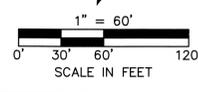
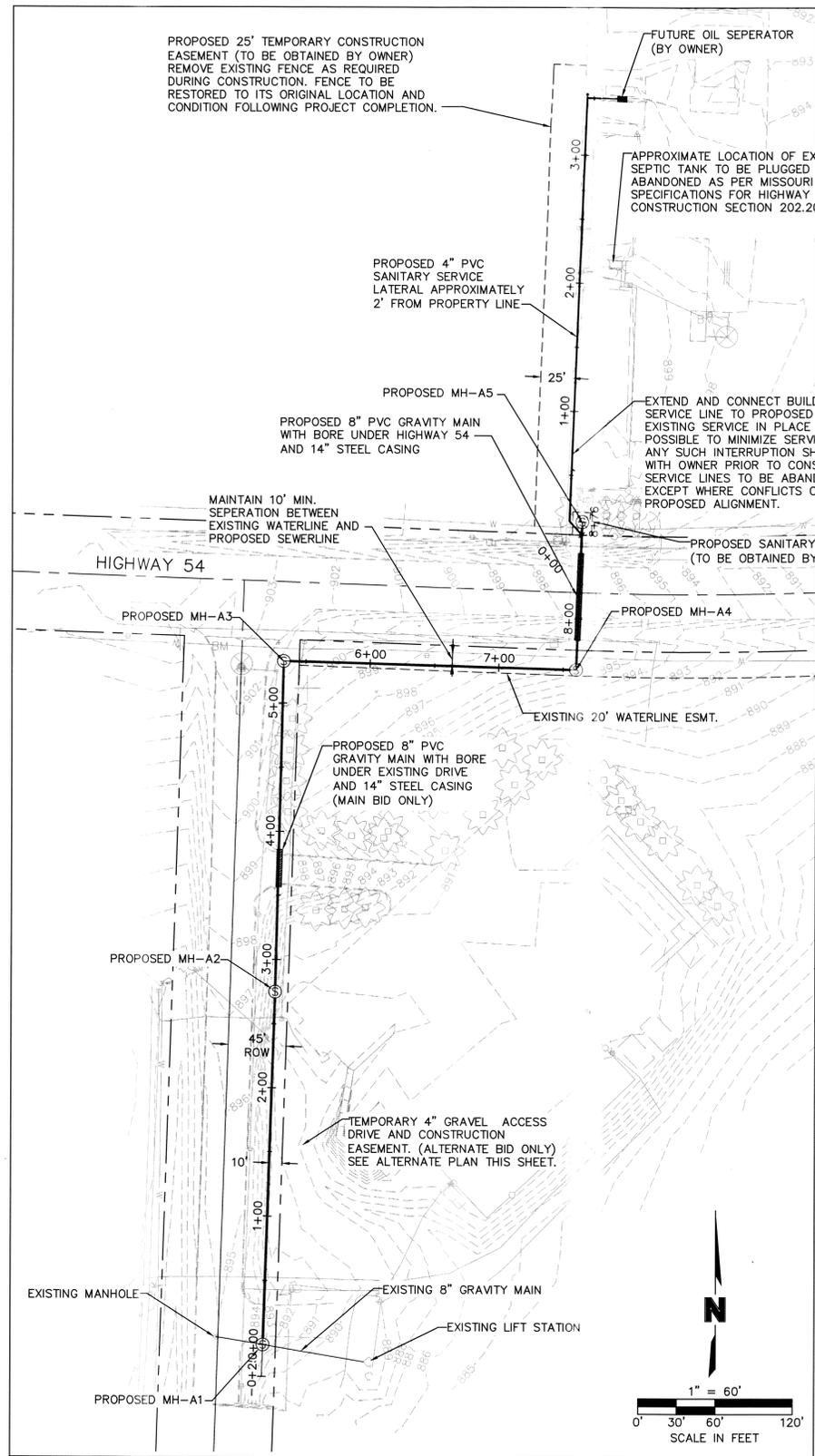
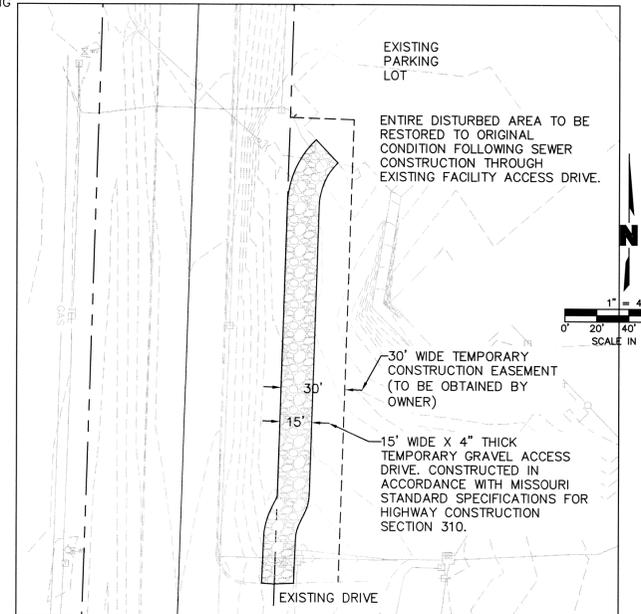


