

ISSUE	REMARKS/DATE
1	10-07-2013 Revised per City, DCSD, & PWSD#2 Comments
2	11-20-2013 Revised per City, DCSD, & PWSD#2 Comments
3	12-16-2013 PWSD#2 Approval
4	01-03-2014 Revised per City Comments
5	02-11-2014 Revised per City Comments
6	03-11-2014 Approval

PROJECT TITLE

OAKHURST
OF FALLON, MISSOURI

THE **STERLING** CO.
ENGINEERS & SURVEYORS
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Corporate Certificate of Authority #01948

The Professional Engineer's seal and signature shall be the seal and signature of the engineer who shall be responsible for the design and construction of the project. The Professional Engineer's seal and signature shall not be considered as a guarantee of the accuracy of the design or construction of the project. The Professional Engineer's seal and signature shall not be considered as a guarantee of the accuracy of the design or construction of the project.

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3/11/2014
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SANITARY SEWER DETAILS

P+Z No. 207.02
City No.
Date: July 22, 2013
Job No. 12-10-284
Page No.

DTL-6

IMP

PLASTIC SADDLE TEE OR WYE FITTING (SOLVENT WELD)

EXISTING PLASTIC PIPE
ADJUSTABLE STAINLESS STEEL STRAPS AND SCREWS

WHEN 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")

THIS IS ACCOMPLISHED BY CAREFULLY CUTTING A HOLE WITH A SAW IN THE MAIN AT THE REQUIRED LOCATION AFTER CUTTING AND SHAPING THE HOLE TO THE SIZE OF THE FITTING. THE FOLLOWING STEPS SHOULD BE TAKEN.

- CLEAN AND DRY BOTH INSIDE THE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
- IMPORTANT: APPLY A LIBERAL, HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR WELDING SURFACE TO THE PIPE.
- WITHOUT DELAY, MATE THE SURFACES AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN TIGHTLY.
- USING A RAG OR PAPER TOWEL, WIPE BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
- ALLOW 30-60 MINUTES FOR SET-UP TIME BEFORE BACKFILLING. CURE TIME DEPENDS ON SIZE FIT OF MATERIALS BEING INSTALLED AND VARIOUS COLD DAMP CONDITIONS.
- DISCARD OLD SOLVENT IF IT BECOMES JELLED OR LUMPY.
- A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHOULD BE ONE OF THE FOLLOWING.
 - 1 TO 3 CEMENT TO SAND MIX
 - "TIE-BIT" CONCRETE
 - DCSD APPROVED BEDDING FOR SANITARY SEWERS.

SIZE	CATALOG NO.	OD C900	OD C900	ID C900	ID SEWER	L	CTN QTY	CTN WT
4x4	337-040	4.80	4.215	4.86	4.25	10.0	1	4
6x6	337-060	6.90	6.275	6.96	6.32	11.13	1	8
8x8	337-080	9.05	8.400	9.13	8.45	12.50	1	15

Duckett Creek Sanitary District
SDR-35 x C900 BELL AND BELL CONNECTION TO PLASTIC MAIN
BSM MDOB KLA 1-4-01 20A

SDR-35 x C900 BELL & SPIGOT ADAPTERS

HARCO STYLE
FABRICATED STYLE

SIZE	CATALOG NO.	A	L	STYLE
4"	335-040	3.2	10.0	FABRICATED
6"	335-060	2.9	3.5	HARCO
8"	335-080	4.0	12.5	FABRICATED

SIZE	CATALOG NO.	OD C900	OD C900	ID C900	ID SEWER	L	CTN QTY	CTN WT
4x4	337-040	4.80	4.215	4.86	4.25	10.0	1	4
6x6	337-060	6.90	6.275	6.96	6.32	11.13	1	8
8x8	337-080	9.05	8.400	9.13	8.45	12.50	1	15

Duckett Creek Sanitary District
SDR-35 x C900 BELL AND BELL 4", 6" & 8" ADAPTERS
BSM MDOB KLA 1-3-01 19C

SDR-35 x C900 BELL & SPIGOT ADAPTERS

HARCO STYLE
FABRICATED STYLE

SIZE	CATALOG NO.	A	L	STYLE
4"	335-040	3.2	10.0	FABRICATED
6"	335-060	2.9	3.5	HARCO
8"	335-080	4.0	12.5	FABRICATED

SIZE	CATALOG NO.	A	B	C	D	E	F	G	H	CT	PT
4"	334-040	4.56	8.23	4.25	4.10	3.94	4.80	2.72	2.7	.32	.25
6"	334-060	6.68	9.93	6.31	4.57	5.88	6.90	3.72	3.5	.45	.36

Duckett Creek Sanitary District
SDR-35 x C900 BELL AND SPIGOT SPECIAL 4", 6" & 8" ADAPTERS
BSM MDOB KLA 1-3-01 19B

SDR-35 x C900 BELL & SPIGOT ADAPTERS

HARCO STYLE
FABRICATED STYLE

SIZE	CATALOG NO.	A	B	C	D	E	F	G	H	CT	PT
4"	334-040	4.56	8.23	4.25	4.10	3.94	4.80	2.72	2.7	.32	.25
6"	334-060	6.68	9.93	6.31	4.57	5.88	6.90	3.72	3.5	.45	.36

Duckett Creek Sanitary District
SDR-35 x C900 BELL AND SPIGOT ADAPTERS
BSM MDOB KLA 1-3-01 19A

