STORM WATER SEWER IMPROVEMENTS

TO SERVE

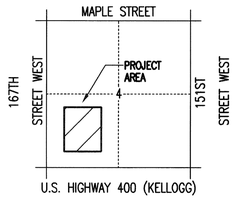
SPORTS COMPLEX / ATLAS
UNIFIED SCHOOL DISTRICT 265
GODDARD, KANSAS

PRIVATE PROJECT NO. 1978 PPS (607861)

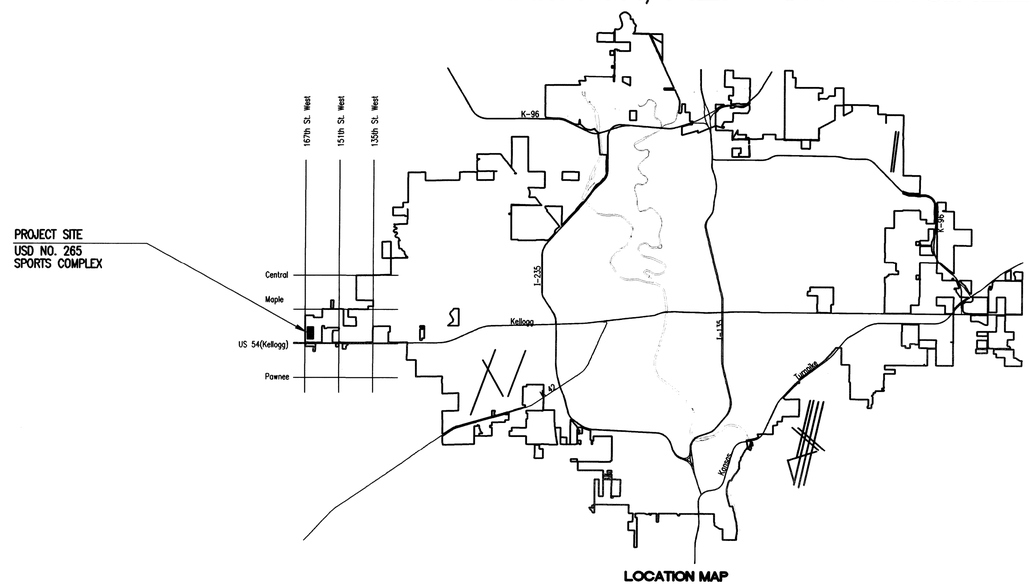
CITY OF WICHITA, KANSAS

JAMES L. ARMOUR, P.E. - CITY ENGINEER

AS-BUILT PLANS
CONTRACTOR: NOWAK CONSTRUCTION
INSPECTOR: SCHWAB-EATON, P.A.
PDF BY: BDB 7-9-10
PROJECT WAS CONSTRUCTED PER PLANS
AND SPECIFICATIONS.



VICINITY MAP



LOCATION MAP

INDEX OF SHEETS

APPROVED AS NOTED
By CITY ENGINEER OF WICHITA

Sanitary Sewers _____

Storm Sewers Shawn Mellies 8-26-09

Driveway Approaches _____

Paving _____

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY 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 UNTIL SUCH INSPECTION IS ARRANGED FOR AND REQUIRED BONDS HAVE BEEN SUBMITTED TO AND APPROVED BY THE CITY NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER. IMPROVEMENTS PERFORMED UNDER THIS PROJECT SHALL NOT BE ACCEPTED BY THE CITY UNTIL ALL APPLICABLE DOCUMENTATION HAS BEEN SUBMITTED TO THE CITY ENGINEER. THIS MAY INCLUDE: RECORD DRAWINGS, INSPECTION LOGS, TEST DOCUMENTATION, TV TAPES, AND A CERTIFICATE OF COMPLETION. THE ABOVE SHALL BE PERFORMED BY THE CONSULTING FIRM CONTRACTED TO INSPECT THIS PROJECT.

AUGUST 2009

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

JOSEPH E. HICKLIN
LICENSED
20321
8-21-09
KANSAS
PROFESSIONAL ENGINEER

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Plot Scale 1:1 08-21-2009 1:23:45 PM by BET
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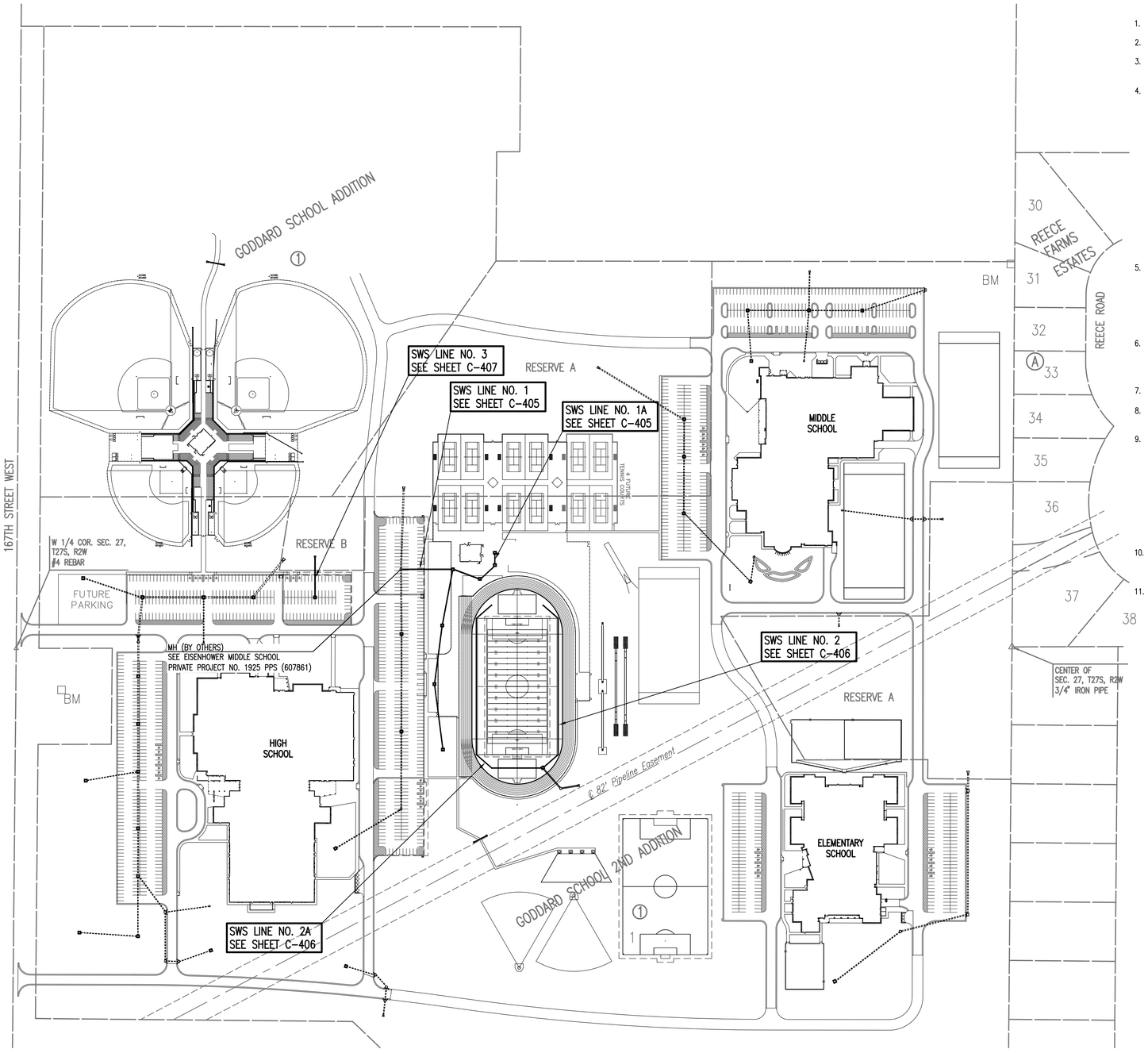


