



## IMPROVEMENT PLANS

# PROSPECT VILLAGE

A TRACT OF LAND BEING PART OF THE SOUTHWEST QUARTER OF FRACTIONAL SECTION 28, TOWNSHIP 46 NORTH, RANGE 2 EAST OF THE FIFTH PRINCIPAL MERIDIAN, CITY OF LAKE ST. LOUIS, MISSOURI

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## GENERAL NOTES

1. Underground utilities have been plotted from available information and therefore their locations shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans, shall be the responsibility of the contractor, and shall be located prior to any grading and/or construction of improvements.
2. The sediment control plan should be implemented before grading begins. No graded area is to remain bare without being seeded and mulched. When deemed necessary, positive steps should be exercised to prevent this storm damaging adjacent properties and siltling up all storm drainage systems whether on site or off site.
3. Erosion control shall not be limited to what is shown on the plans. The contractor shall take whatever means necessary to prevent siltation from entering adjacent roadways, properties and areas where an extra row of straw bales are used. A silt fence might be considered, if necessary.
4. No area shall be cleared without permission of the developer.
5. Owner/Developer assumes full responsibility as to the performance of the grading operation and assurance that all properties and County and State roads will be adequately protected.
6. Soil preparation and re-vegetation shall be performed according to Appendix A of the Model Sediment and Erosion Control Regulations for Urban Development.
7. Where natural vegetation is removed during grading, vegetation shall be reestablished in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible or during the next seeding period after grading has been completed. Refer to Appendix A of St. Charles Soil and Water Conservation District - Model Sediment and Erosion Control Regulations.
8. Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The unsuitable material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly diced prior to the placement of any fill. The Soil Engineer shall approve the dicing operation.
9. Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory rollers or high speed impact type drum rollers acceptable to the Soils Engineer. The rollers shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.
10. The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.
11. The Soils Engineer shall notify the Contractor of rejections of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.
12. All Areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted to at least 85 percent of the maximum density as determined by the Modified AASHTO T-100 Compaction Test (ASTM-D1557). Natural slope steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.
13. The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those of which satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2% below to 6% above the optimum moisture content.
14. The surface of the fill shall be finished so that it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.
15. All low places whether on site or off site should be graded to allow drainage. This may be accomplished with temporary ditches. Any off site grading easements shall be acquired before off site grading operations begin.
16. All cut and fill slopes should be a maximum of 3:3% slope (3:1) after grading.
17. All fill including filled places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90% of maximum density as determined by the Modified AASHTO T-100 Compaction Test (ASTM D1557). All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-jacking and non-pumping during proof rolling and compaction.
18. Fill placed within proposed street R.O.W. shall be compacted to 90% minimum density as determined by the Modified AASHTO T-100 Compaction Test (ASTM D-1557). The moisture content shall be between 2% below to 6% above optimum moisture content.
19. Soft soil in the bottom and banks of any existing or former pond site should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed right-of-way locations or on storm sewer locations.
20. Any wells and/or springs which may exist on this property should be located and sealed in a manner acceptable to the City of Lake St. Louis.
21. Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
22. If straw bales or silt fences are destroyed by heavy rains, vandalism, etc., they are to be replaced immediately by contractor.
23. When grading operations are completed or suspended for more than thirty (30) days, permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided according to the Designated Official's recommendations. Refer to Appendix A of St. Charles Soil and Water Conservation District - Model Sediment and Erosion Control Regulations. All finished grades (areas not to be disturbed by improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1000 square feet when seeded.
24. All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to original match reconstruction conditions.
25. All existing trash and debris on-site must be removed and disposed of off-site.
26. Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site.
27. The total yardage of this project is based on a 15% ± shrinkage factor.

28. The shrinkage factor is subject to change, due to soil conditions (types and moisture content), weather conditions, and the percentage of compaction actually achieved at the time of the year grading is performed. As a result, adjustments in final grade may be required. If adjustments need to be made, the contractor shall contact the Project Engineer of St. Charles Engineering and Surveying, Inc. prior to completion of the grading.
29. Earth quantities were obtained from topographic work done by Box Engineering.
30. The vertical grading tolerance shall be plus or minus 0.2 feet for all rough grading.
31. All construction and materials shall conform to City of Lake St. Louis standards and specifications.
32. All sanitary sewers and water lines shall be constructed to Public Water Service District #2 standards and specifications.
33. All standard curb inlets are to have front-of-inlet 2 1/2' (two and one half feet) behind curb, within public right-of-way, unless otherwise noted.
34. All storm sewers shall be Reinforced A.S.T.M. C-76, Class III minimum, unless otherwise shown on the plans.
35. All storm sewer pipe in the right-of-way shall be reinforced concrete pipe (A.S.T.M. C-76, Class III minimum).
36. All High Density Polyethylene Corrugated Pipe (HDPE), if used, shall meet A.S.T.M. D-2321 A.A.S.H.T.O. M-294-921. Concrete Flared End Sections, Manholes and Inlet Structures shall be required. Material will be continuous between structures, splicing is not permitted. HDPE pipe will not be permitted under paved areas or soon to be paved areas. HDPE pipe should provide for a water tight joint such as "Sure-Lok" Wt by Hanor, Inc.
37. All corrugated steel pipe, if used, shall conform to the requirements of AASHTO M-36 and shall be fully coated with bituminous material conforming to the requirements of AASHTO M-190. Corrugated steel pipe shall be helical pipe with reformed ends. Pipes shall be joined using either huggar bands with rubber o-ring gaskets or universal corrugated bands with sponge neoprene gaskets. All gasket materials shall conform to ASTM D-1058.
38. Concrete Pipe Joints shall be M.S.D. Type "A" Approved Compression Joints and shall conform to the requirements of the Specification for Joints and Circular Concrete Sewer and Culvert Pipes, using flexible, watertight, rubber-type gaskets A.S.T.M. C-443. Band-Type Gaskets depending entirely on cement for adhesion and resistance to displacement during jointing shall not be used.

39. Eight inch (8") P.V.C. sanitary sewer pipe shall meet the following standards: A.S.T.M. D-3034 SDR-35 with wall thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal waterstop as approved by the sewer district shall be installed between the P.V.C. pipe and masonry structures.
40. Fire-manufactured adapters shall be used at all PVC to DP connections. Rubber boot/Mission-type couplings will not be allowed.
41. Existing sanitary sewer service shall not be interrupted.
42. The Contractor shall prevent all storm/surface water, mud or construction debris from entering the existing sanitary sewer system.
43. The contractor shall maintain access to existing residential driveways and streets at all times.
44. The minimum vertical distance from the low point of the basement to the downline of the sanitary sewer at the corresponding house connection shall not be less than two and one half feet (2 1/2') plus the diameter of the sanitary sewer.
45. All sanitary laterals shown on this plan are to be constructed of 4 inch P.V.C. pipe.
46. All P.V.C. sanitary sewer pipe is to be SDR-35 or equal. All P.V.C. sanitary sewer pipe will be constructed with "clean" 1/2" inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4" below the pipe to the spring line of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from the spring line of pipe to 8 inches above the top of pipe.
47. Brick shall not be used on sanitary manholes.
48. All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri D.M.R. Specification 10CSR-8.120 (7) (E).
49. All pipes shall have positive drainage through manholes. No flat base structures are allowed.
50. All trench backfills under paved areas shall be granular backfill, and water jetted. All other trench backfills may be earth material (free of large clods or stones) and shall be water jetted.
51. All sewer tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
52. Easements shall be provided for storm sewers, sanitary sewers, and all utilities on the record plot. See record plat for location, size, and width of easements.
53. Gas, water, and other underground utilities shall not conflict with the depth or horizontal location of existing and proposed sanitary and storm sewers including laterals.
54. Water main shall be Class 200, SDR-21 or "Ultra-Blue" PVC, installed with tracer tape and locator wire constructed to Public Water Service District #2 standards and specifications.

55. Fire hydrants shall be 8 inch 3 way with auxiliary valve, Mueller "Centurian" or American Darling B-84-B.
56. The contractor shall place all fire hydrants within 3 feet of the street curb.
57. The contractor shall place the "steam" outlet of the fire hydrant toward the street.
58. Blow-off hydrants and water meters shall not be located in sidewalks or driveways.
59. All streets within this set of improvement plans shall be Publicly maintained.
60. All streets and right-of-ways shown on these improvement plans will be dedicated to the City of Lake St. Louis for public use forever.
61. Sidewalk curb ramps, ramp and accessible parking spaces shall be constructed in accordance with the current approved "Americans with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, applications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the Project Engineer shall be notified by the contractor prior to any construction.
62. All signs and sign posts shall conform to the City of Lake St. Louis standards.
63. This site is currently zoned PR.

BENCHMARKS  
 REFERENCE BENCHMARK:  
 RM27 ELEV. 813.80  
 ON CONCRETE CULVERT AT INTERSECTION HWY 40 AND DUELLO ROAD ON WEST SIDE HWY 40. FIRM MAP 29183CD215-E DATED 8-2-98

SITE BENCHMARK:  
 ELEV. 807.810  
 CUT "T" ON CENTERLINE FRONT FACE OF CURB INLET AT THE NORTHEAST CORNER OF WOODLAKE DRIVE AND PROSPECT ROAD.

THIS PROPERTY IS SERVICED BY THE FOLLOWING UTILITY COMPANIES:  
 CUIVRE RIVER ELECTRIC COMPANY (1-800-392-3700)  
 GTE MIDWEST TELEPHONE COMPANY (636-332-3710)  
 ST. CHARLES GAS COMPANY (636-946-3937)  
 PUBLIC WATER SERVICE DISTRICT NO. 2 (636-561-3737)

## LEGEND

|  |                          |   |                                   |
|--|--------------------------|---|-----------------------------------|
|  | SANITARY STRUCTURE       | C.O.  | CLEAN OUT                         |
|  | STORM STRUCTURE          | T.B.R.  | TO BE REMOVED                     |
|  | TEST HOLE                | T.B.R.A.P.  | TO BE REMOVED & RELOCATED         |
|  | POWER POLE               | T.B.P.  | TO BE PROTECTED                   |
|  | LIGHT STANDARD           | T.B.A.  | TO BE ABANDONED                   |
|  | CURB INLET               | B.C.  | BASE OF CURB                      |
|  | DOUBLE CURB INLET        | T.C.  | TOP OF CURB                       |
|  | GRATE INLET (EXISTING)   | T.W.  | TOP OF WALL                       |
|  | AREA INLET (EXISTING)    | TYP.  | TYPICAL                           |
|  | DOUBLE AREA INLET        | U.N.O.  | UNLESS NOTED OTHERWISE            |
|  | FLARED END SECTION       | U.S.P.  | USE IN PLACE                      |
|  | END PIPE                 | ---   | EXISTING CONTOUR                  |
|  | ENERGY DISSIPATOR        | --- </td <td>PROPOSED CONTOUR</td>                  | PROPOSED CONTOUR                  |
|  | MANHOLE                  | --- </td <td>TREE LINE</td>                         | TREE LINE                         |
|  | REINFORCED CONCRETE PIPE | --- </td <td>SAN. SEWER (EXISTING)</td>             | SAN. SEWER (EXISTING)             |
|  | CORRUGATED METAL PIPE    | --- </td <td>SAN. SEWER (PROPOSED)</td>             | SAN. SEWER (PROPOSED)             |
|  | CAST IRON PIPE           | --- </td <td>STORM DRAIN (EXISTING)</td>            | STORM DRAIN (EXISTING)            |
|  | POLYVINYL CHLORIDE       | --- </td <td>STORM DRAIN (PROPOSED)</td>            | STORM DRAIN (PROPOSED)            |
|  | VITRIFIED CLAY PIPE      | □   | PHONE BOX                         |
|  | GUY WIRE                 | —   | IRON PIPE                         |
|  | SIGN                     | --- </td <td>WATER LINE, SIZE</td>                  | WATER LINE, SIZE                  |
|  | POST                     | --- </td <td>HYDRANT</td>                           | HYDRANT                           |
|  | WATER METER              | --- </td <td>CONCRETE PAVEMENT</td>                 | CONCRETE PAVEMENT                 |
|  | DIRECTION HOUSE FACES    | --- </td <td>PLACED RIO-RAP W/UNDERLAIN FABRIC</td> | PLACED RIO-RAP W/UNDERLAIN FABRIC |

PROSPECT VILLAGE  
COVER SHEET

ST. CHARLES ENGINEERING & SURVEYING, INC.  
 801 S. FIFTH STREET, SUITE 202  
 ST. CHARLES, MO. 63301  
 TEL: (636) 947-4667 FAX: (636) 947-4446

SIC  
EIS

RECEIVED  
 SEP 26 2002  
 CITY OF FALLON, MO

**DEVELOPER**

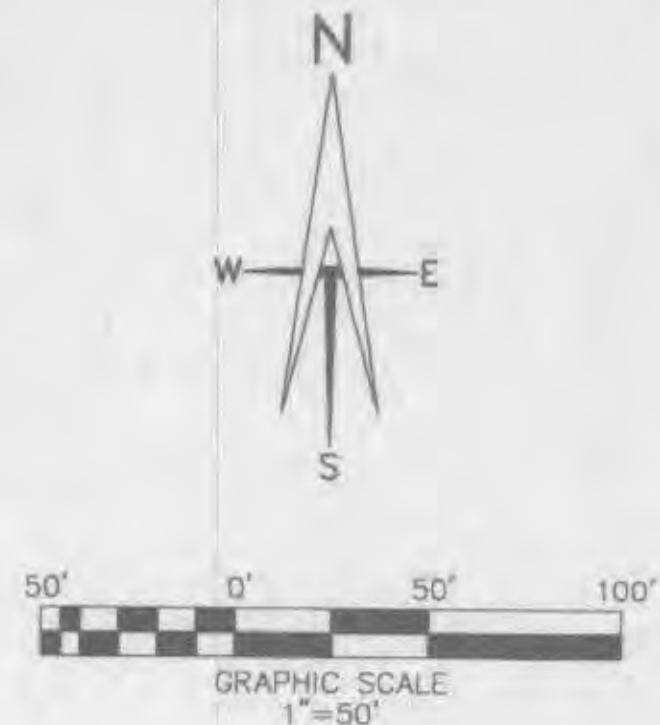
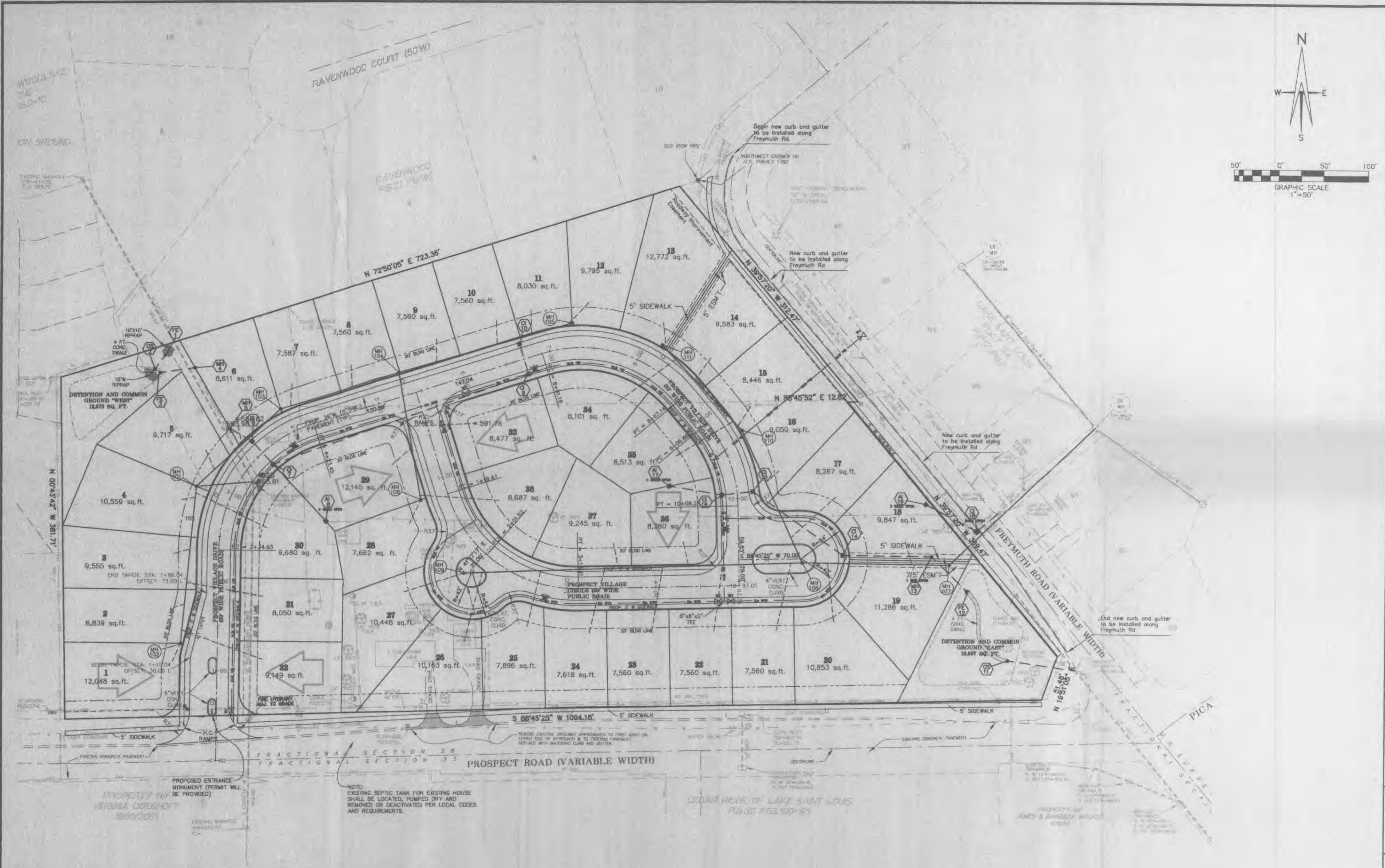
**GREATER MISSOURI BUILDERS**  
 1550 WALL STREET SUITE 31  
 ST. CHARLES, MISSOURI 63303  
 636-946-1341

**ENGINEERS AUTHENTICATION**

The responsibility for the professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in the project and specifically excludes revisions after this date unless reauthenticated.

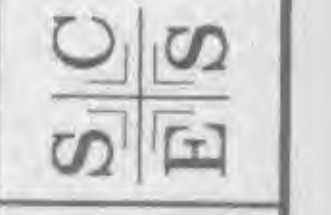
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 8-06-02  
 C-1





**PROSPECT VILLAGE  
FLAT PLAN**

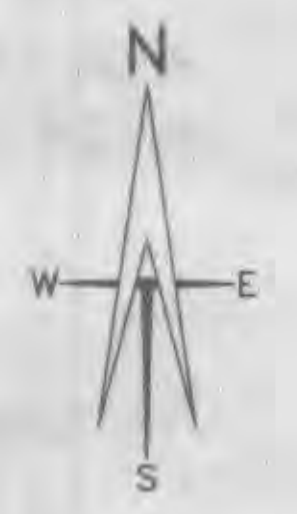
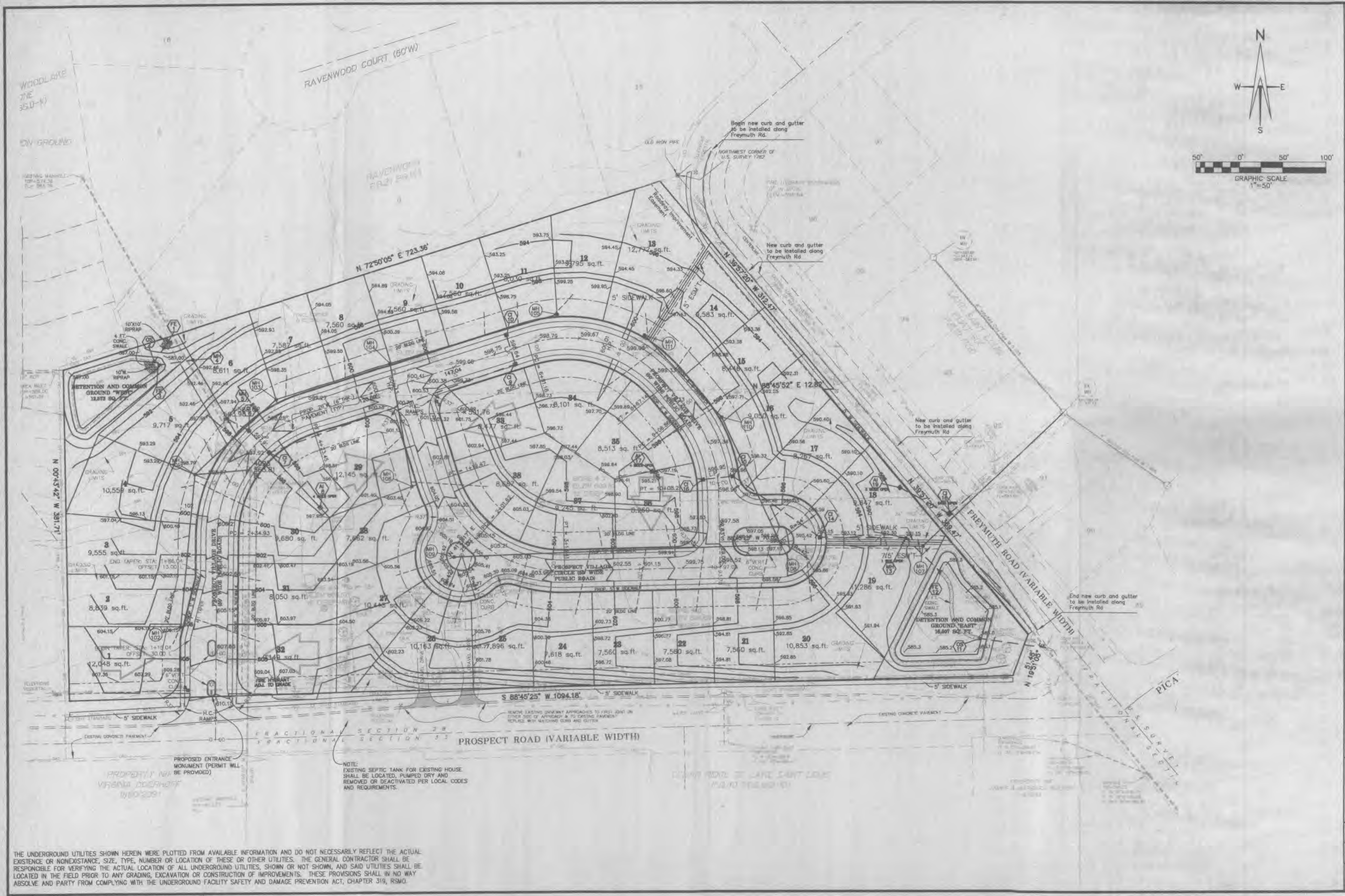
ST. CHARLES ENGINEERING & SURVEYING, INC.  
801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-0007 FAX: (636) 947-3448



THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE OR NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE AND PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

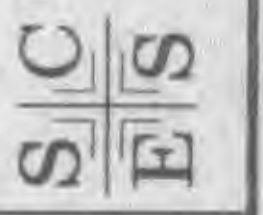
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**PROSPECT VILLAGE**  
GRADING PLAN

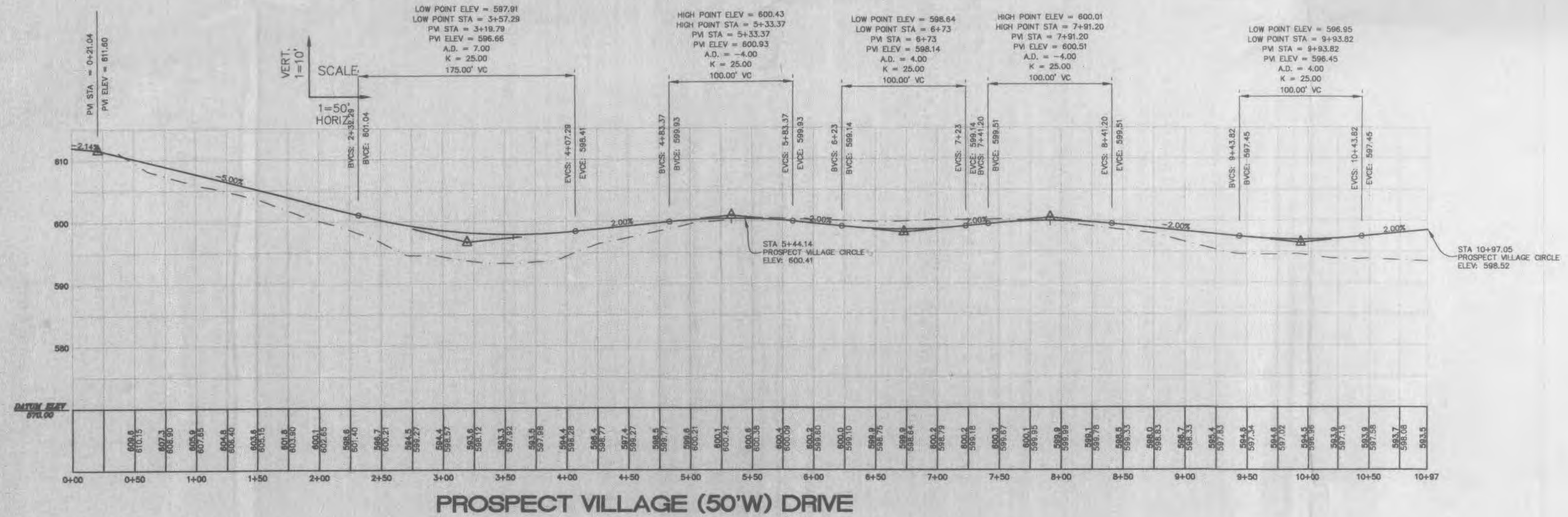
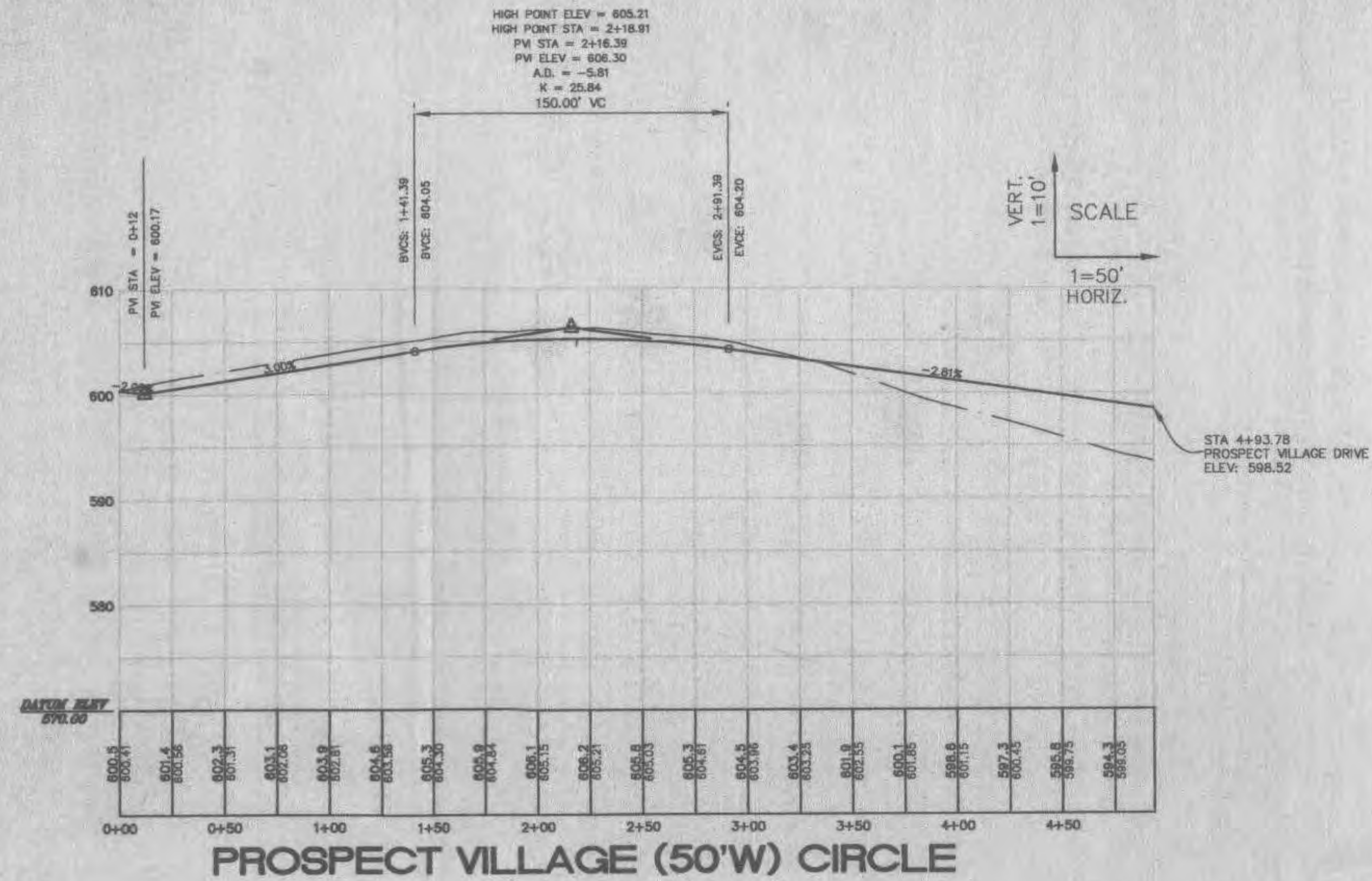
ST. CHARLES ENGINEERING & SURVEYING, INC.  
801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-0607 FAX: (636) 947-4448



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THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE OR NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE AND PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.





