AS CONSTRUCTED 1-26-05

SANITARY SEWER EXTENSION

TO SERVE

KENNY ROGERS ADDITION AND UNPLATTED TRACTS

CITY OF WICHITA

PRIVATE PROJECT: 1496PPS (607861)

JAMES ARMOUR, P.E., ACTING CITY ENGINNEER

NOVEMBER 2004

APPROVED AS NOTED
BY THE CITY OF WICHITA
SEWER MAINS VRH 12/22/04

NOTE TO CONTRACTORS

INSPECTION AND TESTING FOR THE SEWER LINE IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER. ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH THE CITY OF WICHITA SPECIFICATIONS AND STANDARDS (ON FILE AND AVAILABLE IN THE CITY ENGINEER'S OFFICE).

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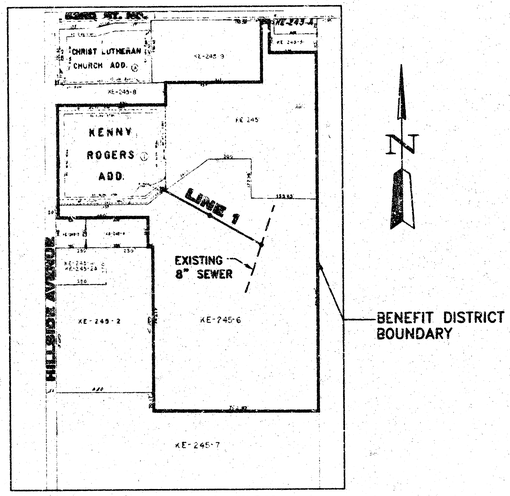
BENCH MARKS:

#1: TOP OF EXISTING MANHOLE, STA. 0+00
ELEV. 1350.90 m.s.l.

#2: RR. SPIKE IN NE. SIDE OF P.P. LOCATED 33' SOUTH AND 80' EAST OF THE NW. CORNER OF SECTION 23-26S-1E.
ELEV. 1362.80 m.s.l.



PROJECT LOCATION

Dondlinger & Sons - Contractor
Kavan, Reiss & Goodness - Inspector
Released 2/7/05
Stubs
pdf by JDL 2/23/05

GENERAL NOTES

1. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA IS NOT TO BE CARRIED THROUGH CONSTRUCTION. LOCAL RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA IS TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.
2. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE PLAN LOCATIONS ARE NOT GUARANTEED AND ADDITIONAL UTILITIES MAY ALSO BE ENCOUNTERED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
3. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.

   ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATER OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
4. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

   KANSAS ONE CALL 1-800-344-7233 OR 687-2470 (LOCAL WICHITA)

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

SOUTHWESTERN BELL TELEPHONE	1-800-734-7580
WICHITA PUBLIC SCHOOLS TELEPHONE CABLE	1-316-833-2000
CABLEVISION	1-316-262-0681
KG&E (GAS & ELECTRIC)	1-316-333-8650
CITY OF WICHITA WATER & SEWER MAINTENANCE	1 316-262-4908