# SANITARY SEWER IMPROVEMENTS FOR MISSOURI DEPARTMENT OF TRANSPORTATION EL DORADO SPRINGS, MO



MANHOLE COORDINATE TABLE		
MANHOLE	NORTHING	EASTING
MH-A1	617196.1198	2933920.1363
MH-A2	617470.9840	2933928.8611
MH-A3	617728.6682	2933934.9013
MH-A4	617722.2491	2934162.1676
MH-A5	617837.6111	2934166.7182



**ALTERNATE BID #1**

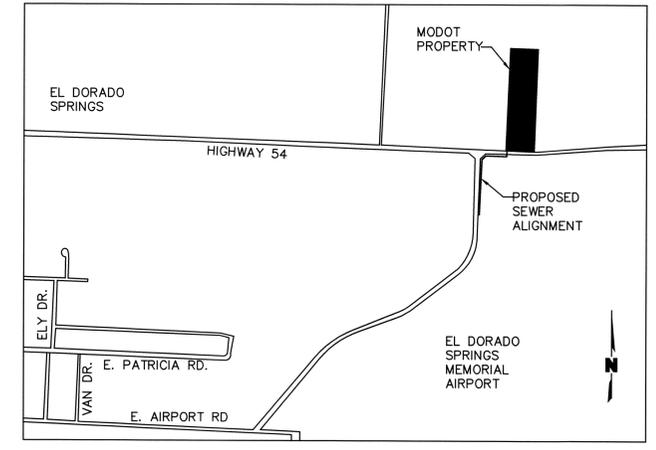
\*NOTE: IF ALTERNATE #1 IS SELECTED, EXISTING FACILITY ACCESS DRIVE SHALL BE OPEN CUT WITH PAVEMENT REPLACEMENT.

EXISTING LEGEND	
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	CONTOURS
	SANITARY SEWER
	WATER LINE
	GAS LINE
	UNDERGROUND TELEPHONE LINE
	TELEPHONE RISER
	WATER METER
	WATER METER VAULT
	OVERHEAD ELECTRIC
	LIGHT POLE/STREET LIGHT
	POWER POLE
	ELECTRIC RISER
	ELECTRIC METER
	ELECTRIC TRANSFORMER
	GUY WIRE
	EXISTING FENCE

DRAWING INDEX	
SHEET 1	COVER
SHEET 2	PLAN AND PROFILE
SHEET 3	DETAILS

**CONTACT INFORMATION**  
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MISSOURI DEPARTMENT OF TRANSPORTATION  
MENDI ALLGOOD  
SENIOR RIGHT OF WAY SPECIALIST/FACILITIES  
DISTRICT 7-RIGHT OF WAY/FACILITIES  
3901 E. 32ND STREET  
JOPLIN, MO 64804  
PHONE: 417.621.6341  
CELL: 417.529.8249  
FAX: 417.629.3987  
EMAIL: MELINDA.ALLGOOD@MODOT.MO.GOV