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**PROSPECT VILLAGE**  
 STREET PROFILES

ST. CHARLES ENGINEERING & SURVEYING, INC.  
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 TEL: (636) 947-0007 FAX: (636) 947-3446



ORDER NO. 201283

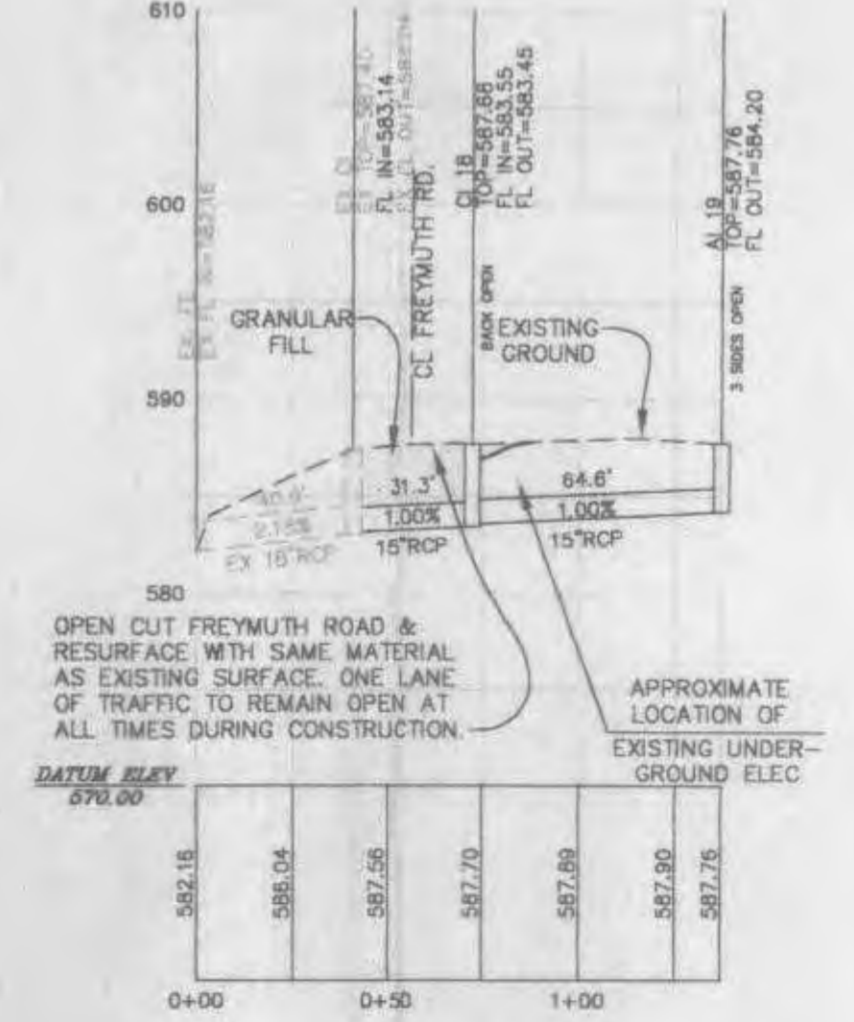
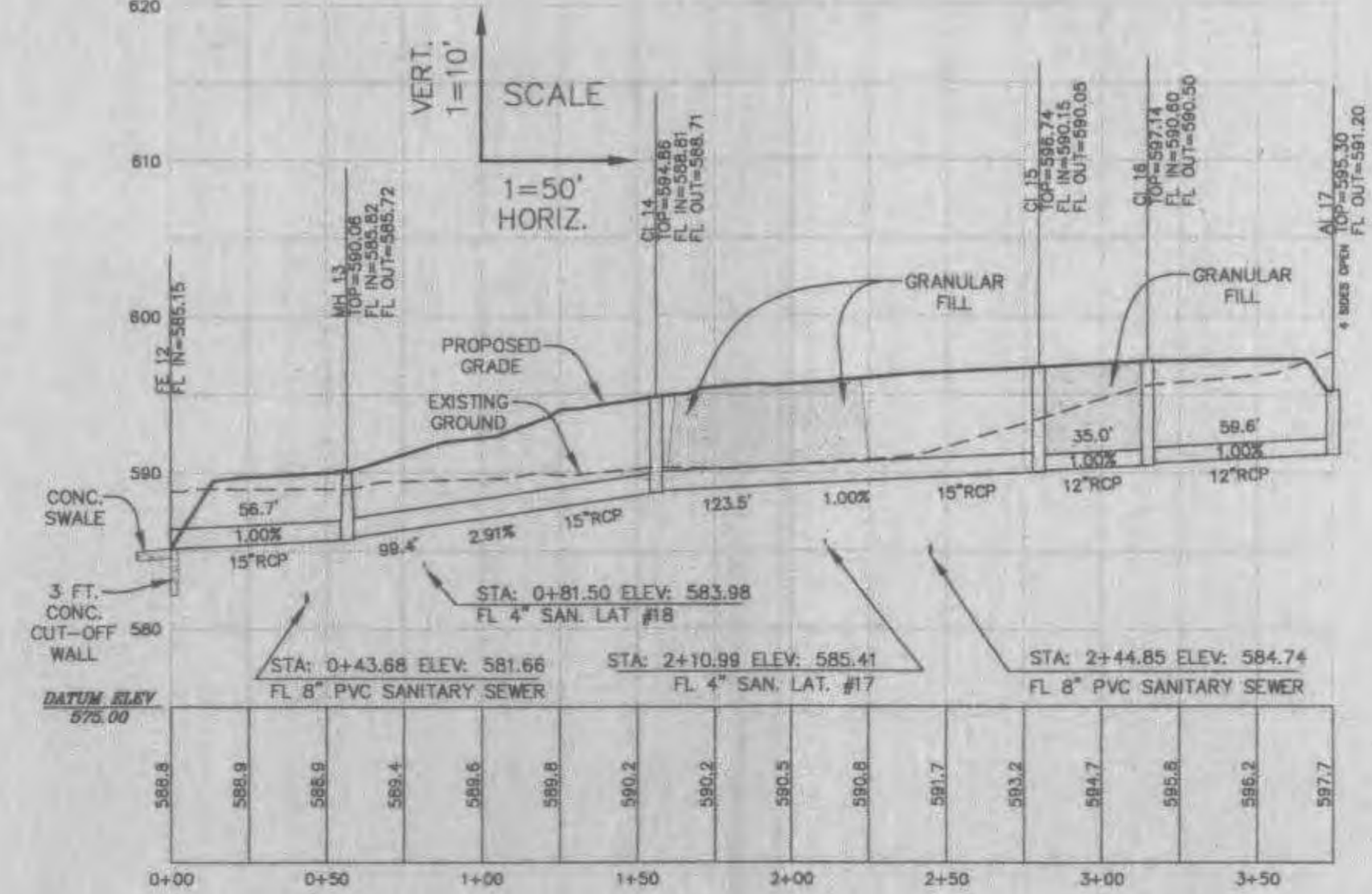
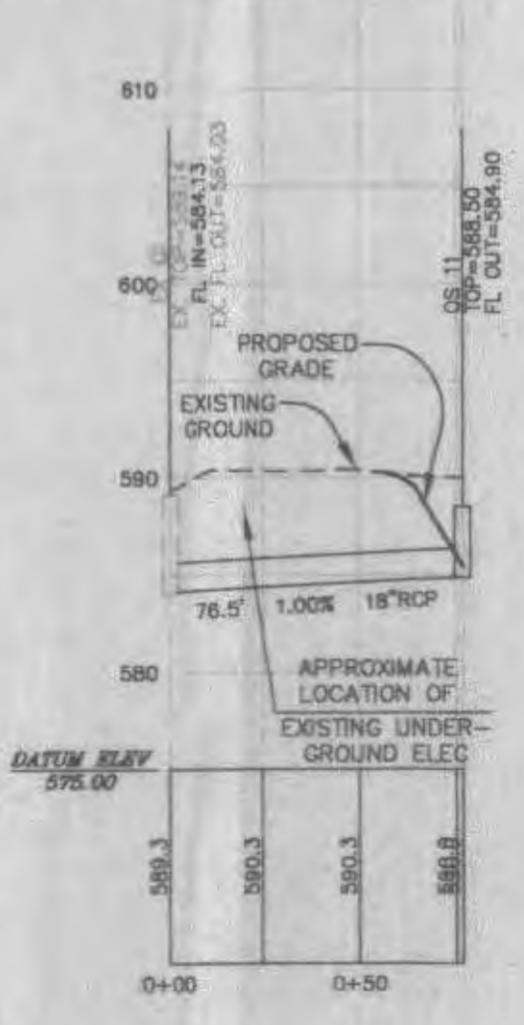
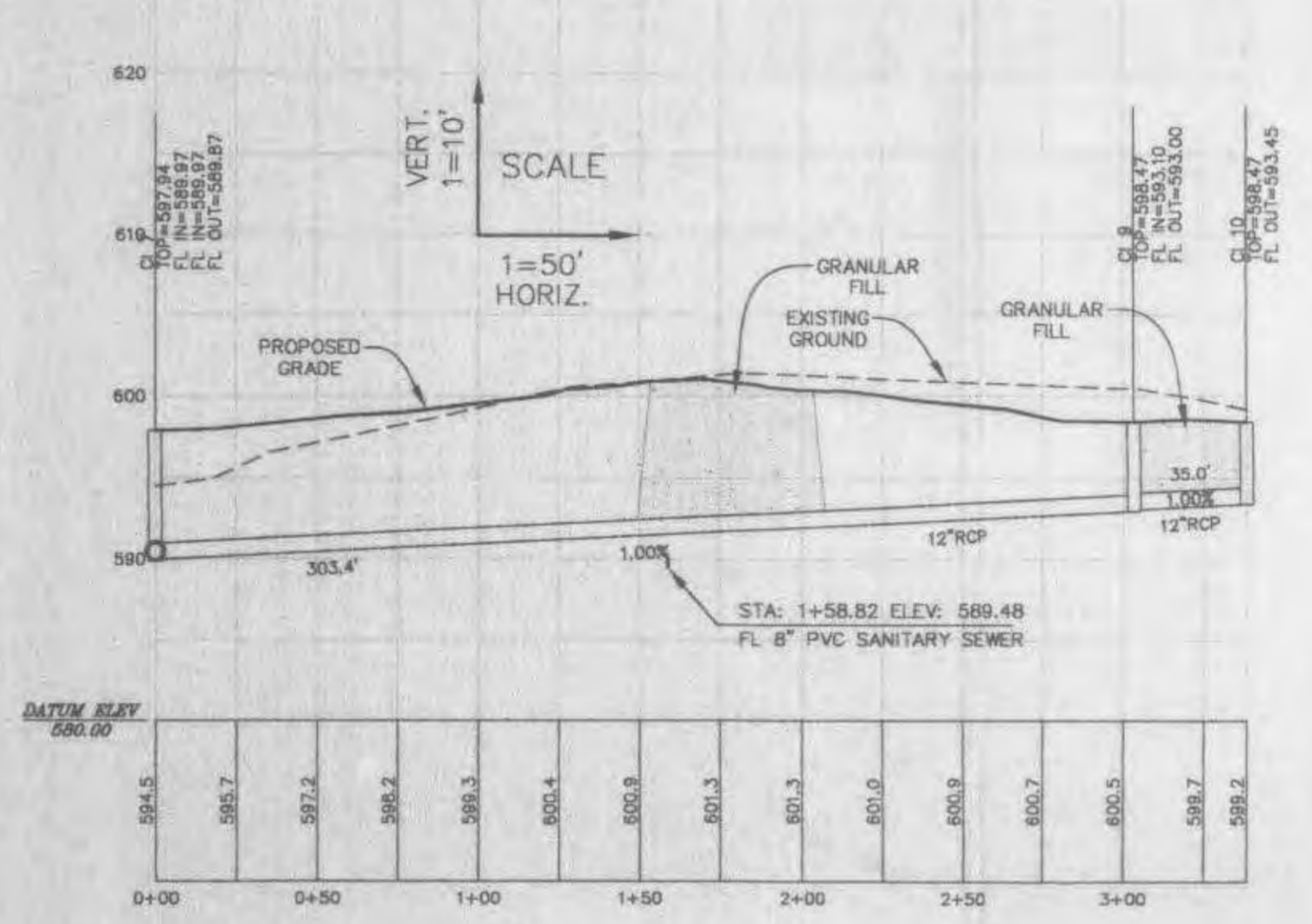
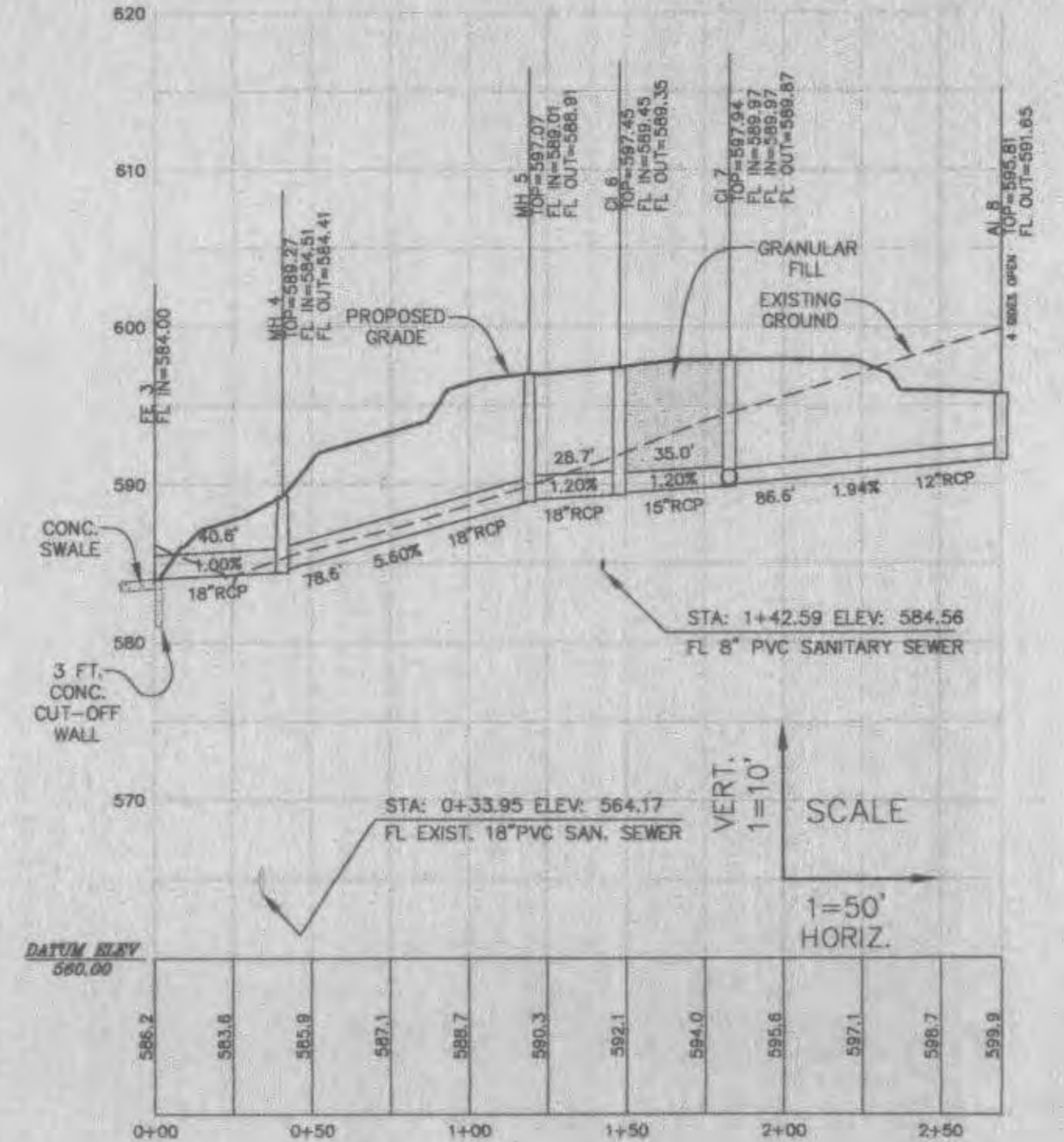
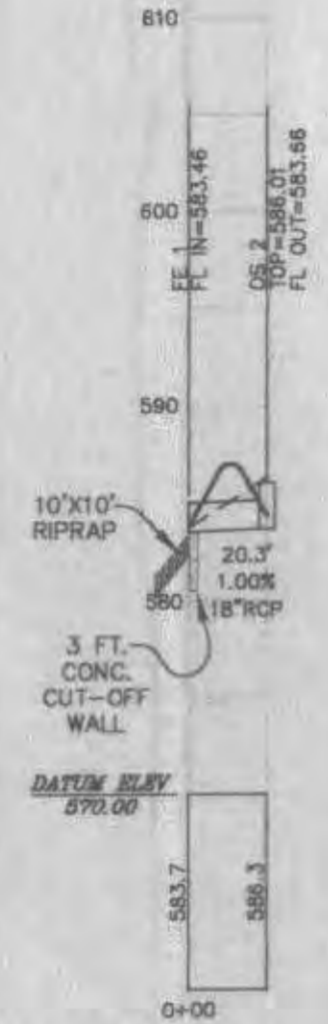
DATE 8-06-02

C-4









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# PROSPECT VILLAGE

## STORM SEWER PROFILES

ST. CHARLES ENGINEERING & SURVEYING, INC.  
 801 S. FIFTH STREET, SUITE 202  
 ST. CHARLES, MO 63301  
 TEL:(636) 947-0607 FAX:(636) 947-2448

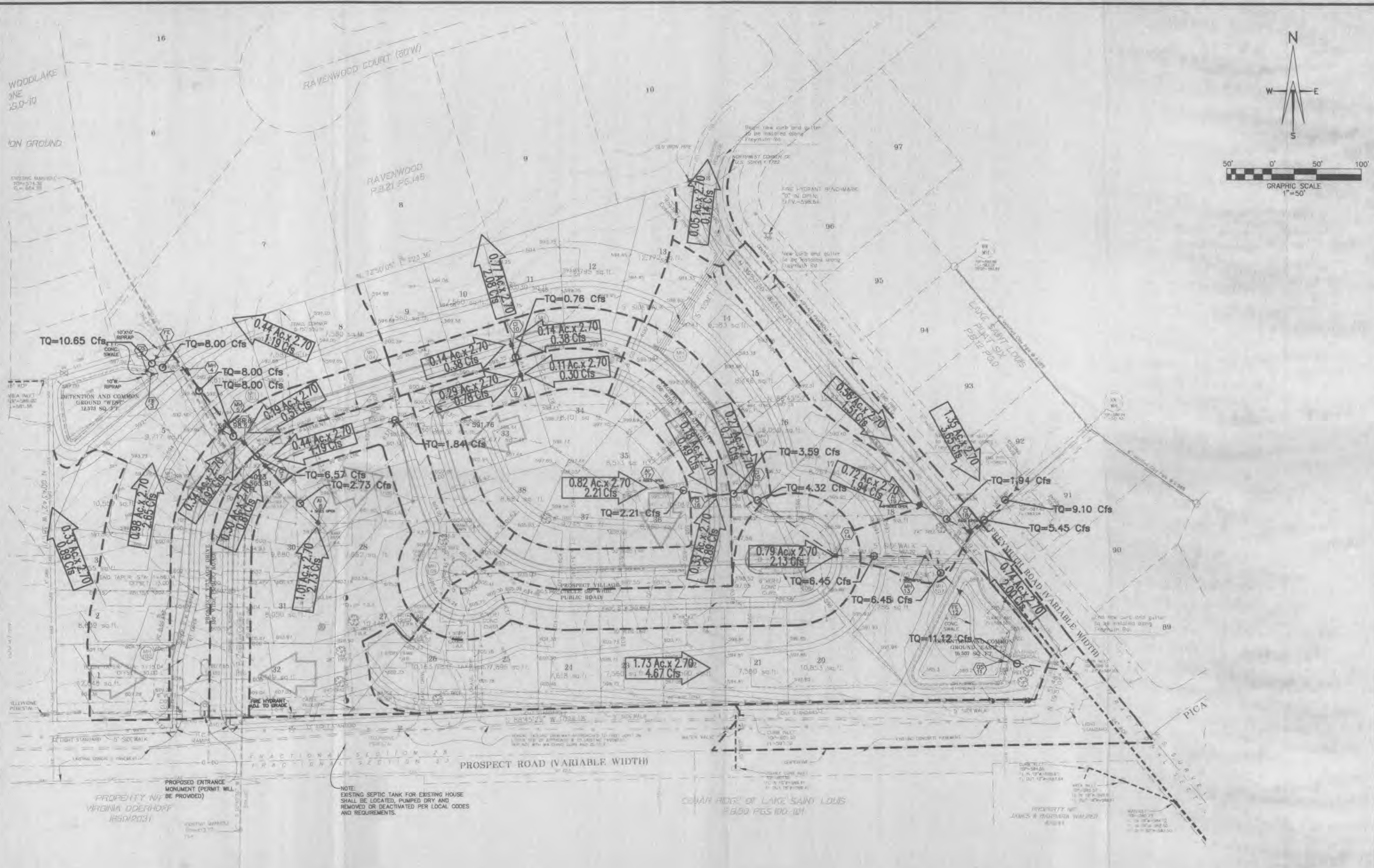


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DATE  
8-06-02

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NOTE:  
EXISTING SEPTIC TANK FOR EXISTING HOUSE SHALL BE LOCATED, PUMPED DRY AND REMOVED OR DEACTIVATED PER LOCAL CODES AND REQUIREMENTS.

# DRAINAGE AREA MAP - NOT FOR CONSTRUCTION PURPOSES

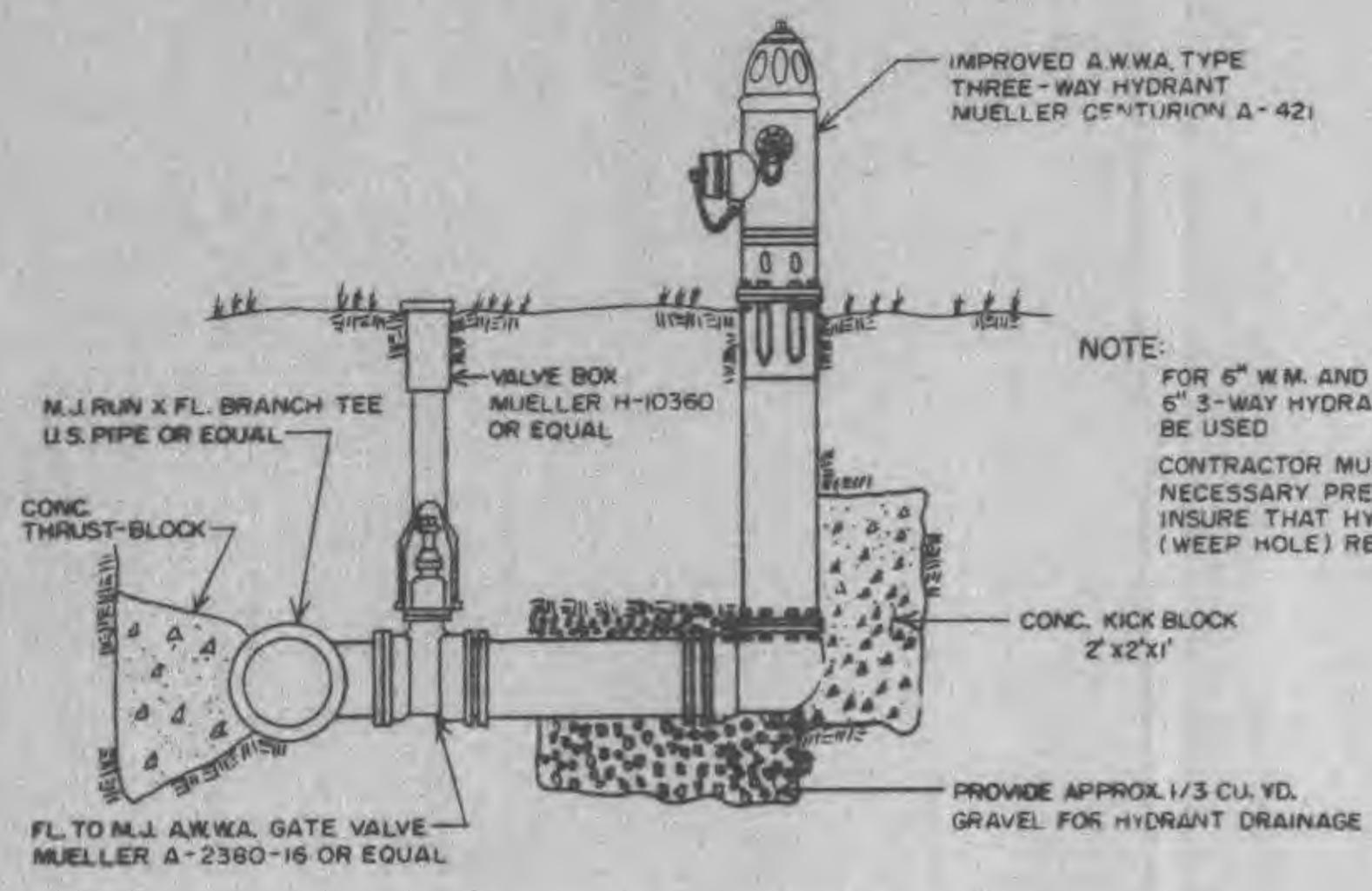
## PROSPECT VILLAGE DRAINAGE AREA MAP

ST. CHARLES ENGINEERING & SURVEYING, INC.  
801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-0607 FAX: (636) 947-3448

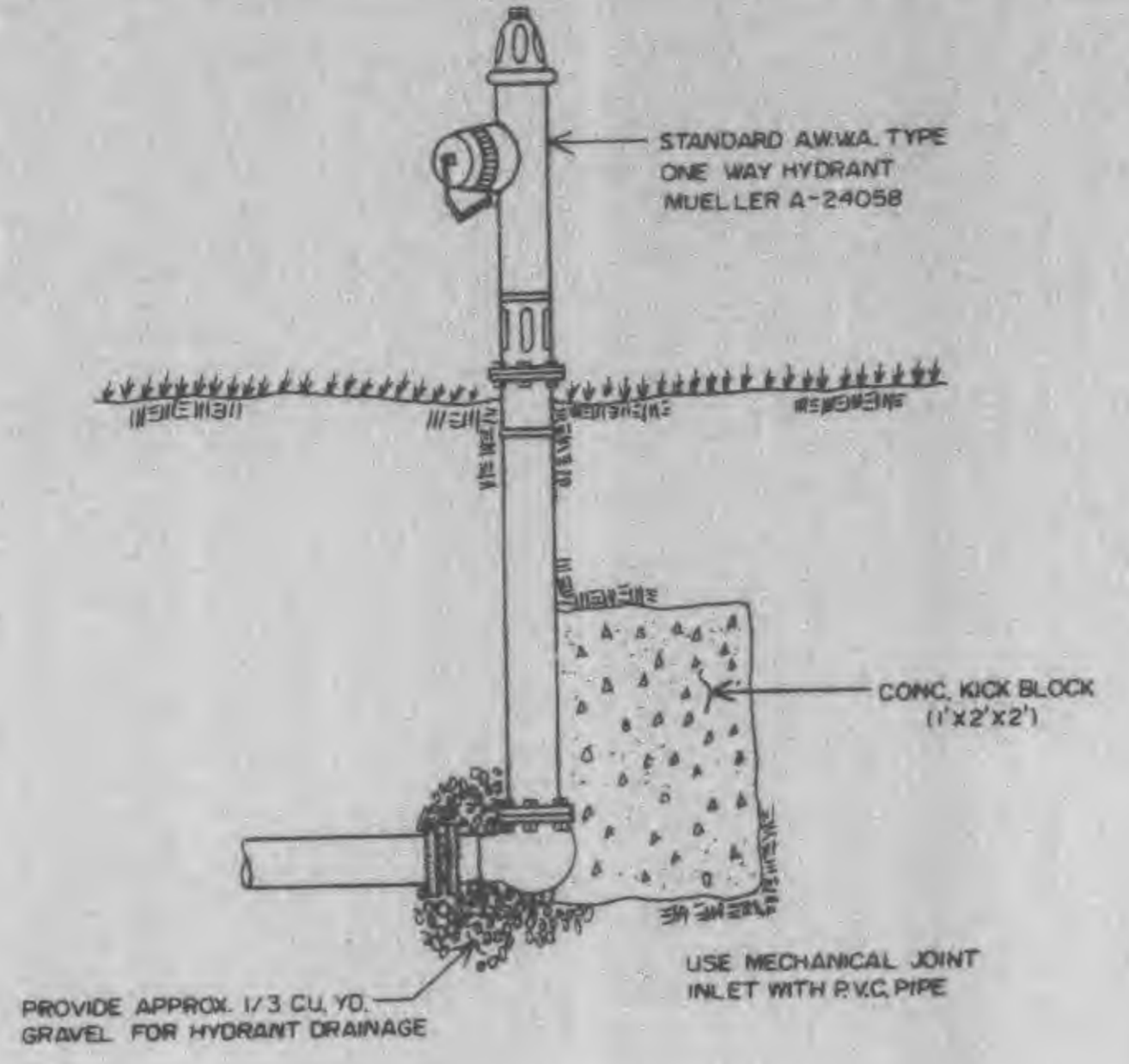


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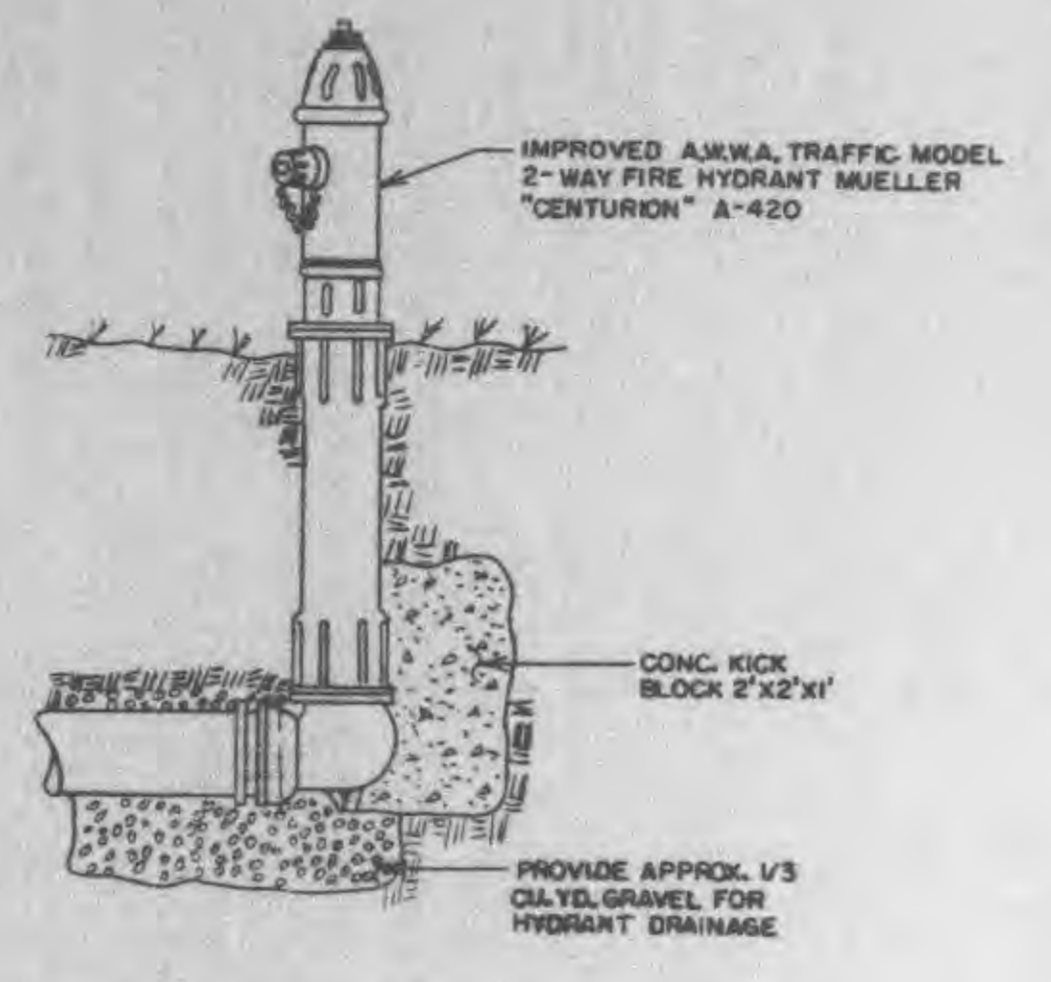