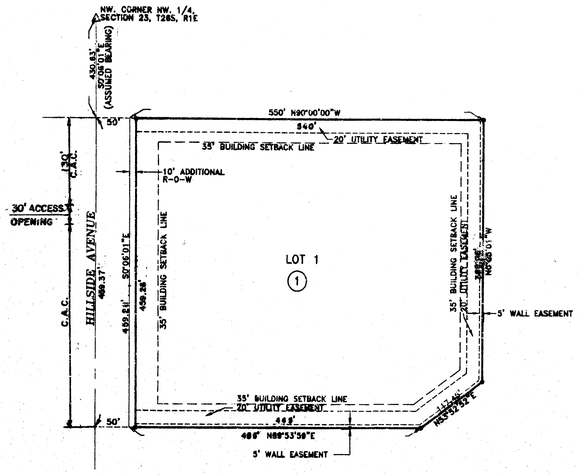
   THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
6. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
7. THE CONTRACTOR MUST EXAMINE THE CONSTRUCTION SITE PRIOR TO BIDDING AND BE SATISFIED AS TO THE WORK SHOWN FOR COMPLETION. AFTER BIDS HAVE BEEN RECEIVED, THE CONTRACTOR SHALL NOT ASSERT THAT THERE WAS A MISUNDERSTANDING TO THE QUANTITIES OF WORK OR OF THE NATURE OF THE WORK TO BE COMPLETED.
8. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.
9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROLS DEVICES (MUTCD) TO ENSURE A SAFE WORK ZONE FOR THE TRAVELING PUBLIC.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TESTING REQUIRED BY THE CITY OF WICHITA.
11. THE OWNER SHALL PROVIDE CONSTRUCTION STAKING AND INSPECTION.
12. THE CONTRACTOR SHALL RESTORE ALL DITCHES, CHANNELS, BANKS STABILIZATION, SWALES, ROAD SHOULDERS, PAVEMENT ENTRANCES AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING PIPE, DRAINAGE PIPE, SPRINKLER SYSTEMS, SIDEWALKS, DRIVES, SIGNS, FENCES, MAIL BOXES, ETC. CONFLICT WITH THE PROPOSED WORK HEREIN THEY SHALL BE REMOVED AND REPLACED OR RESET IN LIKE KIND. ALL OF THE ABOVE INCLUDING TREES, SHRUBS, GRASS, SOD AND OTHER LANDSCAPING, WHERE NOTED SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS BID.
13. POSITIVE DRAINAGE SHALL BE PROVIDED FOR AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED. THE COST OF GRADING SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS BID.
14. ALL ELEVATIONS SHOWN ARE NGVD DATUM. CITY DATUM = NGVD - 1187.4
15. ALL EXISTING GRASS AREAS WHICH ARE DISTURBED OR DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ORIGINAL CONDITIONS, AND RE-SEEDED OR RE-SODDED IN LIKE KIND, UNLESS OTHERWISE NOTED ON THE PLANS. COSTS SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS BID. APPLICATION RATE FOR THE VARIOUS SEED MIXTURES SHALL BE AS APPROVED BY THE ENGINEER. SEEDING SHALL CONFORM TO APPLICABLE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATIONS. SODDING SHALL CONFORM TO APPLICATABLE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATIONS.
16. SLOPES STEEPER THAN 10 TO 1 SHALL BE MULCHED AS REQUIRED BY STANDARD SPECIFICATIONS. COST OF MULCHING SHALL BE INCLUDED IN PRICE BID FOR SITE RESTORATION.
17. THE COST OF EXCAVATION, HAULING, AND DUMPING, SHALL BE SUSIDIARY TO OTHER ITEMS BID.
18. ALL CONSTRUCTION AND MATERIALS, UNLESS OTHERWISE NOTED, TO COMPLY WITH THE CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
19. THE CONTRACTOR SHALL BE LICENSED TO DO PUBLIC IMPROVEMENTS FOR THE CITY OF WICHITA AND SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE CITY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN HIS PAPERWORK IS IN PLACE WITH THE CITY OF WICHITA PRIOR TO BEGINNING CONSTRUCTION.
20. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING THE FLOODPLAIN DEVELOPMENT PERMIT/APPLICATION.

PROFESSIONAL ENGINEER 2119 12-22-04

REISS & GOODNESS ENGINEERS
2180 WEST 21st STREET
WICHITA, KANSAS 67203
(316) 832-0213

REVISION	DIRECTORY	DRAWN BY	FILE NAME	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE:	PROJECT NO. SE1004
	OLDC\SURVEY	C.E.	ROGERS_COVER		RP			DATE: 10/29/04	SHEET 1 OF 5

18 17 24 19



FINAL PLAT

KENNY ROGERS ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS

2004

NOTE: This subdivision is subject to the conditions of Kenny Rodgers Commercial CUP (CUP2004-14, DP-275)

SCALE: 1" = 100'

