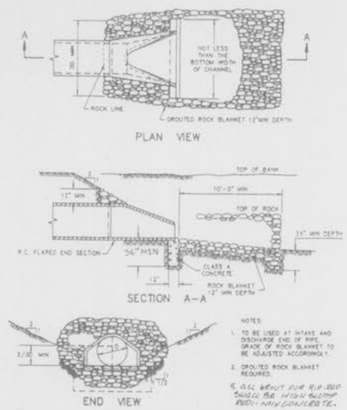
ALPINE RIDGE
CONSTRUCTION DETAILS

94-155 MAY '95

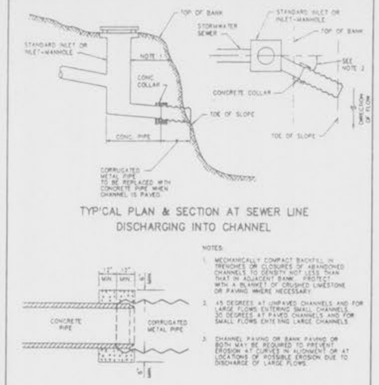
REV: 7-6-94



NOTES:
1. TO BE USED AT INTAKE AND DISCHARGE END OF PIPE. GRADE OF ROCK BLANKET TO BE ADJUSTED ACCORDINGLY.
2. GROUTED ROCK BLANKET REQUIRED.

* ALL WEIRS FOR R.O.W. SHOULD BE HIGH ALUMP RIP-RAP CONCRETE.

FLARED END SECTION — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. W.S.H. Ch. J.C.K. — 1992 — SHEET 57

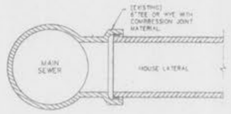


TYPICAL PLAN & SECTION AT SEWER LINE DISCHARGING INTO CHANNEL

NOTES:
1. MECHANICALLY COMPACT BACKFILL IN TRENCHES OR CLOSURES OF ABANDONED CHANNELS TO DENSITY NOT LESS THAN THAT IN ADJACENT BANK. PROTECT WITH A BLANKET OF CRUSHED LIMESTONE OR PAVING WHERE NECESSARY.
2. 45 DEGREES AT UNPAVED CHANNELS, AND FOR LARGE FLOWS EXTERNAL SMALL CHANNELS. 30 DEGREES AT PAVED CHANNELS AND FOR SMALL FLOWS EXISTING LARGE CHANNELS.
3. CHANNEL PAVING OR BANK PAVING OR BOTH MAY BE REQUIRED TO PREVENT EROSION DUE TO CHANNEL CURVATURE AT LOCATIONS OF POSSIBLE EROSION DUE TO DISCHARGE OF LARGE FLOWS.

DETAIL OF CONCRETE COLLAR

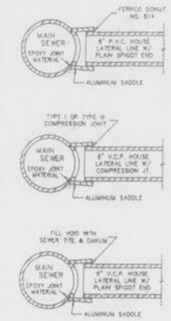
STORMWATER CHANNELS — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. R.G.W. Ch. J.C.K. — 1992 — SHEET 58



HOUSE CONNECTION

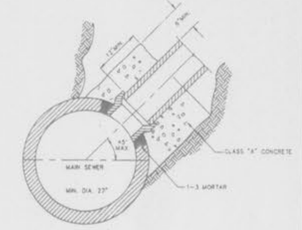
NOTES:
1. 6" V.C.P. WITH COMPRESSION JOINT (SHOWN)
2. 8" V.C.P. WITHOUT COMPRESSION JOINT. USE SEWER TITE AND DAKUM.
3. 6" 4" HOUSE CONNECTION IS APPROVED. A 4" TO 6" INCREASER IS REQUIRED.
4. 6" 8" P.V.C. IS USED A FERNCO ADAPTOR OR SEWER TITE AND DAKUM MAY BE USED TO MAKE THE JOINT.
5. A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHALL BE ONE OF THE FOLLOWING:
   A. W.S.D. NO. 1 BEDDING
   B. 1 TO 3 CEMENT AND SAND
   C. PRE-MIX CONCRETE

HOUSE CONNECTION TO EXISTING TEE OR WYE — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. D.A.B. Ch. J.C.K. — 1992 — SHEET 59