OWNER: NEVILLE FAMILY TRUST III
UNPLATTED
ZONED: SF-5

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. ALL ELEVATIONS SHOWN ARE U.S.G.S. DATUM.
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
4. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF SEVENTY-TWO (72) HOURS (EXCLUDING WEEKENDS AND HOLIDAYS) TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL	687-2470

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

COX COMMUNICATIONS	262-0661
KANSAS GAS SERVICE	1(888)-482-4950
WESTAR ENERGY	383-8600
BLACK HILLS ENERGY	1(800)-527-0357
AT&T	1(800)-870-8390
QUEST PIPELINE – MR. JOE FOWLER	1(913)-764-6015 OR 1(800)-467-2751
CONOCO PHILLIPS PIPE LINE COMPANY – MR. RUSTY LEE	1(316)-681-2081 EXT. 11
CITY OF WICHITA WATER DEPARTMENT	262-6000
CITY OF WICHITA SEWER MAINTENANCE	262-6000

5. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR THE DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
6. 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.
7. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
8. MANHOLES SHALL BE TYPE "P" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
9. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO 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 FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS 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 MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
10. ALL APPROVED EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE STOCKPILED WITHIN GODDARD SCHOOL 2ND ADDITION AT NO ADDITIONAL COST TO THE OWNER. STOCKPILE LOCATIONS SHALL BE AS DIRECTED BY THE OWNER AND IN ACCORDANCE WITH GENERAL NOTE NO. 9 ABOVE.
11. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED PER LANDSCAPE PLANS. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR6.5 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION.
12. THE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE PLANTED AT A MINIMUM RATE OF SIX (6) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF OTHER SEEDING IS REQUIRED IN ACCORDANCE WITH GENERAL NOTE NO. 11 ABOVE. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.
13. THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES OR SHRUBS WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER.
14. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
16. CONTRACTOR IS REQUIRED TO MAINTAIN CONTINUOUS FLOW OF SEWAGE IN EXISTING MAINS AT ALL TIMES.
17. THE CONTRACTOR SHALL NOT BURY MANHOLES THAT HAVE RIM ELEVATIONS WHICH ARE LOWER THAN EXISTING GROUND AT THE MANHOLE. THE GROUND AROUND SUCH MANHOLES AND ALONG THE SEWER ALIGNMENT SHALL BE BACKFILLED TO THE APPROXIMATE ELEVATION OF THE PROPOSED GROUND ELEVATION SHOWN ON THE PLAN/PROFILE SHEETS. THE CONTRACTOR SHALL PROVIDE DRAINAGE AWAY FROM THESE MANHOLES AND SEWER LINES BY CONSTRUCTION OF TEMPORARY DITCHES OR SLOPING THE GROUND AS REQUIRED.
18. THE CONTRACTOR SHALL PROVIDE MOUNDED EARTH AT MANHOLES AND CLEANOUTS THAT HAVE TOP ELEVATIONS GREATER THAN 1 FOOT ABOVE EXISTING GRADE, AS SHOWN ON THE PLANS.
19. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL UTILIZE BARRICADES, SIGNS, GUARDS, AND FLAGMEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
20. WHERE INDICATED IN THE PLANS, THE STORM SEWER EXCAVATION SHALL BE SAND FILLED AND FLUSHED (JETTED AND VIBRATED) WITH WATER PER THE REQUIREMENTS LISTED IN THE STANDARD SPECIFICATIONS FOR THE CITY OF WICHITA, UNLESS FLOWABLE FILL OR OTHER IMPROVED BACKFILL MATERIAL IS OTHERWISE SPECIFIED.
21. THE CONTRACTOR SHALL OBTAIN A COPY OF THE APPROVED NOTICE OF INTENT FOR STORM WATER DISCHARGES FROM THE SITE AND MEET THE REQUIREMENTS OF THE PERMIT. THE CONTRACTOR SHALL INSTALL AND/OR MAINTAIN EROSION CONTROL MEASURES AS REQUIRED PER THE NOI. A COPY WILL BE PROVED TO THE CONTRACTOR UPON CONTRACT AWARD.

SCALE: 1"=150'

PROPOSED STORM WATER SEWER TO BE PRIVATELY OWNED AND MAINTAINED.

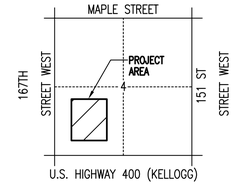
BENCHMARK LIST

BENCH MARK: CHISELED SQUARE ON WEST END OF WATER TOWER BASE, 100'S. AND 130' E. OF THE WEST QUARTER CORNER, SEC. 27, T27S, R2W.
ELEV.=1433.38 (M.S.L.)

BENCH MARK: R&B BRASS DISK SET IN CONCRETE, 10' W. AND 1008' N. OF THE N.E. CORNER, SW1/4, SEC. 27, T27S, R2W.
ELEV.=1418.67 (M.S.L.)

BENCH MARK: R&B BRASS DISK SET IN CONCRETE, 1658' W. AND 83' N. OF THE S.E. CORNER, SW1/4, SEC. 27, T27S, R2W.
ELEV.=1416.56 (M.S.L.)

(SURVEY BY RUGGLES & BOHM P.A.)



VICINITY MAP

No.	Revision	By	Date

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX – USD 265
GODDARD, KANSAS

KEY MAP AND GENERAL NOTES

JAMES L. ARMOUR, P.E. – CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by JEH	Job No. 35-08432-259	Sht.	C-402
Drawn by RFT	Date JULY 2009		

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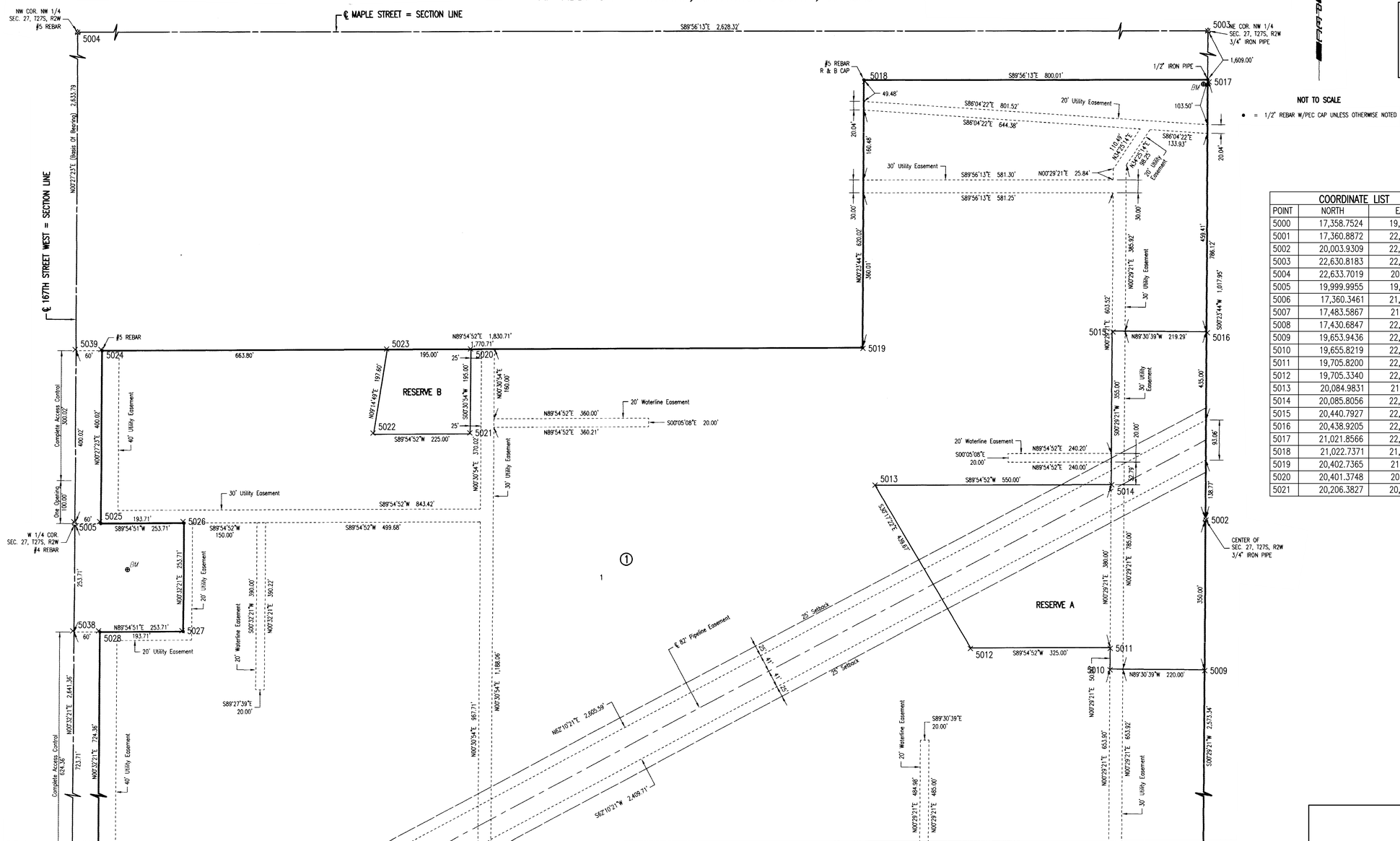
GODDARD SCHOOL 2ND ADDITION