ROADWAY BORING DETAIL

ROADWAY
BORING DETAIL
CARRIER PIPE
STEEL CASING PIPE
GROUT
SEE PLANS

NOTES:

- INSIDE DIAMETER OF CASING PIPE TO BE MINIMUM OF 4" GREATER THAN COUPLING DIAMETER OF CARRIER PIPE.
- ENCASEMENTS TO BE INSTALLED UNDER THE ROAD BY MEANS OF JACKING IT THROUGH, OR BY DRY BORING A HOLE THAT WILL RECEIVE THE CASING WITH A SNIUG FIT.
- THE OUTSIDE DIAMETER OF THE CASING SHALL NOT BE LESS THAN, NOR MORE THAN ONE INCH GREATER THAN THE BORED HOLE.
- THE ANNULAR SPACE BETWEEN THE CASING PIPE AND THE BORED HOLE SHALL BE FILLED WITH GROUT.

SUPPORT OF CARRIER PIPE OR FORCE MAIN IN CASING
SECTION A-A'
SPACER BLOCKS
CARRIER PIPE
STEEL CASING PIPE
GROUT
CABLE OR BAND

Duckett Creek Sanitary District
ROADWAY BORING DETAIL
BSM MDOB KLA 1-5-01 23

1800' MAXIMUM SPACING

APPROVED CLOSURES ON 1/8" BEND
CLASS "A" CONCRETE ENCASEMENT 6" MIN.
PIPE TO BE 6" IN DIAMETER
WILL REQUIRE SMOOTH TRANSITION REDUCER AT EACH END IF LINE SIZE IS LESS THAN 6"
ALL PIPE TO BE DUCTILE IRON PIPE

Duckett Creek Sanitary District
FORCE MAIN CLEANOUT (6" DIA. & SMALLER)
BSM MDOB KLA 1-5-01 22

CLASS "A" CONCRETE ENCASUREMENT

CLASS "A" CONCRETE ENCASUREMENT

NOTES:

- 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")
- IF THE I.D. OF THE CONNECTION PIPE IS GREATER THAN ONE HALF (1/2) OF THE I.D. OF THE MAIN SEWER THE WYE OR TEE MUST BE "ROLLED IN". (EXAMPLE: 15" x 8")
- 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 STRIP POINTED IN THE WRONG DIRECTION. THE BROKEN BELLS ON THE REPLACEMENT AND ADJOINING PIPE MAKE IT 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 6" CLASS "A" CONCRETE ENCASUREMENT.
- ID OF MAIN SEWER SHALL NOT BE DECREASED BY A ROLL-IN CONNECTION.

Duckett Creek Sanitary District
"ROLL-IN" (FOR EXISTING CLAY OR CONCRETE PIPE)
BSM MDOB KLA 1-5-01 21

INSERTA TEE

THE USE OF AN INSERTA TEE REQUIRES DISTRICT APPROVAL.

RED HORIZONTAL LINE
STAINLESS STEEL BAND
MATCH RED HORIZONTAL LINE
GOLD VERTICAL LINE
HUB SDR 35 3034
RED VERTICAL LINE
IN LINE
IN LINE
RUBBER SLEEVE ASTM C-443
PVC

INSTALLATION PROCEDURE:

- CORE THE PROPER SIZE HOLE. TEE SIZE: 4" 6" 8" 10" 12" 15" BIT SIZE: 4" 6" 8" 10" 12" 15"
- INSERT THE RUBBER SLEEVE (1) IN THE CORED HOLE WITH THE GOLD VERTICAL LINE ON THE RUBBER SLEEVE (2) FACING TO THE SIDE OF THE MAIN LINE. THE UPPER SEGMENT SHOULD BE ON TOP OF THE WALL OR TIE AND THE LOWER SEGMENT (PVC, PROFILE WALL, AND POLYETHYLENE PIPE ONLY) SHOULD BE ON THE INSIDE OF THE PIPE.
- APPLY THE INSERTA TEE SOLUTION SUPPLIED TO THE INSIDE OF THE RUBBER SLEEVE AND TO THE OUTSIDE OF THE PVC HUB ADAPTER. CAUTION - DO NOT USE AN OIL BASED LUBRICANT.
- PLACE THE PVC HUB ADAPTER (3) INTO THE RUBBER SLEEVE. MAKE SURE THAT THE RED VERTICAL LINE (4) ON THE PVC HUB ADAPTER IS IN LINE WITH THE GOLD VERTICAL LINE (2) ON THE RUBBER SLEEVE.
- PLACE THE 2x4 BOARD ON TOP OF THE PVC HUB ADAPTER.
- THE RED HORIZONTAL LINE (5) AT THE TOP OF THE HUB ADAPTER IS A DEPTH MARK. THIS TELLS THE INSTALLER HOW FAR TO DRIVE THE ADAPTER INTO THE RUBBER SLEEVE. DRIVE THE PVC HUB ADAPTER INTO THE RUBBER SLEEVE TO WHERE THE HORIZONTAL RED LINE (5) ON THE PVC HUB ADAPTER (3) MEETS THE TOP OF THE RUBBER SLEEVE (6).
- PLACE THE STAINLESS STEEL BAND (7) AROUND THE TOP OF THE RUBBER SLEEVE AND TIGHTEN DOWN.
- INSTALL PIPE IN NORMAL MANNER.

Duckett Creek Sanitary District
INSERTA TEE DETAILS AND SPECIFICATIONS
BSM MDOB KLA 1-4-01 20B