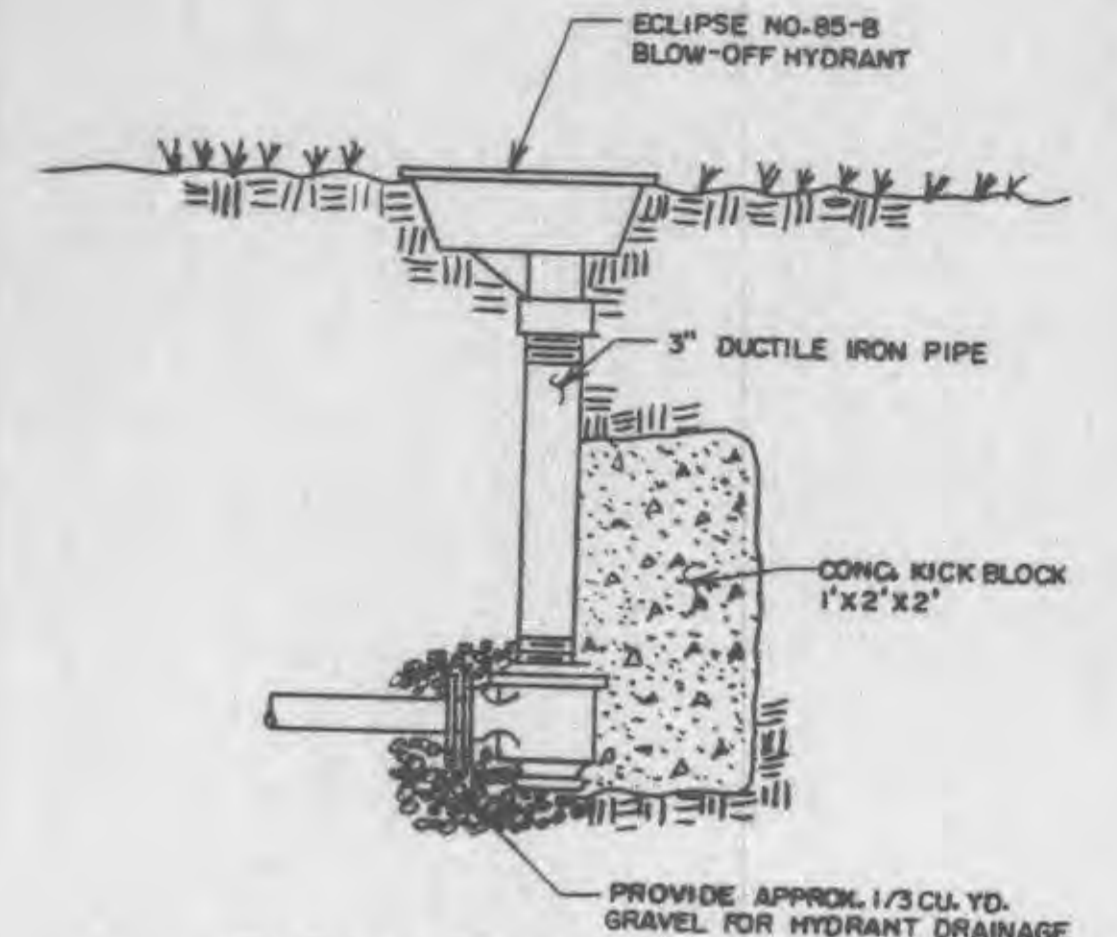
FIRE HYDRANT INSTALLATION DETAIL  
NO SCALE



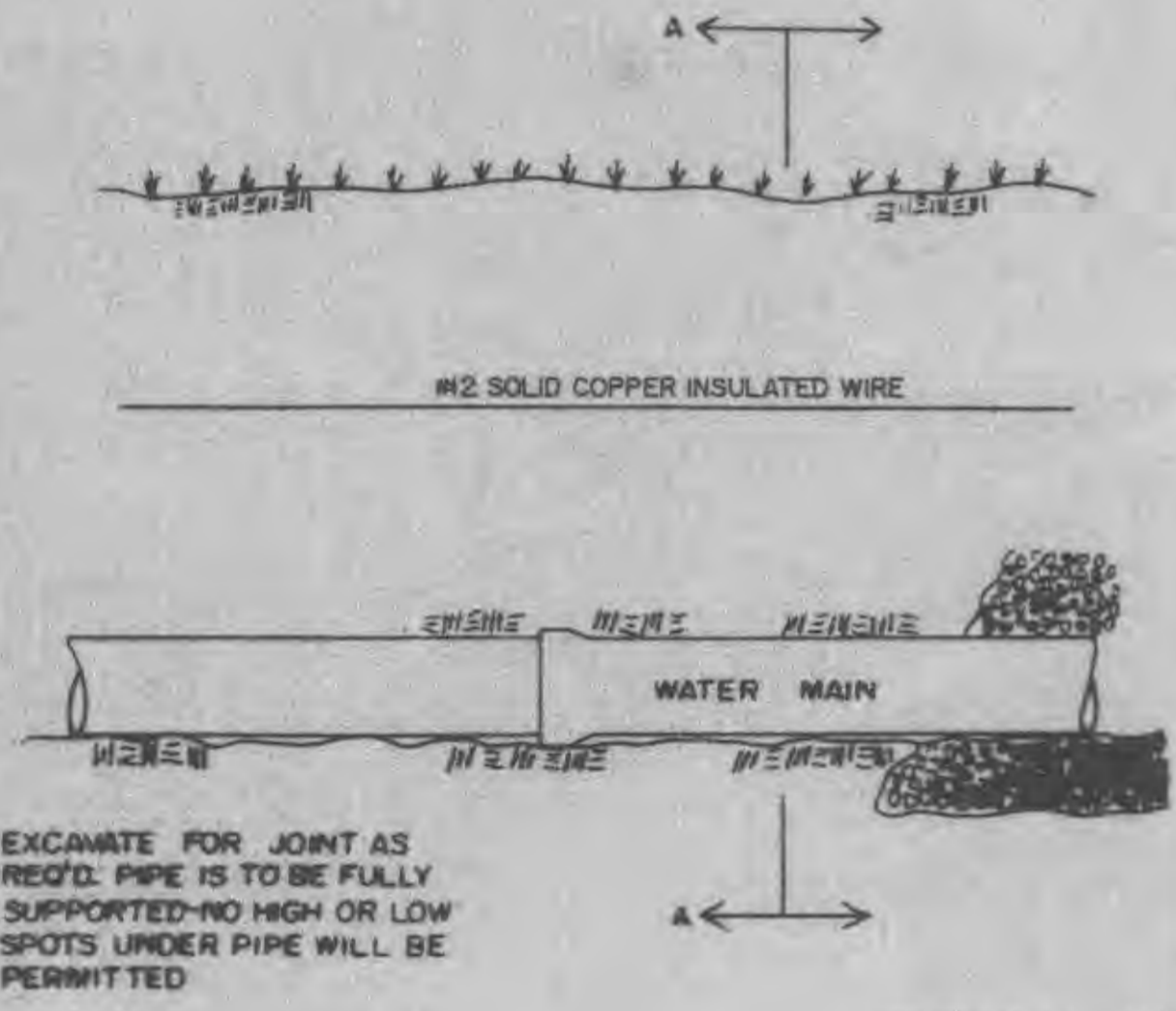
FLUSHING HYDRANT  
NO SCALE



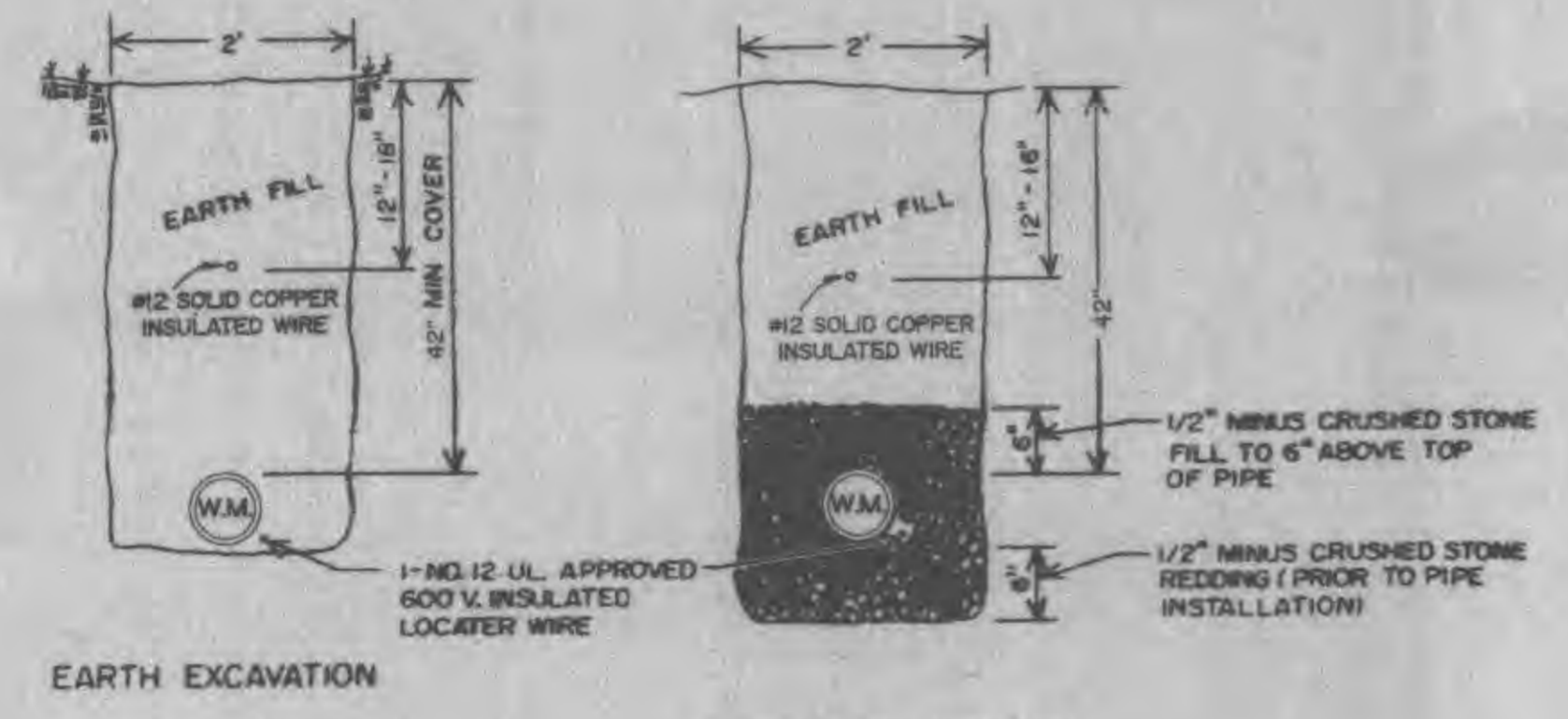
FIRE HYDRANT INSTALLATION DETAIL  
NO SCALE



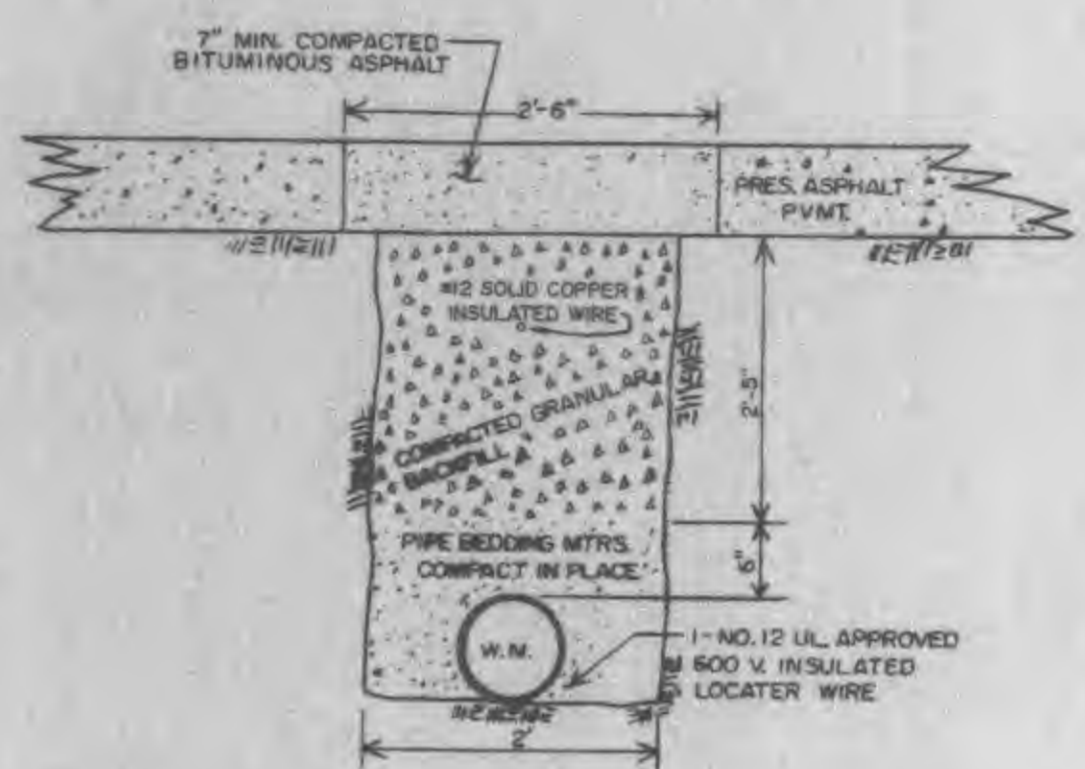
BLOW-OFF HYDRANT  
NO SCALE



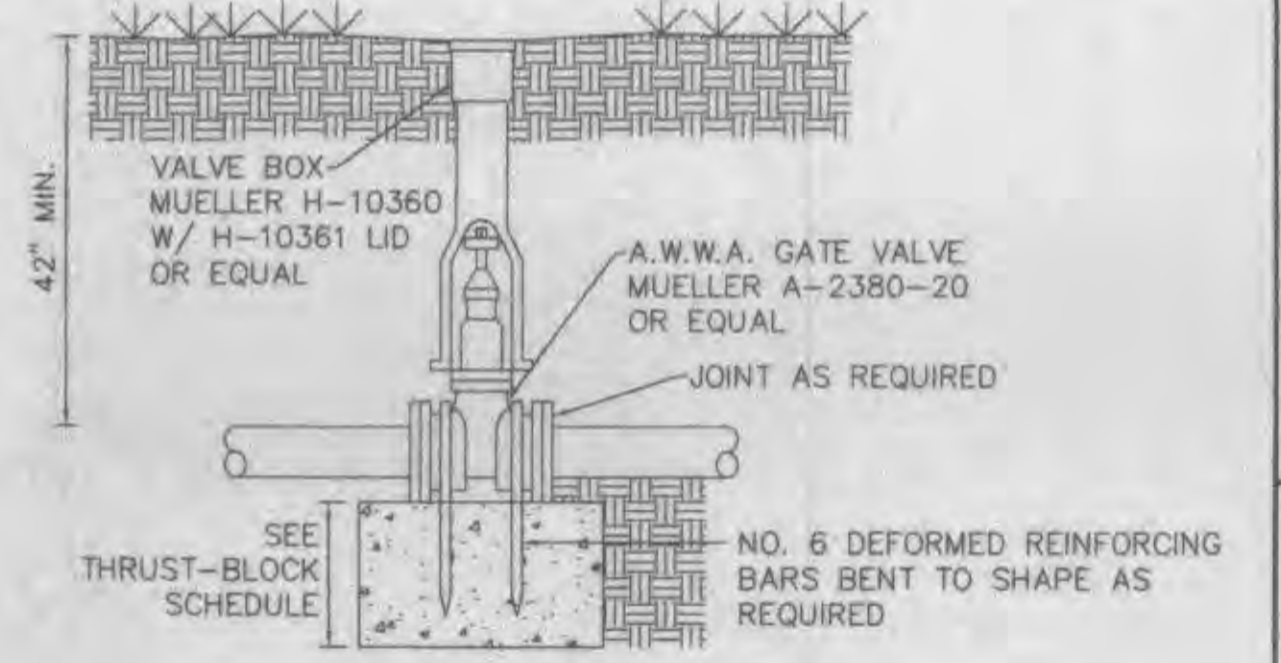
TYPICAL WATER MAIN TRENCHING DETAIL  
N.T.S.



SECTION A-A



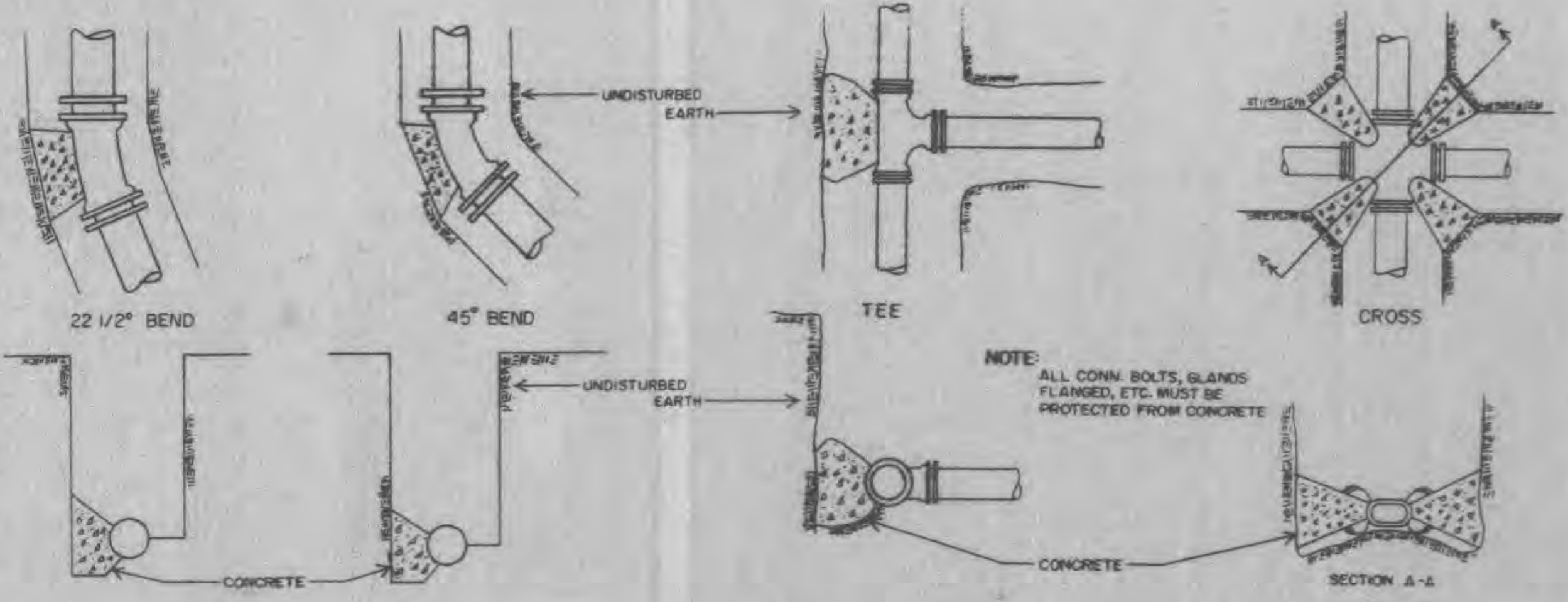
TYPICAL PAVED STREET OR ROAD TRENCH BACKFILL & SURFACE REPLACEMENT DETAIL  
SCALE: 1"=1'-0"



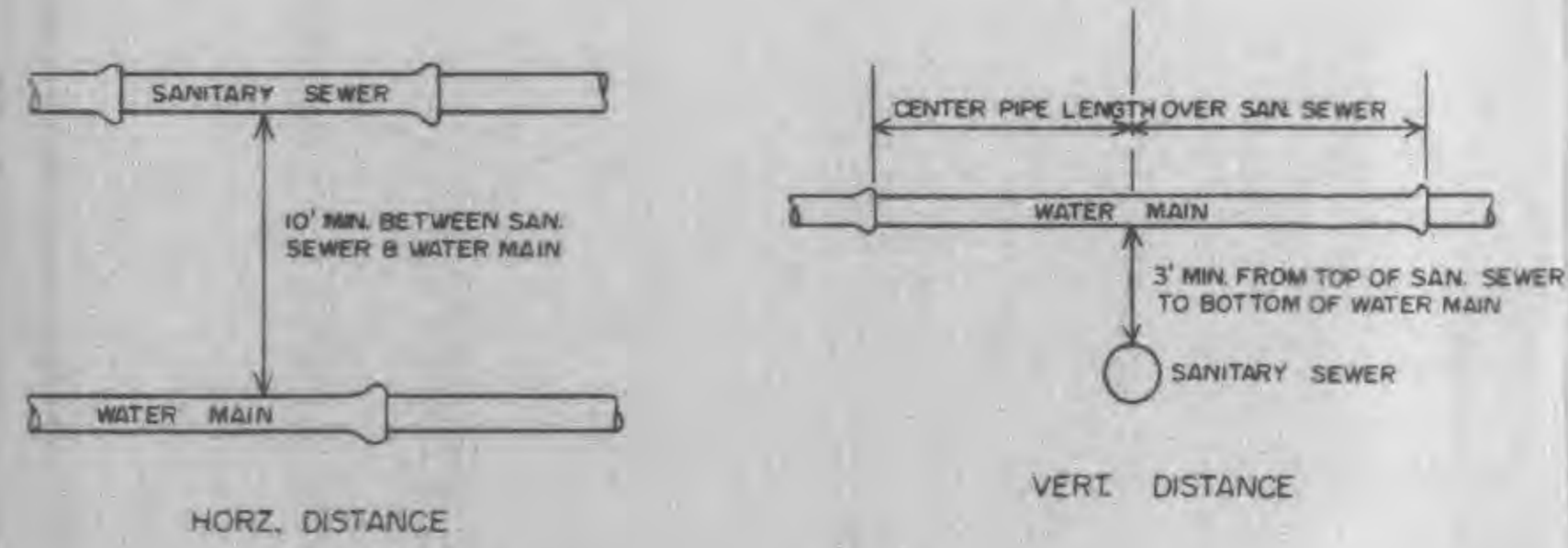
GATE VALVE W/THRUST BLOCK  
N.T.S.

| MAIN SIZE (I.D.) | MIN. THRUST BLOCK BEARING DIMENSIONS TO BEAR AGAINST UNDISTURBED EARTH |              |           |           |           |
|------------------|--|--------------|-----------|-----------|-----------|
|                  | 45° BEND   | 22 1/2° BEND | TEE       | VALVE     | CROSS     |
| 2"               | .5' X 1'   | .5' X 1'     | .5' X 1'  | .5' X 1'  | .5' X 1'  |
| 4"               | 1' X 1'  | 1' X 1'      | 2' X 1'   | 2' X 1'   | 1' X 1'   |
| 6"               | 1.5' X 1'  | 1' X 1'      | 2' X 1'   | 2' X 1'   | 1' X 1'   |
| 8"               | 2' X 1'  | 1' X 1'      | 2' X 2.5' | 2' X 2'   | 1' X 1.5' |
| 10"              | 2' X 2.5'  | 1.5' X 2'    | 2' X 3.5' | 2' X 3'   | 2' X 2'   |
| 12"              | 2' X 3.5'  | 1.5' X 2.5'  | 3' X 3.5' | 3' X 3'   | 2' X 3'   |
| 16"              | 3' X 4'  | 2' X 3'      | 4' X 4.5' | 3' X 4.5' | 3' X 3.5' |

THRUST-BLOCK SCHEDULE

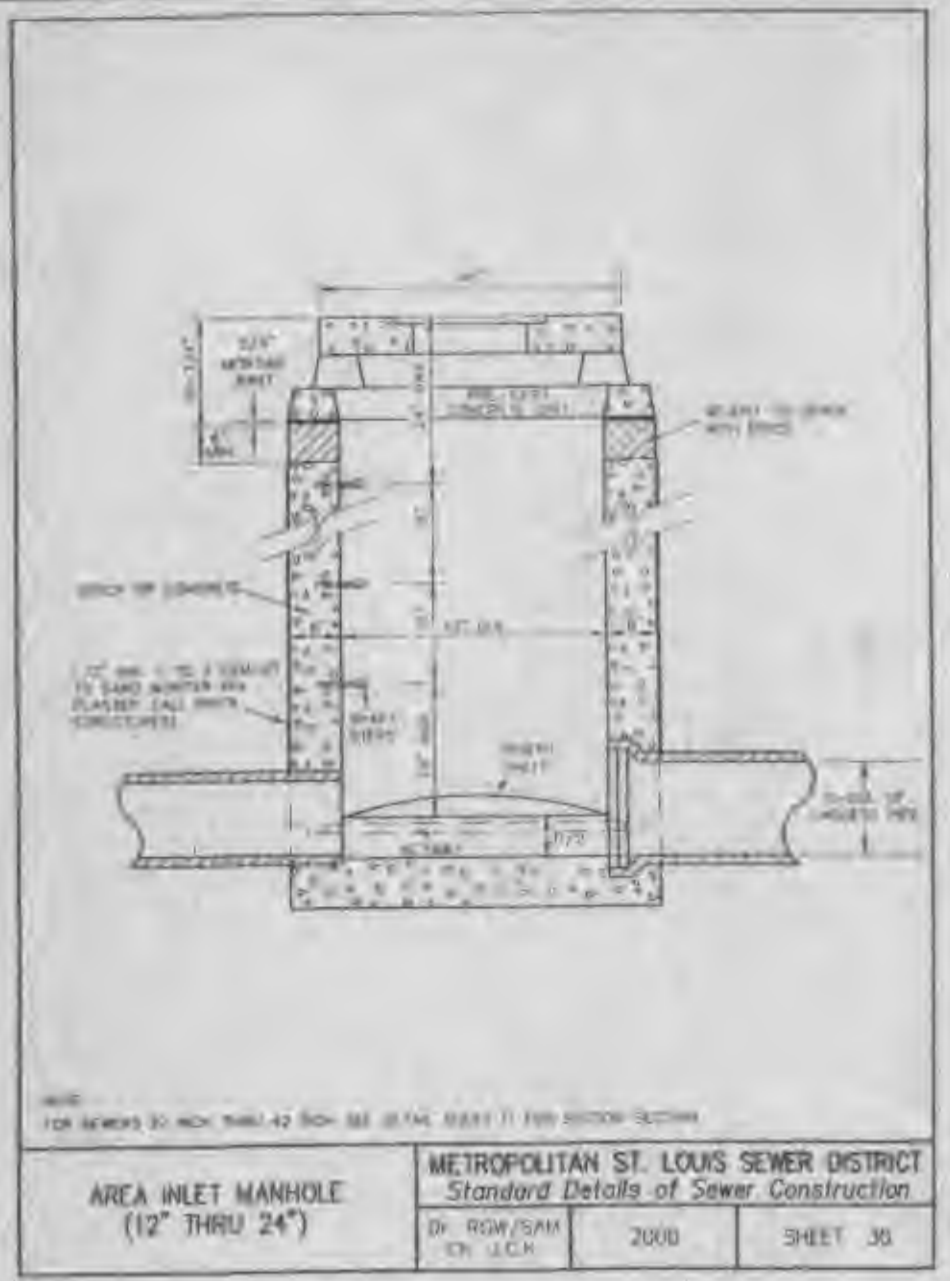


TYPICAL THRUST-BLOCK DETAIL  
N.T.S.