LEGEND
• = MONUMENT SET
C.A.C. = COMPLETE ACCESS CONTROL

LEGAL DESCRIPTION

Beginning at a point on the West line of the Northwest Quarter of Section 23, Township 26 South, Range 1 East of the Sixty Principal Meridian, Sedgwick County, Kansas, said point being 430.63 feet south of the Northwest corner of said Northwest Quarter; thence south on the West line of said Northwest Quarter on an assumed bearing of S 0°06'01" E, a distance of 459.37 feet; thence N 89°53'59" E, 505.00 feet; thence N 53°52'52" E, 117.45 feet to a point 600.00 feet east of the West line of said Northwest Quarter; thence N 0°06'01" W, 389.25 feet; thence S 90°00'00" W parallel with the North line of said Northwest Quarter, a distance of 600.00 feet to the point of beginning, except the west 50 feet thereof for road.

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

I, Adolf E. Reiss, being a duly licensed professional land surveyor in said County and State, do hereby certify that I have caused the tract of land as set forth in the Legal Description to be surveyed and platted and that said survey and the accompanying exhibit are true and correct to the best of my knowledge and information available.

ADOLF E. REISS LS#77 DATE 6-8-04

Know all men by these presents that Kenneth D. Rogers and April L. Rogers, husband and wife, have caused the tract of land as set forth in the Legal Description to be surveyed and platted into a lot and a block to be known as Kenny Rogers Addition, Wichita, Sedgwick County, Kansas. The street is hereby dedicated to and for the use of the public. Easements are hereby granted as indicated for utility construction and maintenance. Access control as indicated of the public. Easements are hereby granted as indicated for utility construction and maintenance. The wall easement is hereby granted as indicated for the construction and maintenance of a private wall and utility main lines and service lines shall be allowed to cross this easement. Access control as indicated on the face of the plat is hereby granted to the appropriate governing body. A drainage plan has been developed for the plat known as Kenny Rogers Addition and all drainage easements, rights-of-way or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer and unobstructed to allow for the conveyance of stormwater.

KENNY D. ROGERS APRIL L. ROGERS

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

The foregoing instrument was acknowledged before me this 9th day of June, 2004, by Kenny D. Rogers and April L. Rogers, husband and wife.

ROSE MARY SAUNDERS Notary Public - State of Kansas My Appt. Expires 07-25-05

Rose Mary Saunders, Notary Public

My Appointment Expires: July 29, 2005

We, Farm Credit Services of Central Kansas, FLCA, holders of a mortgage on the above described property, do hereby consent to the plat of Kenny Rogers Addition, Wichita, Sedgwick County, Kansas.

GERALD E. MILLS, Loan Officer

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

The foregoing instrument was acknowledged before me this 10th day of June, 2004, by Gerald E. Mills, Loan Officer of Farm Credit Services of Central Kansas, FLCA.

, Notary Public

My Appointment Expires: JOEL W. WATT NOTARY PUBLIC STATE OF KANSAS My Appt. Exp. 1-6-06

This plat of Kenny Rogers Addition, Wichita, Sedgwick County, Kansas was submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 10th day of June, 2004.

RONALD E. HARMEL, Chair

JOHN L. SCHLEGEL, Secretary

Reviewed in accordance with K.S.A. 58-2005 this 6th day of July, 2004.

TRICIA L. ROBELLO, LS #1246
Deputy County Surveyor
Sedgwick County, Kansas

This plat has been approved and accepted by the City Council of the City of Wichita, Kansas, this 3rd day of August, 2004.

CARLOS MAYANS, Mayor

KAREN SUBLETT, City Clerk

Entered on transfer record this 24th day of August, 2004.

DON BRACE, County Clerk

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

This is to certify that this instrument was filed for record in the Register of Deeds Office at 9:22 o'clock A M. on this 24th day of August, 2004.

BILL MEEK, Register of Deeds

LINDA KIZZIRE, Deputy

Sedgwick County
Register of Deeds - Bill Meek
DOC #/FLM-PG: 26601050
Receipt #: 1562185
Pages Recorded: 1
Recording Fee: $20.00
Cashier Initials: DM
Authorized By:
Date Recorded: 8/24/2004 9:22:18 AM

KENNY ROGERS ADDITION

C.E.