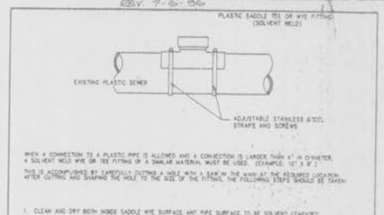
NOTES
1. 6" V.C.P. OR 6" P.V.C. HOUSE CONNECTION INTO PUBLIC V.C.P. OR PUBLIC P.V.C. MAIN 8" TO 24" DIAMETER AND NO WYE OR TEE AVAILABLE. A MACHINE TAP IS REQUIRED.
2. THE DISTRICT WILL CUT THE HOLE IN THE MAIN, PROVIDE AND EPOXY THE SADDLE TO THE MAIN. ALL OTHER MATERIAL AND LABOR ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. A CLEAN DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACK FILLING. THE BEDDING MATERIAL SHALL BE ONE OF THE FOLLOWING:
   A. W.S.D. NO. 1 BEDDING
   B. 1 TO 3 CEMENT TO SAND.
   C. PRE-MIX CONCRETE
4. IF 4" HOUSE CONNECTION IS APPROVED, A 4" TO 6" INCREASER IS REQUIRED AT MACHINE TAP.
5. ALL EXCAVATION MUST BE ADEQUATELY BRACED BEFORE DISTRICT WILL MAKE AN INSPECTION.
6. ALL MATERIAL REQUIRED TO MAKE AN APPROVED CONNECTION MUST BE ON THE CONNECTION SITE AT THE TIME OF ARRIVAL OF THE TAP TRUCK. IF THE MATERIAL IS NOT AVAILABLE, THE TAP MUST BE RESCHEDULED.

MACHINE TAP — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. W.S.H. Ch. J.C.K. — 1992 — SHEET 60



NOTES
1. THE OPENING SHALL BE CUT BY THE CONTRACTOR TO A SUFFICIENT SIZE TO PERMIT INSERTING A TEE SADDLE ON SHORT LENGTH OF PIPE AT THE REQUIRED ELEVATION AND ANGLE TO ALLOW AT LEAST TWO (2) INCHES SPACE AROUND THE PIPE. THIS SPACE WILL BE SOLIDLY FILLED WITH 1-3 CEMENT-SAND MORTAR AND THE NEW PIPE NEATLY TRIMMED AND POINTED UP FLUSH WITH THE INSIDE OF THE MAIN SEWER.
2. IF THERE ARE REINFORCING BARS IN THE SEWER WALL, ONLY THOSE PREVENTING INSERTION OF THE PIPE MAY BE CUT. ALL OTHERS SHALL BE BENT INTO A CLASS "A" CONCRETE COLLAR AT THE JUNCTION OF THE CONNECTION PIPE AND THE MAIN SEWER.

HOUSE CONNECTIONS ALLOWED BY TEE SADDLE — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. D.A.B. Ch. J.C.K. — 1992 — SHEET 61

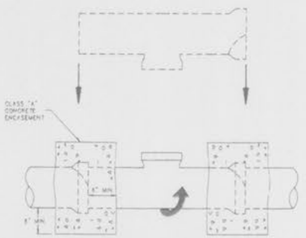


WHEN A CONNECTION TO A PLASTIC PIPE IS ALLOWED AND A CONNECTION IS LARGER THAN 6" IN DIAMETER, A SOLVENT WELD WYE OR TEE FITTING OF A SIMILAR MATERIAL MUST BE USED. (EXAMPLE: 10" X 8")

USE A JIGSAW (WITH 8" STANDARD PITCH) TO CUT A HOLE WITH A BASE IN THE MAIN AT THE REQUIRED LOCATION. AFTER THE SADDLE HAS BEEN STRAPPED DOWN TO THE SIZE OF THE FITTING, THE FOLLOWING STEPS SHOULD BE TAKEN:

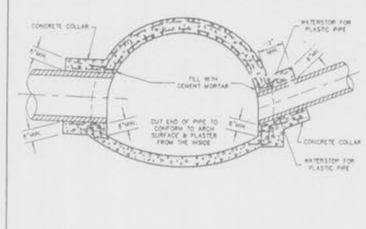
1. CLEAN AND DRY BOTH INSIDE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
2. IMPORTANT: APPLY A LIBERAL, HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR MEDIUM SURFACE TO THE PIPE.
3. WHILE SOLVENT WETS THE SURFACES, AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN.
4. USING A RAG OR PAPER TOWEL, WIPE BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
5. ALLOW 30-60 MINUTES FOR SET-UP TIME BEFORE BACKFILLING. (SAME TIME DEPENDS ON SIZE OF MATERIALS BEING INSTALLED AND VARIOUS COLD DAMP CONDITIONS.
6. DISCARD OLD SOLVENT IF IT BECOME JELLIED OR LUMPY.
7. A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHOULD BE ONE OF THE FOLLOWING:
   A. W.S.D. #1 BEDDING.
   B. 1 TO 3 CEMENT TO SAND MIX.
   C. "PRE-MIX" CONCRETE.

