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ALLAN H. WEIHE, P.E., L.S. - FOUNDER

WEIHE ENGINEERS
Land Surveying | Civil Engineering
Landscape Architecture
Build with confidence™

(2) 30" x 15" GRATES

STANDARD (2) GRATE INLET SEAT

43-1/4" 43-1/4"
49-1/4" 49-1/4"

STANDARD (2) GRATE INLET SEAT

43-1/4" 43-1/4"
49-1/4" 49-1/4"

ADJUST TO FINAL GRADE WITH BRICK WORK. (MAX. 11")
3/4" MORTAR BED
8"
42"
7"-9"-11"-13"

ADAPTER RING OR STANDARD 42" DIAMETER CONE SECTION
(ADAPTOR RING SHOWN)

3/4" MORTAR BED
8"
33-1/4" SQUARE
APPROVED PATENTED COMPRESSION TYPE JOINT.
VARIES
49-1/2" 49-1/2"

SQUARE (2) GRATE INLET

#4 REBARS @ 10" CENTERS E.W. IN WALLS & BASE, WITH 1 INCH COVER.

APPROVED MASTIC JOINT.
42"
48"
60"
APPROVED PATENTED COMPRESSION TYPE JOINT. (SEE CHART FOR MAX. PIPE O.D.)
6" MIN.
VARIES

(2) GRATE INLET (INLET MANHOLE BASE)

NOTE: INLETS ON THIS SHEET ARE TO BE USED IN LOCATIONS WHERE STANDARD OPEN THROAT INLETS CANNOT BE USED IN PAVED TRAFFIC WAY AND IN LIMITED EASEMENTS.

SEE CHART FOR MINIMUM DIMENSIONS.

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

2 GRATE INLETS PRECAST CONCRETE	Dr. JLG/SAM Ch. J.C.K.	2009	SHEET 35

M.S.D. STANDARD MANHOLE FRAME AND COVER.

SET MANHOLE FRAME WITH TWO (2) COMPLETE ROWS OF 1 INCH THICK FLEXIBLE RUBBER MASTIC SEALANT.

ADJUST TO GRADE WITH APPROVED GRADE RING.

CONCENTRIC PRECAST TOP TRANSITION CONE SECTION, MANHOLES 42-48 INCHES.

PRECAST RISER SECTION.

FOR DROP PIPE, FACTORY CAST OPENING AS REQUIRED. APPROVED PATENTED COMPRESSION TYPE JOINT.

ROUND RUBBER GASKET JOINT OR APPROVED EQUAL.

PROVIDE AND ADJUST RISER SECTIONS SO THAT PIPE INLET DOES NOT EXTEND THROUGH MANHOLE JOINT.

DIAMETER AS REQUIRED

WATER PROOF EXTERIOR OF SANITARY MANHOLES.

SHAFT STEPS UNIFORMLY SPACED AT 16" C-C. (※) SHOULD NOT BE OVER TOP OF PIPES AND SHALL EXTEND 5-1/2" FROM WALL.

PRECAST MANHOLE BASE.

APPROVED PATENTED COMPRESSION TYPE JOINT.

ELEVATION

42" OR 48" DIA.
6" MIN.
4"
1-1/2" 2-1/2"

BASE SECTION

DEFLECTION ANGLE AS REQUIRED.

BASE PLAN

NOTES:
1) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42 INCHES FOR 8 INCH DIAMETER SANITARY SEWERS AND ALL STORM SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY SEWERS LARGER THAN 8 INCH DIAMETER IS 48 INCHES. MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.
2) FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE 1 INCH HIGHER THAN THAT OF OUTGOING PIPE.
3) PIPE SIZES LARGER THAN 24 INCH DIAMETER MAY REQUIRE MANHOLE DIAMETERS OF 60 INCH, 72 INCH OR 96 INCH AS DETERMINED BY OUTSIDE DIAMETERS AND ORIENTATIONS OF CONNECTING PIPES.
4) ECCENTRIC CONES SHALL BE USED ON DIAMETERS 60 INCH AND LARGER. STEPS SHALL EXTEND DOWN VERTICAL WALL OF CONE.
5) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL OF MANHOLES ON PIPE DIAMETERS LARGER THAN 24 INCH AND ALSO FOR THOSE STRUCTURES WITH A DROP PIPE CONNECTION.

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

PRECAST CONCRETE MANHOLE	Dr. WSH/SAM Ch. J.C.K.	2009	SHEET 21 (REV)

REQUIREMENTS FOR ALL STORM SEWER BENCHWALLS

BENCH WALLS SHALL BE SHAPED AND FORMED FOR A CLEAN TRANSITION WITH PROPER HYDRAULICS TO ALLOW THE SMOOTH CONVEYANCE OF FLOWS THROUGH THE MANHOLE OR BOX INLET. THE BENCH WALL SHALL FORM A DEFINED CHANNEL, TO A MINIMUM HEIGHT OF 80-PERCENT OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM ½-INCH PER FOOT SLOPE TO THE MANHOLE WALL.

WHERE A FLOW CHANNEL IS CONSTRUCTED AS AN INTEGRAL PART OF THE PRE-CAST BASE, IT SHALL BE SHAPED AND FORMED AS DESCRIBED ABOVE, WITH THE EXCEPTION THAT THE BOTTOM OF THE FLOW CHANNEL MAY BE FORMED FROM THE BOTTOM OF INLET AND OUTLET PIPES IF THE PIPE WALL THICKNESS IS NOT GREATER THAN ONE (1) INCH.

FOR CAST-IN-PLACE FLOW CHANNELS, THE BOTTOM INVERT OF ALL PIPES ENTERING A MANHOLE SHALL BE AT LEAST THREE (3) INCHES ABOVE THE TOP OF THE BASE SLAB TO THE OUTLET INVERT SO THE FINISHED SEWER CHANNEL MAY BE INSTALLED AND SHAPED.
FOR CONNECTIONS TO EXISTING STORM SEWER STRUCTURES, FLOW CHANNELS SHALL BE SHAPED, AS SPECIFIED HEREIN, AS IF IT WERE A NEW MANHOLE OR BOX INLET STRUCTURE.

SPECIFICATIONS FOR ALL STORM SEWER CASTINGS

ALL STORM WATER INLETS AND CATCH BASINS SHALL HAVE THE WORDS "NO DUMPING, DRAINS TO STREAM", OR SIMILARLY APPROVED MESSAGE, CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM OF 1" IN HEIGHT. IN ADDITION, A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS.

PREPARED FOR:
HOTEL - CALEDONIA
LOT 4 AND 5, CALEDONIA CENTER, O'FALLON, MO
63368

DRAINAGE PLAN DETAILS
PART OF SECTION 13, TOWNSHIP 46 NORTH, RANGE 2 EAST, ST. CHARLES COUNTY, MO
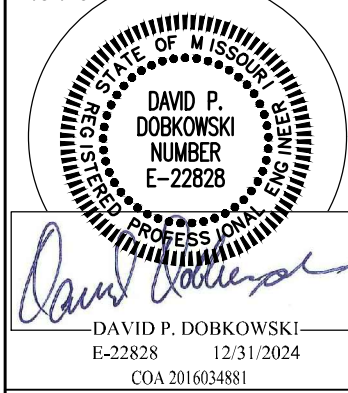
SHEET NO.
C606

PROJECT NO.
W23.0784

PROJECT NO. W23.0784
DWG NAME: W23STSTL-C601 drainage details
DESIGNED BY: BS
DRAWN BY: JS
CHECKED BY: DO