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



FOR INFORMATION ONLY
CONTRACTOR TO OBTAIN COPY OF RECORDED PLAT PRIOR TO BEGINNING CONSTRUCTION.

COORDINATE LIST		
POINT	NORTH	EAST
5000	17,358.7524	19,975.1404
5001	17,360.8872	22,608.5906
5002	20,003.9309	22,631.1564
5003	22,630.8183	22,649.2920
5004	22,633.7019	20,020.9751
5005	19,999.9955	19,999.9959
5006	17,360.3461	21,941.0510
5007	17,483.5867	21,940.9511
5008	17,430.6847	22,609.1866
5009	19,653.9436	22,628.1683
5010	19,655.8219	22,408.1763
5011	19,705.8200	22,408.6032
5012	19,705.3340	22,083.6036
5013	20,084.9831	21,861.8481
5014	20,085.8056	22,411.8474
5015	20,440.7927	22,414.8782
5016	20,438.9205	22,634.1595
5017	21,021.8566	22,638.1840
5018	21,022.7371	21,838.1705
5019	20,402.7365	21,833.8901
5020	20,401.3748	20,921.9851
5021	20,206.3827	20,920.2320

COORDINATE LIST		
POINT	NORTH	EAST
5022	20,206.0467	20,695.2323
5023	20,401.0836	20,726.9853
5024	20,400.0924	20,063.1848
5025	20,000.0854	20,059.9985
5026	20,000.3756	20,253.7056
5027	19,746.6768	20,251.3181
5028	19,746.3866	20,057.6119
5029	19,022.0542	20,050.7956
5030	19,014.1674	20,888.8771
5031	18,310.7017	21,626.7947
5032	17,650.6556	21,621.1740
5033	17,649.3788	21,771.1686
5034	17,588.3001	21,634.1672
5035	17,557.7626	21,565.6656
5036	17,489.4033	21,596.5202
5037	19,022.6188	19,990.7983
5038	19,746.2967	19,997.6084
5039	20,400.0028	20,003.1822

(5000) = COORDINATE POINT NO.

No.	Revision	By	Date

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX – USD 265
GODDARD, KANSAS

PLAT (NORTH)

JAMES L. ARMOUR, P.E. – CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by JEH	Job No. 35-08432-259	Sht. C-403
Drawn by RFT	Date JULY 2009	

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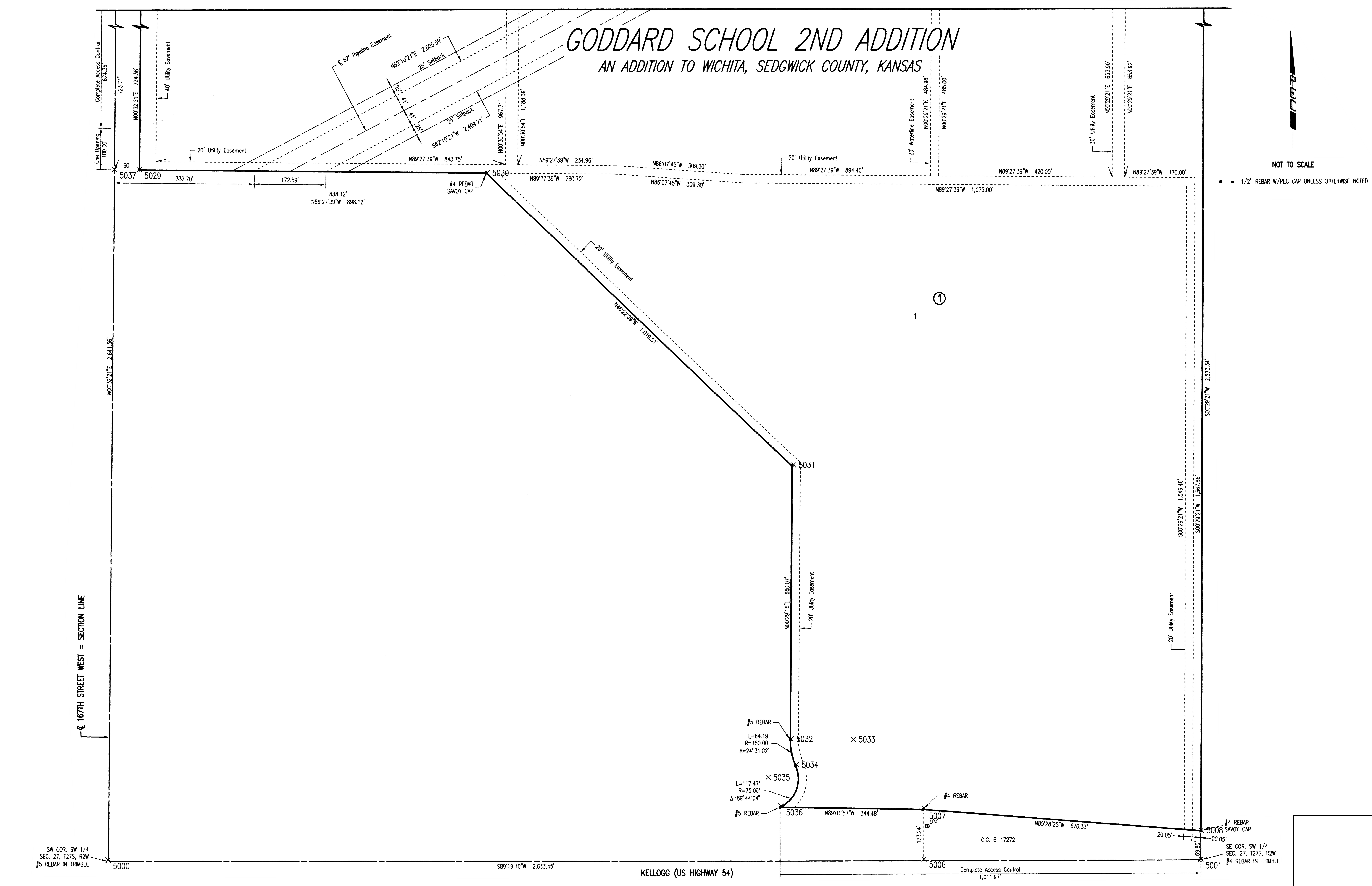

FOR INFORMATION ONLY
CONTRACTOR TO OBTAIN COPY OF RECORDED PLAT PRIOR TO BEGINNING CONSTRUCTION.