8" (& LARGER) CONNECTION TO PLASTIC MAIN — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. D.A.B. Ch. J.C.K. — 1992 — SHEET 62



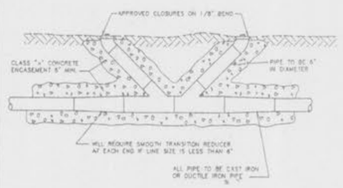
NOTES
1. WHEN A CONNECTION IS ALLOWED LARGER THAN 6" DIAMETER A SADDLE MAY BE USED IF THE I.D. OF THE CONNECTION PIPE IS NOT GREATER THAN ONE-HALF (1/2) OF THE I.D. OF THE MAIN SEWER. (EXAMPLE: 24" X 10")
2. IF THE I.D. OF THE CONNECTION PIPE IS GREATER THAN ONE-HALF (1/2) THE I.D. OF THE MAIN SEWER THE WYE OR TEE MUST BE "ROLLED IN". (EXAMPLE: 15" X 8")
3. THIS IS ACCOMPLISHED BY BREAKING AWAY AND REMOVING ONE SECTION OF PIPE. THE TOP HALF OF THE BELL ON THE PIPE LYING ADJACENT TO THE GAP IS CAREFULLY BROKEN OFF. THE TOP HALF OF THE BELL ON THE MAIN REPLACEMENT SECTION (WITH A "TEE" "WYE") FITTING IS ALSO BROKEN OFF. THE REPLACEMENT PIPE IS THEN PLACED IN THE LINE GAP WITH THE STUB POINTED IN THE WRONG DIRECTION. THE BROKEN BELLS ON THE REPLACEMENT AND ADJOINING PIPE MAKE POSSIBLE FOR THE REPLACEMENT SECTION TO FIT INTO THE SEWER LINE WITHOUT DISTURBING THE ADJOINING PIPE SECTIONS. THE REPLACEMENT SECTION IS THEN ROTATED TO THE DESIRED POSITION AND THE BROKEN BELLS ARE ENCASED WITH A 8" CLASS "A" CONCRETE ENCASEMENT.

"ROLL-IN" (FOR EXISTING CLAY OR CONCRETE PIPE) — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. D.A.B. Ch. J.C.K. — 1992 — SHEET 63



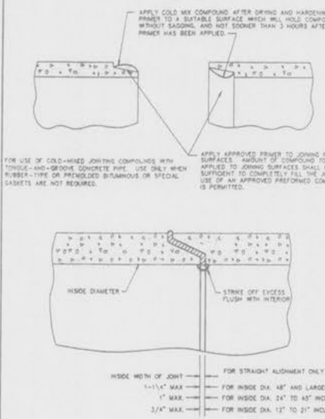
NOTES
1. OPENING INTO EXISTING SEWER TO BE CUT CAREFULLY TO AVOID DAMAGE TO ADJACENT MASONRY.
2. HOLE TO BE CUT TO PROPER GRADE AND ELEVATION AND TO BE OF SUCH SIZE AS TO PERMIT A TWO-INCH SPACE ALL AROUND THE OUTSIDE OF THE PIPE.
2. THIS SPACE SHALL BE CAREFULLY FILLED WITH ONE PART CEMENT AND THREE PARTS SAND MORTAR COMPACTED INTO PLACE AFTER THE PIPE HAS BEEN INSERTED AND PROPERLY SUPPORTED TO LINE AND GRADE.
4. EXISTING REINFORCING BARS ARE TO BE BENT BACK INTO THE CONCRETE COLLAR AROUND THE PIPE TO PROVIDE REINFORCEMENT EQUALLY ON ALL SIDES.