**LOCATION MAP**  
N.T.S.

**GENERAL NOTES:**

- ALL TRAFFIC CONTROL SHALL BE IN CONFORMANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- THE EXISTING UTILITY LOCATION SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES.
- THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THESE PLANS.
- REFER TO SPECIFICATIONS FOR GEOTECHNICAL TEST BORING LOCATIONS AND RESULTS.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
- ANY ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS AS SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PUBLIC STREETS IN THE VICINITY OF THE JOB SITE CLEAN AND FREE OF ROCKS, SOIL AND DEBRIS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF THE RIGHT-OF-WAY AND FOR DAMAGED IMPROVEMENTS SUCH AS CURBS, SIDEWALKS, STREET LIGHTS AND TRAFFIC SIGNAL JUNCTION BOXES, TRAFFIC SIGNAL LOOP LEAD INS, SIGNAL POLES, ETC. DAMAGED IMPROVEMENTS SHALL BE REPAIRED IN CONFORMANCE WITH THE LATEST CITY STANDARDS AND THE CITY'S SATISFACTION.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING BERMS, SILT FENCES, STRAW BALES, OR OTHER MEANS TO PREVENT ERODED MATERIALS FROM REACHING THE PUBLIC RIGHT-OF-WAY AND ADJACENT PROPERTIES WHERE DISTURBED AREAS ARE GREATER THAN 1 ACRE. IF THE PREVENTION MEASURES ARE NOT EFFECTIVE, THE CONTRACTOR SHALL REMOVE ANY DEBRIS, SILT, OR MUD AND RESTORE THE RIGHT-OF-WAY TO ORIGINAL OR BETTER CONDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DOWNSTREAM EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION. EROSION CONTROL PROCEDURES SHALL BE IN PLACE PRIOR TO BEGINNING GRADING ACTIVITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS. ANY PROPERTY CORNERS DISTURBED OR DAMAGED BY GRADING ACTIVITIES SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTORS EXPENSE.
- CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL EARTHWORK QUANTITIES. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIAL AS SHOWN ON PLANS.
- THE CONTRACTOR SHALL CLEAN OUT ALL EXISTING AND PROPOSED INLETS, PIPES AND MANHOLES OF DEBRIS AND SEDIMENTATION AT COMPLETION OF SITE WORK. THIS WORK SHALL BE DONE TO THE SATISFACTION OF THE OWNER AND CITY.
- UTILITIES AS SHOWN OBTAINED FROM INFORMATION PROVIDED BY MISSOURI ONE CALL OR BY FIELD OBSERVATION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS.
- THE CONTRACTOR IS TO RETAIN FLOATABLE WIND BLOWN MATERIALS ON SITE BY STORING ALL TRASH AND BUILDING MATERIAL WASTE IN ENCLOSURES UNTIL PROPER DISPOSAL AT AN OFF-SITE FACILITY. CONTRACTOR TO CHECK ADJACENT AREAS DAILY AND PICK UP CONSTRUCTION WASTE MATERIALS AND DEBRIS THAT HAVE BLOWN OR WASHED OFF-SITE.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE WHOLE CONSTRUCTION PERIOD BY THE CONTRACTOR.
- THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING STREET, CURB AND GUTTER, SIDEWALK, AND DRIVEWAYS.
- CONTRACTOR TO PROTECT ANY STORM INLETS THAT TAKE STORM WATER FROM THE AREA OF CONSTRUCTION FROM SEDIMENT.
- FOR TESTING PROCEDURES REFER TO TECHNICAL SPECIFICATIONS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CORRECT AND DAMAGE TO UNDERGROUND UTILITIES OR FACILITIES, WHICH IS CAUSED BY HIS OPERATIONS.
- MANHOLE COVERS, VALVE BOXED AND OTHER UTILITY APPURTENANCES SHALL NOT ENCRANCH ON SIDEWALKS, CURBS, OR PAVEMENT. WHERE CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR INSTRUCTION PRIOR TO PROCEEDING.
- THE CONTRACTOR SHALL NOTIFY THE INSPECTOR OF ANY NEW SINK HOLES DISCOVERED DURING CONSTRUCTION.
- APPLICABLE PERMITS MUST BE OBTAINED FROM THE CITY, COUNTY AND STATE PRIOR TO EXCAVATION WITHIN ANY RIGHT-OF-WAY AND PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL FIELD VERIFY ALL HORIZONTAL AND VERTICAL LINES AND GRADES OF EXISTING UTILITIES PRIOR TO THE CONSTRUCTION OF IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF A DISCREPANCY BETWEEN THE CONTRACT DRAWING AND ACTUAL FIELD CONDITIONS.
- THE CONTRACTOR SHALL HAVE A SET OF PLANS FILED WITH THE CITY OF EL DORADO SPRINGS ON SITE. THE CONTRACTOR SHALL HAVE ON THE PROJECT AT ALL TIMES, AS HIS AGENT, A COMPETENT SUPERINTENDENT CAPABLE OF READING AND THOROUGHLY UNDERSTANDING THE PLANS AND SPECIFICATION AND THOROUGHLY EXPERIENCE IN THE TYPE OF WORK BEING PERFORMED WHO SHALL RECEIVE INSTRUCTION FROM THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.
- ALL TRENCHES WHICH LIE UNDER PROPOSED PAVEMENT OR LIE WITHIN TWO FEET OF BACK OF CURB SHALL BE BACKFILLED TO PAVEMENT SUBGRADE WITH COMPACTED GRANULAR MATERIAL.
- ALL DISTURBED AREAS ARE TO BE RESEDED IN ACCORDANCE WITH MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- ALL SANITARY SEWER MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SECTION 731.
- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2004 EDITION" AS WELL AS THE LATEST REVISION OF THE "GENERAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS TO 2004 MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" UNLESS OTHERWISE NOTED ON PLANS.