COORDINATE LIST

POINT	NORTH	EAST
5000	17,358.7524	19,975.1404
5001	17,360.8872	22,608.5906
5002	20,003.9309	22,631.1564
5003	22,630.8183	22,649.2920
5004	22,633.7019	20,020.9751
5005	19,999.9955	19,999.9959
5006	17,360.3461	21,941.0510
5007	17,483.5867	21,940.9511
5008	17,430.6847	22,609.1866
5009	19,653.9436	22,628.1683
5010	19,655.8219	22,408.1763
5011	19,705.8200	22,408.6032
5012	19,705.3340	22,083.6036
5013	20,084.9831	21,861.8481
5014	20,085.8056	22,411.8474
5015	20,440.7927	22,414.8782
5016	20,438.9205	22,634.1595
5017	21,021.8566	22,638.1840
5018	21,022.7371	21,838.1705
5019	20,402.7365	21,833.8901
5020	20,401.3748	20,921.9851
5021	20,206.3827	20,920.2320
5022	20,206.0467	20,695.2323
5023	20,401.0836	20,726.9853
5024	20,400.0924	20,063.1848
5025	20,000.0854	20,059.9985
5026	20,000.3756	20,253.7056
5027	19,746.6768	20,251.3181
5028	19,746.3866	20,057.6119
5029	19,022.0542	20,050.7956
5030	19,014.1674	20,888.8771
5031	18,310.7017	21,626.7947
5032	17,650.6556	21,621.1740
5033	17,649.3788	21,771.1686
5034	17,588.3001	21,634.1672
5035	17,557.7626	21,565.6656
5036	17,489.4033	21,596.5202
5037	19,022.6188	19,990.7983
5038	19,746.2967	19,997.6084
5039	20,400.0028	20,003.1822

(5000) = COORDINATE POINT NO.

No.	Revision	By	Date

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX – USD 265
GODDARD, KANSAS

PLAT (SOUTH)

JAMES L. ARMOUR, P.E. – CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by JEH	Job No. 35-08432-259	Sht. C-404	
Drawn by RFT	Date JULY 2009		

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TV tests were not performed on this storm sewer pipe.

PLAN | BY | DATE | CHECKED

PROFILE | BY | DATE | CHECKED

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX – USD 265
GODDARD, KANSAS

STORM SEWER LINE NO. 1
STORM SEWER LINE NO. 1A

JAMES L. ARMOUR, P.E. – CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
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Designed By	JEH
Drawn By	RFT
Job No.	35-08432-259
Date	JULY 2009

Sheet C-405

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N: 19,637.9074, E: 21,487.9872
Sta. 0+00.0, SWS Line No. 2
Begin SWS Construction
Install 50.0 L.F. 30" RCP (SW)
(Including End Section)
℄= 1427.00
Install 16 S.Y. Light Stone Riprap
N: 19,630.0096, E: 21,438.6149
Sta. 0+50.0, SWS Line No. 2
Const. Shallow Type 'P' Manhole
Diameter = 4'-0"
Top Elev.= 1431.0
Install 72.5 L.F. 30" RCP (NW)
See Sheet No. C-409
N: 19,684.6612, E: 21,391.0041
Sta. 1+22.5, SWS Line No. 2=
Sta. 10+00.0, SWS Line No. 2A
Const. Std. Area Inlet
L=5'-0", W=5'-4"
Top Elev.= 1430.90
Install 53.6 L.F. 18" HDPE (NE)
Install 134.4 L.F. 18" HDPE (W)
See Sheet No. C-408
N: 20,113.6527, E: 21,392.3985
Sta. 5+88.6, SWS Line No. 2
1- 30" Nyloplast-ADS Drain Basin (2830AG) or
Equivalent w/ Standard Grated Cover (H-20)
Top Elev.= 1430.90
N: 19,683.9559, E: 21,256.3594
Sta. 11+34.4, SWS Line No. 2A
1- 30" Nyloplast-ADS Drain Basin (2830AG) or
Equivalent w/ Standard Grated Cover (H-20)
Top Elev.= 1430.90
N: 19,719.2288, E: 21,215.7825
Sta. 11+87.9, SWS Line No. 2A
1- 18" Nyloplast-ADS Drain Basin (2818AG)
or Equivalent w/ Solid Cover (H-20)
Deflection= 49°00'00"
360.0 L.F. 18" HDPE Pipe
CAUTION !!!
12" Steel Propane Pipeline
(ConocoPhillips)
CAUTION !!!
8" High Pressure Steel
Natural Gas Pipeline
(Quest Pipeline)
CAUTION !!!
16" Steel Refined Products Pipeline
(ConocoPhillips)
18" HDPE
30" RCP
18" HDPE
END ZONE
10 20 30 40 50 40 30 20 10
1431
1430
25' Setback
16" Steel Pipeline (ConocoPhillips, Refined Products)
12" Steel Pipeline (ConocoPhillips, Propane)
℄ 8" Pipeline Easement
8" Steel Pipeline (Quest, Natural Gas)
360.0 L.F. 18" HDPE Pipe
52.5 L.F. 18" HDPE Pipe
N: 19,719.2418, E: 21,431.9939
Sta. 1+76.1, SWS Line No. 2
1- 18" Nyloplast-ADS Drain Basin (2818AG)
or Equivalent w/ Solid Cover (H-20)
Deflection= 49°00'00"
N: 20,079.2330, E: 21,431.9939
Sta. 5+36.1, SWS Line No. 2
1- 18" Nyloplast-ADS Drain Basin (2818AG)
or Equivalent w/ Solid Cover (H-20)
Deflection= 49°00'00"
N: 20,079.2330, E: 21,215.7825
Sta. 15+47.9, SWS Line No. 2A
1- 18" Nyloplast-ADS Drain Basin (2818AG)
or Equivalent w/ Solid Cover (H-20)
Deflection= 49°00'00"
53.0 L.F. 18" HDPE Pipe
N: 20,113.9936, E: 21,255.7700
Sta. 16+00.9, SWS Line No. 2
1- 30" Nyloplast-ADS Drain Basin (2830AG) or
Equivalent w/ Standard Grated Cover (H-20)
Top Elev.= 1430.90
53.5 L.F. 18" HDPE Pipe
N: 19,684.6612, E: 21,391.0041
Sta. 10+00.0, SWS Line No. 2A=
Sta. 1+22.5, SWS Line No. 2
Std. Area Inlet
Top Elev.= 1430.90
SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.
NOTE: ALL HDPE PIPE SHALL BE ADS 1873 OR EQUIVALENT INSTALLED PER MANUFACTURES RECOMMENDATIONS. REFERENCE LANDSCAPE PLANS FOR ADDITIONAL FIELD DRAINAGE DETAILS.
STORM SEWER LINE NO. 2
STORM SEWER LINE NO. 2A
Proposed Ground
Existing Ground
1440
1435
1430
1425
1420
50.0 L.F. 30" RCP @ +0.15%
72.5 L.F. 30" RCP @ +0.15%
53.6 L.F. 18" HDPE @ +0.30%
360.0 L.F. 18" HDPE @ +0.30%
52.5 L.F. 18" HDPE @ +0.30%
134.4 L.F. 18" HDPE @ +0.30%
53.5 L.F. 18" HDPE @ +0.30%
360.0 L.F. 18" HDPE @ +0.30%
53.0 L.F. 18" HDPE @ +0.30%
0+00 1+00 2+00 3+00 4+00 5+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00
PLAN
PROFILE
BY DATE CHECKED

TV tests were not performed on this storm sewer pipe.

