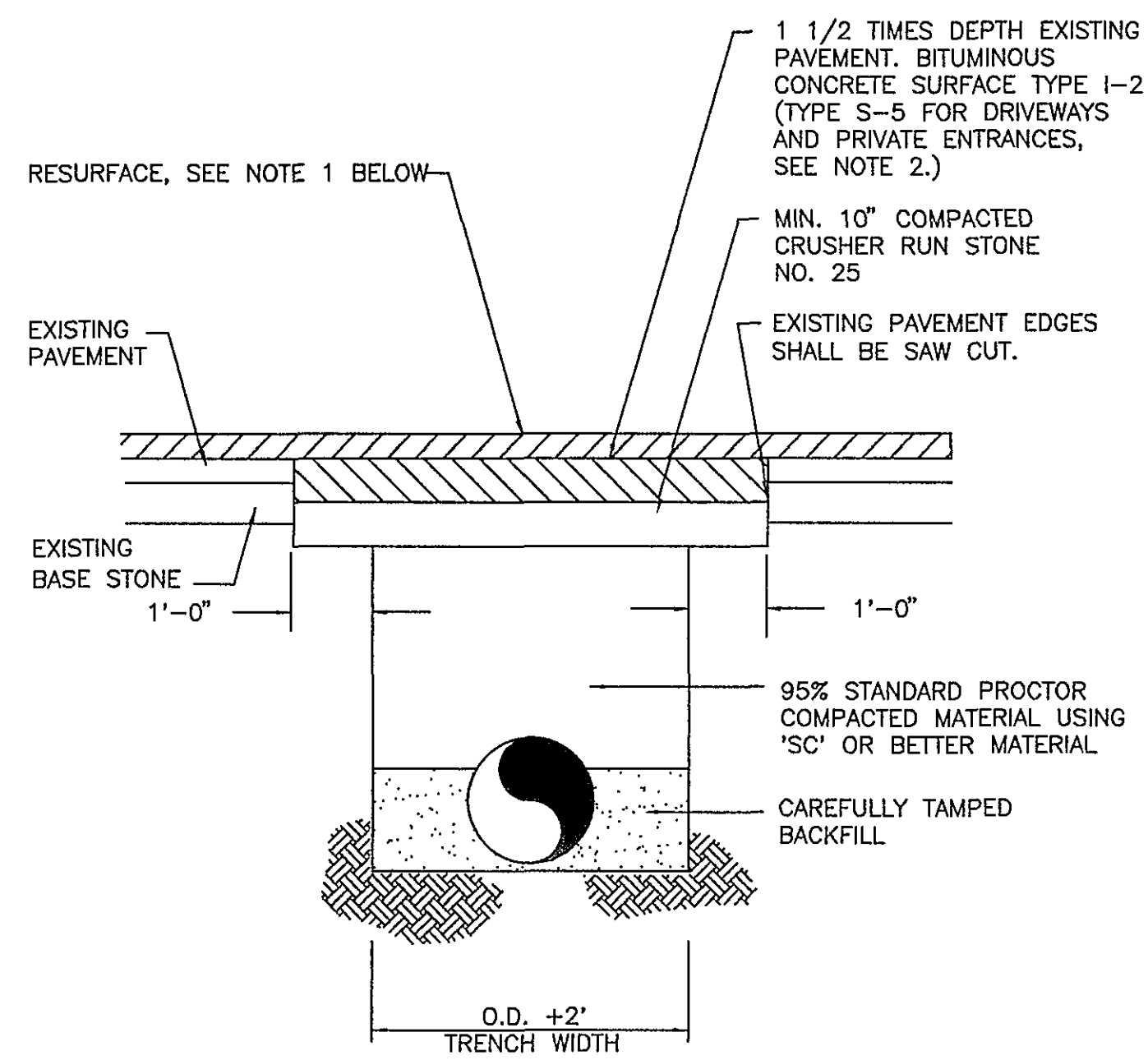
RIVER CROSSING DETAIL  
NTS



ANCHOR BLOCK DETAIL  
NTS

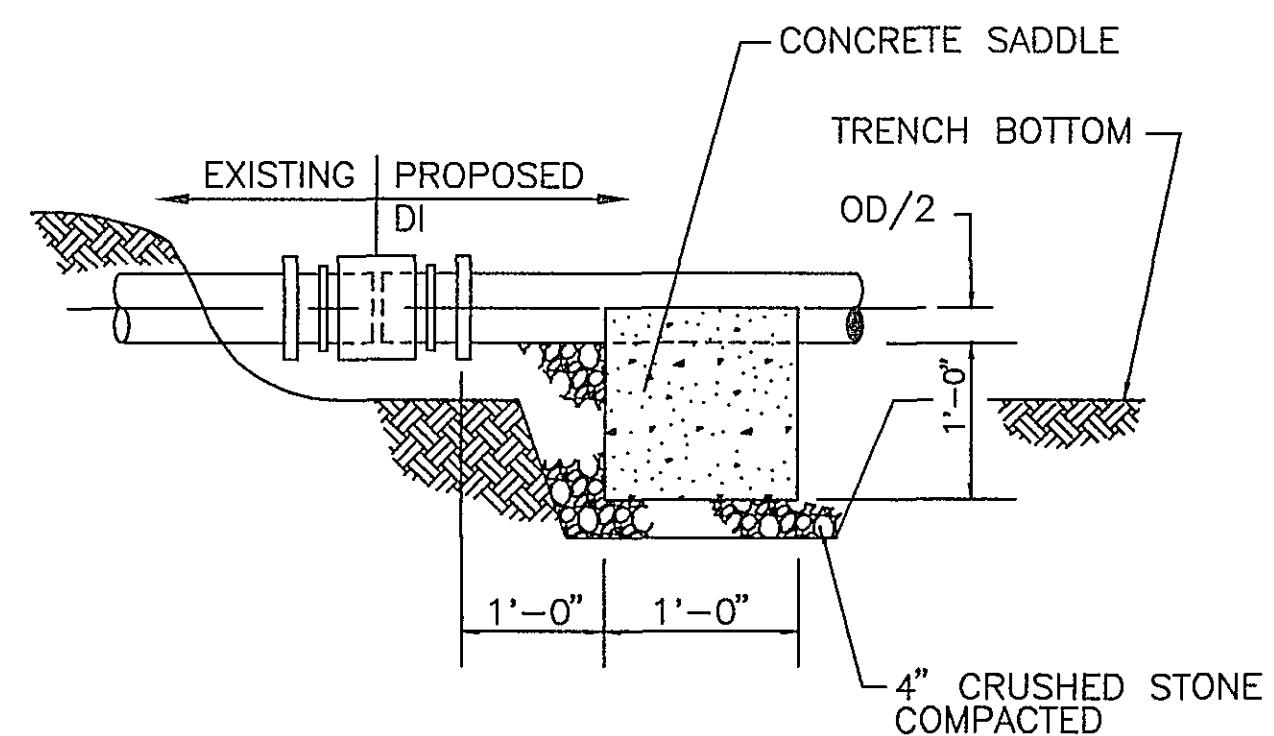
### SLOPE ANCHOR SPACING

| SLOPE    | SPACING |
|----------|---------|
| 20%-35%  | 36"     |
| 35%-50%  | 24"     |
| 50%-OVER | 16"     |



OPEN CUT ROAD and CROSSING DETAIL  
NTS

- NOTES:
- 1) ALL PAVED SURFACES OWNED BY THE STATE SHALL BE RESURFACED 25' EACH SIDE OF CUT, AS PER V.D.O.T. SPECIFICATIONS. ALL PAVED ROADWAYS OWNED BY THE CITY OF ROANOKE, AND CUT BY THE CONTRACTOR SHALL HAVE THE TRENCH WIDTH PLUS FIVE FEET ON EACH SIDE OF THE CUT RESURFACED TO A COMPACTED THICKNESS OF 1.5"
  - 2) THIS DETAIL ALSO APPLIES TO ALL PAVED DRIVEWAYS AND ENTRANCES- EXCLUDING 25' RESURFACING EACH WAY.
  - 3) WHERE EXISTING SURFACE IS GRAVEL, REPLACEMENT SURFACE TO BE CRUSHER RUN STONE NO. 25.
  - 4) MAXIMUM DEPTH OF ASPHALT TRENCH PATCH IS 6 INCHES COMPACTED.