CONNECTIONS TO LARGE SEWERS — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. W.S.H. Ch. J.C.K. — 1992 — SHEET 64

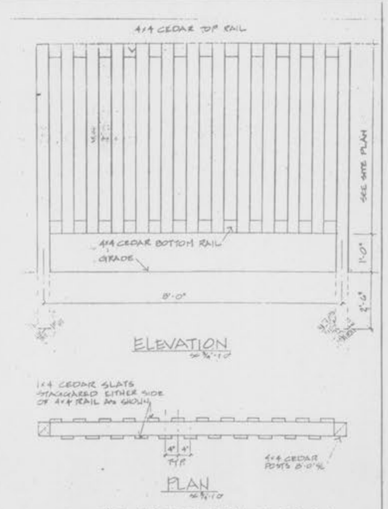


1800' MAXIMUM SPACING

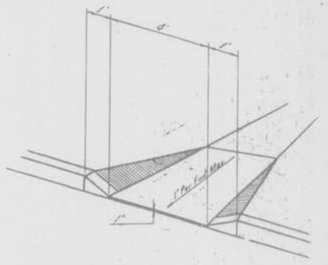
FORCE MAIN CLEANOUT (6" DIA. & SMALLER) — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. R.G.W. Ch. J.C.K. — 1992 — SHEET 65



TONGUE AND GROOVE CONCRETE PIPE JOINTS — METROPOLITAN ST. LOUIS SEWER DISTRICT, Standard Details of Sewer Construction — Dr. D.A.B. Ch. J.C.K. — 1992 — SHEET 66

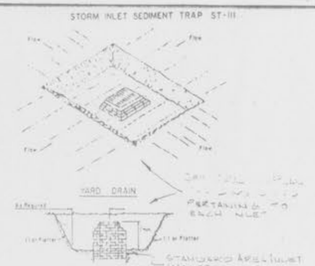


SIGHT PROOF FENCE DETAIL



HANDICAP RAMP DETAIL
N.T.S.

STORM INLET SEDIMENT TRAP ST-III



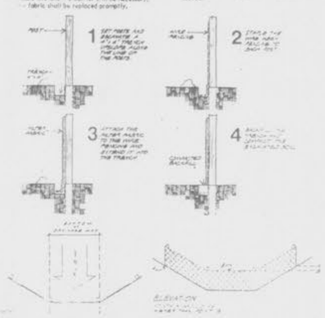
CONSTRUCTION SPECIFICATION FOR ST-III

1. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.

SYNTHETIC FILTER BARRIERS
For Urban Development Sites
APPENDIX G

Maintenance

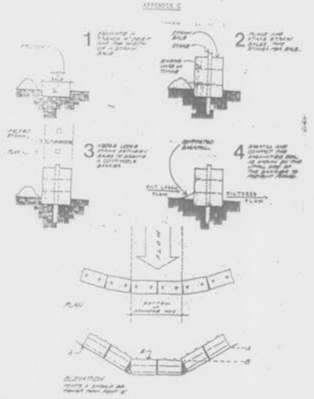
1. Filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
2. Should the fabric decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, fabric shall be replaced promptly.
3. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.
4. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.



Placement and Construction of a Synthetic Filter Barrier

(9)

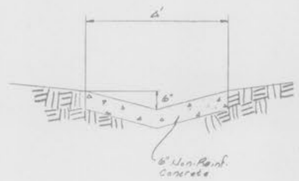
STRAW BALE BARRIERS
For Urban Development Sites
APPENDIX G



Placement and Construction of a Straw Bale Barrier

(8)

GRASS LINED 1'W. FLAT BOTTOM DIVERSION DITCH
N.T.S.



CONCRETE SWALE
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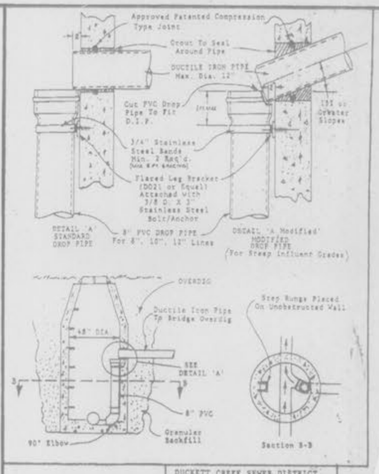

INSIDE DROP MANHOLE — DUCKETT CREEK SEWER DISTRICT, STANDARD CONSTRUCTION DETAIL, DETAIL NO. — JAN., 1989