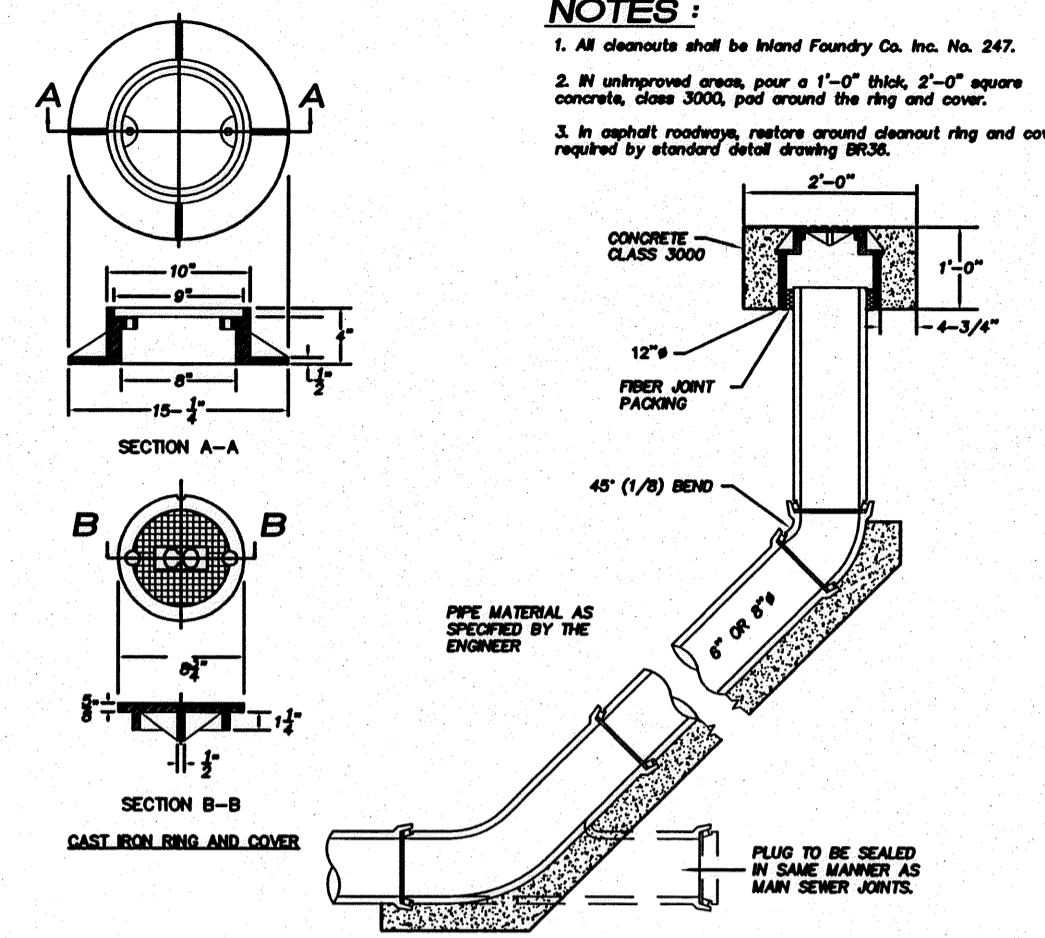


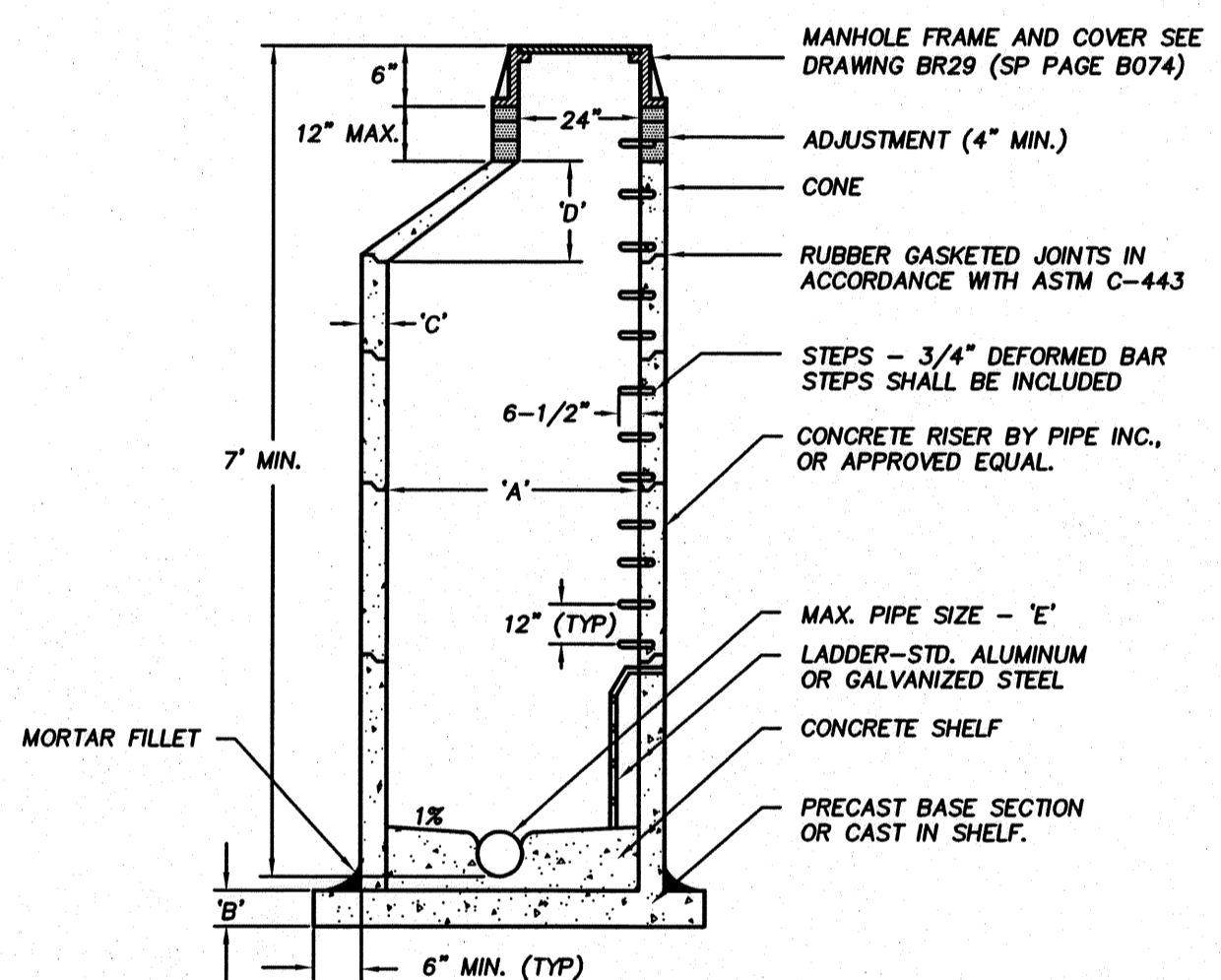
PORTION OF THE S.E. 1/4, S.E. 1/4, SECTION 4, TOWNSHIP 23 NORTH, RANGE 5 EAST, W.M.