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 Springfield, MO 65804  
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REV. BY	REVISIONS DESCRIPTION	DATE	DESCR.

COVER SHEET  
 SANITARY SEWER IMPROVEMENTS  
 MODOT DISTRICT 7  
 EL DORADO SPRINGS, MO 2010

drawn by: CRL  
 checked by: ENG  
 approved by: NWM  
 project no.: 010-0574  
 drawing no.: 100574\_COVER  
 date: 8.23.2010



**CITY OF EL DORADO SPRINGS, MO**

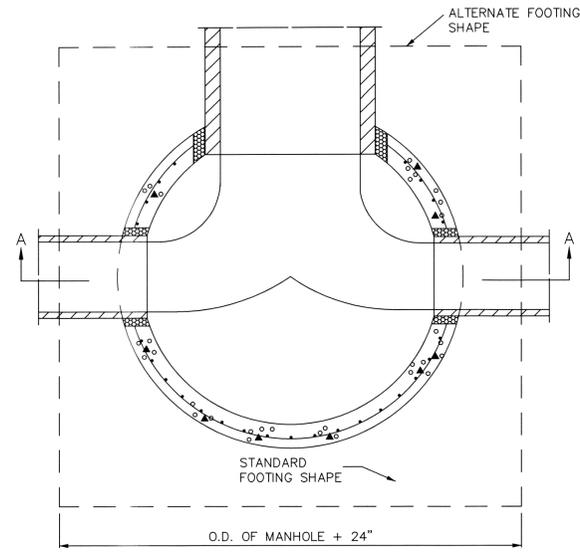
**SANITARY SEWER IMPROVEMENTS  
FOR  
MODOT DISTRICT 7**

APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_

UTILITIES DIRECTOR

SURVEYED BY: SURVEYOR	DESIGN: KDO	SCALES: 1
FIELD BK: FLD BK	DRAWN: KDO	OF 3 SHEETS
LEVEL BK: LVL BK	CHECKED: NWM	FILE NO: 010-0574