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX - USD 265
GODDARD, KANSAS

STORM SEWER LINE NO. 2
STORM SEWER LINE NO. 2A

JAMES L. ARMOUR, P.E. - CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

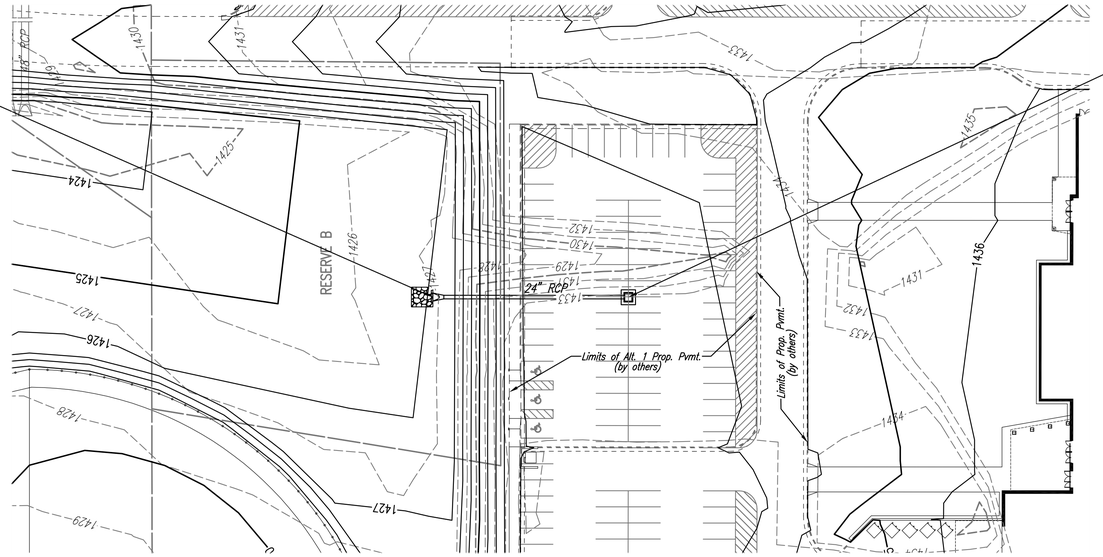
Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed By JEH | Job No. 35-08432-259
Drawn By RFT | Date JULY 2009

Sheet C-406

N: 20,244.0028, E: 20,789.4920
Sta. 0+00.0, SWS Line No. 3
Begin SWS Construction
Install 109.3 L.F. 24" RCP
(Including End Section)
℄= 1426.30
Install 15 S.Y. Light Stone Riprap

TV tests were not performed on this storm sewer pipe.



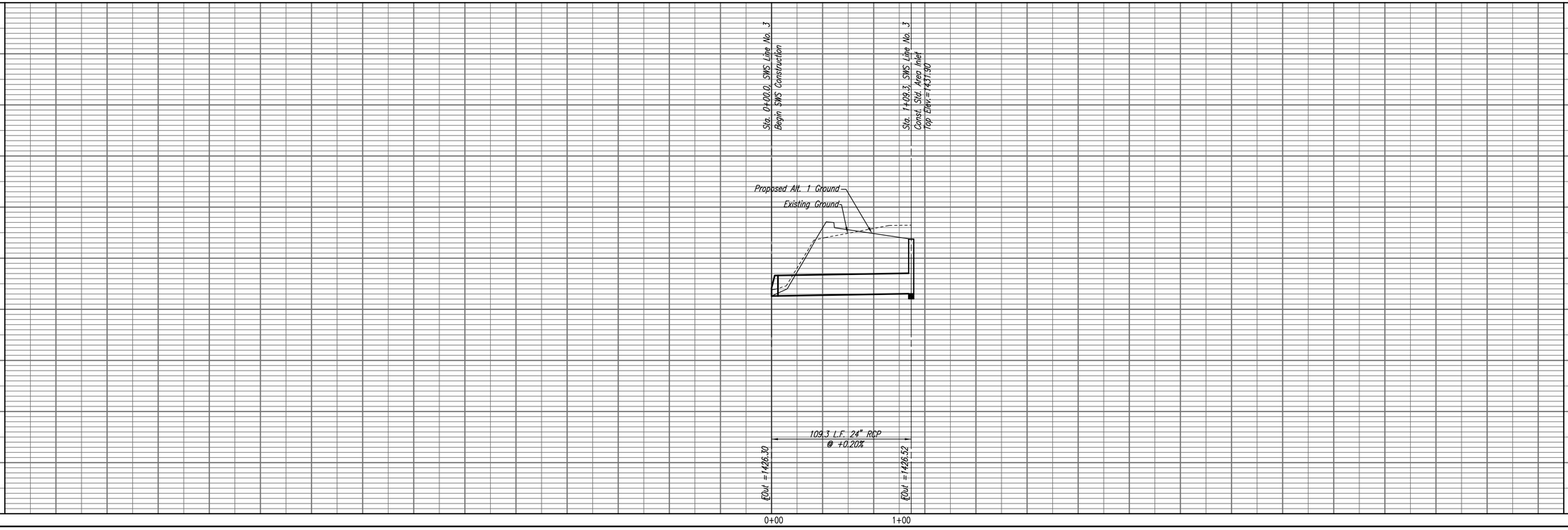
N: 20,134.7255, E: 20,789.4086
Sta. 1+09.3, SWS Line No. 3
Const. Std. Area Inlet
L=5'-0", W=5'-4"
Top Elev.= 1431.90
See Sheet No. C-408

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 5

PLAN

	BY	DATE
CHECKED		
CHECKED		

STORM SEWER LINE NO. 3



PROFILE

	BY	DATE
CHECKED		
CHECKED		

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX – USD 265
GODDARD, KANSAS

STORM SEWER LINE NO. 3

JAMES L. ARMOUR, P.E. – CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316.262.2691 • FAX 316.262.3003

Designed By JEH
Drawn By RFT
Job No. 35-08432-259
Date JULY 2009

Sheet C-407

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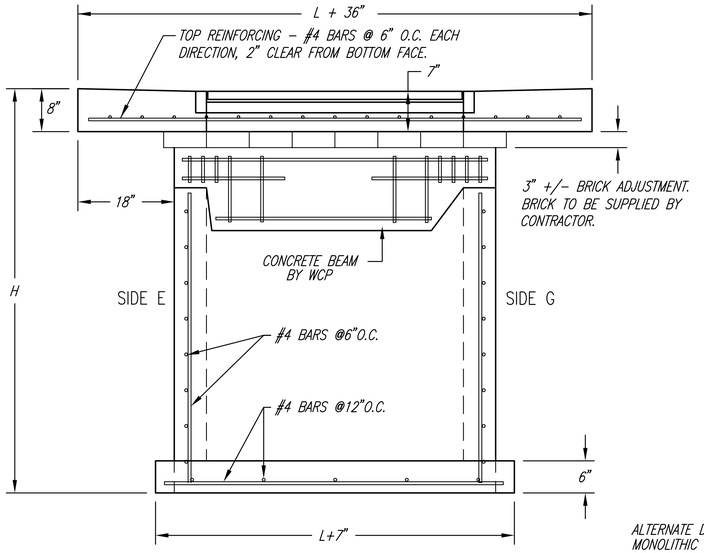
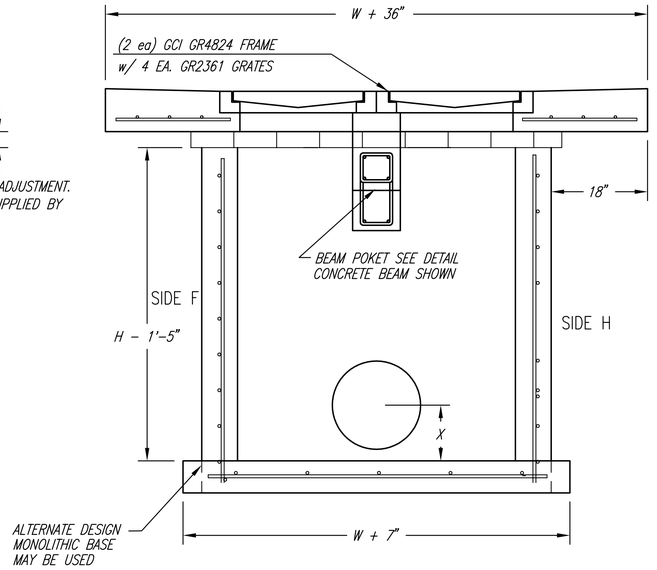