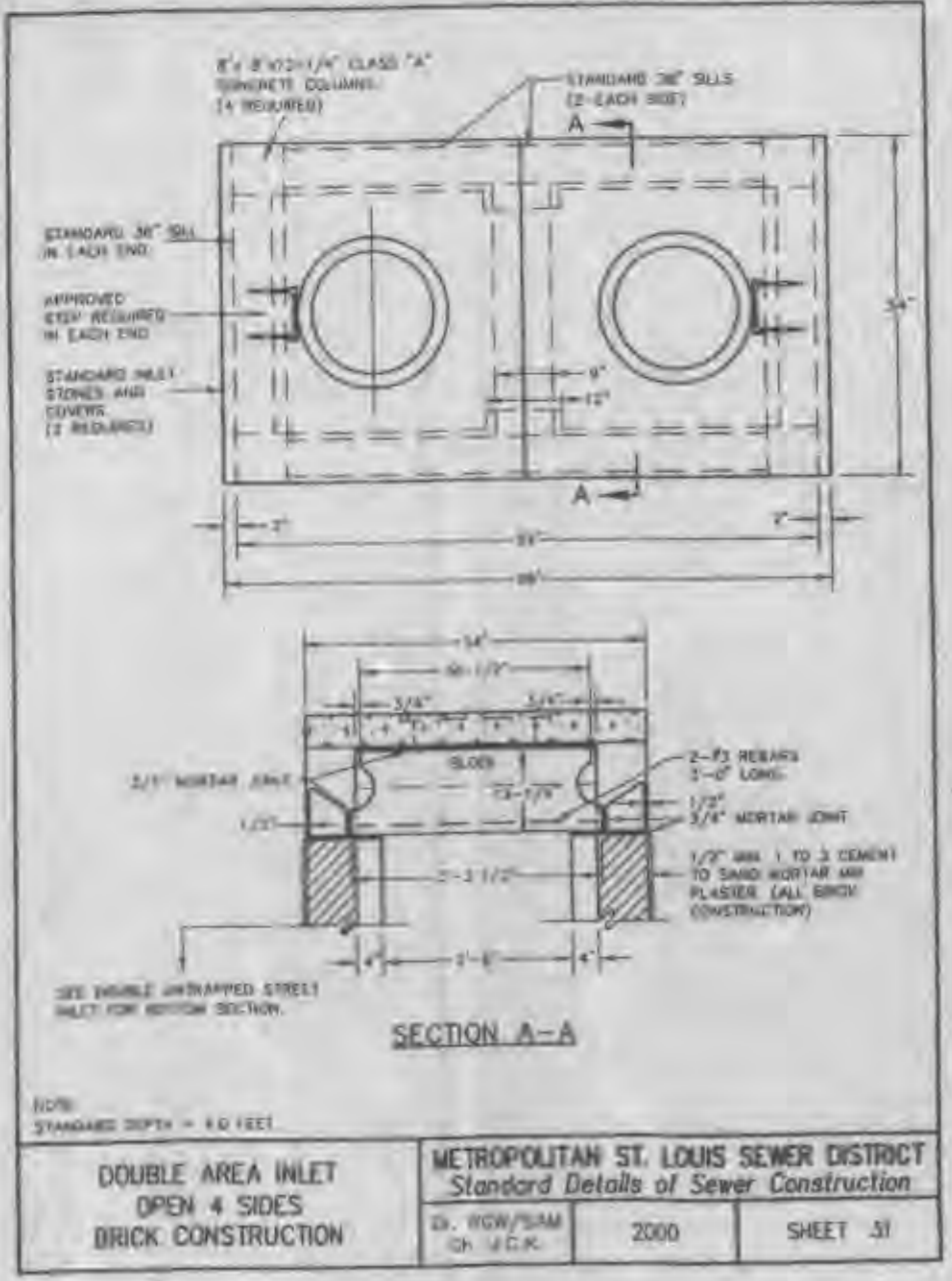


TYPICAL WATER & SEWER SEPARATION  
NO SCALE

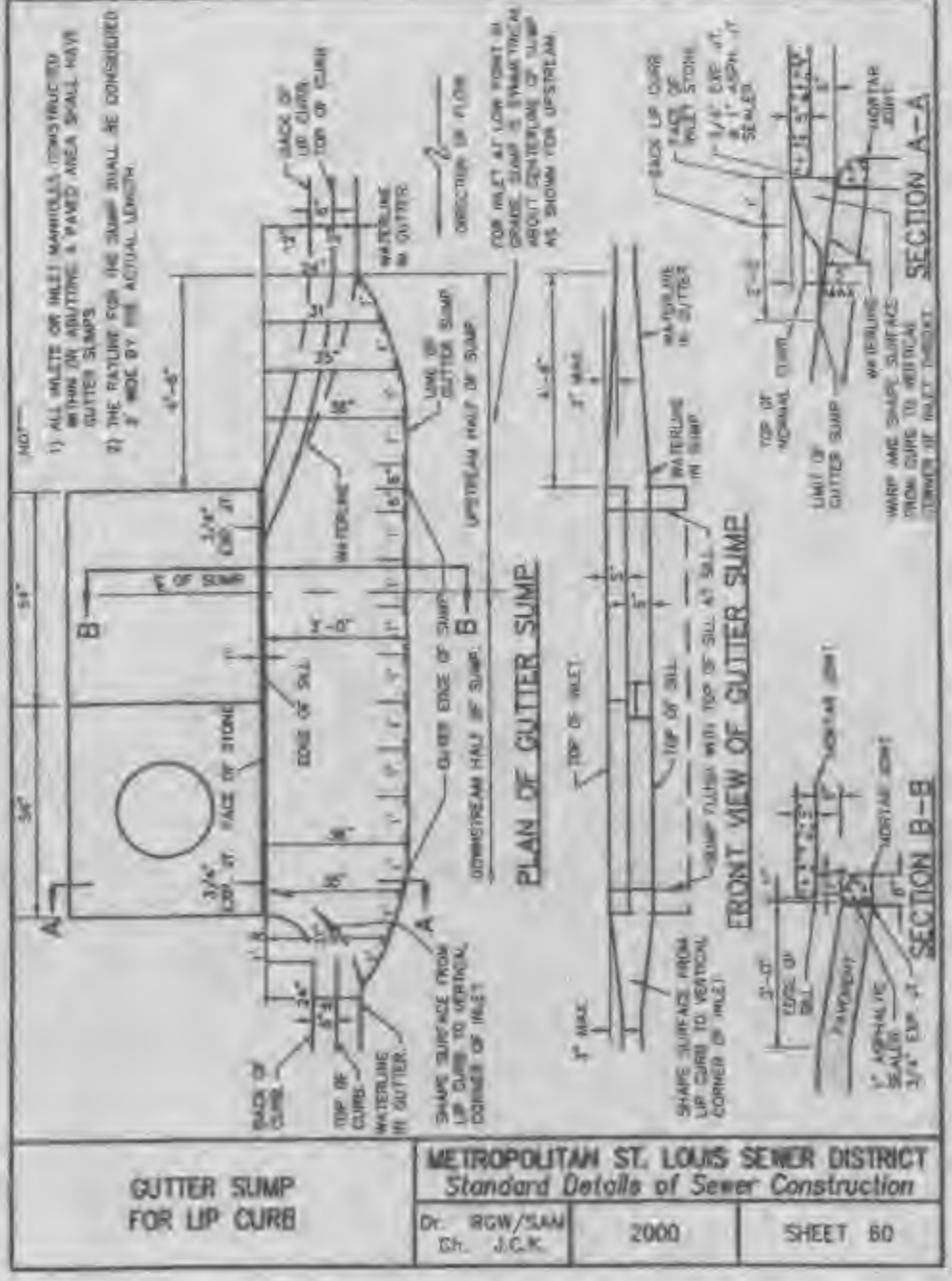




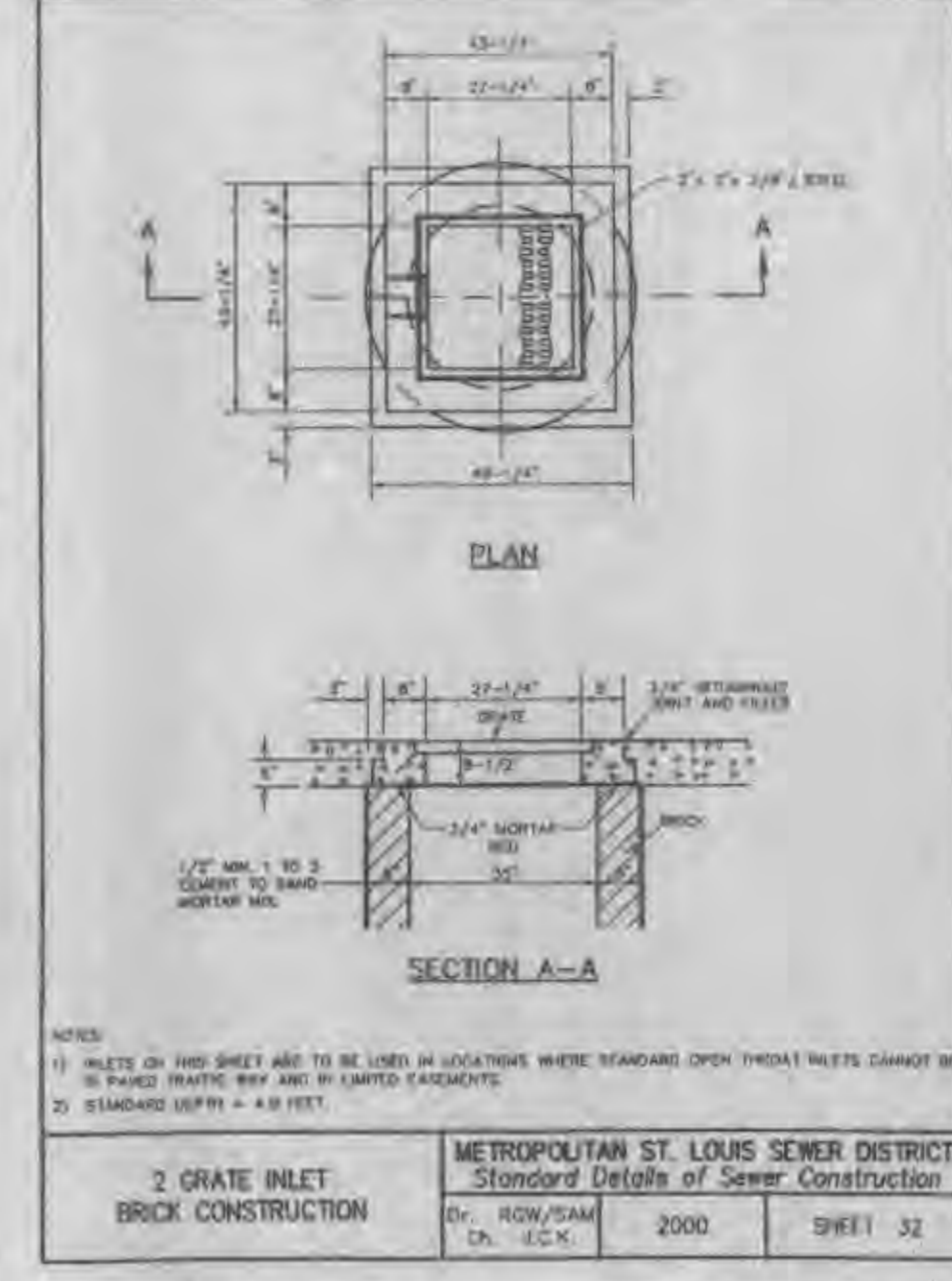
**AREA INLET MANHOLE (12" THRU 24")**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. ROW/SAM Ch. J.C.K. 2000 SHEET 30



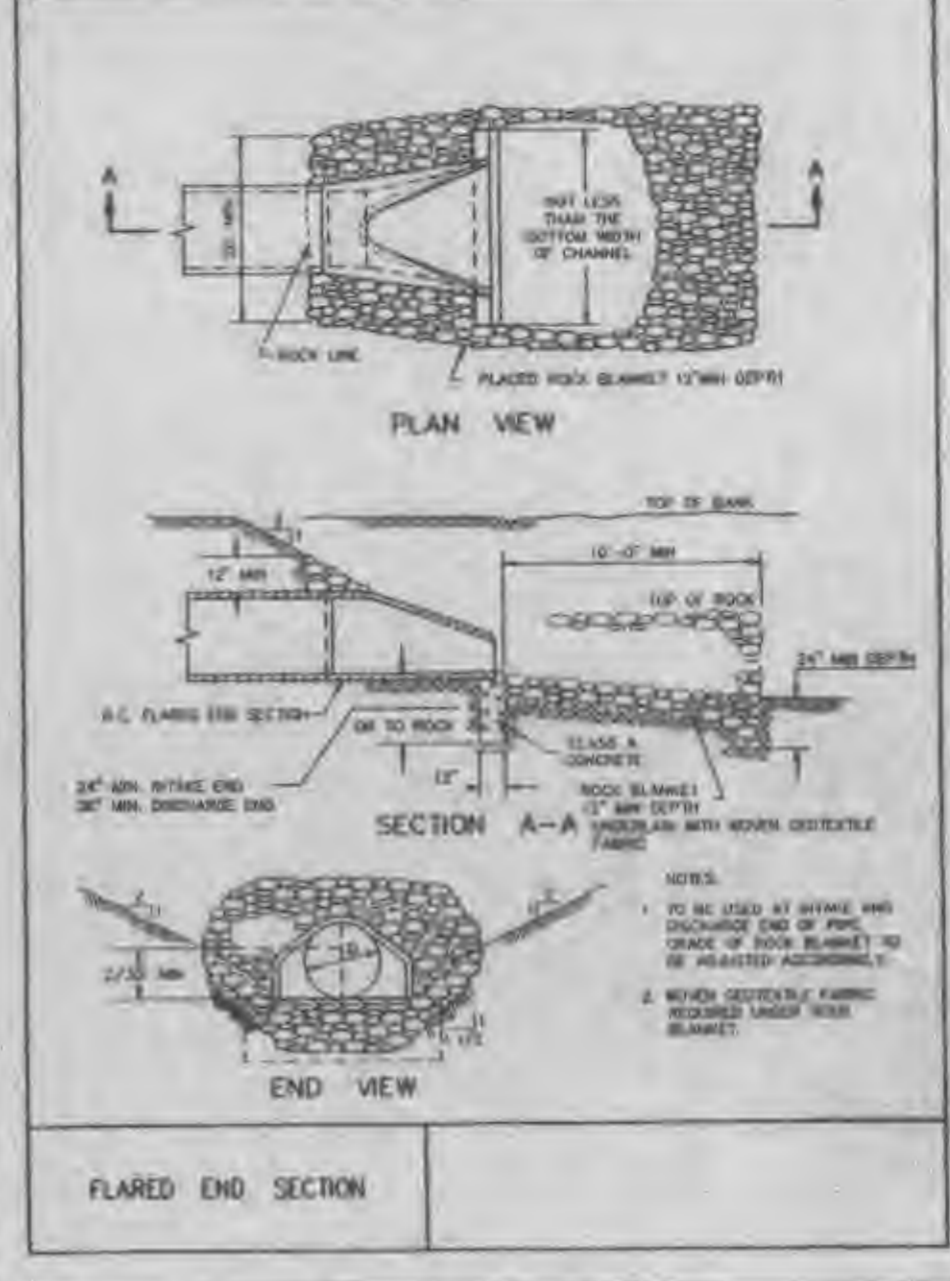
**DOUBLE AREA INLET OPEN 4 SIDES BRICK CONSTRUCTION**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. ROW/SAM Ch. J.C.K. 2000 SHEET 31



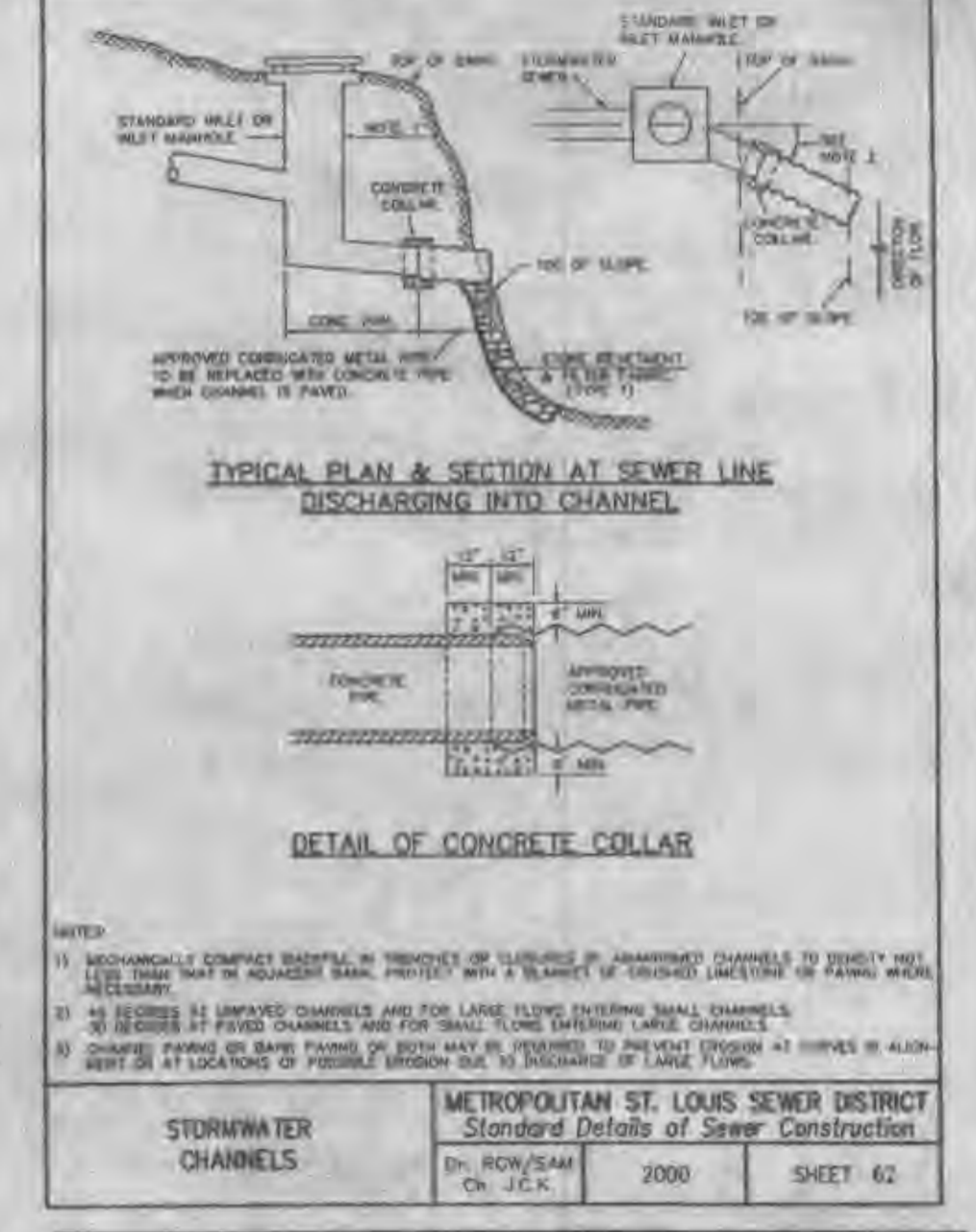
**GUTTER SUMP FOR LIP CURB**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. ROW/SAM Ch. J.C.K. 2000 SHEET 32



**2 GRATE INLET BRICK CONSTRUCTION**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. ROW/SAM Ch. J.C.K. 2000 SHEET 33



**FLARED END SECTION**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. ROW/SAM Ch. J.C.K. 2000 SHEET 34



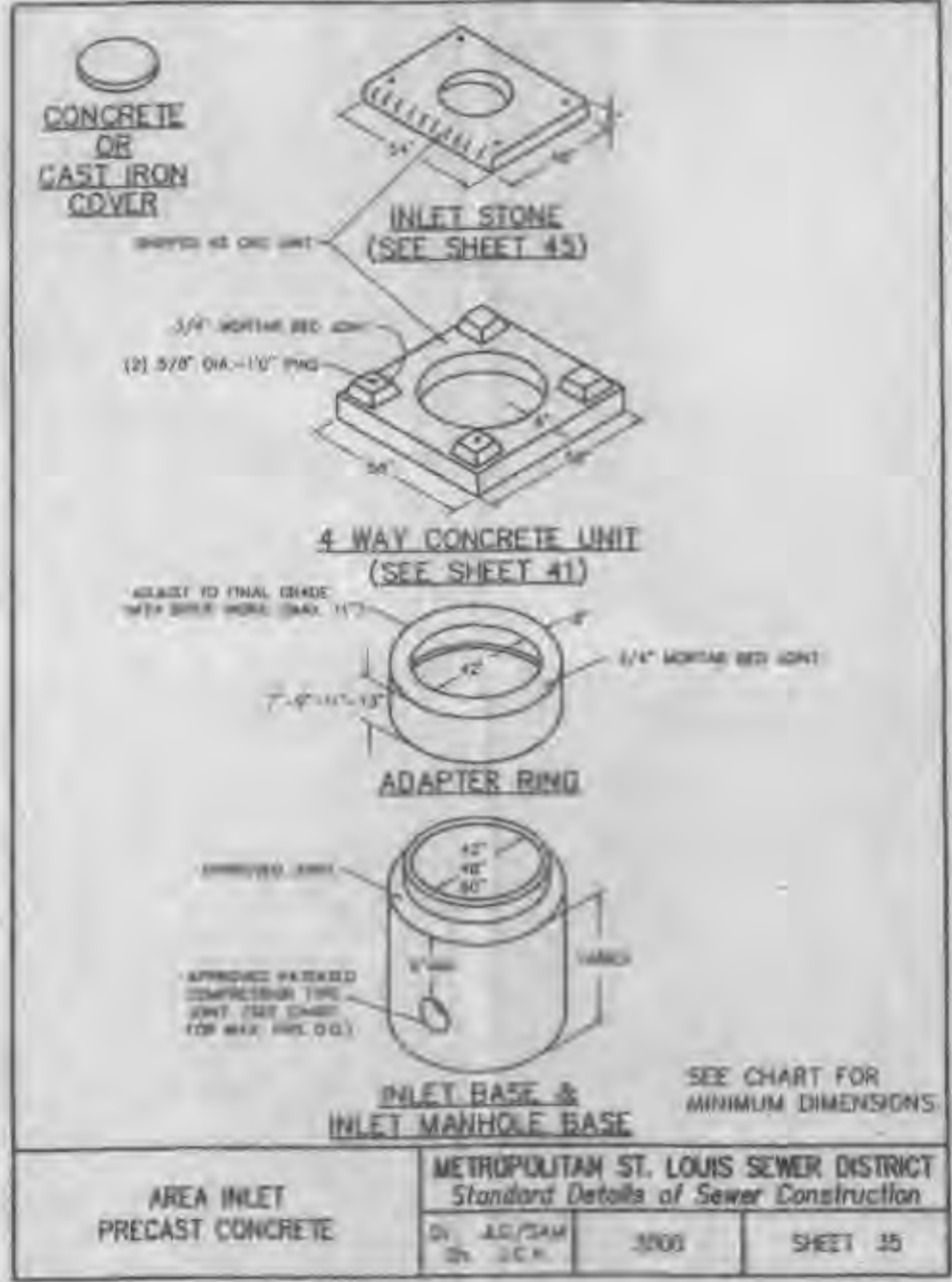
**STORMWATER CHANNELS**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. ROW/SAM Ch. J.C.K. 2000 SHEET 35

**PRECAST CONCRETE STORMWATER STRUCTURES**  
 MINIMUM DISTANCES FROM TO TOP OF STONE OR GRATE

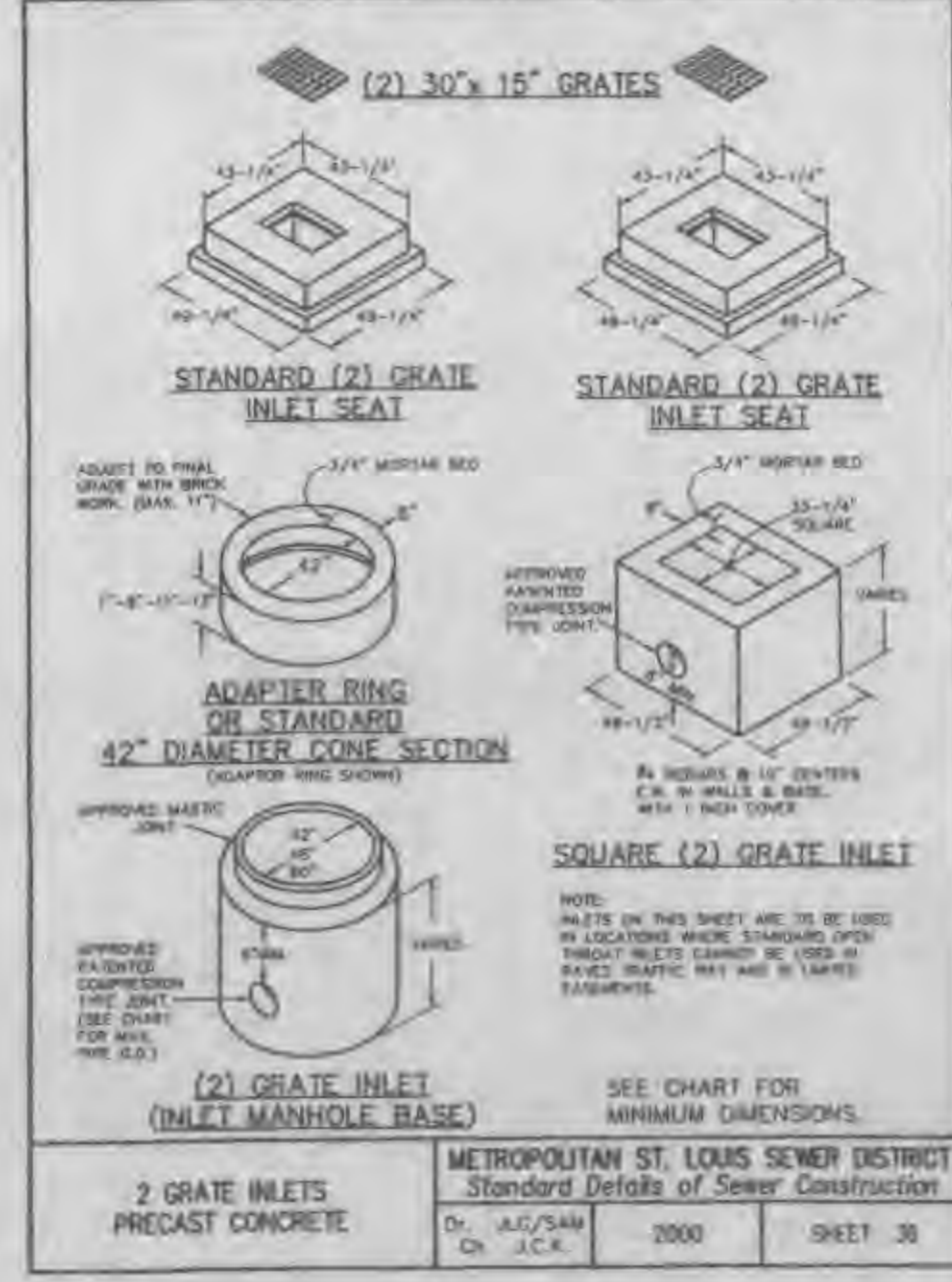
| PIPE DIA. (INCHES) | AREA INLET (CIRCULAR BASE DIA.) | (2) GRATE INLET (CIRCULAR BASE DIA.) | SINGLE STREET INLET (CIRCULAR BASE DIA.) |
|--------------------|---------------------------------|--------------------------------------|--|
| 12"                | 12"                             | 12"                                  | 12"                                      |
| 18"                | 18"                             | 18"                                  | 18"                                      |
| 24"                | 24"                             | 24"                                  | 24"                                      |
| 30"                | 30"                             | 30"                                  | 30"                                      |
| 36"                | 36"                             | 36"                                  | 36"                                      |
| 42"                | 42"                             | 42"                                  | 42"                                      |
| 48"                | 48"                             | 48"                                  | 48"                                      |
| 54"                | 54"                             | 54"                                  | 54"                                      |
| 60"                | 60"                             | 60"                                  | 60"                                      |
| 66"                | 66"                             | 66"                                  | 66"                                      |
| 72"                | 72"                             | 72"                                  | 72"                                      |
| 78"                | 78"                             | 78"                                  | 78"                                      |
| 84"                | 84"                             | 84"                                  | 84"                                      |
| 90"                | 90"                             | 90"                                  | 90"                                      |
| 96"                | 96"                             | 96"                                  | 96"                                      |
| 102"               | 102"                            | 102"                                 | 102"                                     |
| 108"               | 108"                            | 108"                                 | 108"                                     |
| 114"               | 114"                            | 114"                                 | 114"                                     |
| 120"               | 120"                            | 120"                                 | 120"                                     |

NOTES:  
 1. 48" DIAMETER BASE REQUIRES 1" MIN. TRANSITION SECTION TO 42" DIAMETER SIMILAR TO "ADAPTER RING" SHEET 35.  
 2. 60" DIAMETER BASE REQUIRES 2" MIN. CONCRETE REDUCER TRANSITION TO 48" DIAMETER SIMILAR TO "ADAPTER RING" SHEET 35.  
 3. STANDARD DEPTH = 2' PIPE DIAMETER.

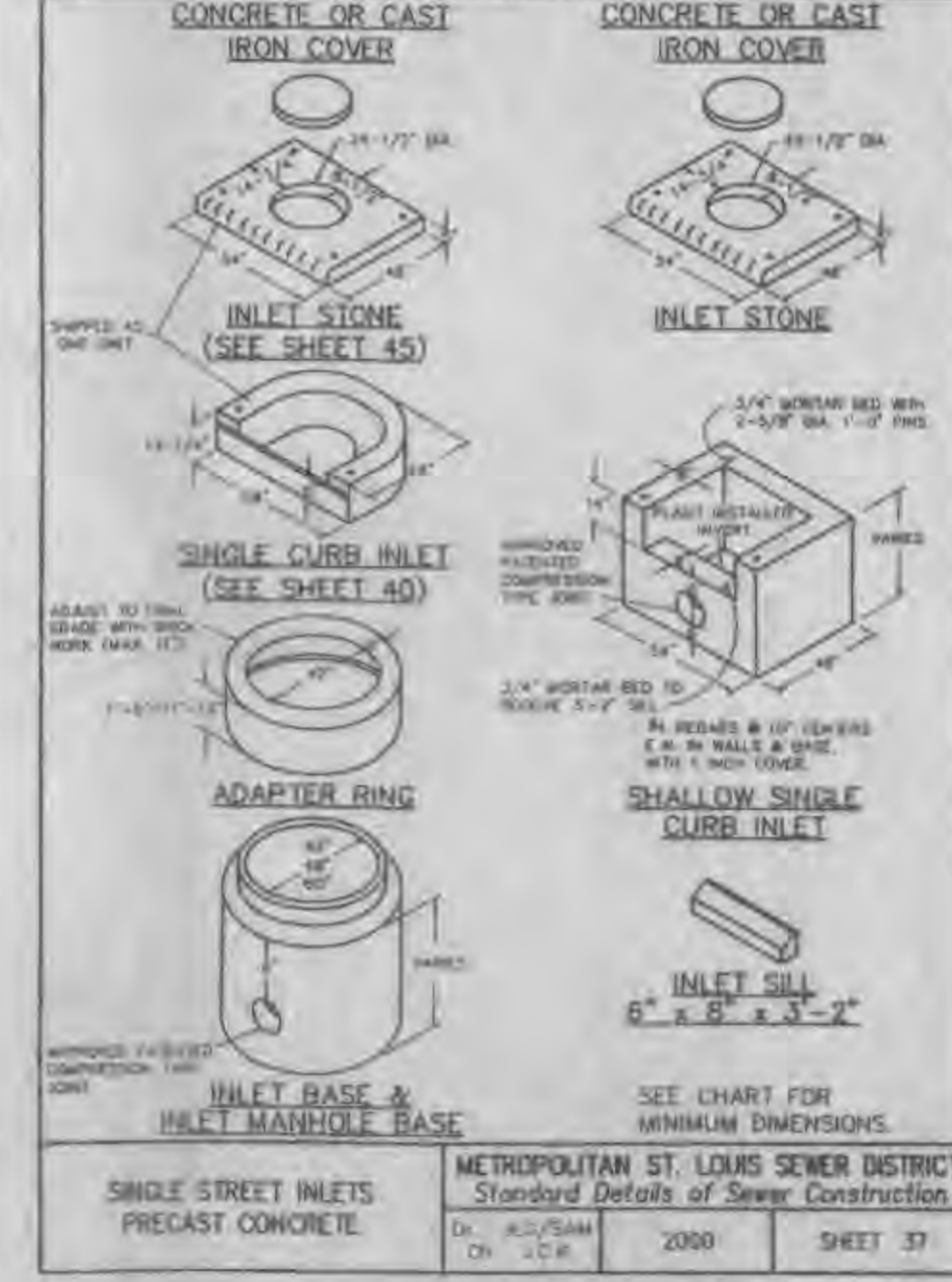
**PRECAST CONCRETE STORMWATER STRUCTURES**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 34



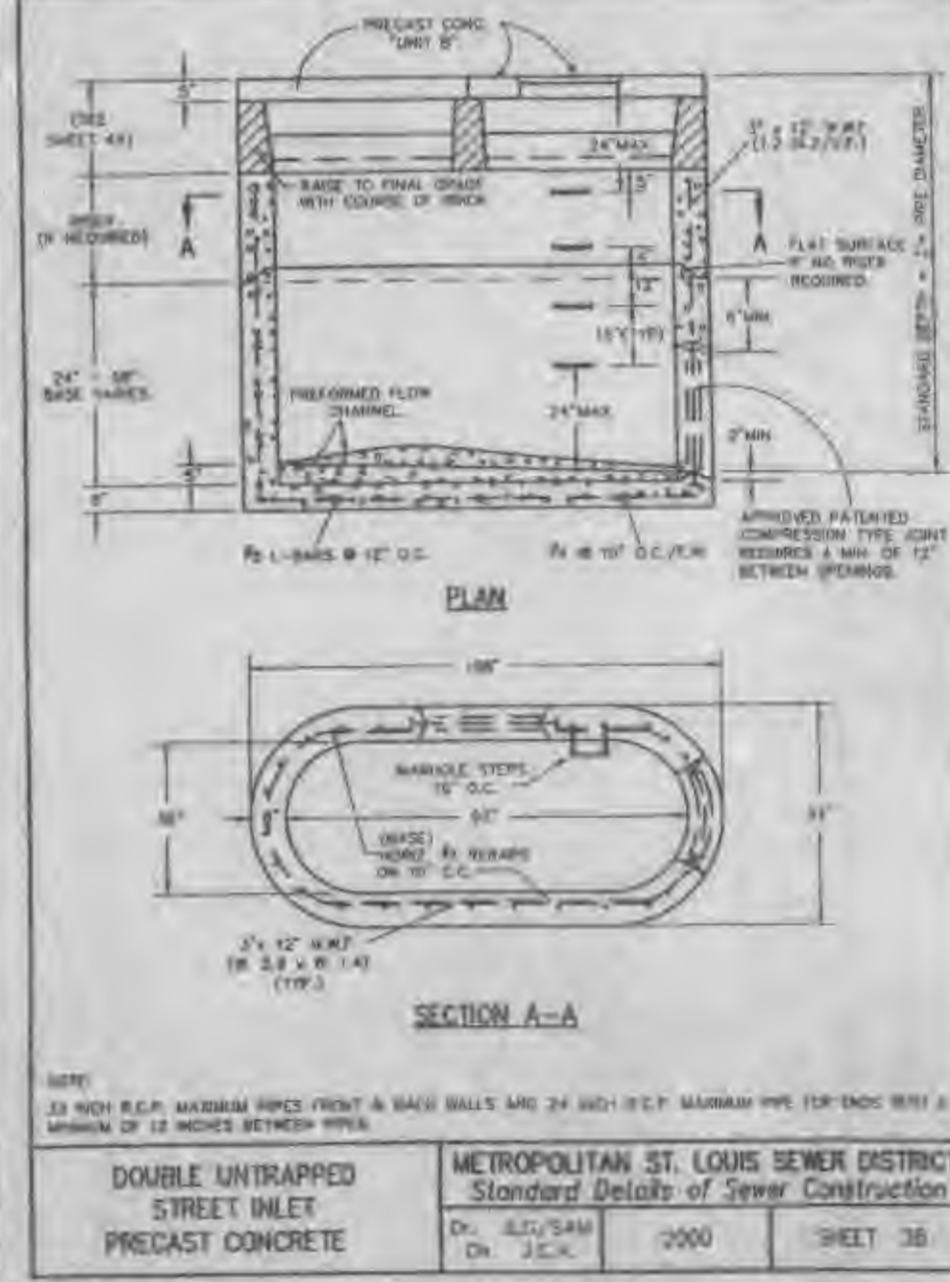
**AREA INLET PRECAST CONCRETE**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 35