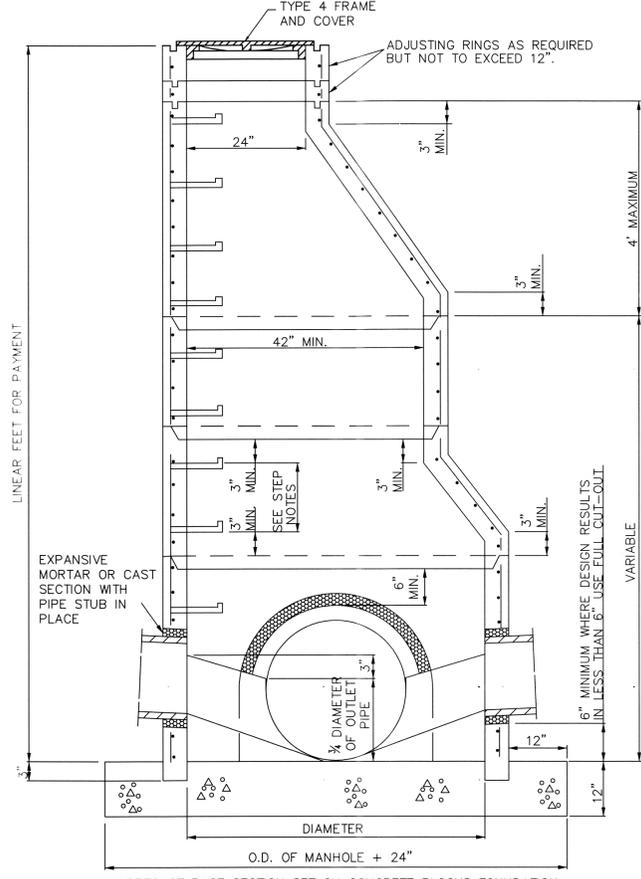




PLAN OF FOOTING

BASE SECTION DIMENSIONS*	
SIZE OF PIPE	MIN. DIA.
24" OR SMALLER	48"
30" - 36"	60"
42" - 48"	72"

\* RISER SECTIONS SHALL NOT BE LESS THAN 42" DIAMETER.



GENERAL NOTES:

THE CONTRACTOR WILL BE PERMITTED TO CAST IN PLACE THE MANHOLES, IN ACCORDANCE WITH THE CONCRETE MANHOLE STANDARD.

IF THE CONTRACTOR ELECTS TO CAST IN PLACE THE MANHOLES, PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR PRECAST MANHOLES.

THE CONFIGURATION DETAILS SHOWN ARE DESCRIPTIVE ONLY AND MAY BE VARIED TO CONFORM WITH AN ESTABLISHED MANUFACTURING PROCEDURE.

FORMED OR CUT OUT OPENINGS SHALL BE PROVIDED WHERE PIPE INLETS AND OUTLETS ARE SHOWN ON THE PLANS.

THE TOP OF THE INLET SHALL NOT BE SET BELOW THE TOP OF THE OUTLET PIPE.

REINFORCEMENT SHALL BE CUT AT PIPE OPENINGS.

NO DIRECT PAYMENT WILL BE MADE FOR CUTTING PIPE, NOR FOR CUTTING AND BENDING REINFORCING STEEL.

WHERE THE WIDTH OF THE BASE SECTION IS GREATER THAN 42" AN ECCENTRIC TAPER SECTION MAY BE USED TO ALLOW THE USE OF 42" RISER SECTIONS.

THE LOWER TRANSITION SECTION AS SHOWN ON SECTION A-A IS OPTIONAL.

FOUL WATER DROPS ARE REQUIRED WHEN SPECIFIED IN THE PLANS. NO DIRECT PAYMENT WILL BE MADE FOR THE FOUL WATER DROP OR ITS ENCASMENT.

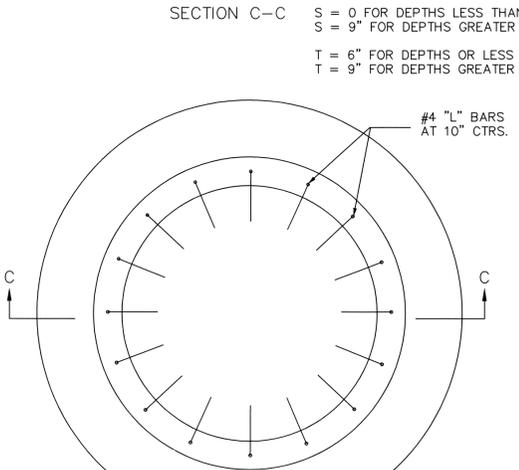
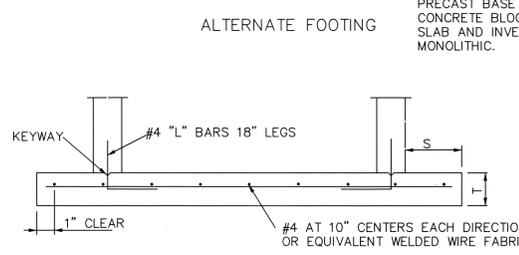
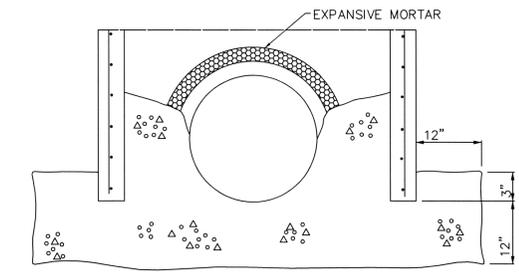
SEE STANDARD PLAN 614.30 FOR MANHOLE FRAMES AND COVERS.