SECTION "C–C"



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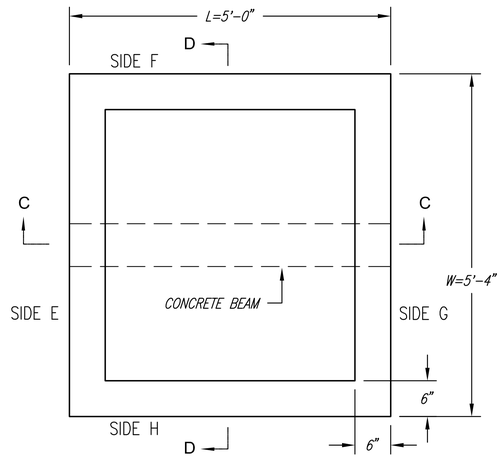
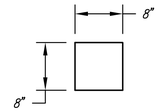
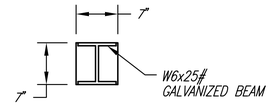


TOP VIEW

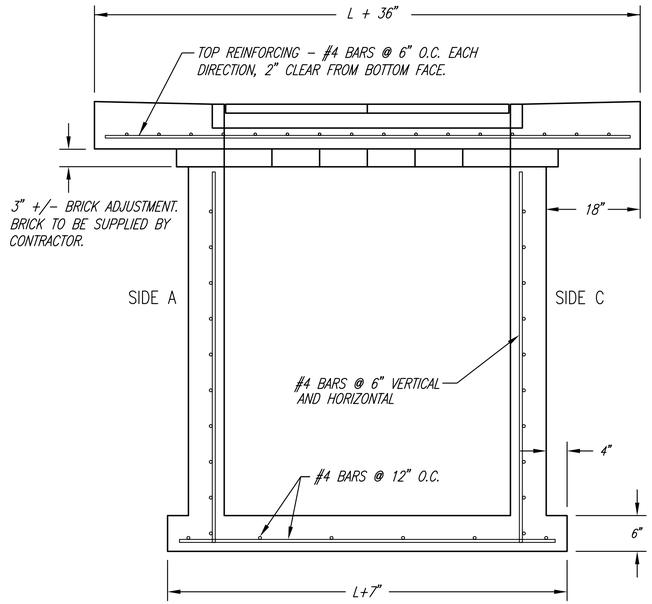


CONCRETE BEAM POCKET

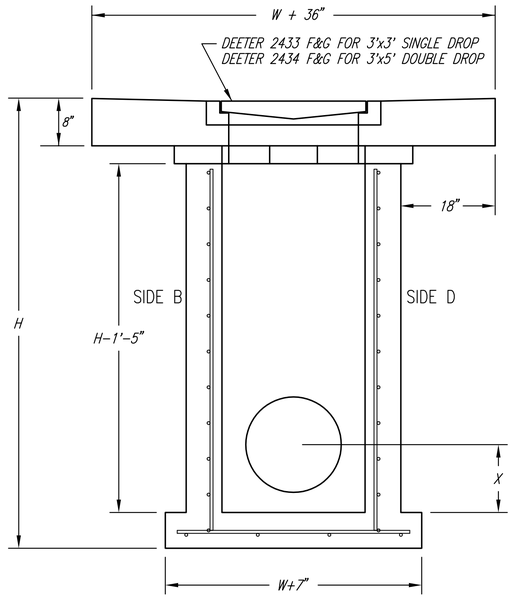


GALV. STEEL BEAM POCKET

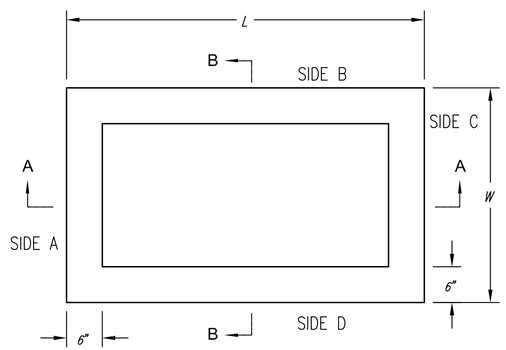
DBL. DOUBLE DROP INLET WITH BEAM
CONCRETE/STEEL BEAM (W6x25# GALVANIZED STEEL)
REQUIRED FOR THIS INLET



SECTION "A–A"



SECTION "B–B"



TOP VIEW

DOUBLE DROP & SINGLE DROP INLETS
SINGLE DROP = 3' x 3' OUTSIDE
DOUBLE DROP = 3' x 5' OUTSIDE

WICHITA CONCRETE PIPE COMPANY
221 W. 37th St. North, Wichita,KS. 67204 (316)–838–8651

No.	Revision	By	Date

STORM WATER SEWER IMPROVEMENTS
SPORTS COMPLEX – USD 265
GODDARD, KANSAS

STANDARD AREA INLET DETAILS

JAMES L. ARMOUR, P.E. – CITY ENGINEER
PRIVATE PROJECT NO. 1978 PPS (607861)

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by JEH	Job No. 35–08432–259	Sht.	C–408
Drawn by RFT	Date JULY 2009		