C:\autmap_ROGERS\SU01GA_PRE_KENROGERS.DWG

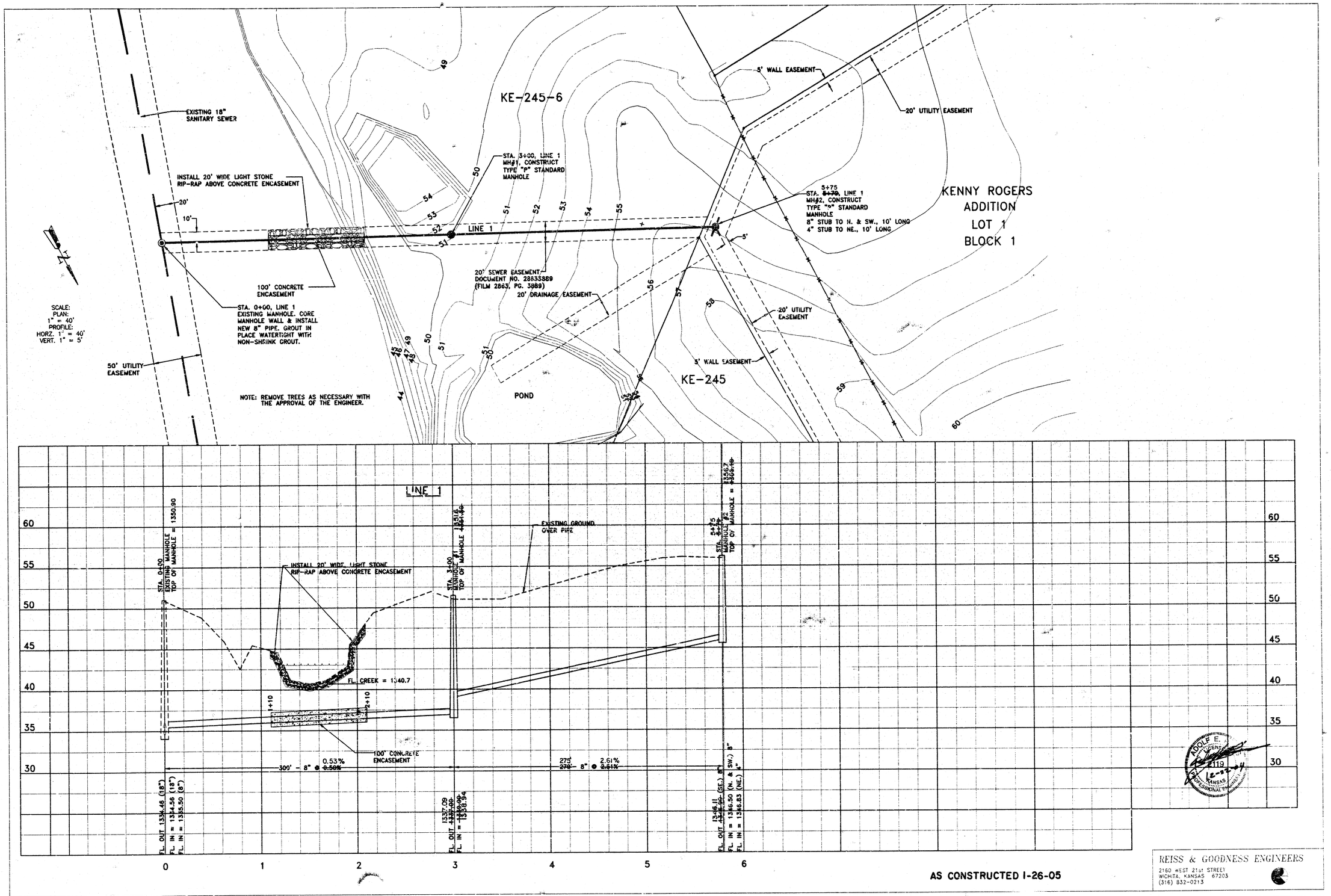
Inches

This digital plat record accurately reproduces in all details the original plat filed with the Sedgwick County Register of Deeds. Digitized under the supervision of Register of Deeds Bill Meek by Sedgwick County Geographic Information Systems.