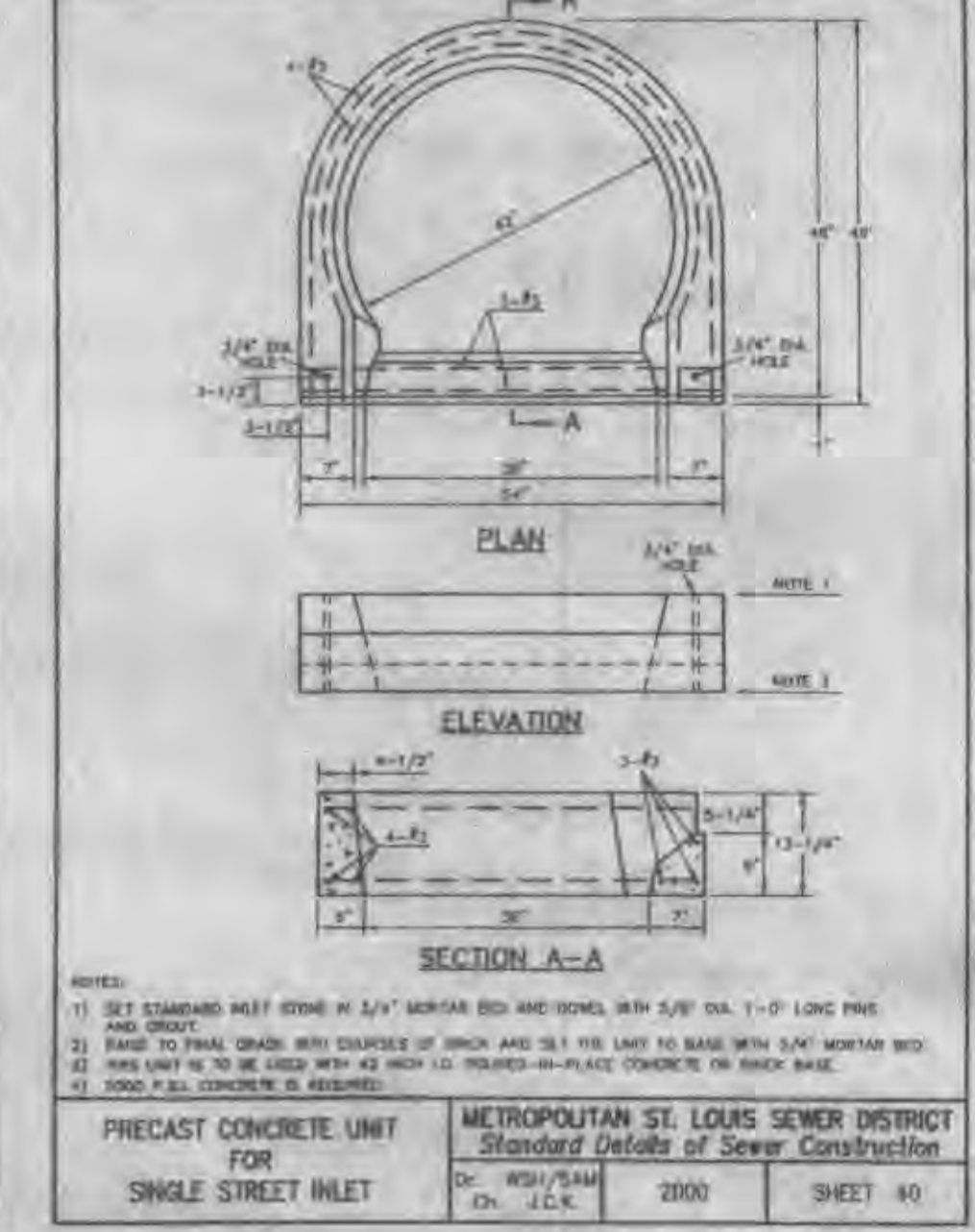
**2 GRATE INLETS PRECAST CONCRETE**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 36



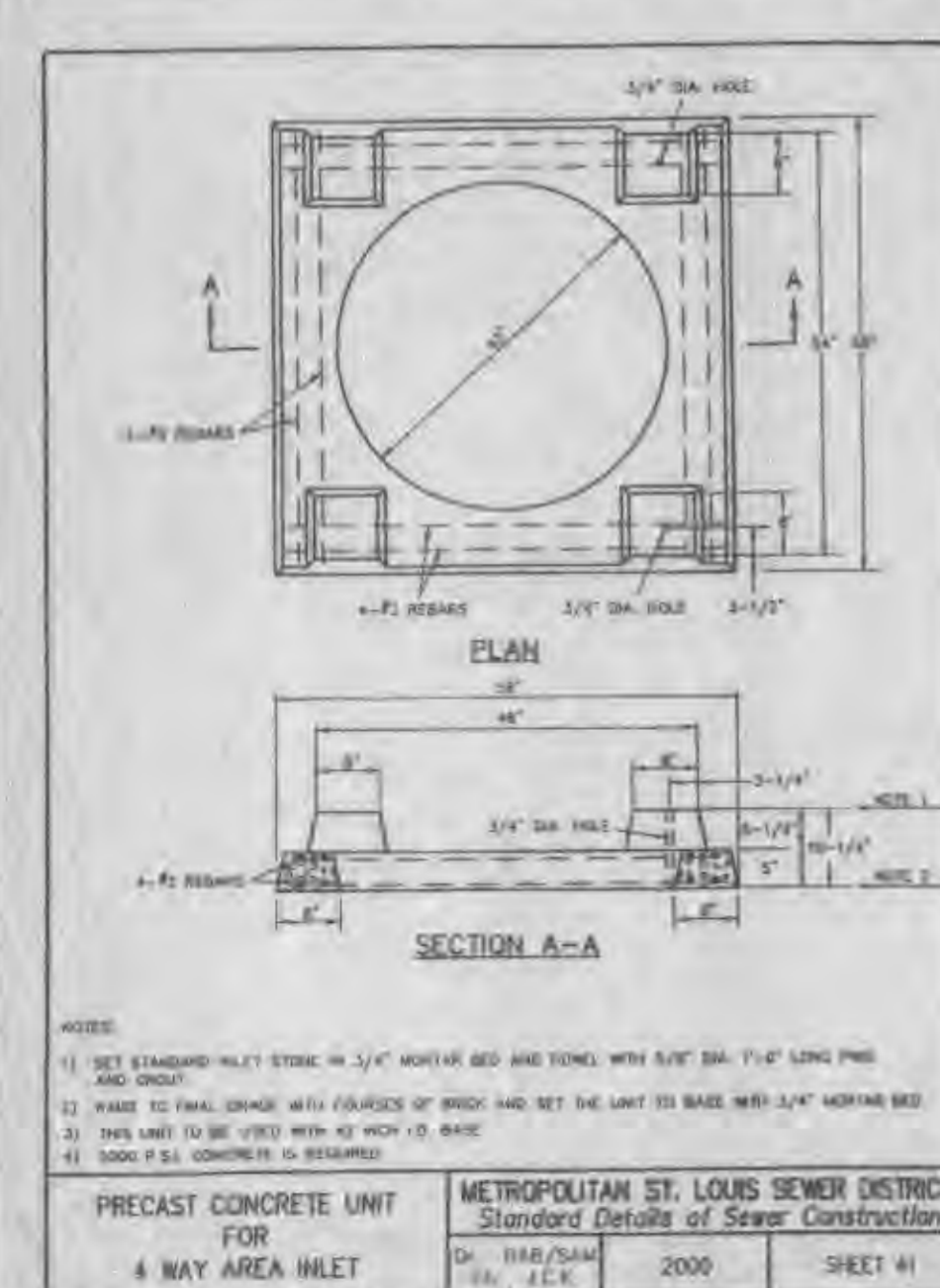
**SINGLE STREET INLETS PRECAST CONCRETE**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 37



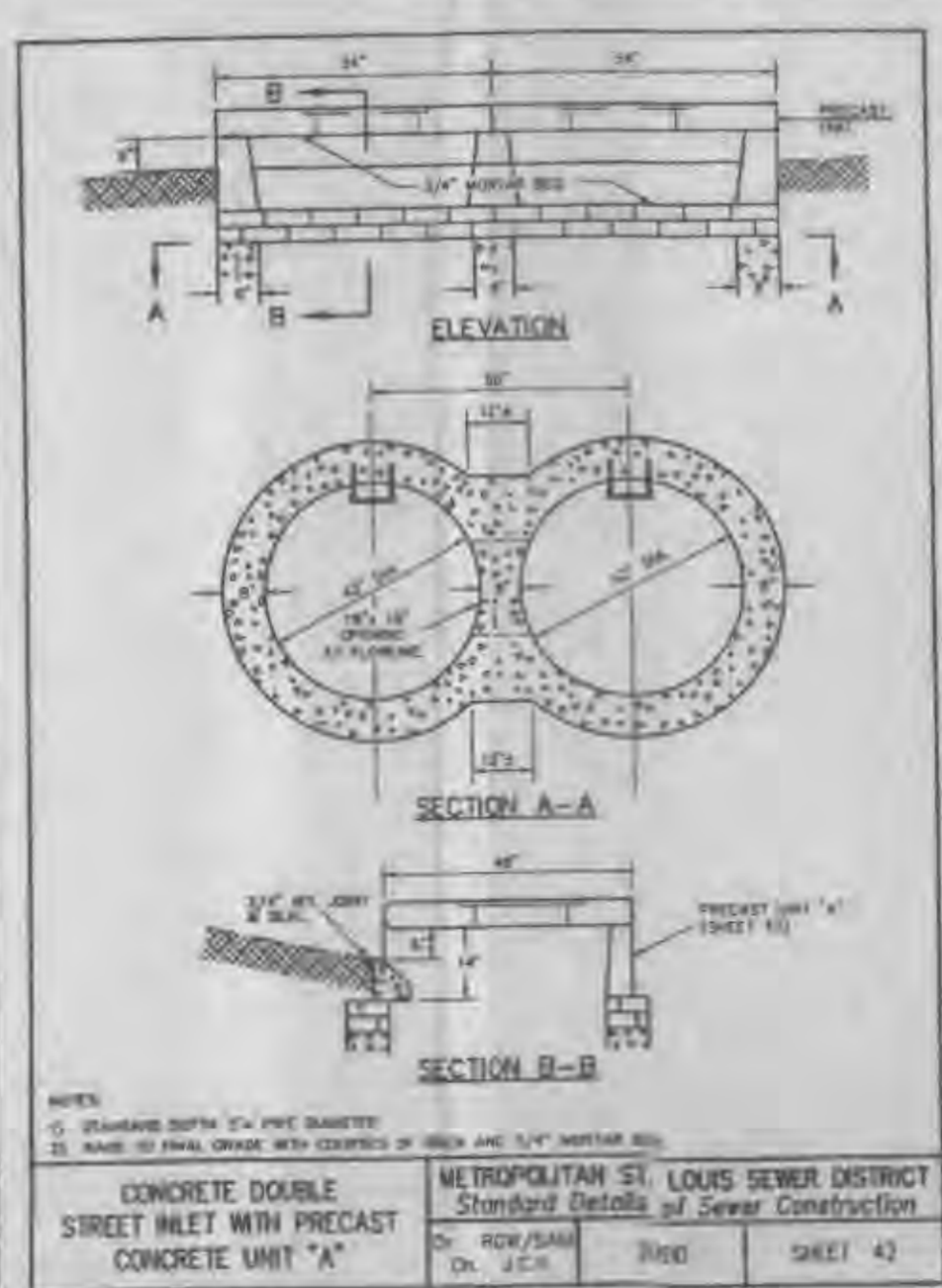
**DOUBLE UNTRAPPED STREET INLET PRECAST CONCRETE**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 38



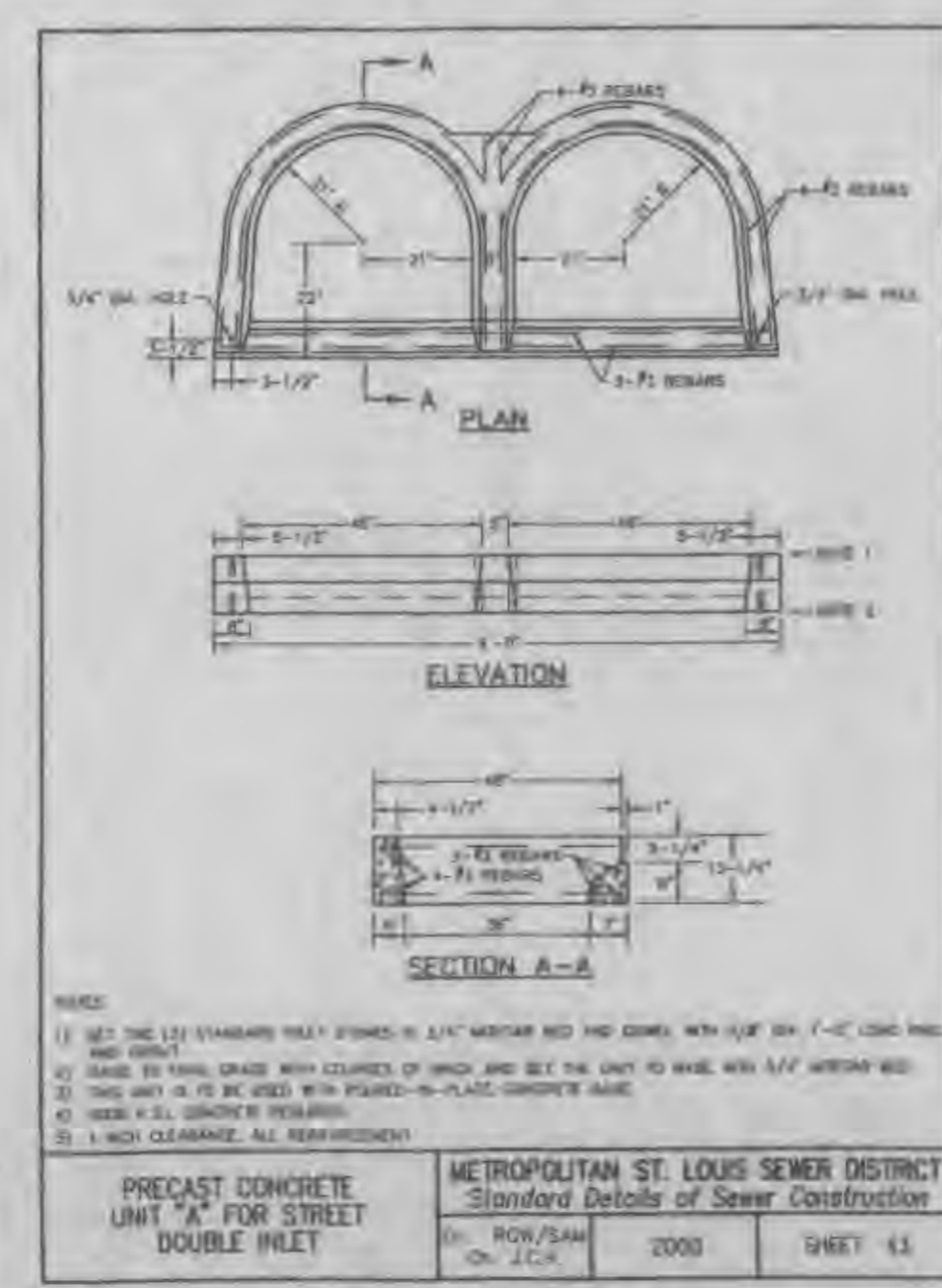
**PRECAST CONCRETE UNIT FOR SINGLE STREET INLET**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 39



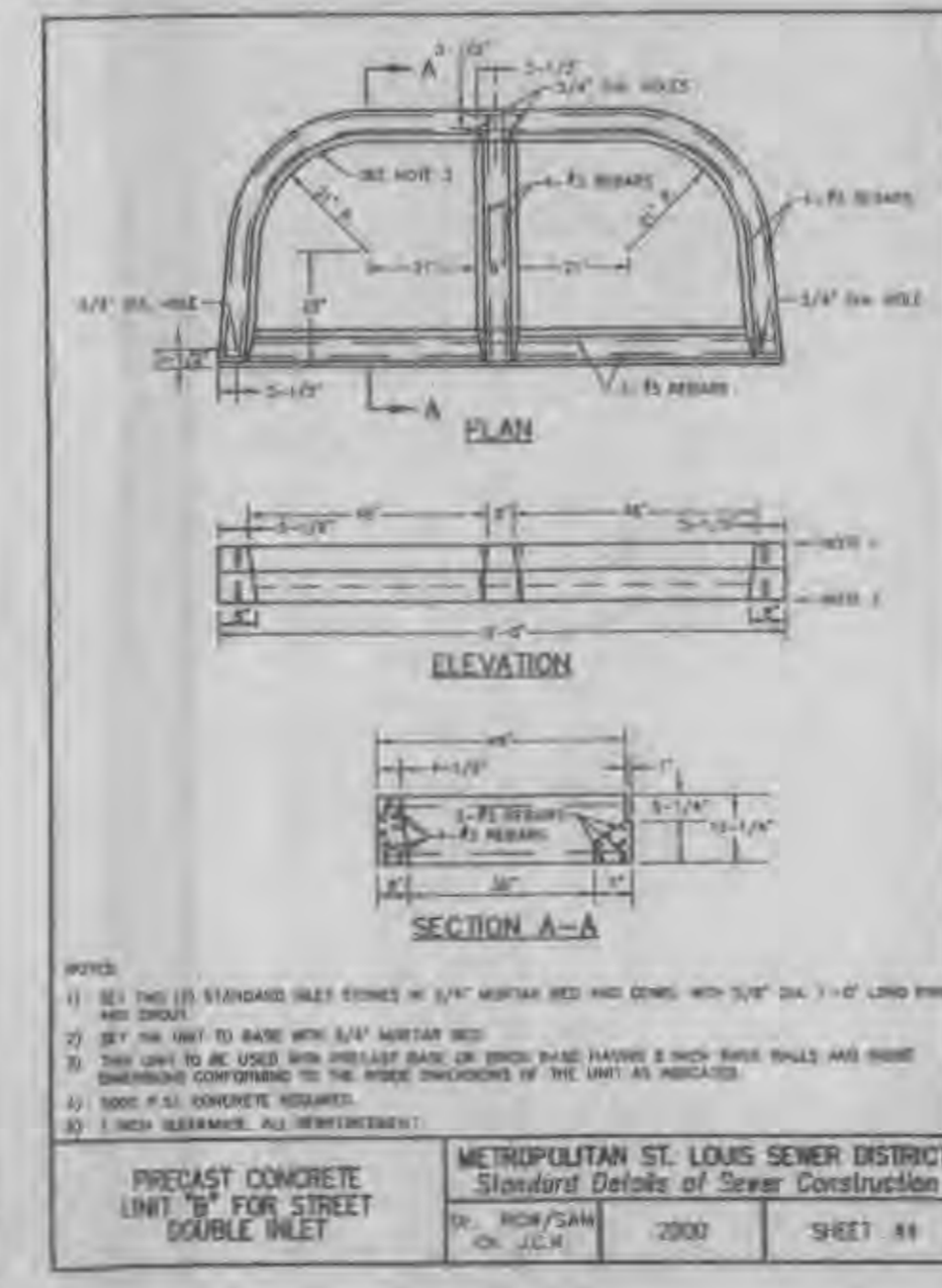
**PRECAST CONCRETE UNIT FOR 4 WAY AREA INLET**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 41



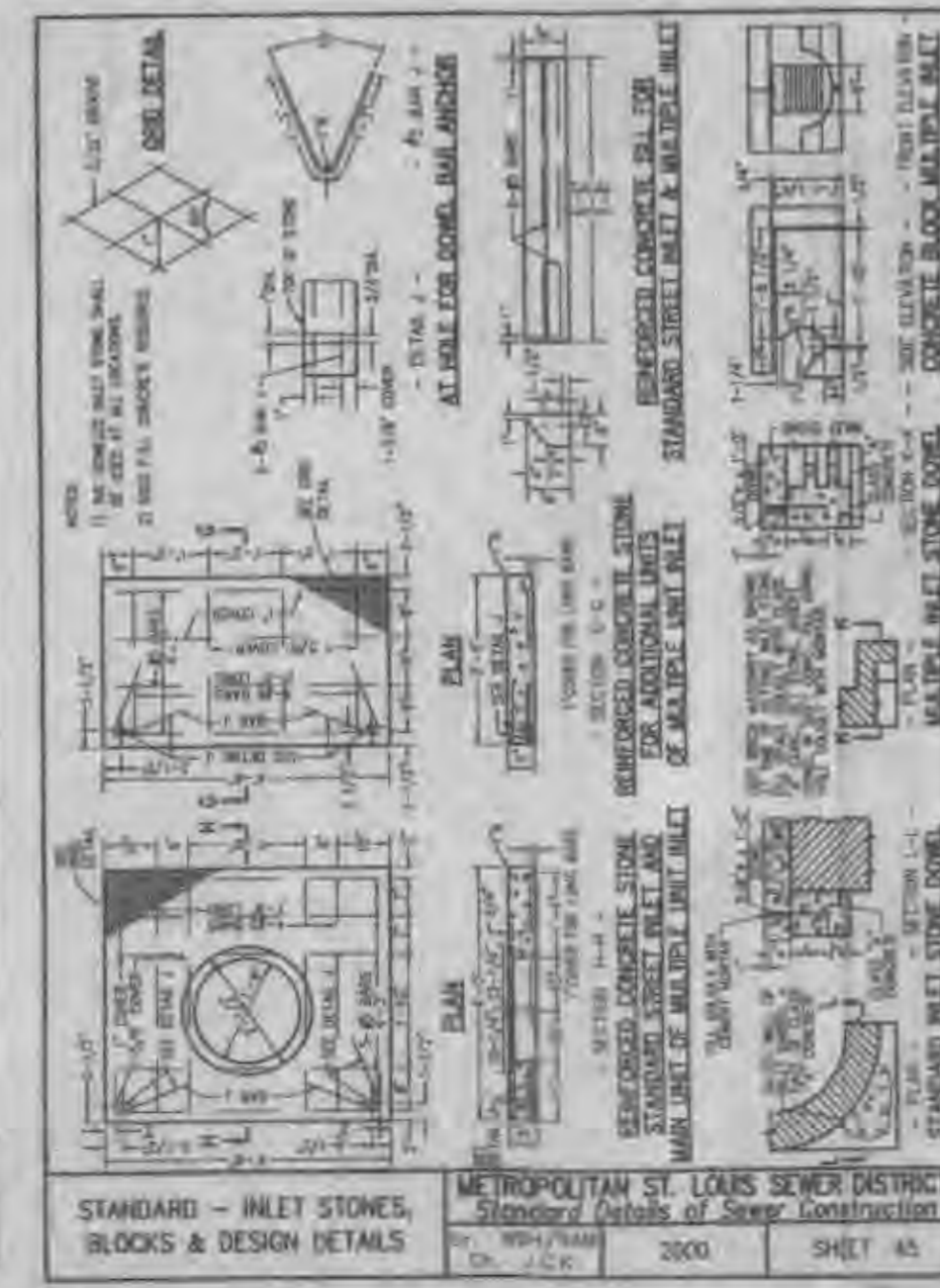
**CONCRETE DOUBLE STREET INLET WITH PRECAST CONCRETE UNIT "A"**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 42



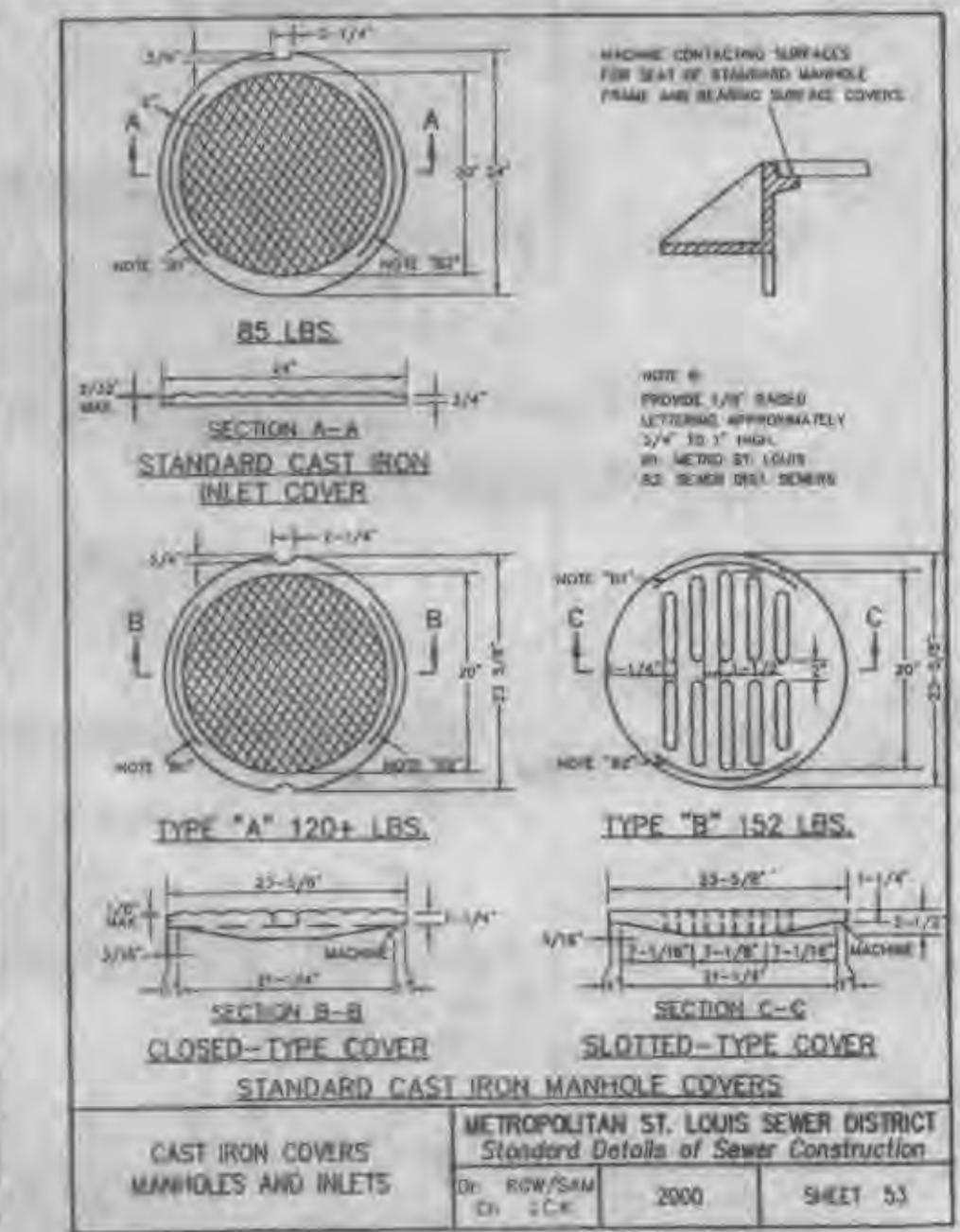
**PRECAST CONCRETE UNIT "A" FOR STREET DOUBLE INLET**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 43



**PRECAST CONCRETE UNIT "B" FOR STREET DOUBLE INLET**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 44



**STANDARD - INLET STONES, BLOCKS & DESIGN DETAILS**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 45

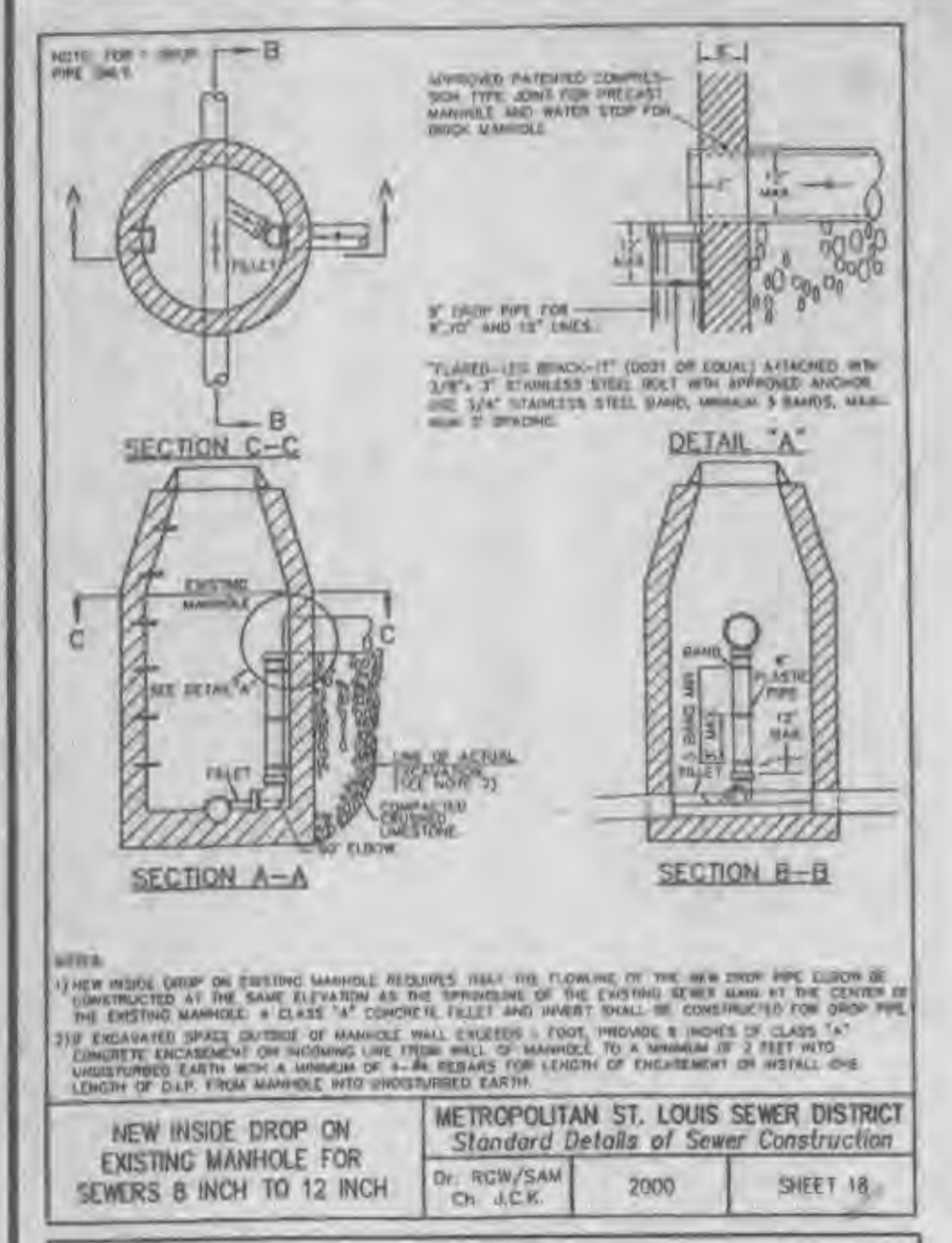


**CAST IRON COVERS, MANHOLES AND INLETS**  
 METROPOLITAN ST. LOUIS SEWER DISTRICT  
 Standard Details of Sewer Construction  
 D. J.C.K. Ch. J.C.K. 2000 SHEET 46