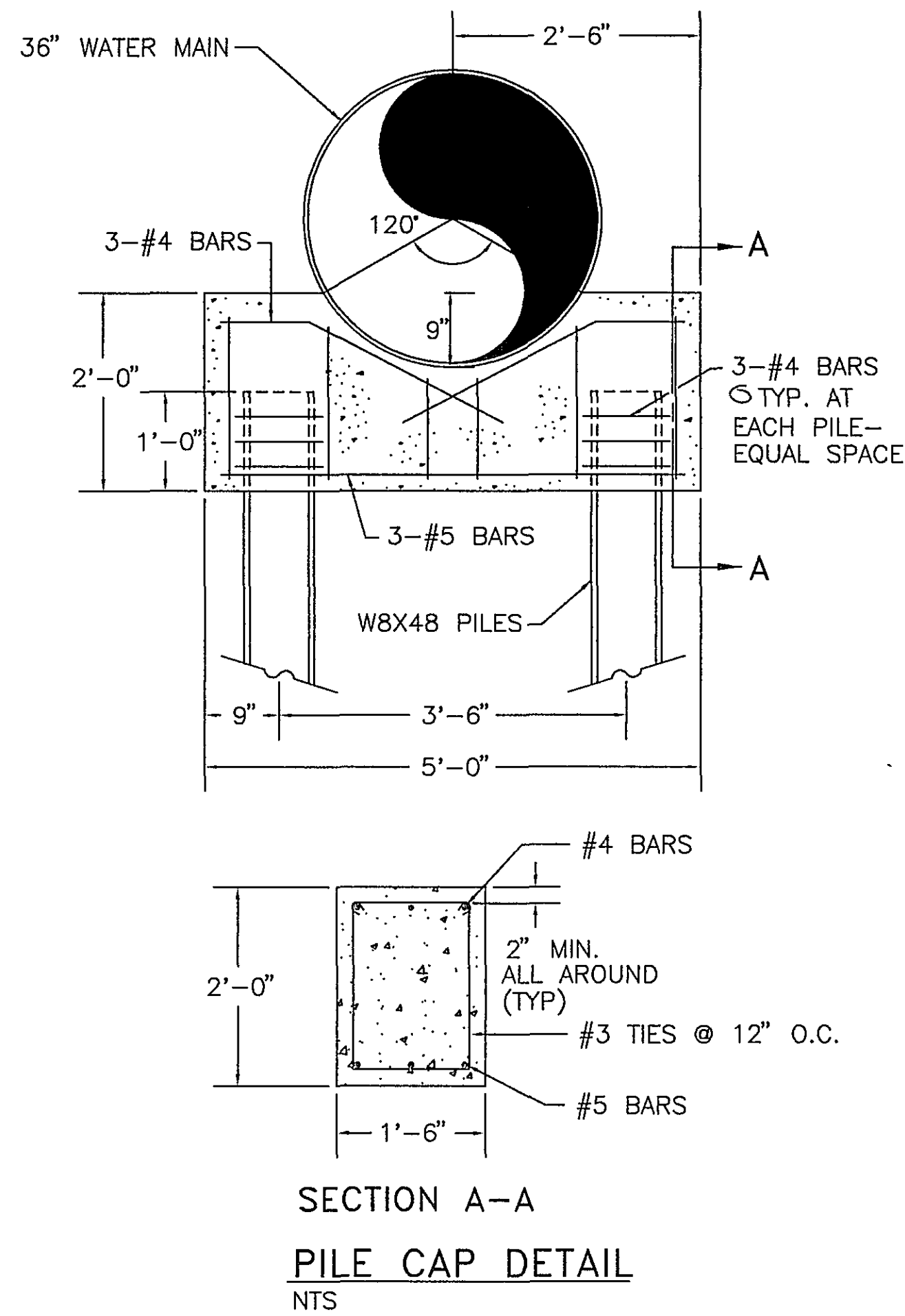
COUPLING EQUAL TO FERNCO:

SERIES 1051 WHEN EXISTING IS ASBESTOS CEMENT

SERIES 1002 WHEN EXISTING IS VITRIFIED CLAY

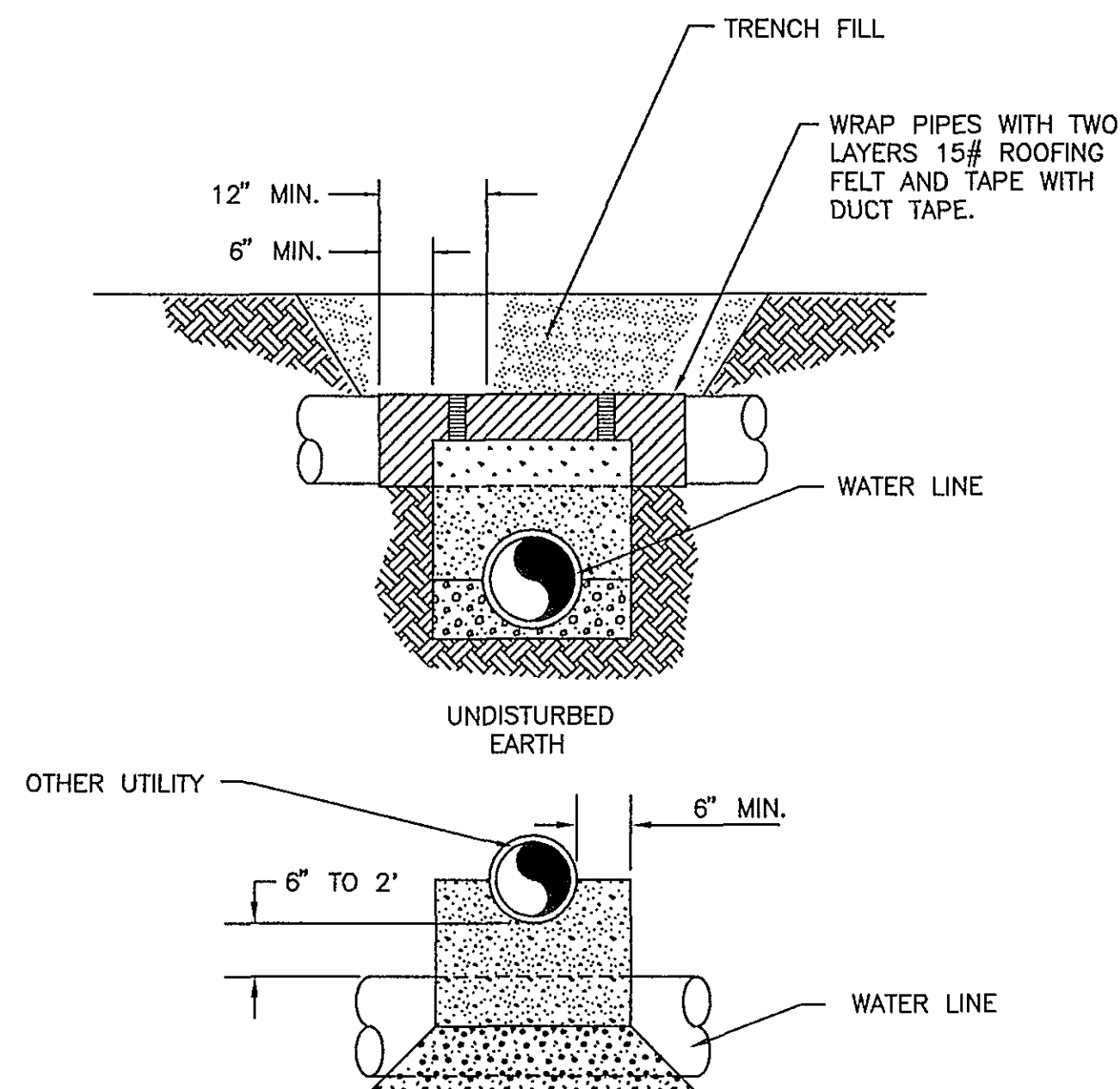
SERIES 1006 WHEN EXISTING IS CONCRETE

TYPICAL SEWER LINE COUPLING DETAIL  
NTS

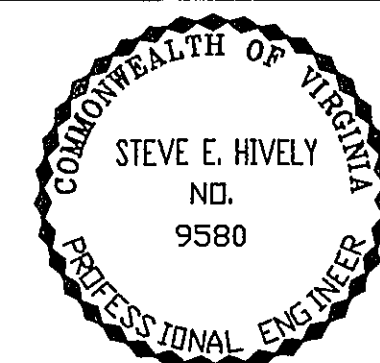


SECTION A-A

PILE CAP DETAIL  
NTS



PIPE CROSSING OTHER THAN  
SANITARY SEWER  
NTS



AS BUILT

ENGINEER'S SEAL

Architects  
Engineers  
Planners  
Surveyors

Dewberry & Davis

5238 Valleypointe Parkway, Suite One-B  
Roanoke, Virginia 24019  
703 362-7725

Carvins Cove, Phase II  
City of Roanoke  
Roanoke, Virginia

CONTRACT "A-1"  
DETAILS

Drawn By ACF  
Designed By RBS  
Checked By SEH  
Date DEC. 1993  
Scale AS SHOWN  
Plan Number ADTRWL2A  
Zoned NONE  
Sheet 8 of 9  
File Number C1160