Bill Meek, Register of Deeds
Digitized rendition of original signature

PC 166 - 1

SHEET 2 OF 5
PROJ. NO. SE1004

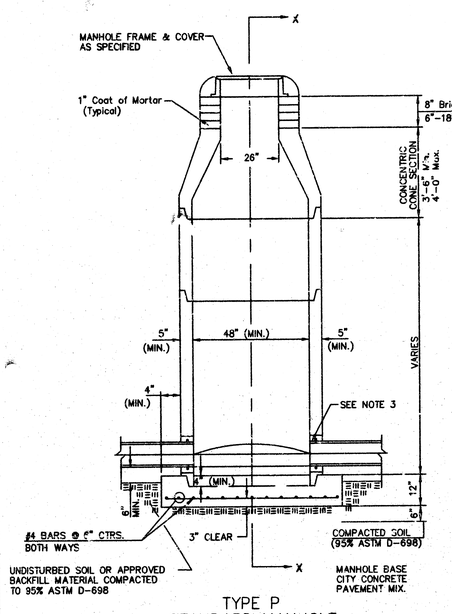


AS CONSTRUCTED 1-26-05

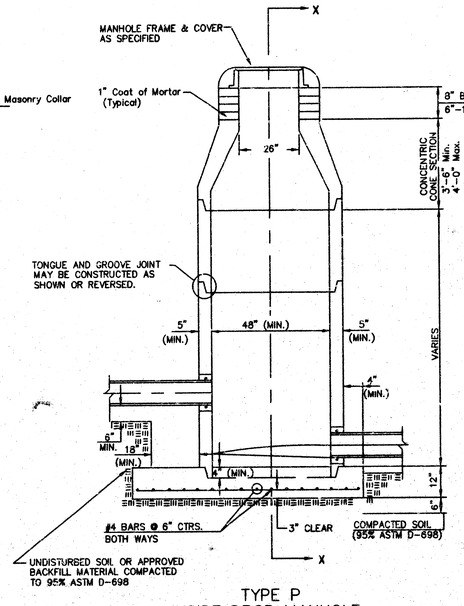
REISS & GOODNESS ENGINEERS
2160 WEST 21st STREET
WICHITA, KANSAS 67203
(316) 832-0213

REVISION	DIRECTORY	DRAWN BY	FILE NAME	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE: NOTED	PROJECT NO. SE1004
	C:\SURVEYS_ROGERS\SU010401	C.E.	EXTRA_DRAINAGE	A.E.R.	R.P.	PLAN & PROFILE	KENNY ROGERS ADDITION & UNPLATTED TRACTS	DATE: 11/04	SHEET 3 OF 5