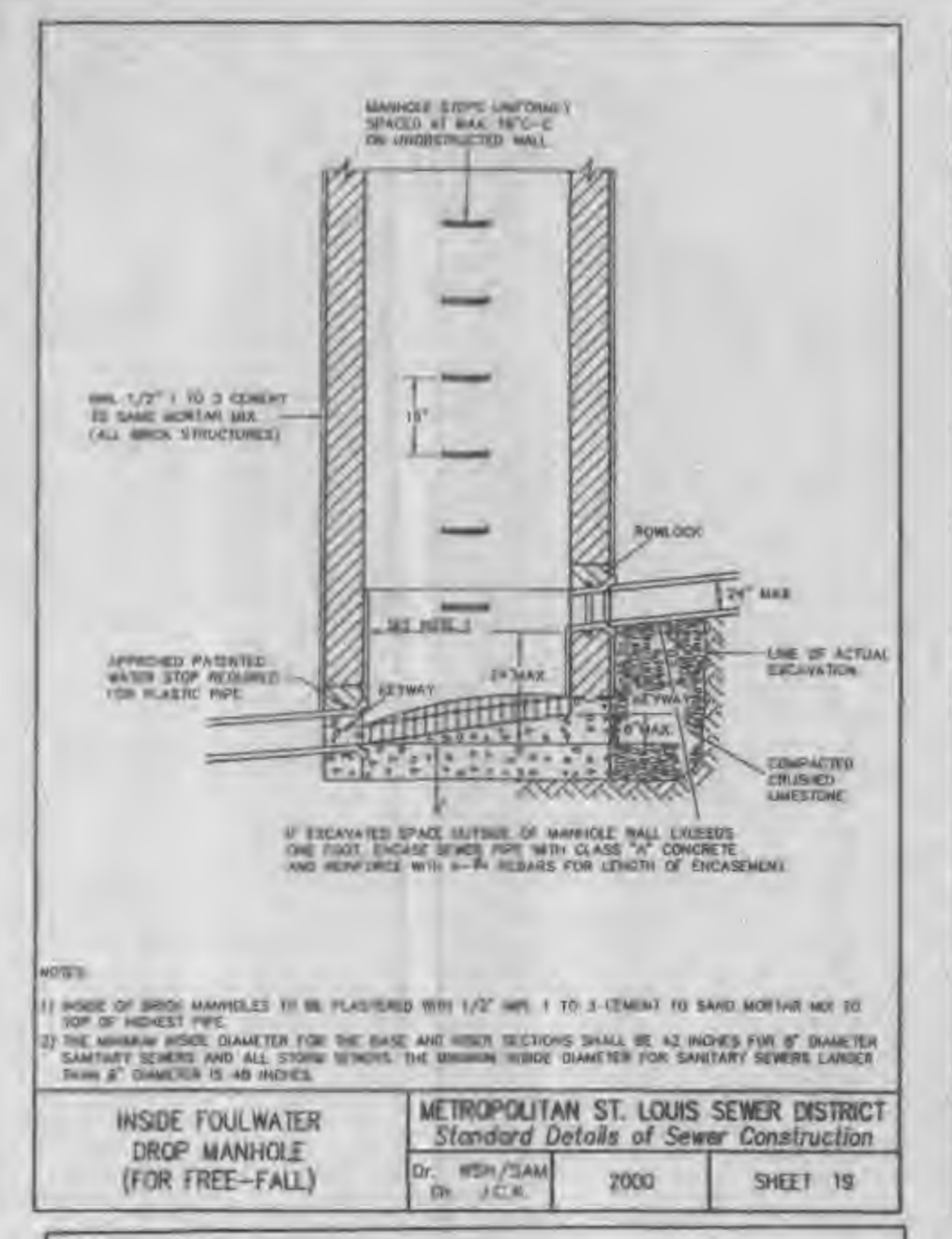




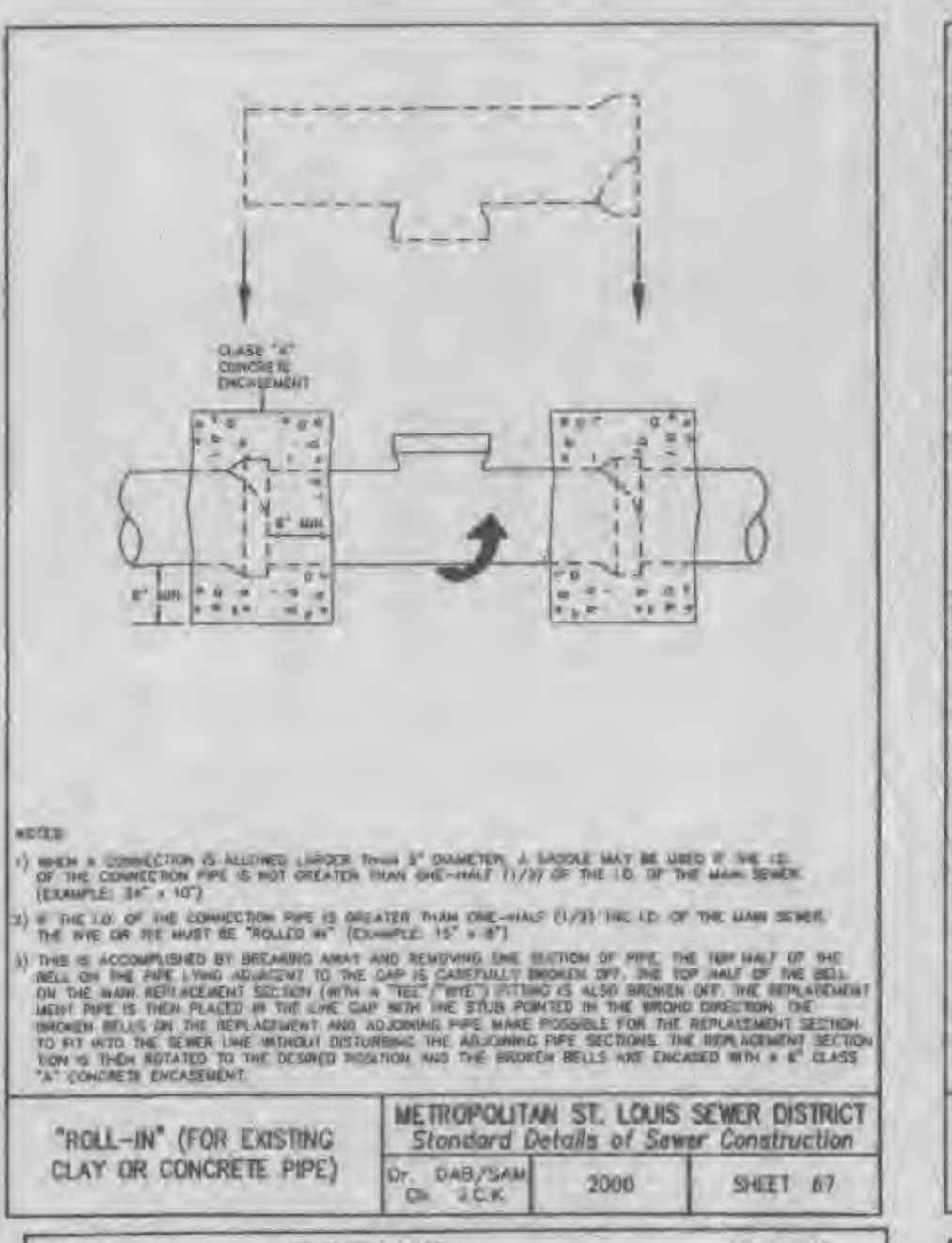




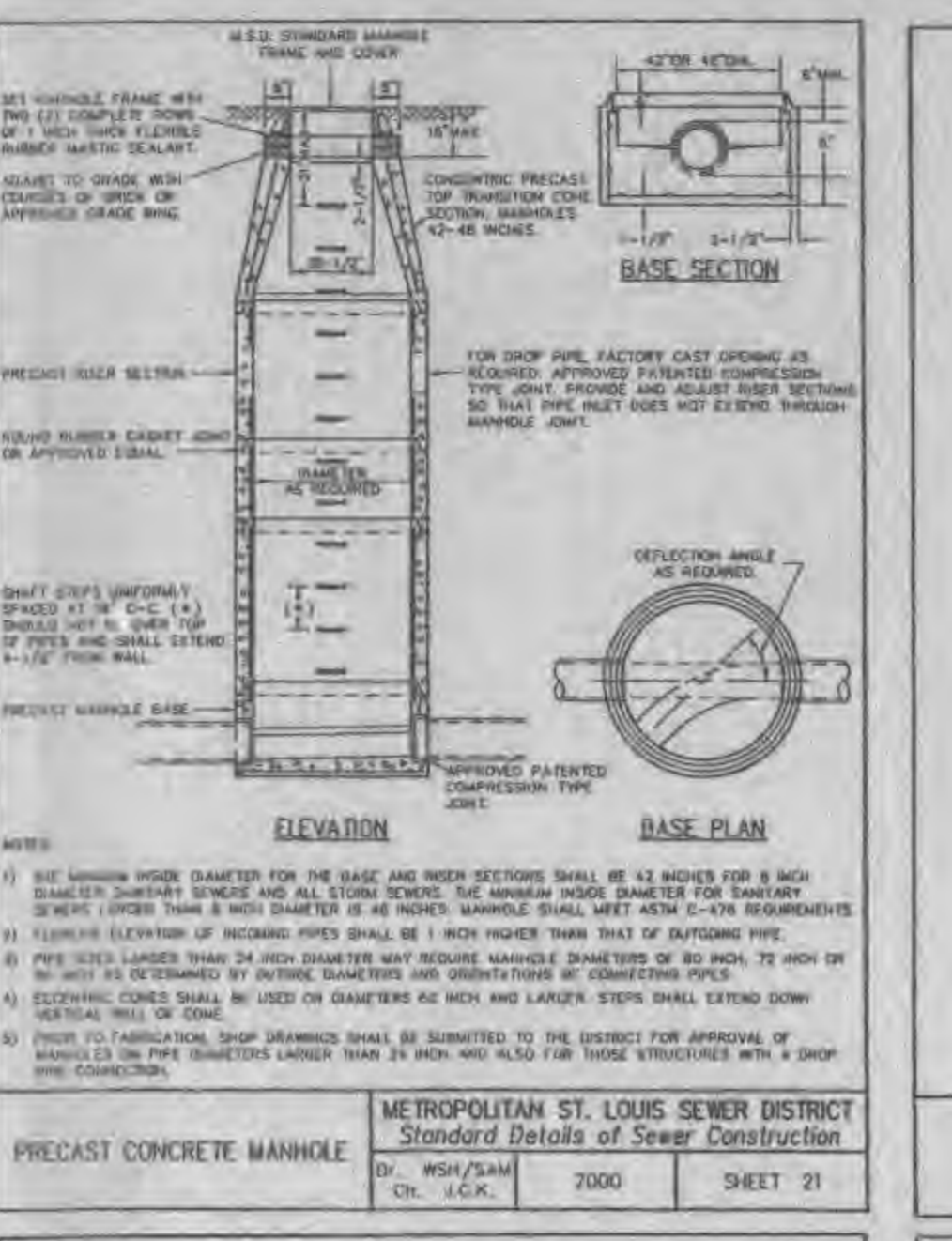
NEW INSIDE DROP ON EXISTING MANHOLE FOR SEWERS 6 INCH TO 12 INCH  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 18



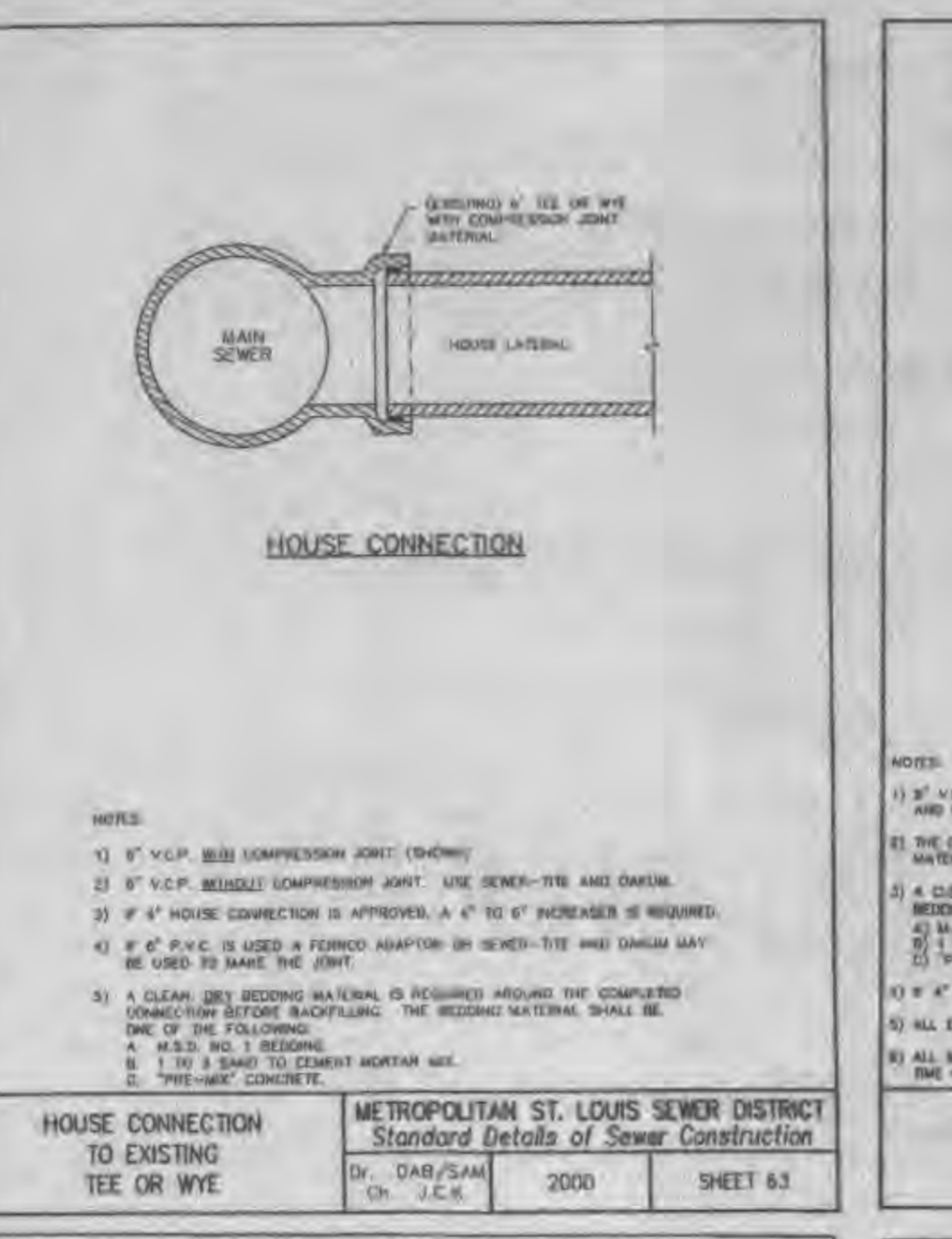
INSIDE FOUL-WATER DROP MANHOLE (FOR FREE-FALL)  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 19



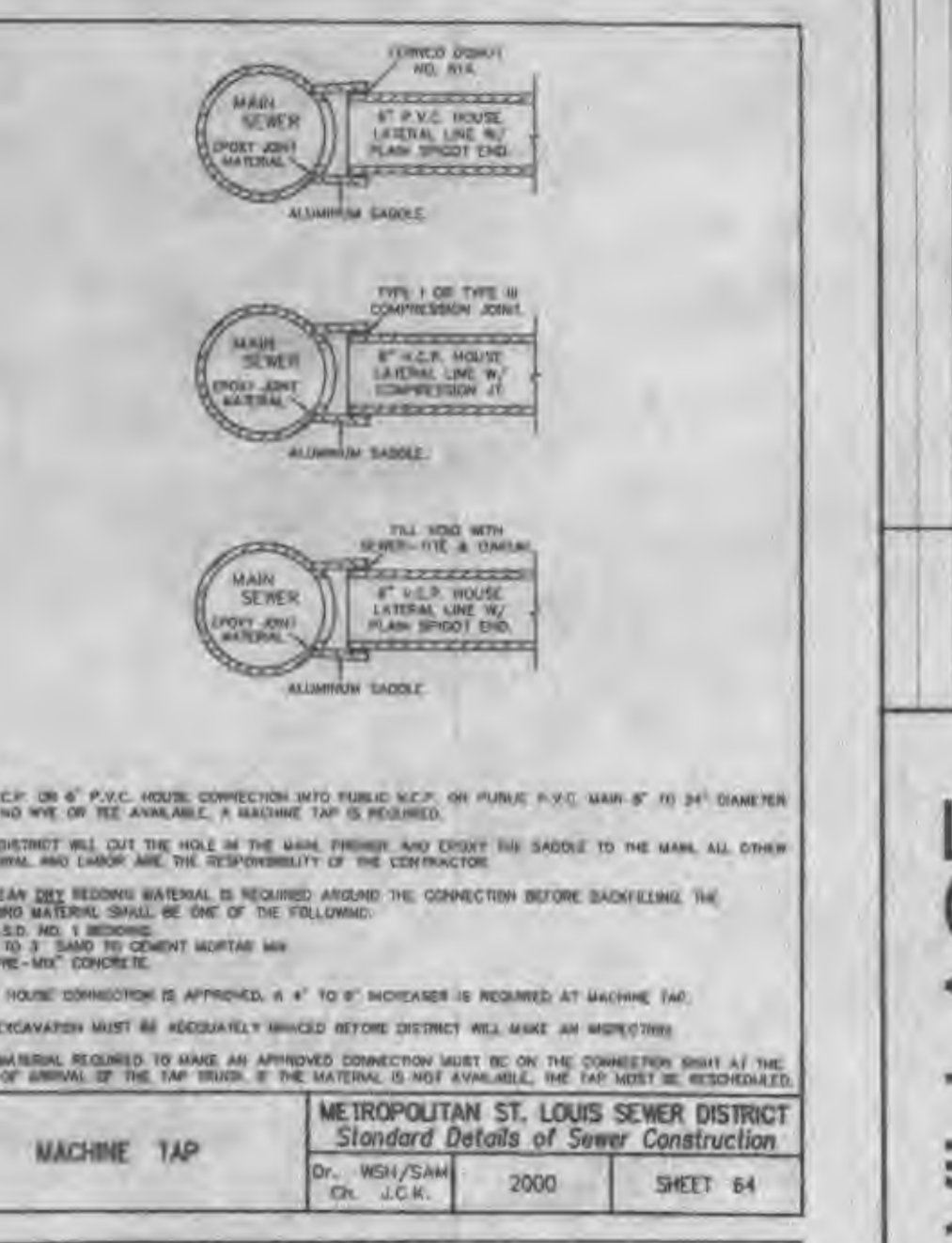
ROLL-IN (FOR EXISTING CLAY OR CONCRETE PIPE)  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 17



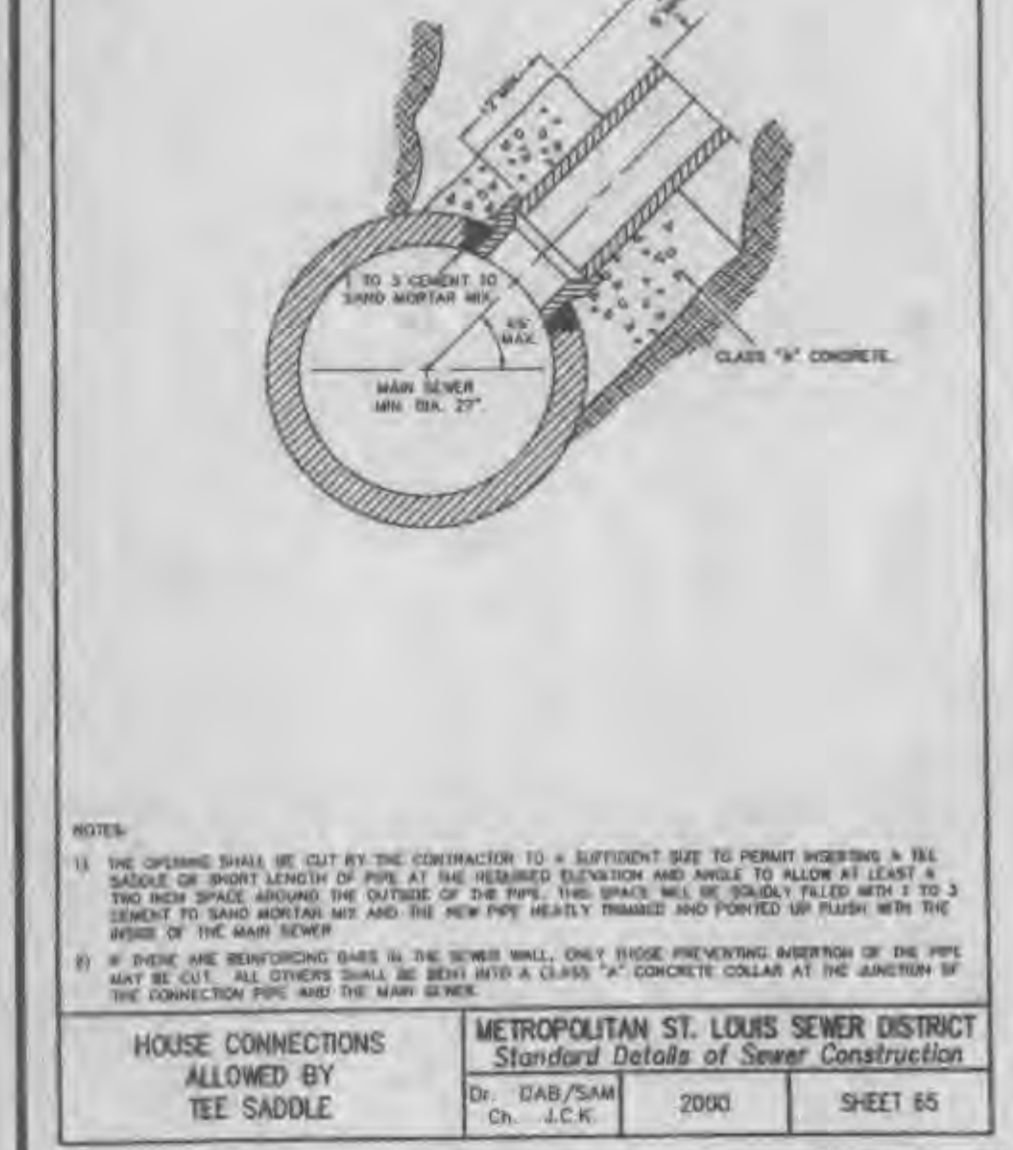
PRECAST CONCRETE MANHOLE  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 21



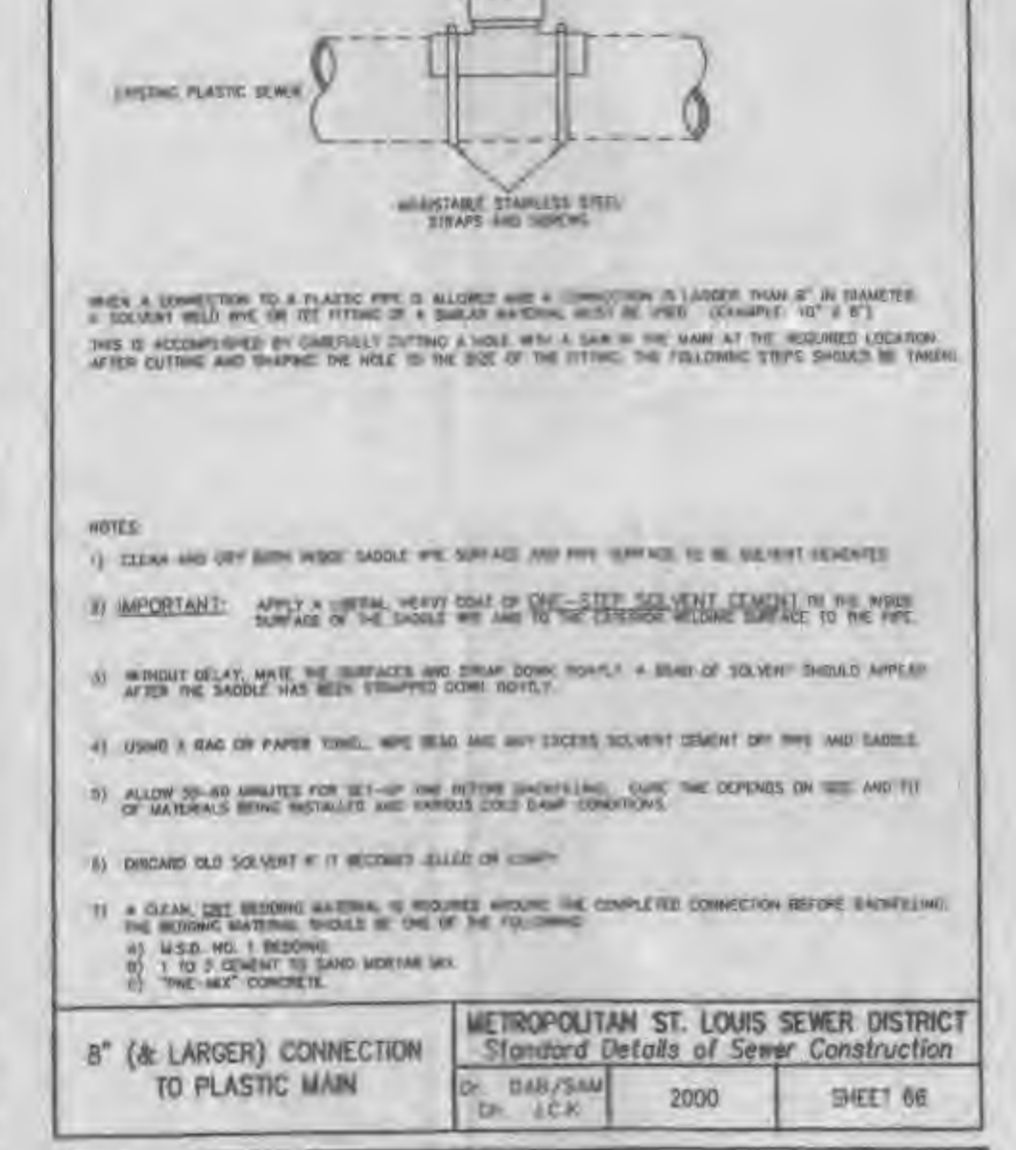
HOUSE CONNECTION  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 13



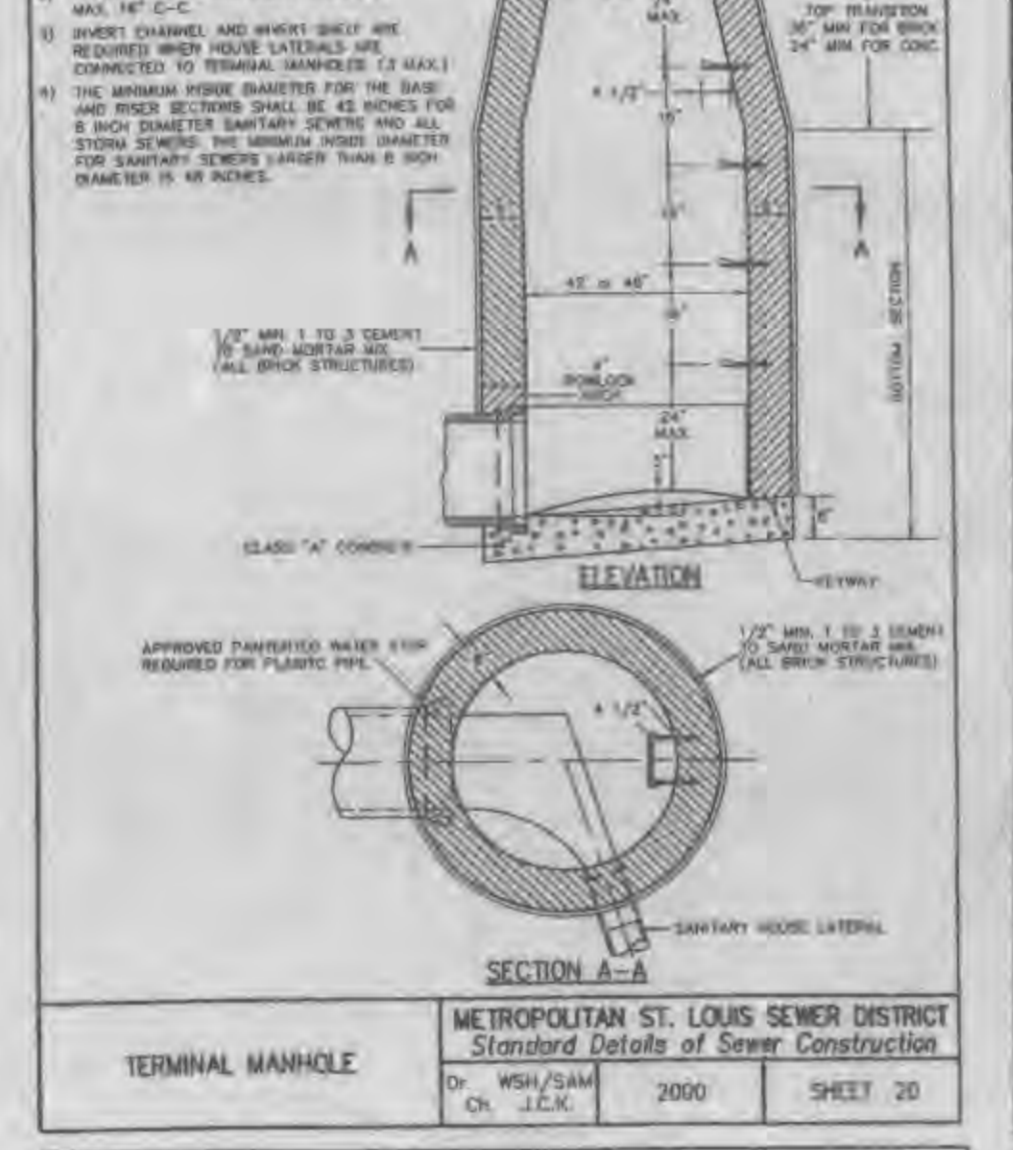
MACHINE TAP  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 14