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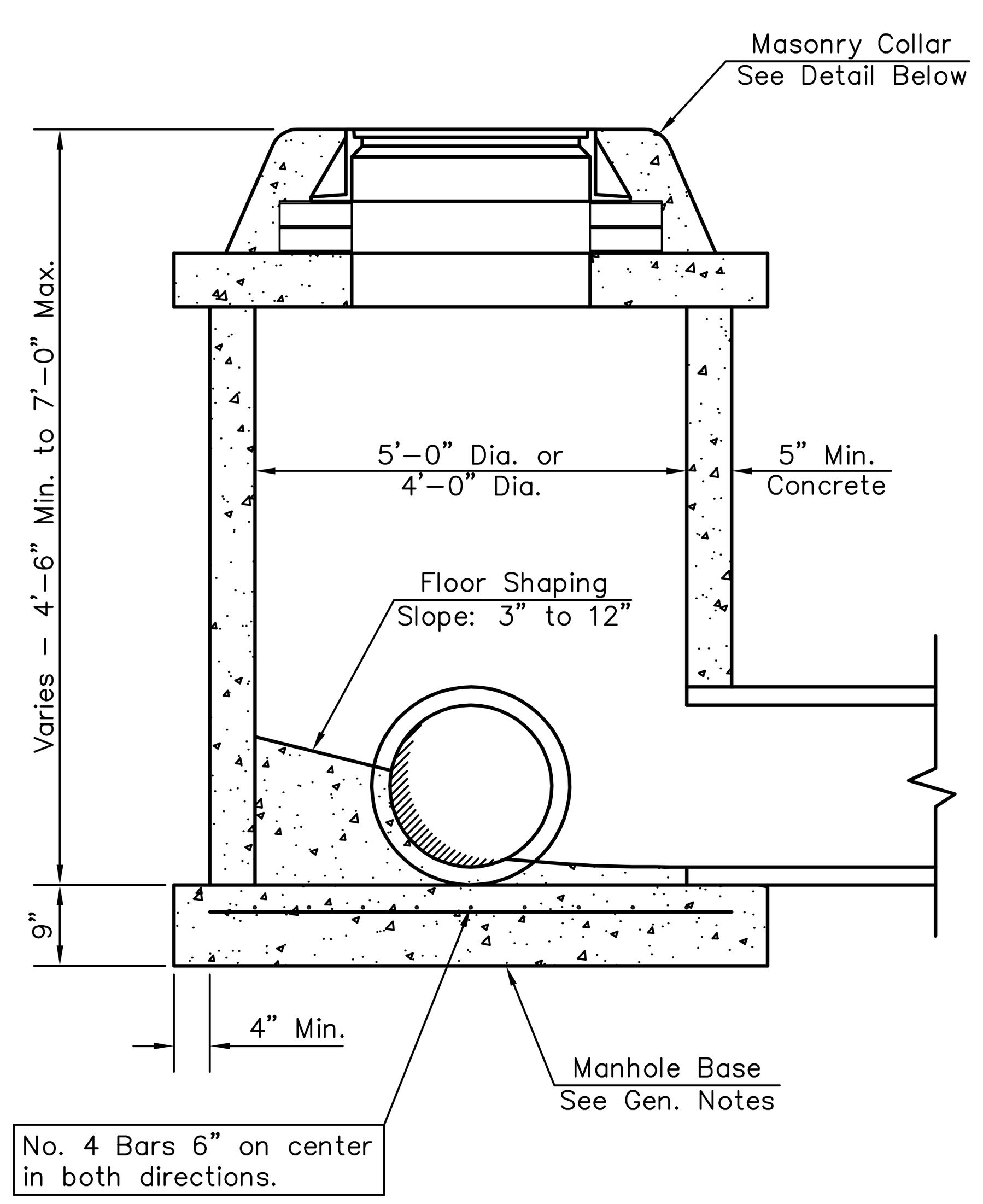
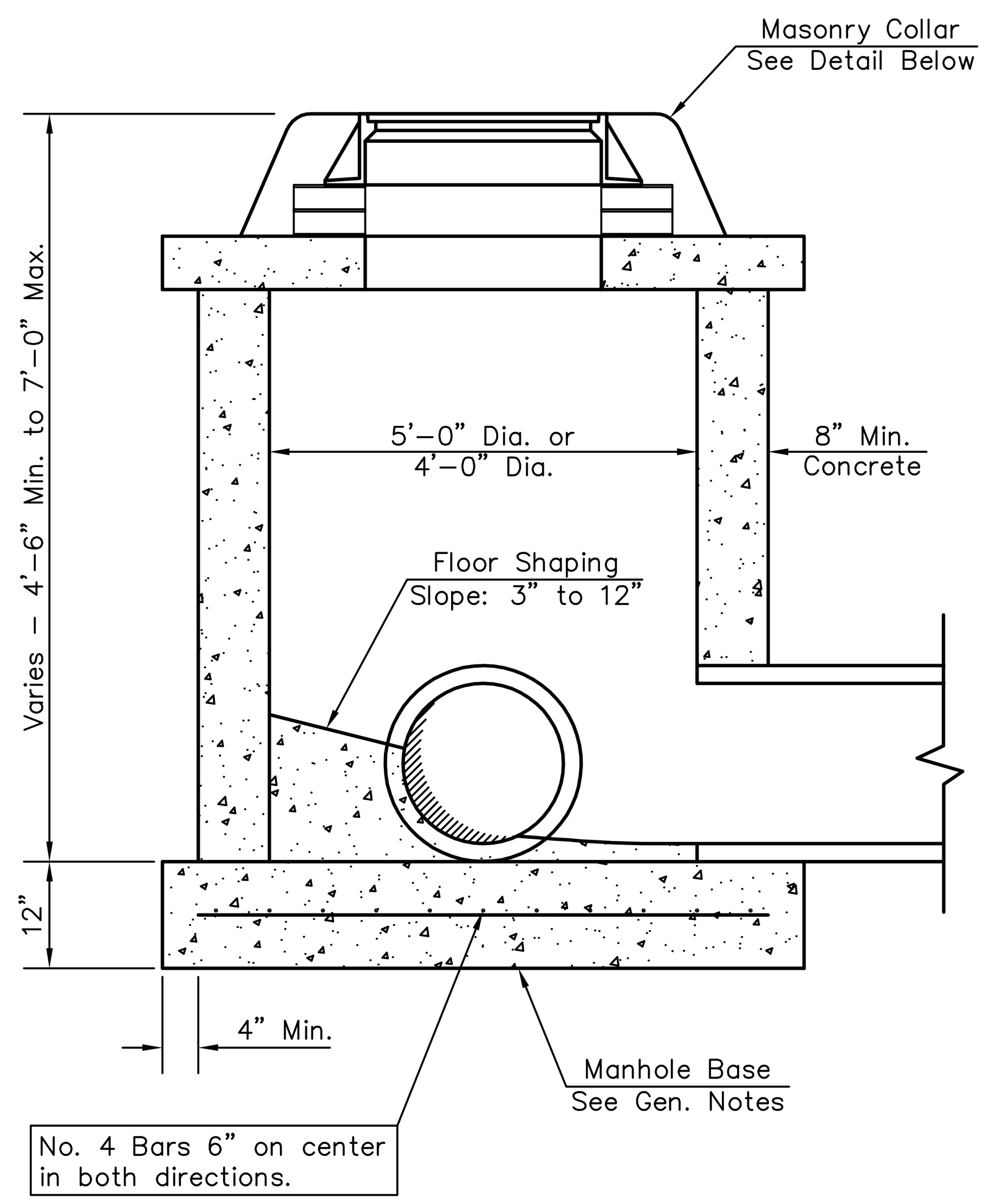
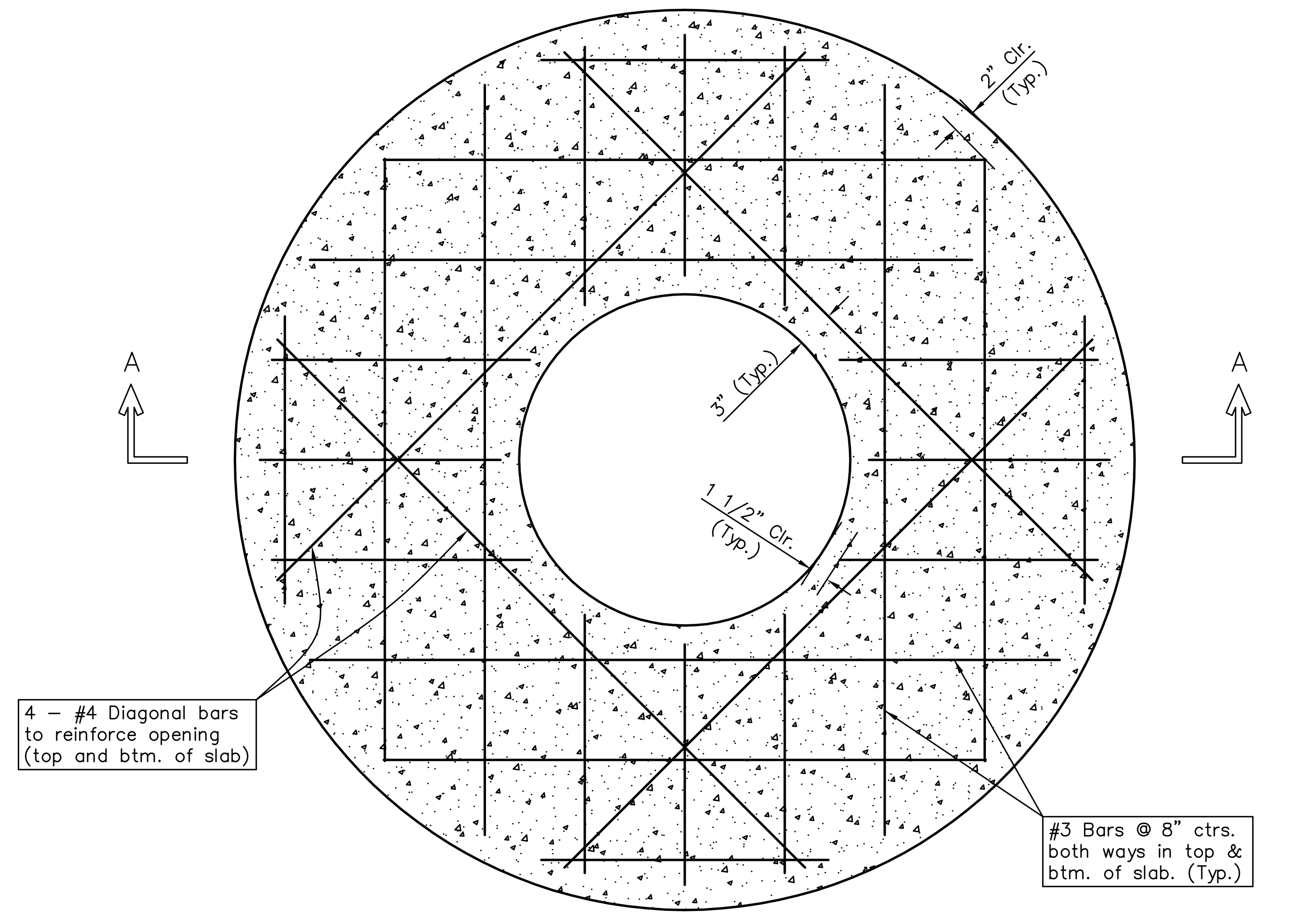
Q:\2008\08432\PPS AND PPW FINAL PLANS\PPS\08432–C408–Standard Area Inlet Details



SHALLOW TYPE "P" MANHOLE



SHALLOW TYPE "C" MANHOLE



PLAN

GENERAL NOTES

1. 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 cement 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.