SANITARY SEWER NOTES

1. ALL WORK MATERIALS SHALL BE IN CONFORMANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF RENTON UTILITY DEPARTMENT AND THE LATEST EDITION OF THE WSDOT/APWA STANDARDS AND SPECIFICATIONS.
2. THE HOURS OF WORK IN THE STREET RIGHT-OF-WAY SHALL BE LIMITED TO 8:30 A.M. TO 3:30 PM ON WEEKDAYS UNLESS OTHERWISE APPROVED IN WRITING BY THE DEPARTMENT OF PUBLIC WORKS AT (425) 430-7200. ALL STREET CLOSURES, PARTIAL OR FULL, SHALL BE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS 24 HOURS IN ADVANCE. THE POLICE DEPARTMENT, FIRE DEPARTMENT, AND 911 SHALL BE NOTIFIED 24 HOURS IN ADVANCE.
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR MUNICIPAL PUBLIC WORKS CONSTRUCTION" PREPARED BY WASHINGTON STATE CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION (APWA), LATEST EDITION AND CITY OF RENTON STANDARD SPECIFICATIONS.
4. ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE TRUE AND CORRECT LOCATION SO AS TO AVOID DAMAGE OR DISTURBANCE.
5. A PRECONSTRUCTION CONFERENCE AND A 24 HOUR NOTICE SHALL BE REQUIRED PRIOR TO STARTING NEW CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE ALL NECESSARY PERMITS PRIOR TO STARTING CONSTRUCTION. (INSPECTION WILL BE ACCOMPLISHED BY A REPRESENTATIVE OF THE CITY OF RENTON.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE UTILITY DEPARTMENT 24 HOURS IN ADVANCE OF BACKFILLING ALL CONSTRUCTION.
6. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS AND SEQUENCES OF CONSTRUCTION AND FOR THE SAFETY OF WORKERS AND OTHERS ON THE CONSTRUCTION SITE.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN STREET USE AND ANY OTHER RELATED PERMITS PRIOR TO ANY CONSTRUCTION.
8. PLANS APPROVED BY THE CITY OF RENTON, PUBLIC WORKS DEPARTMENT SHALL TAKE PRECEDENCE OVER ALL OTHER PLANS.
9. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
10. THE CONTRACTOR SHALL PROVIDE THE CITY OF RENTON WITH AN AS-BUILT DRAWING OF THE SANITARY SEWER SYSTEM WHICH HAS BEEN STAMPED BY A LICENSED PROFESSIONAL ENGINEER OR LICENSED PROFESSIONAL SURVEYOR.
11. BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE IN LAYERS WITH A LOOSE AVERAGE DEPTH OF 6 INCHES, MAXIMUM DEPTH OF 8 INCHES, THOROUGHLY TAMPING EACH LAYER TO 95% OF MAXIMUM DENSITY. THESE COMPACTED LAYERS MUST EXTEND FOR ONE PIPE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. MATERIALS TO COMPLETE THE FILL OVER PIPE SHALL BE THE SAME AS DESCRIBED.
12. OPEN CUT ROAD CROSSINGS FOR UTILITY TRENCHES ON EXISTING TRAVELED ROADWAY SHALL BE BACKFILLED WITH CRUSHED ROCK AND MECHANICALLY COMPACTED. CUTS INTO THE EXISTING ASPHALT SHALL BE NEATLINE CUT WITH SAW IN A CONTINUOUS LINE. A TEMPORARY COLD MIX PATCH MUST BE PLACED IMMEDIATELY AFTER BACKFILL AND COMPACTION. A PERMANENT HOT MIX PATCH SHALL BE PLACED WITHIN 10 DAYS AND SHALL BE PER CITY OF CURRENT CITY OF RENTON STANDARDS.
13. DATUM SHALL BE CITY OF RENTON, NAVD 1988 (METERS) AND NAD 1983/1991 (METERS).
14. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED TO THE SATISFACTION OF THE DEPARTMENT FOR THE PREVENTION OF ON-SITE EROSION AFTER THE COMPLETION OF CONSTRUCTION.
15. ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH SECTION 7-02.3(1) OF THE CURRENT STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THIS SHALL INCLUDE NECESSARY LEVELING OF THE TRENCH BOTTOM OR THE TOP OF THE FOUNDATION MATERIAL AS WELL AS PLACEMENT AND COMPACTION OF REQUIRED BEDDING MATERIAL TO UNIFORM GRADE SO THAT THE ENTIRE LENGTH OF THE PIPE WILL BE SUPPORTED ON A UNIFORMLY DENSE UNYIELDING BASE. PIPE BEDDING SHALL BE PEA GRAVEL 6" ABOVE AND BELOW THE PIPE.
16. SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) RUBBER GASKETED ASTM D 3034, SDR 35, SDR, C900 OR DUCTILE IRON CLASS 50. SANITARY SEWER FORCE MAIN TO BE CEMENT LINED DUCTILE IRON PIPE CONFORMING TO LATEST REVISIONS OF AWWA C110 & C111, THICKNESS CL.52.
17. IN UNIMPROVED AREAS, MANHOLE TO EXTEND MINIMUM 6 INCH AND MAXIMUM 18 INCH ABOVE FINISHED GRADE. IN PAVED AREA, COVER MUST SLOPE IN ALL DIRECTIONS TO MATCH PAVING. ALL MANHOLES SHALL HAVE LOCKING LIDS.
18. ALL SANITARY SEWER IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE APPROVED PLANS. ANY DEVIATION FROM THESE PLANS WILL REQUIRE APPROVAL FROM THE OWNER, ENGINEER AND APPROPRIATE PUBLIC AGENCIES.
19. LOCATIONS OF ROADWAYS, BUILDINGS AND PARKING AREAS SHOWN HEREON ARE APPROXIMATE. FOR DIMENSIONED LOCATIONS OF THESE IMPROVEMENTS, REFER TO THE ARCHITECTURAL SITE PLAN. IMPROVEMENT AND STRUCTURE LOCATIONS SHALL BE FIELD SET BY THE ENGINEER AS REQUIRED.
20. ALL MANHOLES SHALL BE PER THE CITY OF RENTON STANDARDS AND SPECIFICATIONS. ALL MANHOLES SHALL HAVE A MINIMUM 0.10-FOOT TO MAXIMUM 1.0-FOOT DROP BETWEEN INVERT IN AND INVERT OUT. ALL MANHOLE COVERS SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL PAVING AND LANDSCAPING.
21. ALL TRENCH BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY PER ASTM D-1557-70 (MODIFIED PROCTOR). FOR THE FIRST THREE FEET ABOVE THE PIPE, THE REMAINING BACKFILL MAY BE TO 90% IF NOT IN AN AREA OF FUTURE PAVEMENT OR STRUCTURAL FILL. TRENCH BACKFILL AND COMPACTION SHALL BE COMPLETED PRIOR TO TESTING LINES FOR LEAKAGE.
22. ALL SIDE SEWERS SHALL BE A MINIMUM 6" DIAMETER AND HAVE A MINIMUM SLOPE OF 2.0%. PROPERTY / LOT CORNERS AND / OR BUILDING LOCATIONS AND FINISH GRADES SHALL BE ESTABLISHED IN THE FIELD PRIOR TO ANY SEWER CONSTRUCTION. SIDE SEWER TEE STATIONS ARE REFERENCED FROM THE NEAREST DOWNSTREAM MANHOLE. THE CONTRACTOR SHALL MAINTAIN ACCURATE AS-BUILT RECORDS OF ALL SIDE SEWER LOCATIONS. ALL SIDE SEWERS SHALL BE TESTED AT THE TIME OF MAIN LINE TESTING. PIPE MATERIAL SHALL BE C900 FOR DEPTHS OVER 15'.
23. WHERE A WATER MAIN CROSSES ABOVE THE SANITARY SEWER, AND LESS THAN 3'0 OF VERTICAL CLEARANCE EXISTS BETWEEN THE TOP OF SEWER AND BOTTOM OF WATER MAIN, THE SEWER SHALL BE CONSTRUCTED OR RECONSTRUCTED WITH DUCTILE IRON PIPE (CLASS 50) FOR A MINIMUM HORIZONTAL DISTANCE OF 10' ON EACH SIDE OF THE WATER MAIN CROSSING.
24. SANITARY SEWER MAIN LINES (8" DIAMETER AND LARGER) SHALL NOT BE CONSTRUCTED ANY CLOSER THAN 10 FEET TO ANY BUILDING OR 5 FEET TO ANY CARPORT.
25. NEW CONNECTIONS TO EXISTING FACILITIES SHALL BE SEALED OFF UNTIL UPSTREAM CONSTRUCTION IS FINISHED, TESTED, CLEANED AND ACCEPTED. ALL CONSTRUCTION DEBRIS AND WATER SHALL BE REMOVED PRIOR TO OPENING THE SEAL. ALL TESTING SHALL BE IN THE PRESENCE OF A CITY OF RENTON INSPECTOR.
26. PRIOR TO ACCEPTANCE OF CONSTRUCTION AND / OR ISSUANCE OF OCCUPANCY PERMITS, ENGINEER / SURVEYOR - CERTIFIED AS-BUILT DRAWINGS MUST BE PREPARED OF ALL SANITARY SEWER FACILITIES.
27. INSTALL FALL RESTRAINT SYSTEM IN ALL SANITARY SEWER MANHOLES OVER 20- FEET DEEP. FALL RESTRAINT SYSTEM SHALL BE "SURETRACT CLIMBING AND FALL PROTECTION SYSTEM", AS MANUFACTURED BY "MILLER FALL PROTECTION".