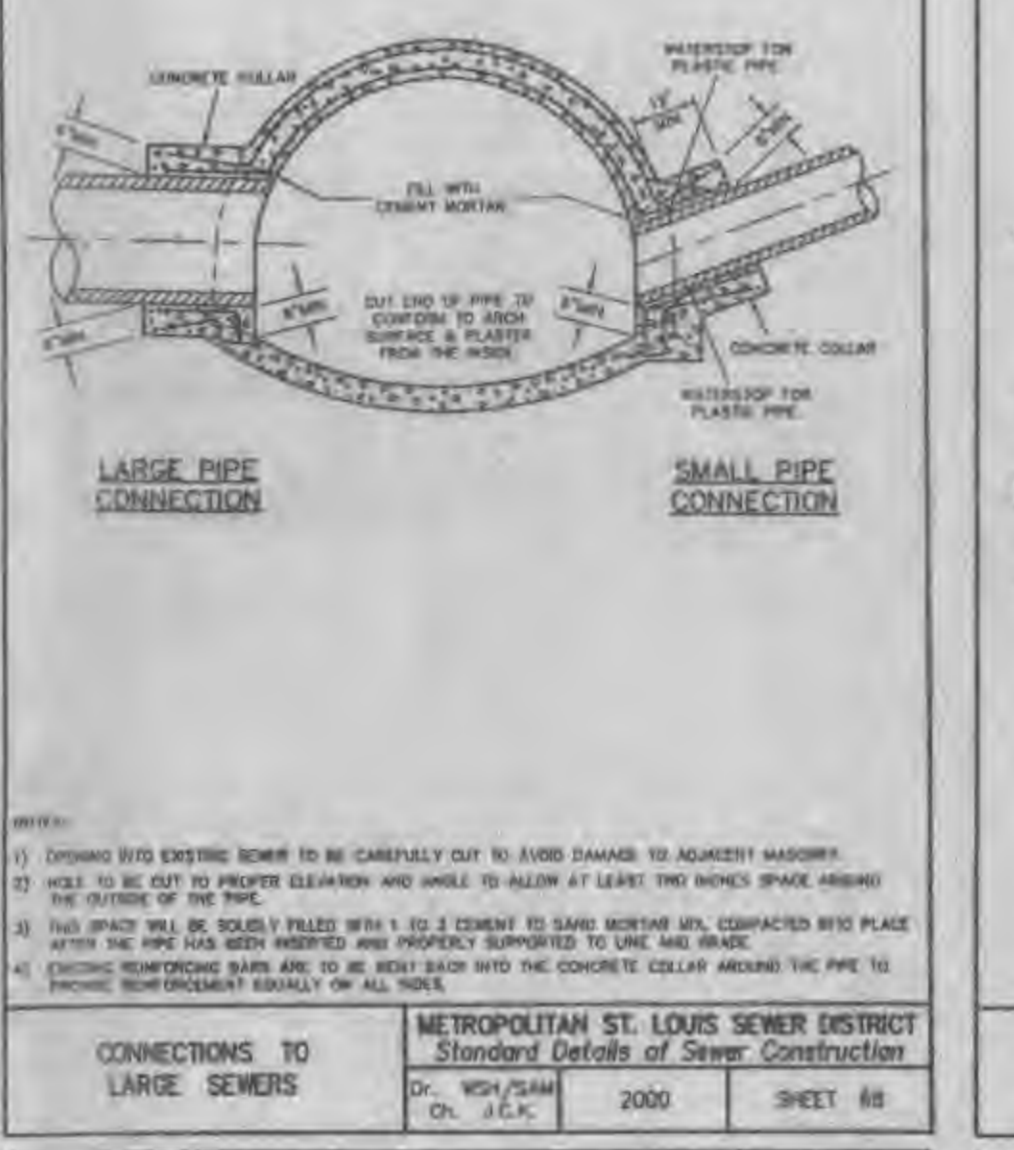
HOUSE CONNECTIONS ALLOWED BY TEE SADDLE  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 15



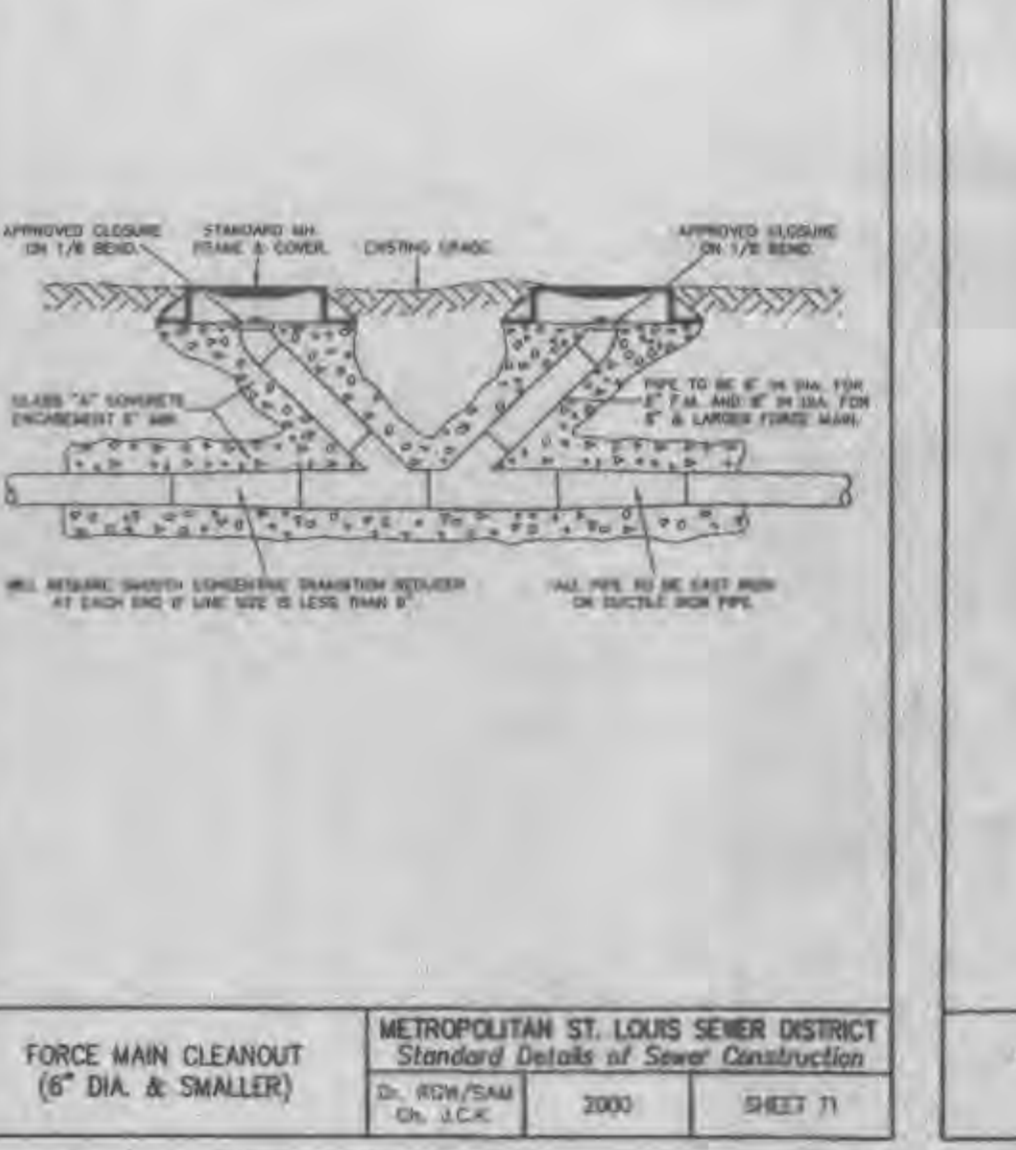
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 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 16



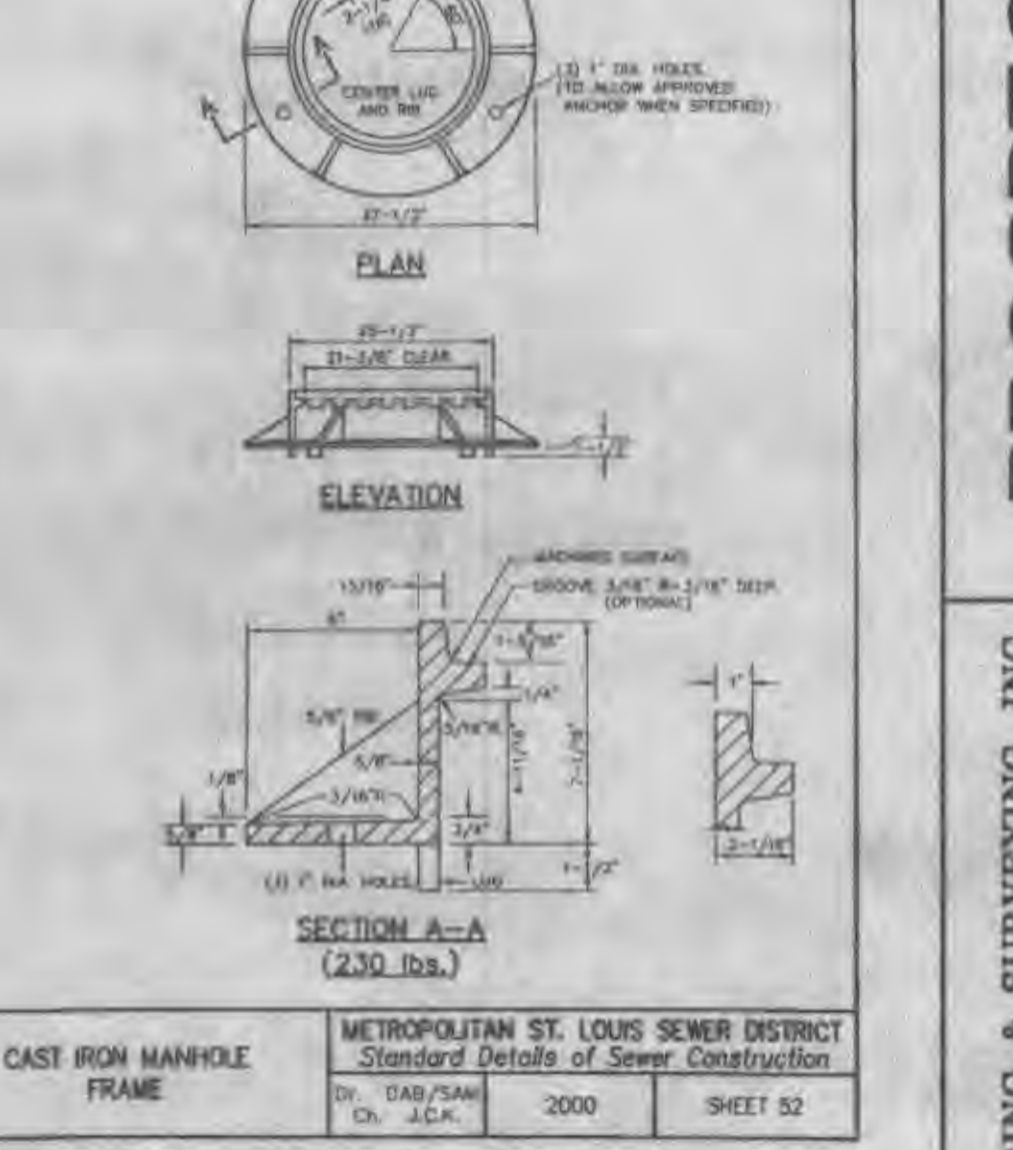
TERMINAL MANHOLE  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 20



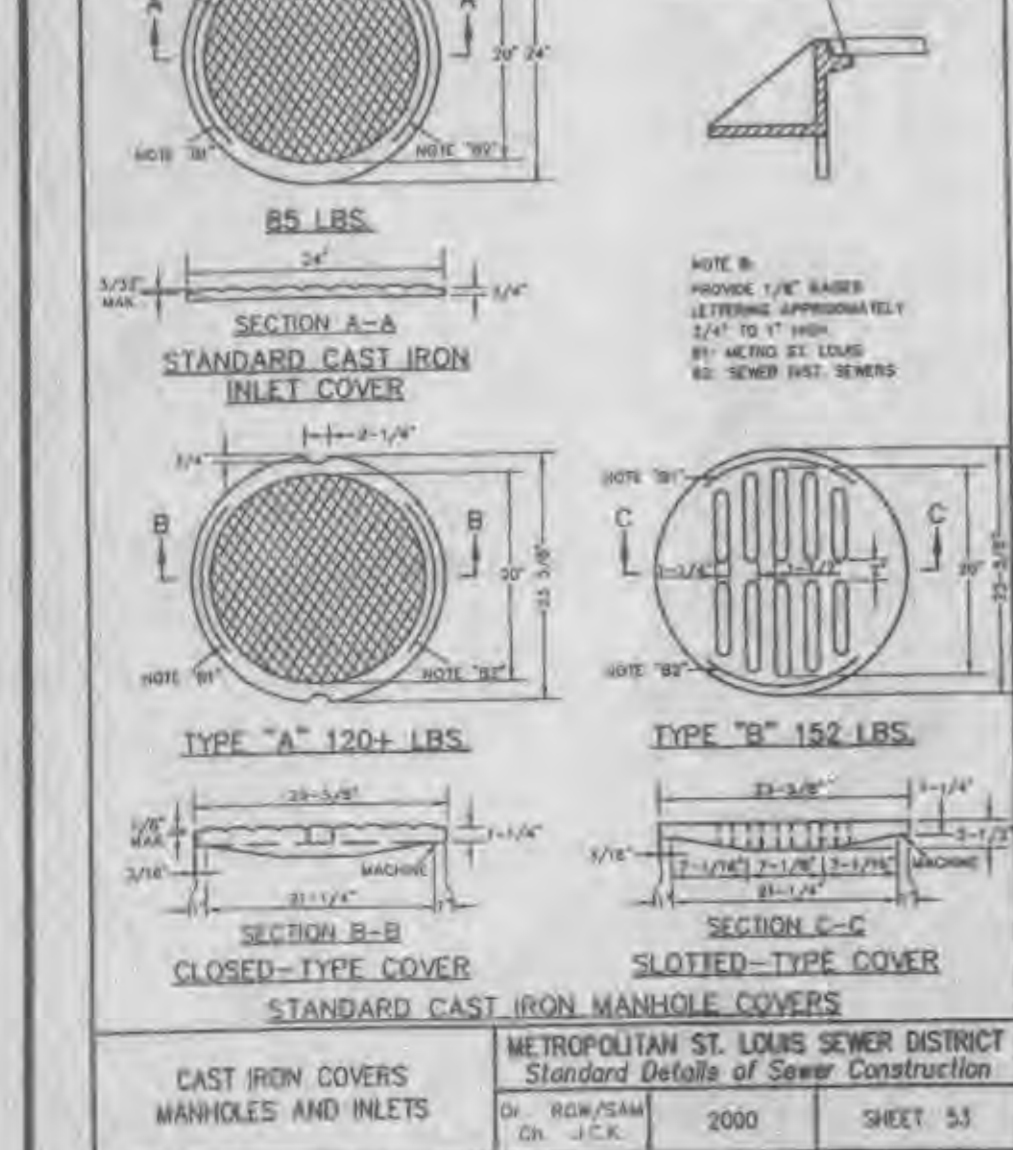
CONNECTIONS TO LARGE SEWERS  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 18



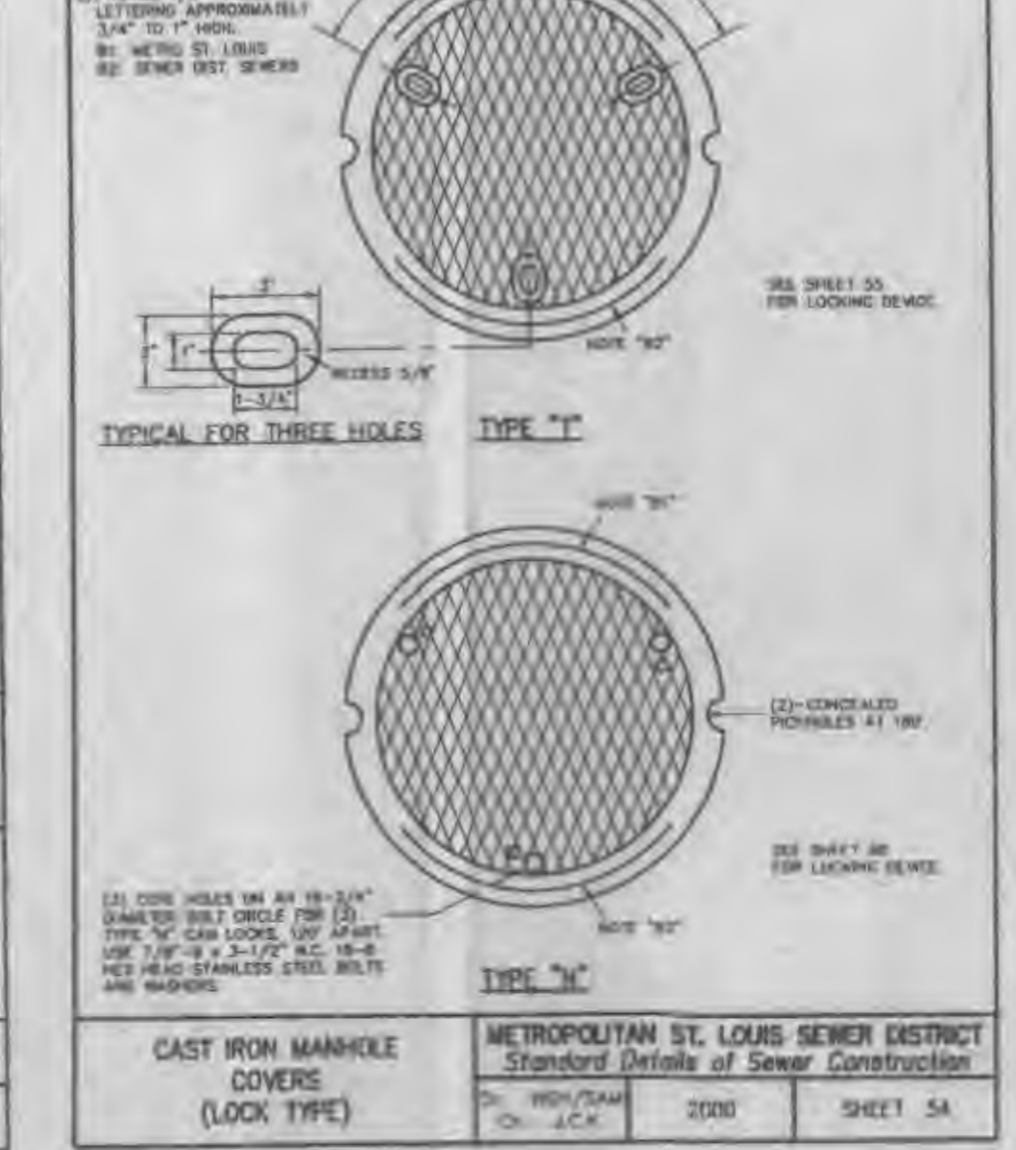
FORCE MAIN CLEANOUT (6\"/>
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 17



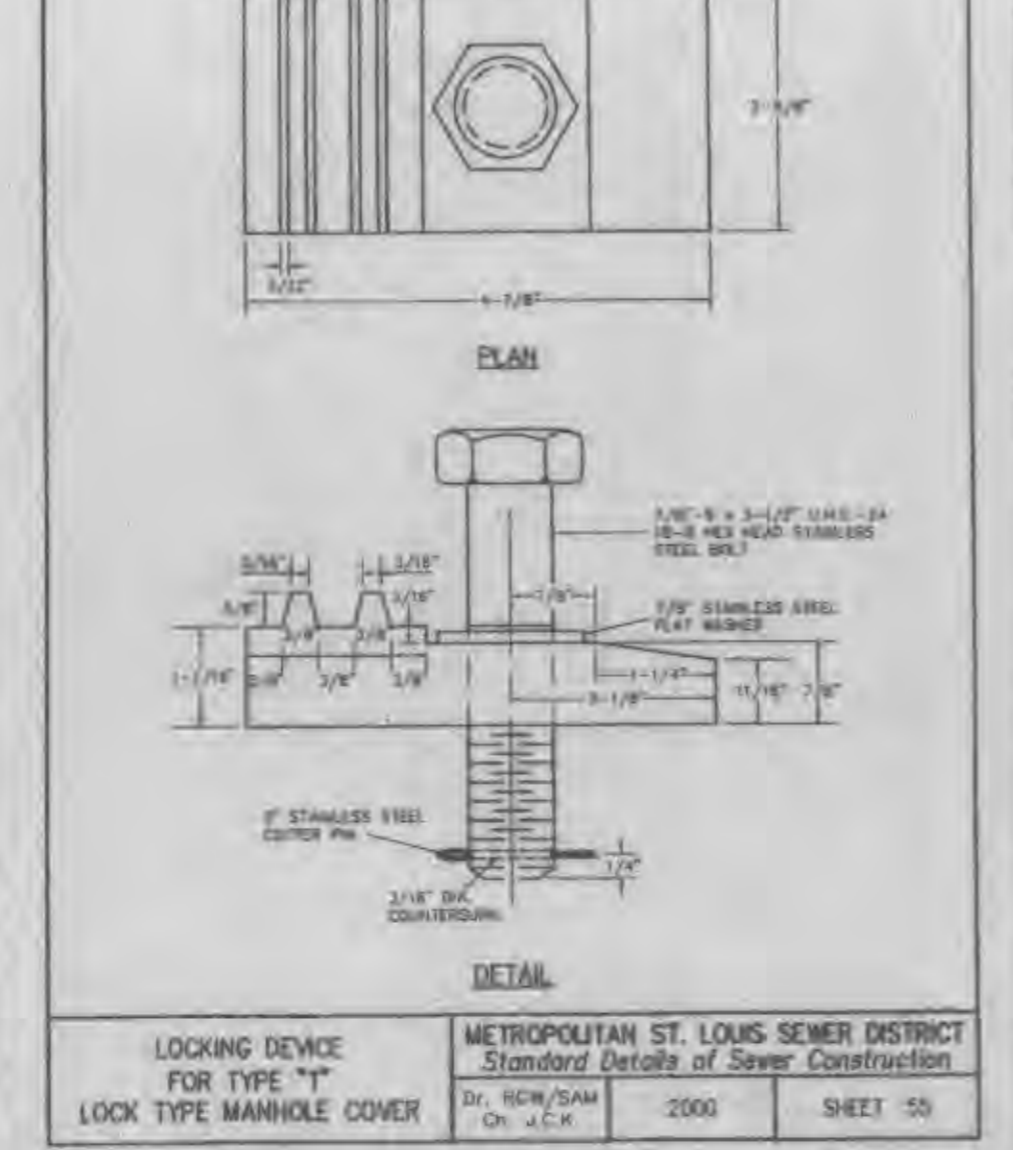
CAST IRON MANHOLE FRAME (230 lbs.)  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 12



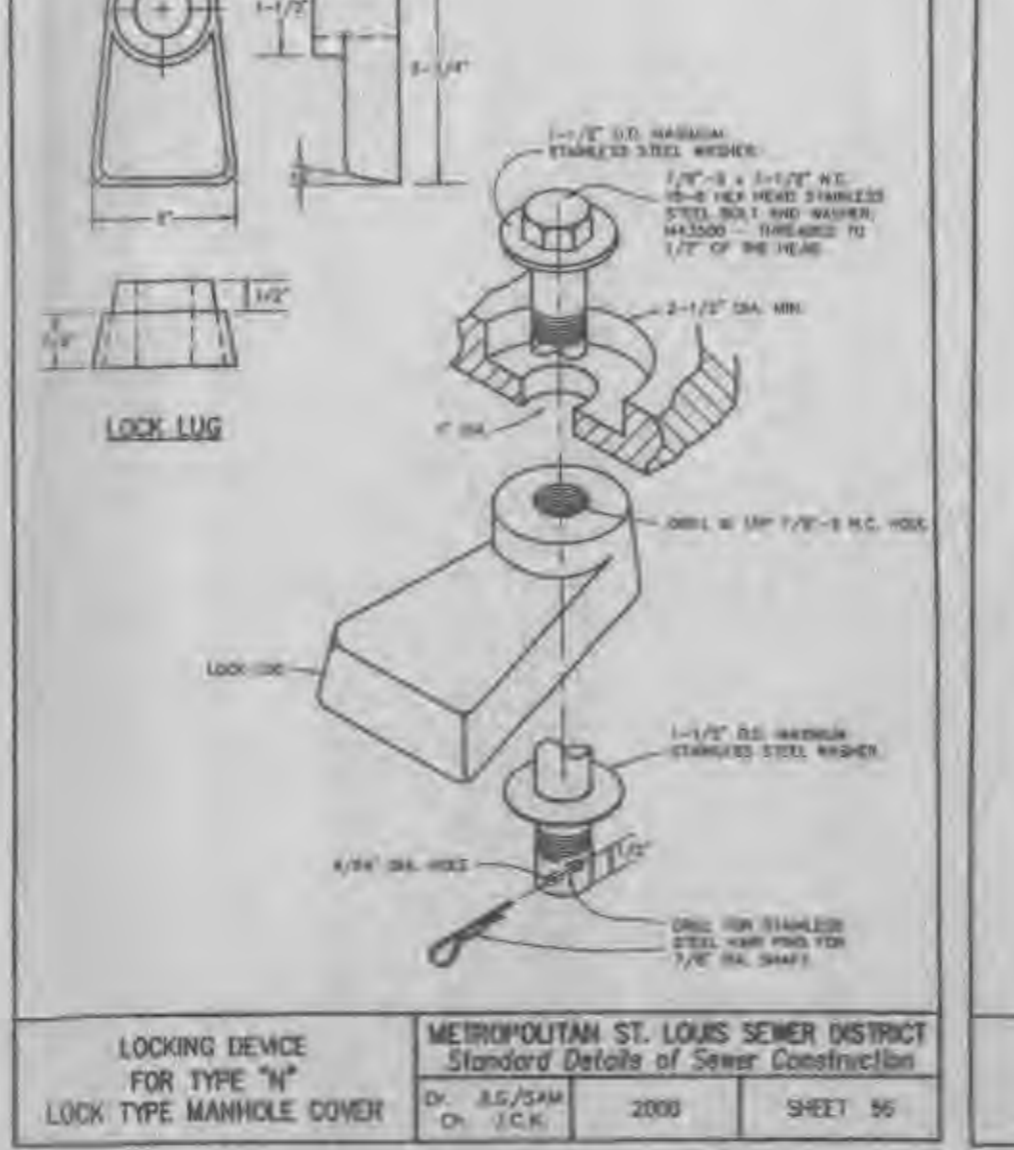
CAST IRON COVERS MANHOLES AND INLETS  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 11



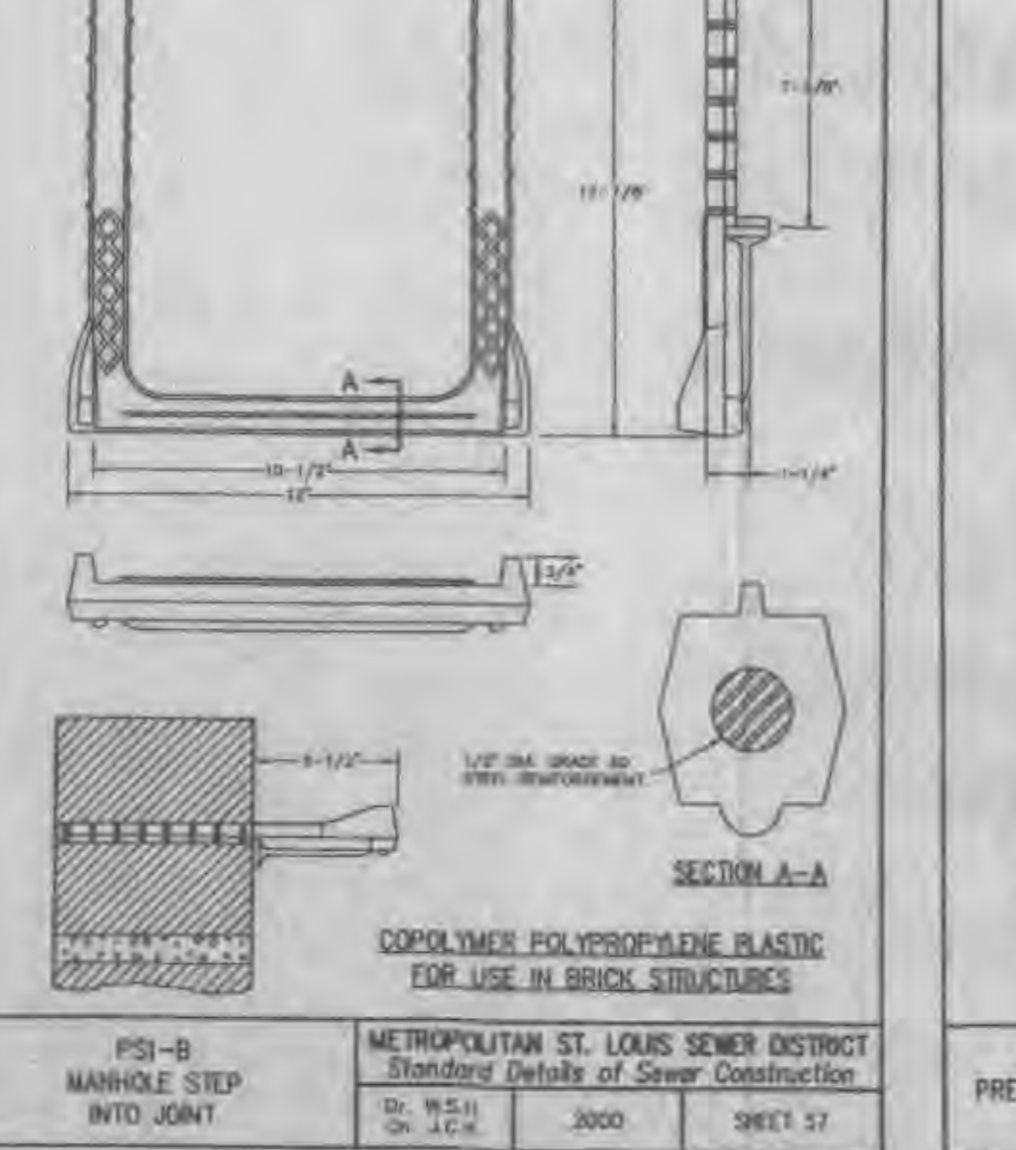
CAST IRON MANHOLE COVERS (LOCK TYPE)  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 10