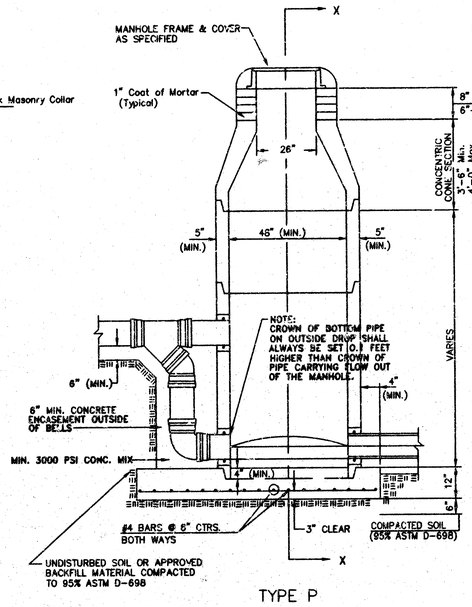
SEWER APPURTENANCES DETAILS



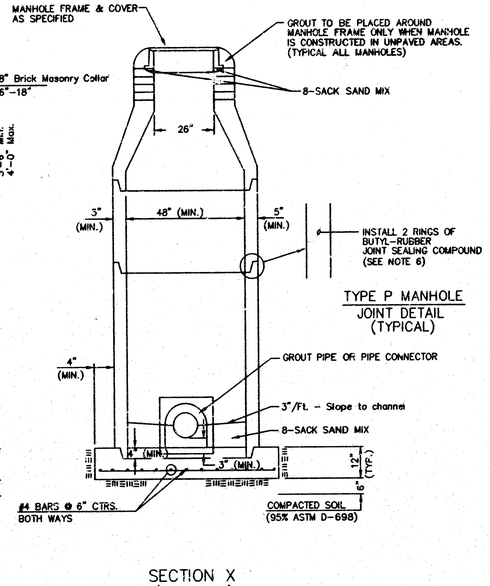
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

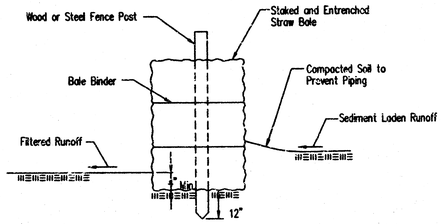
THE CITY OF WICHITA
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4351
(316) 268-4519 FAX

STANDARD
TYPE 'P'
MANHOLES

CITY ENGINEER

PROJECT NUMBER	INDEX CODE
	SE1004
DATE: NOV. 2004	SHEET 4 OF 5

LOCALC:\SURVEY\PMH.DWG SE1004 C.E.



STRAW BALE BARRIERS

Material Specification:

Bale slope barriers may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.
When practicable, bale slope barriers should be placed along contours to avoid a concentration of flow.
Bale slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 4" deep and a bale's width wide. Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.
Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the upslope side of the check and compact it. The compacted soil should be no more than 3" to 4" deep.

List of common placement/installation mistakes to avoid:

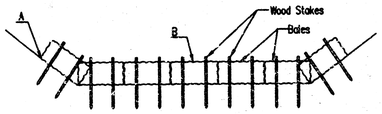
When practicable, do not place bale slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. Concentrated flow over a slope barrier creates a scour hole on the downslope side of the barrier. The scour hole eventually undermines the bales and the barrier fails.
Do not place bale slope barriers in areas with shallow soils underlain by rock. If the barrier is not anchored sufficiently, it will wash out.
Bale slope barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Are there any points along the slope barrier where water is concentrating?
Does water flow under the slope barrier?
Does water flow through spaces between abutting bales?
Are any bales dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the slope barrier?

NOTE: Point A must be higher than Point B so that water flows over the bales and not around them.



STRAW BALE DITCH CHECKS

Material Specification:

Bale ditch checks may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Optional: The downstream scour apron should be constructed of a double-netted straw erosion-control blanket at least 6' wide.
Optional: The metal landscape staples used to anchor the erosion-control blanket should be at least 8" long.

Placement:

Bale ditch checks should be placed perpendicular to the flowline of the ditch.
The ditch check should extend far enough so that the ground level at the ends of the check is higher than the top of the lowest center bale. This prevents water from flowing around the check.
Checks should not be placed in ditches where high flows are expected. Rock checks should be used instead.
Bales should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.
The following table provides check spacing for a given ditch grade:

Ditch Check Spacing

Ditch grade (%)	Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is 4" deep and a bale's width wide. Extend the trench in a straight line along the entire length of the proposed ditch check. Place the soil on the upstream side of the trench-it will be used later.
Optional: On the downstream side of the trench, roll out a length of erosion-control blanket (scour apron) equal to the length of the trench. Place the upstream edge of the erosion-control blanket along the bottom upstream edge of the trench. The erosion control blanket should be anchored in the trench with one row of 8" landscape staples placed on 18" centers. The remainder of the erosion-control blanket (the portion that is not lying in the trench) will serve as the downstream scour apron. This section of the blanket should be anchored to the ground with 8" landscape staples placed around the perimeter of the blanket on 18" centers. The remainder of the blanket should be anchored using two evenly spaced rows of 8" landscape staples on 18" centers placed perpendicular to the flowline of the ditch.
Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the upstream side of the check and compact it. The compacted soil should be no more than 3" to 4" deep and extend upstream no more than 24".