ADOPTED
CITY OF RENTON
Standard plans
LST DATE: 04/2003
6 INCH OR 8 INCH CLEANOUT
DWG. NAME : BR188 SP PAGE : B076

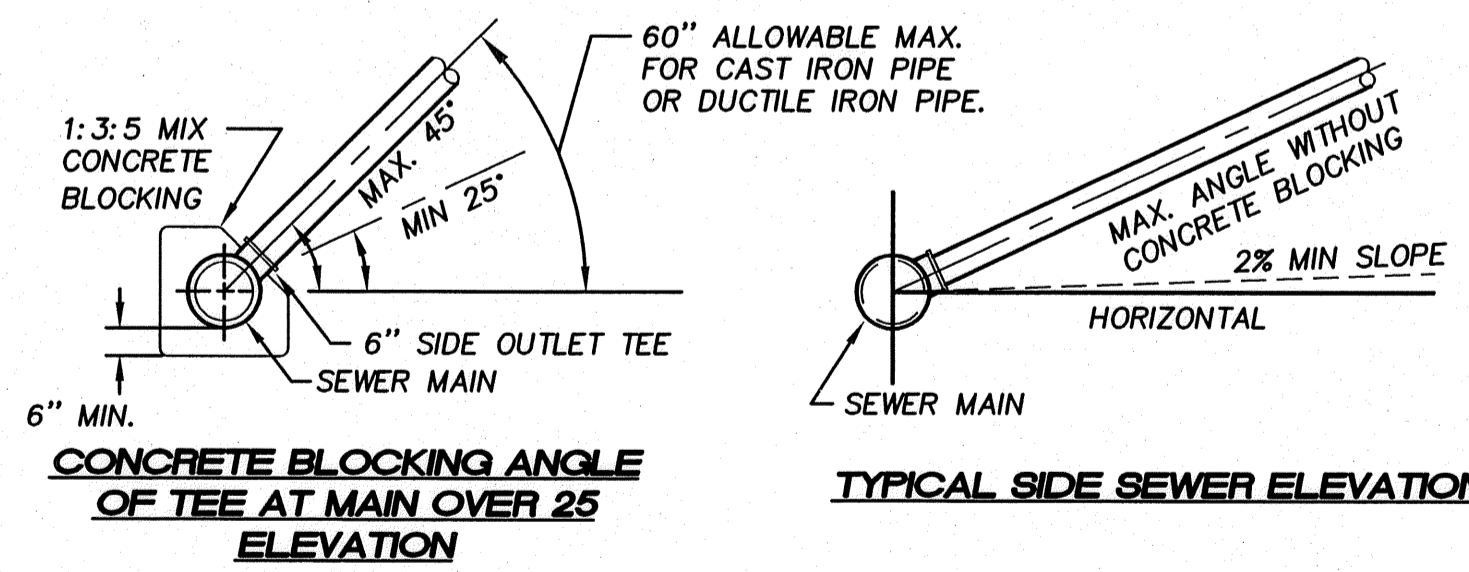


SANITARY MANHOLE TYPICAL DETAIL
NOT TO SCALE

	A'	B'	C'	D'	E'
48" MH	48"	6" MIN.	5" MIN.	24" MIN.	21" I.D.
54" MH	54"	8" MIN.	5.5" MIN.	24" MIN.	24" I.D.
60" MH	60"	8" MIN.	6" MIN.	42" MIN.	30" I.D.

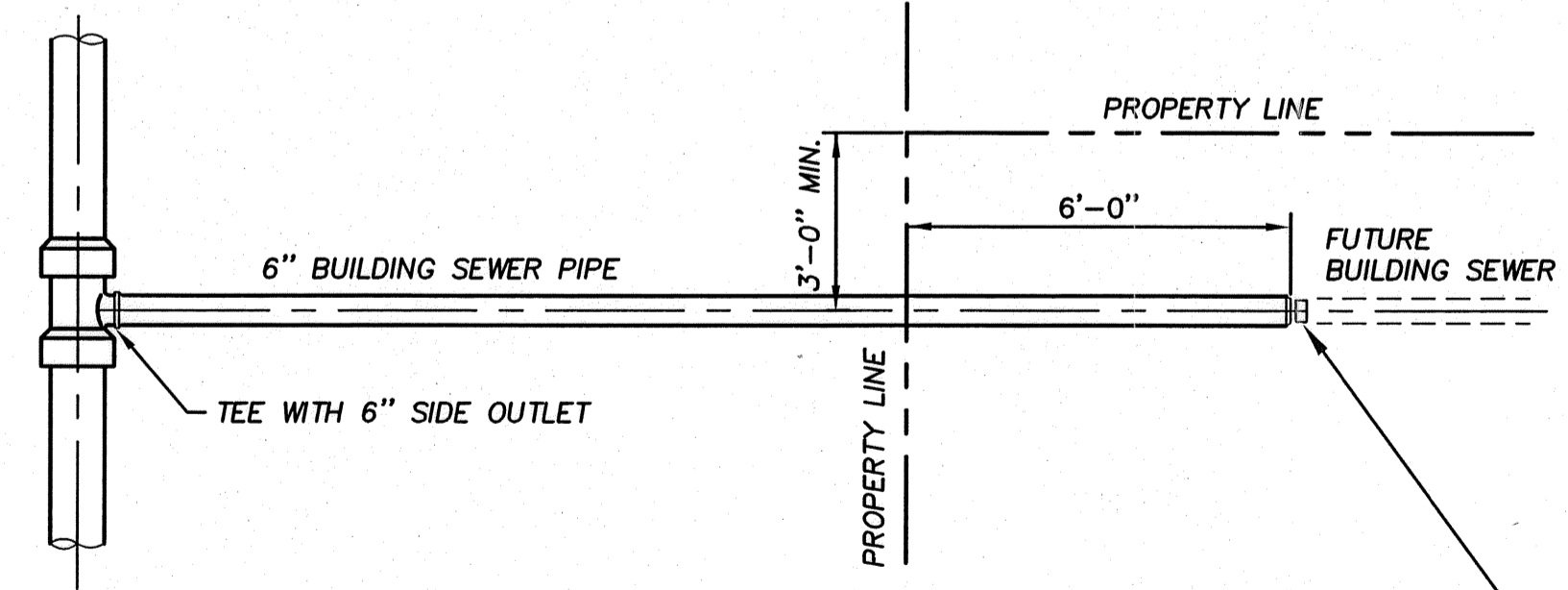
- NOTES:
1. STEPS TO BE 3/4" # DEFORMED BAR GALVANIZED SAFETY STEPS OR EQUAL.
 2. STEPS ARE TO BE IN PLACE BEFORE MANHOLE SECTIONS ARE INSTALLED.
 3. CASTING TO BE PER DRAWING BR29.
 4. MANHOLE SECTIONS TO BE OF REINFORCED PRECAST CONCRETE.
 5. ALL JOINTS SHALL BE GROUTED.
 6. SANITARY SEWER MANHOLES SHALL HAVE ALL INTERIOR SURFACES, INCLUDING CHANNELING, COATED (SEALED) WITH A HIGH SOLIDS URETHANE COATING, WASSER MC-CONSEAL OR APPROVED EQUAL; COLOR OF COATING SHALL BE WHITE.
 7. RUBBER GASKETED JOINTS SHALL BE IN CONFORMANCE WITH ASTM C-443.
 8. CHANNEL HEIGHT SHALL BE A MINIMUM OF 3/4 THE INSIDE DIAMETER OF THE LARGEST PIPE.
 9. CONNECTIONS TO MANHOLE SHALL BE MADE USING GPK ADAPTOR, KOR-N-SEAL BOOTS OR APPROVED EQUAL.
 10. MANHOLES EQUAL TO AND GREATER THAN 20 FEET DEEP SHALL HAVE A "SURETRACK" CLIMBING AND FALL PROTECTION SYSTEM INSTALLED.