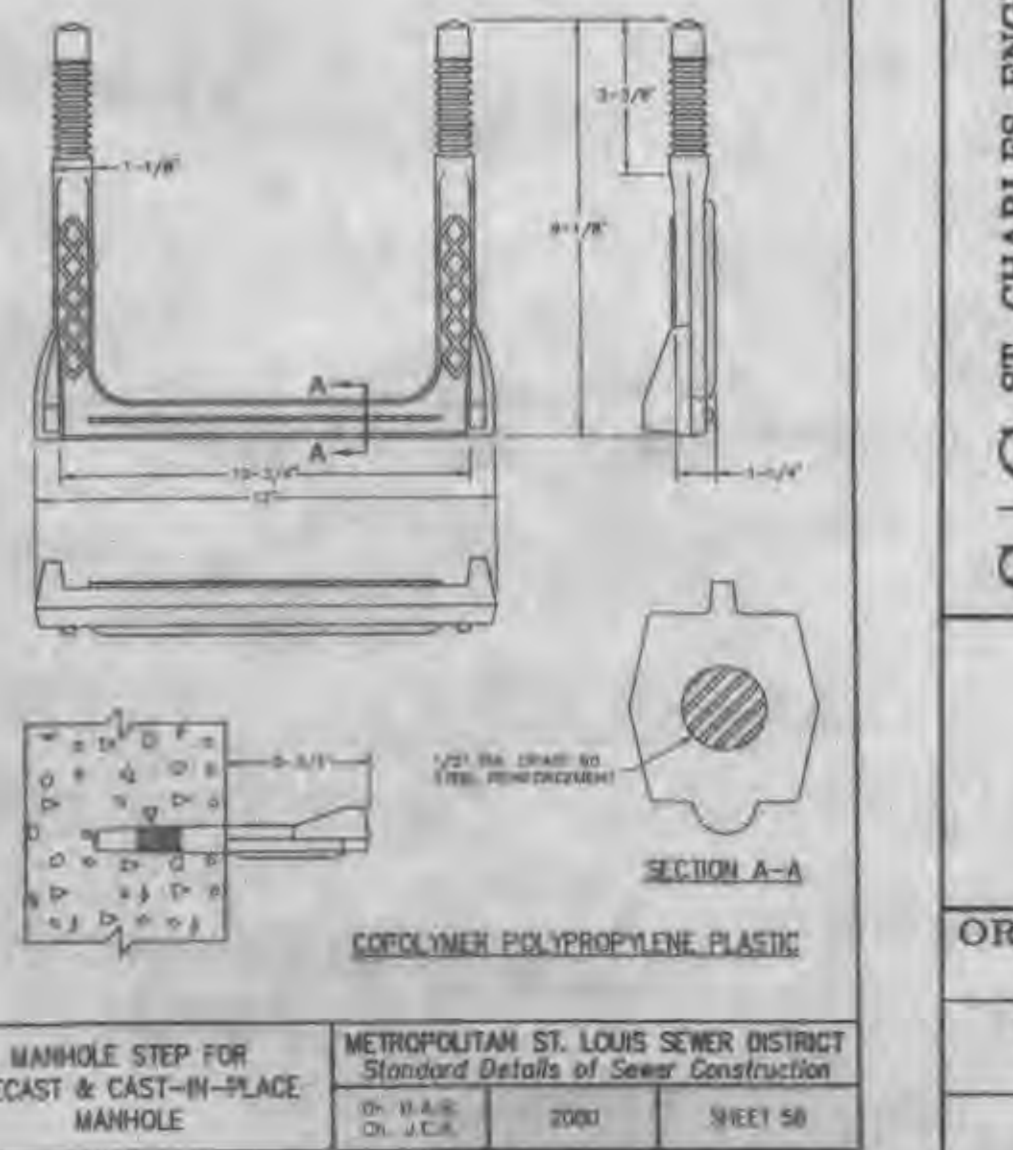
LOCKING DEVICE FOR TYPE T LOCK TYPE MANHOLE COVER  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 10



LOCKING DEVICE FOR TYPE T LOCK TYPE MANHOLE COVER  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 10



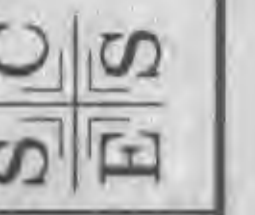
PSI-B MANHOLE STEP INTO JOINT  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 17



MANHOLE STEP FOR PRECAST & CAST-IN-PLACE MANHOLE  
 D. WSH/SAM  
 Ch. J.C.K. 2000 SHEET 16

**PROSPECT VILLAGE**  
 SEWER DETAILS

S. C. ST. CHARLES ENGINEERING & SURVEYING, INC.  
 801 S. FIFTH STREET, SUITE 202  
 ST. CHARLES, MO 63301  
 TEL: 636-947-0607 FAX: 636-947-2448



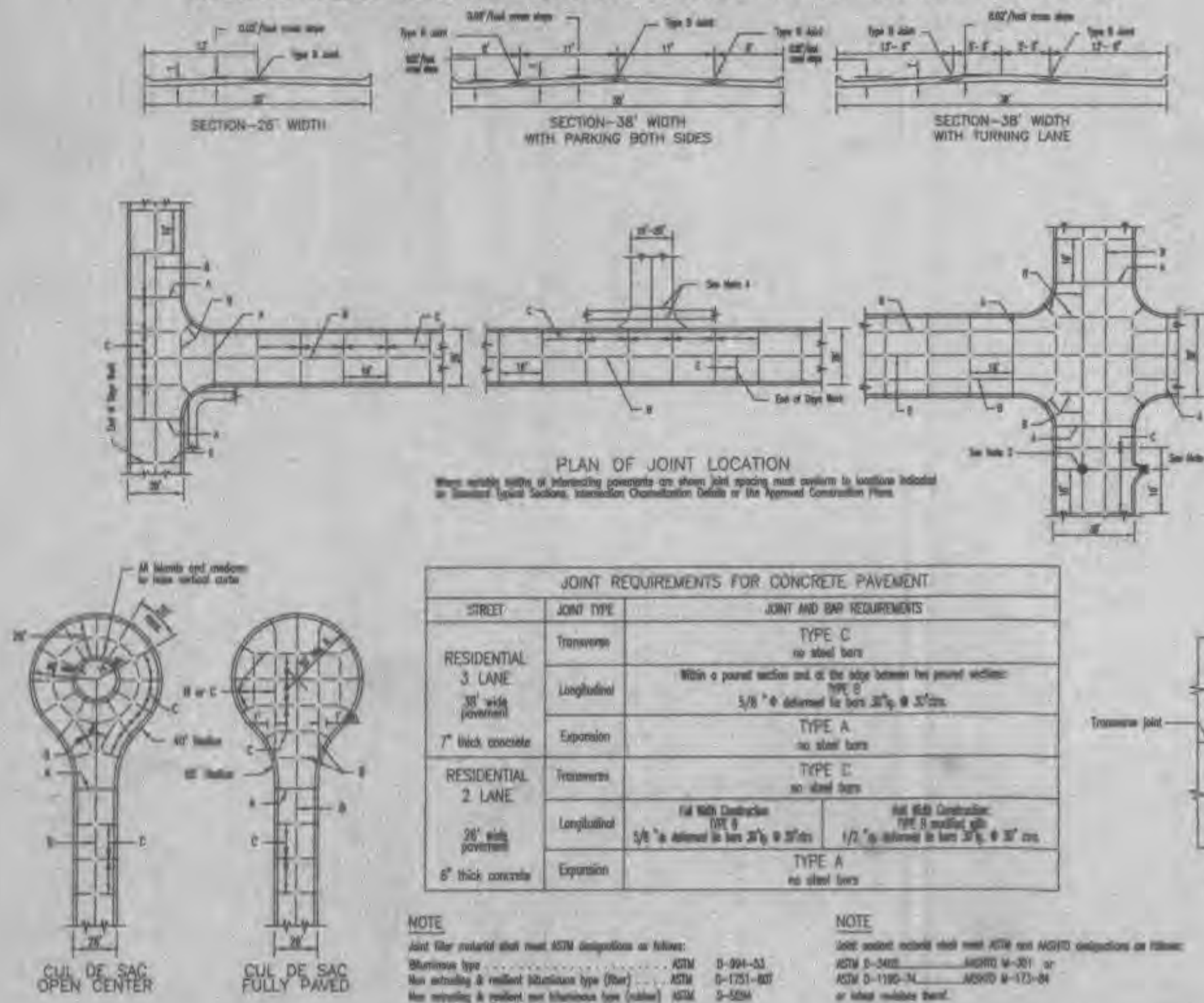
ORDER NO. 201283  
 DATE 8-06-02  
 D-4







INTEGRAL ROLLED CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS



GENERAL NOTES

- Do not scale drawings. Follow dimensions.
- All street details shall be separated from the pavement and curb by expansion joint material extending completely through curb and into concrete within the pavement limits shall be based on when.
- When a joint falls within 5', or, or contacts curb, manhole, or other structure, expansion joint material shall be placed on either side of opening to permit joint to fall on road structures and at or between corners of rectangular structures.
- Driveway configurations are shown in the "Entrance Construction Details".
- Construction joints and tie bars may be omitted when curb is poured monolithic with pavement.
- Minimum thickness for Pavement is:  
Residential 25' wide Streets 6"  
Residential 36' wide Streets 7"
- For joint and bar requirements refer to the Pavement Construction Details for "Joints and Curb". Std. Dev. C-201.03. Note that the width and location may change the type of joint required.
- Transverse or longitudinal construction joints in all formed pavements may be made with a groove or lock if such device has been approved in advance by the Department.
- The locations of the Type B longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the Department.

| JOINT REQUIREMENTS FOR CONCRETE PAVEMENT |              |  |
|--|--------------|--|
| STREET                                   | JOINT TYPE   | JOINT AND BAR REQUIREMENTS   |
| RESIDENTIAL 3 LANE                       | Transverse   | TYPE C<br>no steel bars  |
|  | Longitudinal | With a paired section and at the edge between two paired sections:<br>TYPE E<br>5/8" x 6" spaced in lanes 25' @ 30' cts. |
| RESIDENTIAL 2 LANE                       | Transverse   | TYPE A<br>no steel bars  |
|  | Longitudinal | Full Width Construction<br>TYPE F<br>5/8" x 6" spaced in lanes 25' @ 30' cts. 1/2" x 6" spaced in lanes 36' @ 30' cts.   |
| 7' thick concrete                        | Transverse   | TYPE C<br>no steel bars  |
|  | Longitudinal | TYPE A<br>no steel bars  |

NOTE

Joint filler material shall meet ASTM designation as follows:  
Minimum type: ASTM D-201  
Max. aggregate & related materials type (size): ASTM D-131-07  
Max. voiding in resilient mat thickness type (value): ASTM D-528

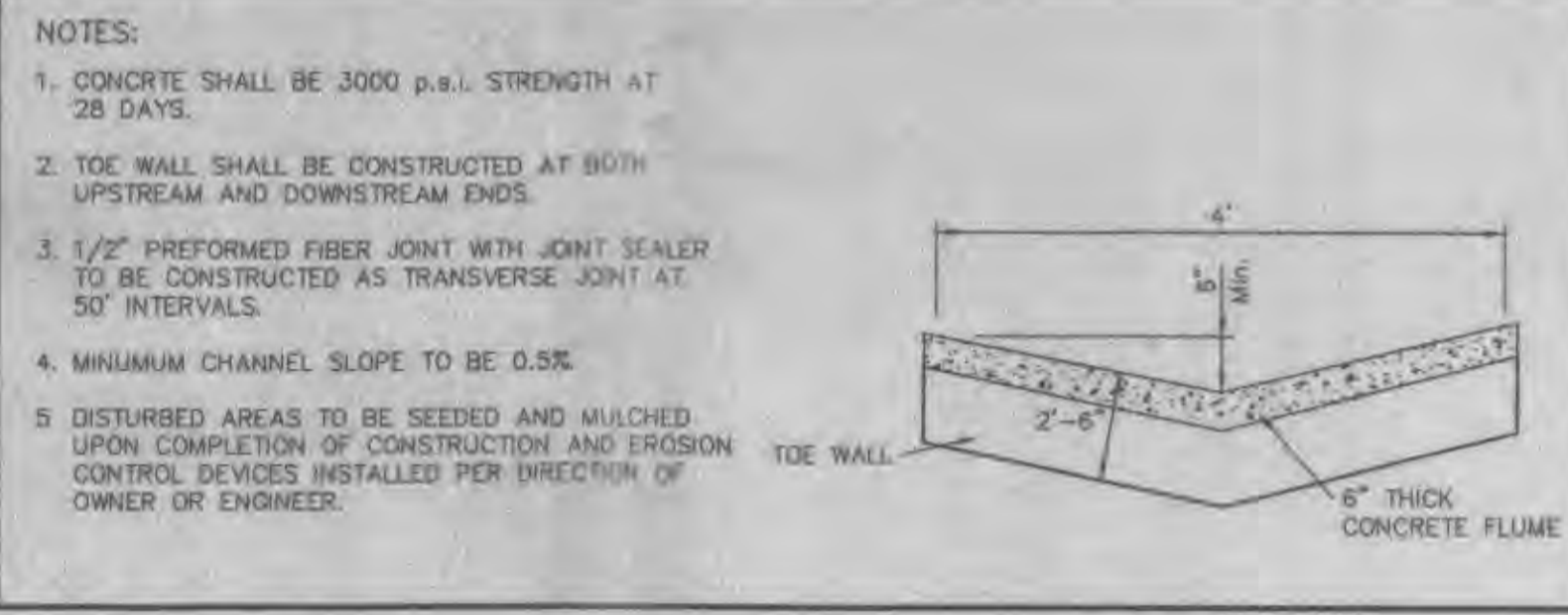
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SEPTEMBER 2000

1 OF 1

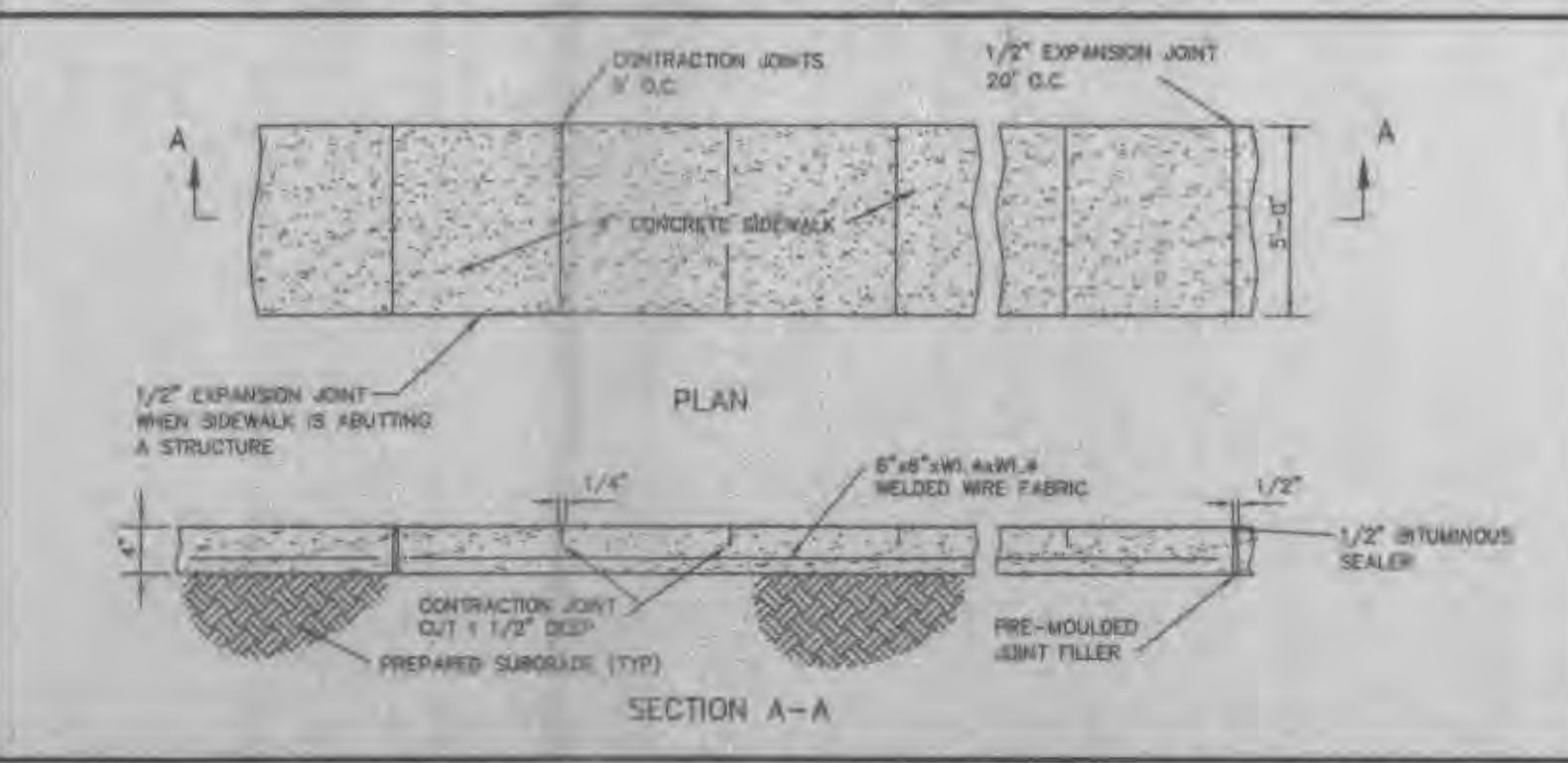
INTEGRAL ROLLED CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS

CONCRETE SWALE DETAIL

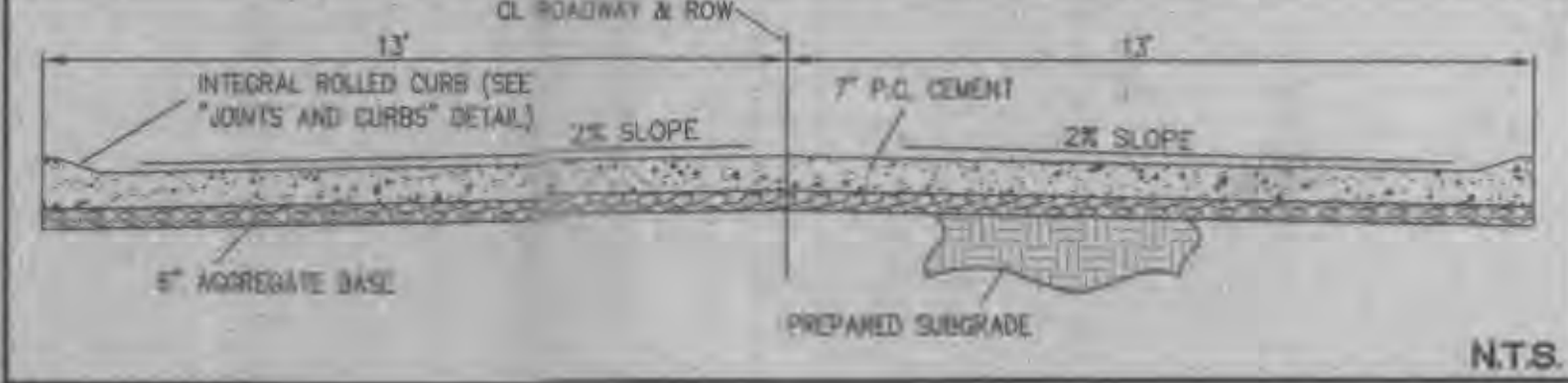


- NOTES:
- CONCRETE SHALL BE 3000 P.S.I. STRENGTH AT 28 DAYS.
  - TOE WALL SHALL BE CONSTRUCTED AT BOTH UPSTREAM AND DOWNSTREAM ENDS.
  - 1/2" PREFORMED FIBER JOINT WITH JOINT SEALER TO BE CONSTRUCTED AS TRANSVERSE JOINT AT 50' INTERVALS.
  - MINIMUM CHANNEL SLOPE TO BE 0.5%.
  - DISTURBED AREAS TO BE SEEDED AND MULCHED UPON COMPLETION OF CONSTRUCTION AND EROSION CONTROL DEVICES INSTALLED PER DIRECTION OF OWNER OR ENGINEER.

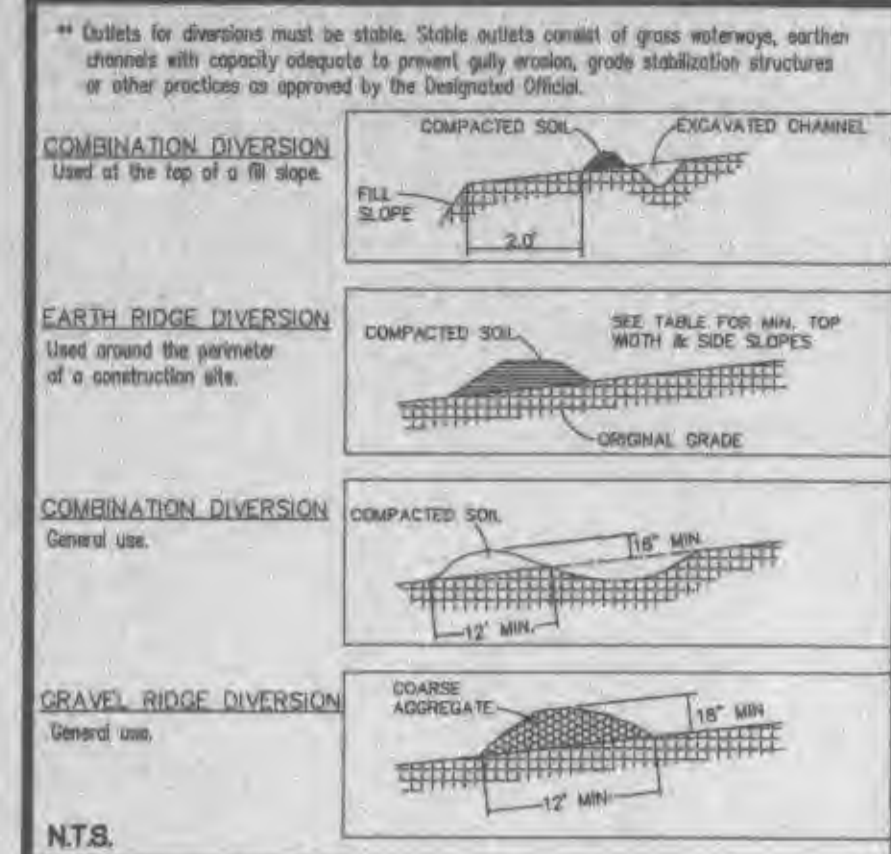
CONCRETE SIDEWALK DETAIL



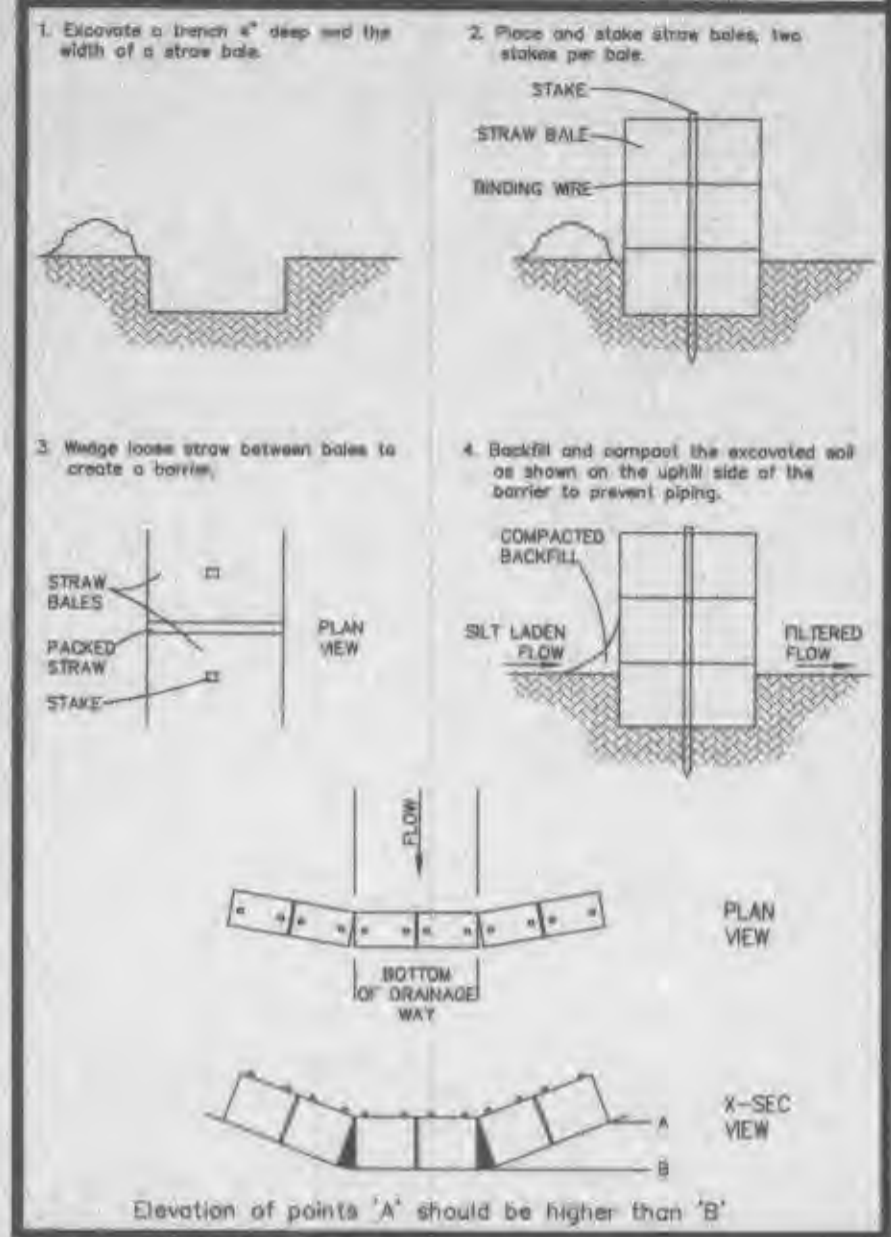
TYPICAL ROADWAY SECTION



DIVERSION SWALES



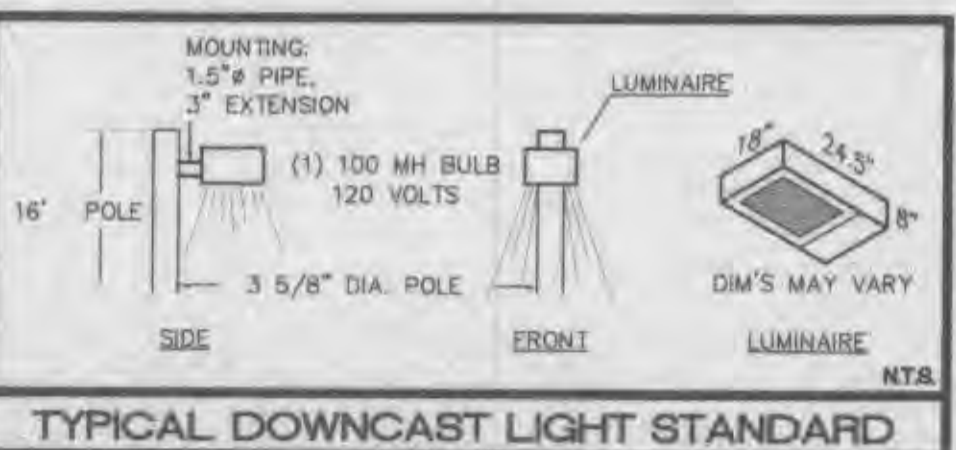
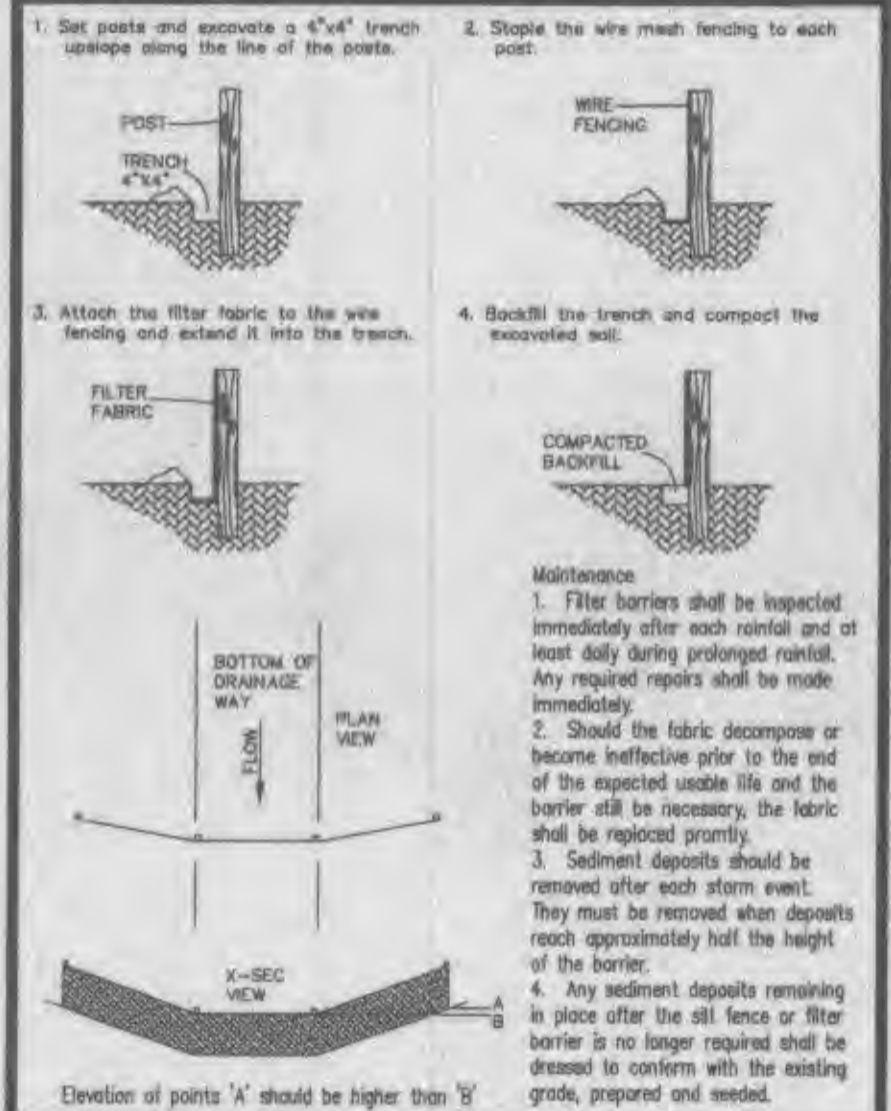
STRAW BALE DETAIL



VEGETATIVE ESTABLISHMENT FOR URBAN DEVELOPMENT SITES

**APPENDIX A**  
Seeding Rates:  
Permanent:  
Tall Fescue - 30 lbs./ac.  
Smooth Brome - 20 lbs./ac.  
Combined: Fescue @ 15 lbs./ac. and Brome @ 10 lbs./ac.  
Temporary:  
Wheat or Rye - 150 lbs./ac. (3.5 lbs. per 1000 sq. ft.)  
Oats - 120 lbs./ac. (2.75 lbs. per 1000 sq. ft.)  
Seeding Periods:  
Fescue or Brome March 1 to June 1  
Wheat or Rye August 1 to October 1  
Oats March 15 to November 1  
March 15 to September 15  
Mulch Rates:  
100 lbs. Per 1,000 sq. ft. (4,356 lbs. per acre)  
Fertilizer Rates:  
Nitrogen 30 lbs./ac.  
Phosphate 30 lbs./ac.  
Potassium 30 lbs./ac.  
Lime 600 lbs./ac. ENM\*  
ENM - Effective Neutralizing Material as per State evaluation of quarried rock.

SYNTHETIC FILTER BARRIERS



JOINTS AND CURBS

ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SEPTEMBER 2000

1 OF 1

PROSPECT VILLAGE PAVEMENT DETAILS

ST. CHARLES ENGINEERING & SURVEYING, INC.  
801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-0607 FAX: (636) 947-3448

ORDER NO. 201253

DATE 8-06-02

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