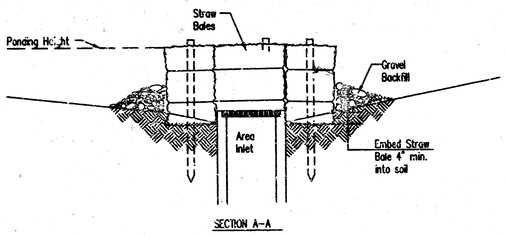
List of common placement/installation mistakes to avoid:

Do not place a bale ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.
Do not place bale ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow.
Follow prescribed ditch-check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks.
Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the check is higher than the top of the lowest center bale.
Do not place bale ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.
Bale ditch checks must be dug into the ground. Bales at ground level do not work because they allow water to flow under the check.

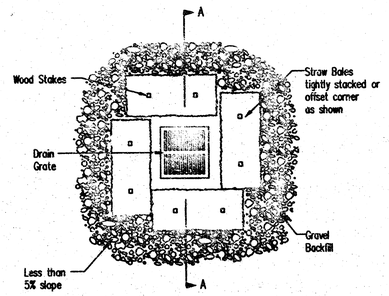
Inspection and Maintenance:

Bale ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow around the ditch check?
Does water flow under the ditch check?
Does water flow through spaces between abutting bales?
Are any bales and/or scour aprons (optional) dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the ditch check?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Bale area inlet barriers should be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

Placement:

Bale area inlet barriers should be placed directly around the perimeter of a drop inlet. When a bale area inlet barrier is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper installation Method:

Excavate a trench around the perimeter of the area inlet that is at least 4" deep by a bale's width wide.
Place the bales in the trench, making sure that they are butted tightly. Some bales may need to be shortened to fit into the trench around the area inlet. Two stakes should be driven through each bale, approximately 6" to 8" in from the bale ends.
Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the receiving side of the barrier and compact it. The compacted soil should be no more than 3" to 4" deep.
Note: When a bale area inlet barrier is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

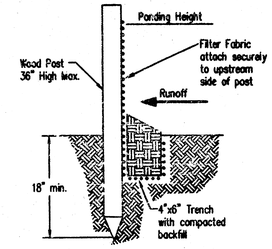
List of common placement installation mistakes to avoid:

Bales should be placed directly against the perimeter of the area inlet. This allows overtopping water to flow directly into the inlet instead of onto nearby soil causing scour.
Bale area inlet barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale area inlet barriers should be inspected every 7 days and within 24 hours of a rainfall 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow under the area inlet barrier?
Does water flow through spaces between abutting bales?
Are any bales dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the area inlet barrier?



SILT FENCE BARRIERS

SILT FENCE BARRIERS

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.
When practicable, silt fence slope barriers should be placed along contours to avoid a concentration of flow.
Silt fence slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 6" deep by 4" wide.
Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.
Roll out a continuous length of silt fence fabric on the downslope side of the trench.
Place the edge of the fabric in the trench starting at the top upslope edge. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt-fence fabric should remain exposed.
Lay the exposed silt fence upslope of the trench to clear an area for driving in the posts.
Just downslope of the trench, drive posts into the ground to a depth of at least 18".
Place posts no more than 4' apart.
Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

List of common placement/installation mistakes to avoid:

When practicable, do not place silt fence slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. When the flow concentrates, it overtops the barrier and the silt fence slope barrier quickly deteriorates.
Do not place silt-fence posts on the upslope side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail.
Do not place silt fence slope barriers in areas with shallow soils underlain by rock. If the barrier is not sufficiently anchored, it will wash out.
Silt fence slope barriers must be dug into the ground-silt fence at ground level does not work because water will flow underneath.

Inspection and Maintenance:

Silt fence slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Are there any points along the slope barrier where water is concentrating?
Does water flow under the slope barrier?
Do the silt fences sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the slope barrier?

CITY OF WICHITA

SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER: SE1004
DCA #:
DATE: NOV. 2004
SHEET 5 OF 5

DSNR: DEP OPER: DEP SCALE: 1=1.00
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