ADOPTED
CITY OF RENTON
Standard plans
LST DATE: 04/03
SANITARY MANHOLE TYPICAL DETAIL
DWG. NAME : BR28 SP PAGE : B071



NOTE:
UNLESS OTHERWISE SHOWN ON PLAN, SIDE SEWER SHALL HAVE A MINIMUM 2.5' COVER AT PROPERTY LINE OR 3-5' LOWER THAN THE LOWEST HOUSE ELEVATION, WHICHEVER IS LOWER.

ADOPTED
CITY OF RENTON
Standard plans
LST DATE: 12/96
**STANDARD SIDE SEWER INSTALLATION
(SEWER MAIN TO PROPERTY LINE)**
DWG. NAME : BR39 SP PAGE : B078



UNLESS OTHERWISE APPROVED BY THE CITY, MAKE TAP THROUGH CAST IRON SADDLE SECURED TO SEWER MAIN WITH STAINLESS STEEL BANDS WHEN CONNECTING NEW SIDE SEWERS TO EXISTING MAIN.

VITRIFIED CLAY, PLAIN AND REINFORCED CONCRETE, D1 PIPE AND C1 PIPE SEWER MAINS ARE TO BE CORE DRILLED

SIDE SEWER DETAIL

CHECKED FOR COMPLIANCE TO CITY STANDARDS Date _____ Date _____ Date _____	RECOMMENDED FOR APPROVAL BY: _____ BY: _____
--	--

S-337205



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Civil Engineering and
Planning Consultants

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RENTON, WA

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510 RAINIER AVENUE SOUTH
SEATTLE, WA 98144
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PROJECT NO.: **06085**

DRAWN BY: **VK**

ISSUE DATE: **12/05/06**

SHEET REV.: **10/30/07**

**SANITARY
SEWER DETAILS
AND NOTES**

060850104-C20.DWG

C20

SHEET 20 OF 28

FILENAME: _____ PLOT SCALE: _____ PAPER SPACE: _____ DATE: _____
 SURVEYED: _____ DESIGNED: LEL _____ DRAWN: VK _____ CHECKED: GAD _____ APPROVED: _____
 BY DATE APPR
 JCC 08-30-07 LEL
 PER CITY OF RENTON COMMENTS
 NO. 2
 REVISION