WHERE PIPES DO NOT ENTER OR EXIT RADIALLY, USE NEXT LARGER SIZE MANHOLE. CLASS 3 EXCAVATION WILL BE PAID WITHIN VERTICAL LIMITS 18" OUTSIDE OF THE OUTER WALLS OF THE BASE SECTION ON THE MANHOLE. CLASS 3 EXCAVATION WILL NOT BE PAID FOR OUTSIDE THE FOOTING LIMITS.

ALL PIPE CONNECTED WITH A MANHOLE WILL BE MEASURED AND PAID FOR TO THE INSIDE WALL OF THE MANHOLE.

CIRCUMFERENTIAL REINFORCEMENT SIZE AND PLACEMENT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS TO A MAXIMUM DEPTH OF 20 FEET. OVER 20 FOOT DEPTH CIRCUMFERENTIAL REINFORCEMENT IS INCREASED TO 0.24 SQUARE INCHES STEEL REQUIRED PER LINEAR FOOT, TO A MAXIMUM DEPTH OF 30 FEET.

FOR PIPE CONNECTIONS, A RUBBER GASKET IN ACCORDANCE WITH ASTM RUBBER GASKET SPECIFICATIONS C-443 OR C-923 AND CAST INTEGRALLY IN MANHOLE MAY BE USED AS AN ALTERNATE TO EXPANSIVE MORTAR.

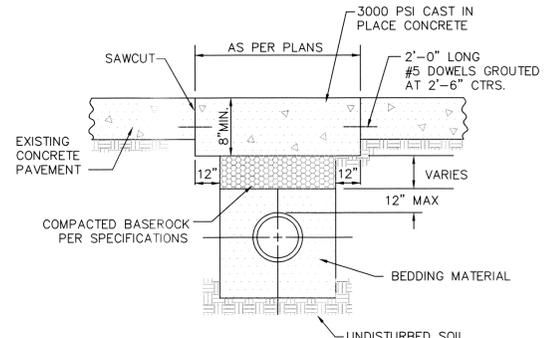


PRECAST BASE SECTION SET ON CONCRETE BLOCKS FOUNDATION SLAB AND INVERT Poured MONOLITHIC.

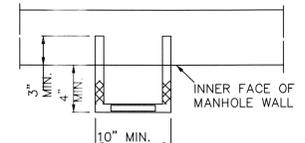
SECTION C-C S = 0 FOR DEPTHS LESS THAN OR EQUAL TO 6'; S = 9" FOR DEPTHS GREATER THAN 6'; T = 6" FOR DEPTHS OR LESS THAN OR EQUAL TO 6'; T = 9" FOR DEPTHS GREATER THAN 6'.

FOUNDATION SLAB AND BASE SECTION MAY BE Poured MONOLITHIC OR SEPARATELY WITH A KEYWAY.

INVERT SHALL BE Poured AFTER PLACEMENT OF MANHOLE.



PAVED APPROACH REPLACEMENT DETAIL  
N.T.S.



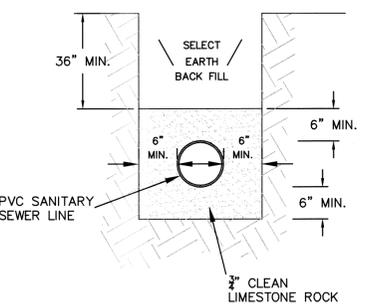
STEPS SHALL BE PLACED AT VERTICAL INTERVALS OF 16" MAXIMUM IN ALL MANHOLES HAVING A DEPTH OF MORE THAN 4'. STEPS SHALL BEGIN AT AN ELEVATION 6" ABOVE THE TOP OF THE OUTLET PIPE.

STEPS SHALL BE LEVEL AND IN VERTICAL ALIGNMENT.

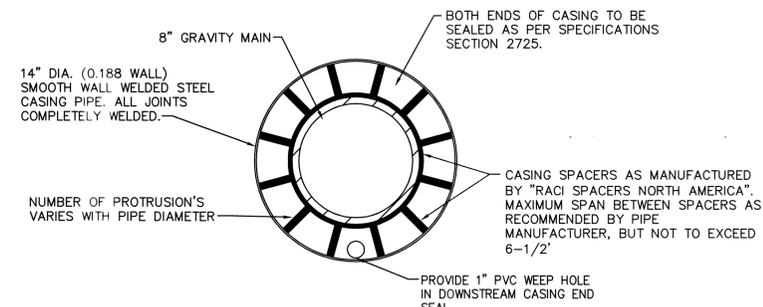
NO DIRECT PAYMENT WILL BE MADE FOR MANHOLE STEPS.

STEP INSTALLATION

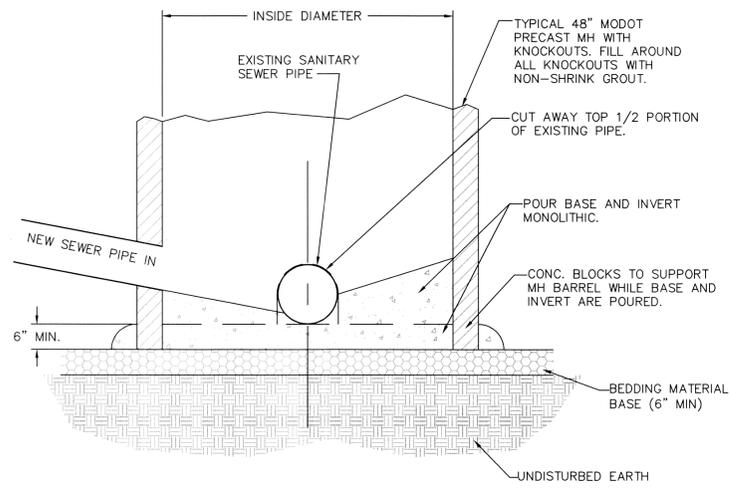
TYPICAL 48" MODOT PRECAST MANHOLE  
N.T.S.



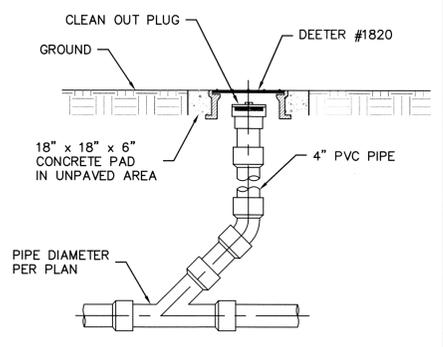
TRENCH AND BEDDING DETAIL  
N.T.S.



BORING CASING DETAIL  
N.T.S.



NEW MANHOLE ON EXISTING LINE  
N.T.S.



CLEANOUT DETAIL  
N.T.S.



REV. NO.	DATE	REVISIONS DESCRIPTION	NO.	DATE	DESCR.

REV. BY	
DATE	
NO.	
DATE	
DESCR.	

drawn by: CRL  
checked by: ENG  
approved by: NWM  
project no.: 010-0574  
drawing no.: 100574-DETAILS  
date: 8.23.2010

CITY OF EL DORADO SPRINGS, MO  
SANITARY SEWER IMPROVEMENTS FOR MODOT DISTRICT 7

APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_  
UTILITIES DIRECTOR

SURVEYED BY: SURVEYOR	DESIGN: KDO	SCALES:	SHEET 3
FIELD BK: FLD BK	DRAWN: KDO	HOR: _____	OF 3 SHEETS
LEVEL BK: LVL BK	CHECKED: NWM	VERT: _____	FILE NO. 010-0574