2. 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 6" 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.

3. 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. 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.

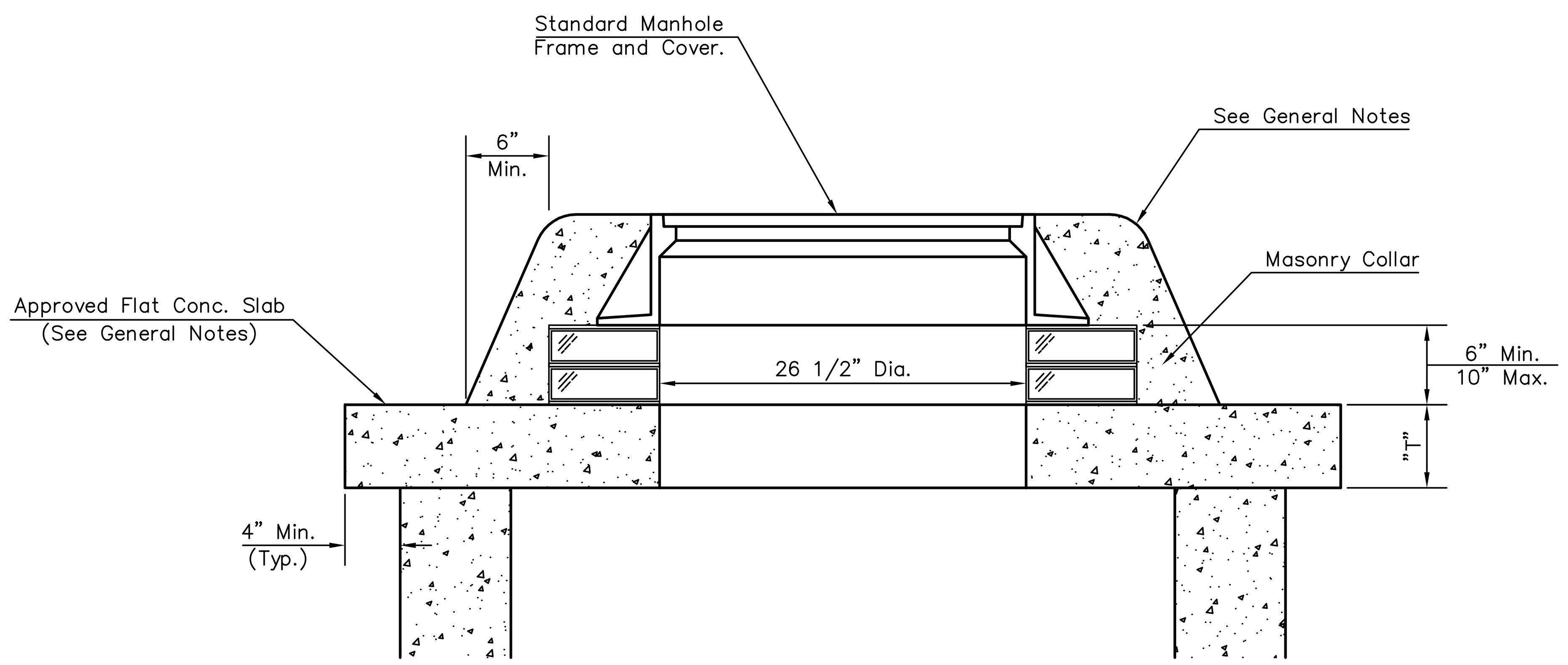
4. Pipes installed within the excavation made for the manhole shall be cradled with concrete to the limits of the manhole excavation. When clay pipe is used, the cradle shall extend to the first joint outside the manhole. The cradle shall be terminated at the clay pipe joint in a manner which will maintain 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.

5. 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 drawings.

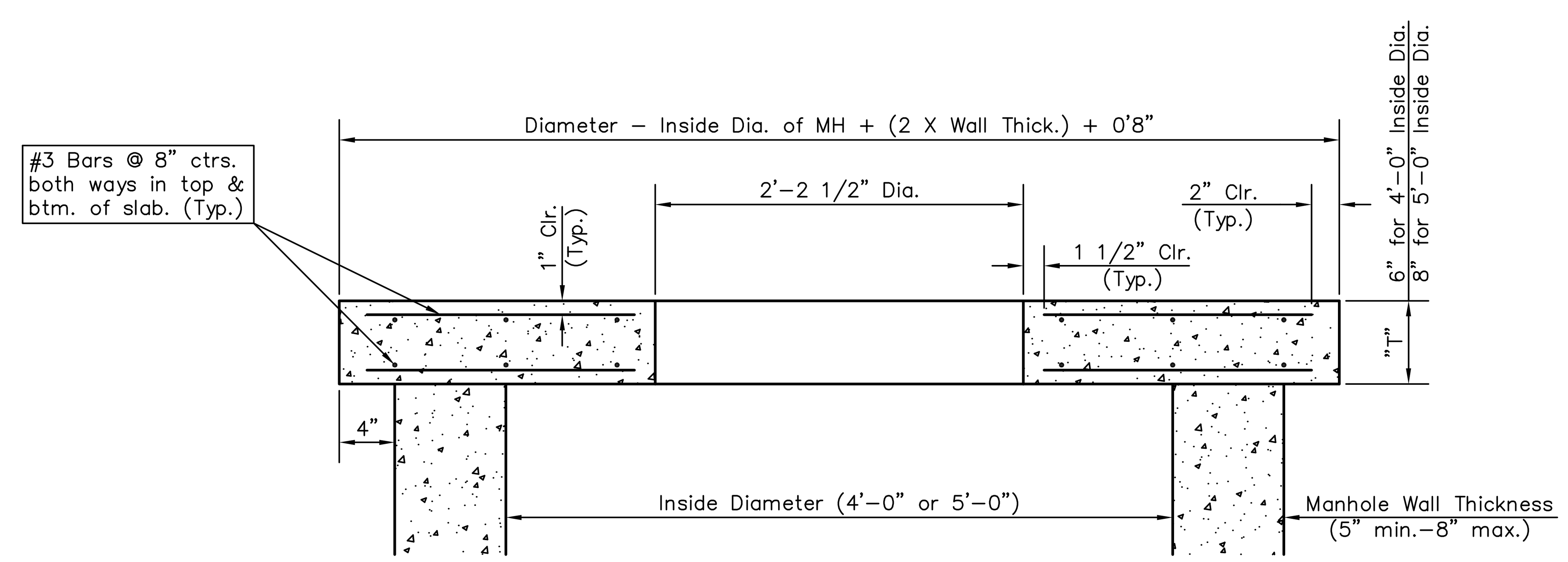
6. The crowns of inflowing pipes shall never be set lower than the crown of the outflowing pipe.

7. Standard shallow manholes type "P" and "C" shall be paid for at the unit price bid per each for the type and diameter indicated. All standard shallow manhole diameters will be 4' unless indicated otherwise.

8. All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.



MASONRY COLLAR DETAIL



SECTION A–A

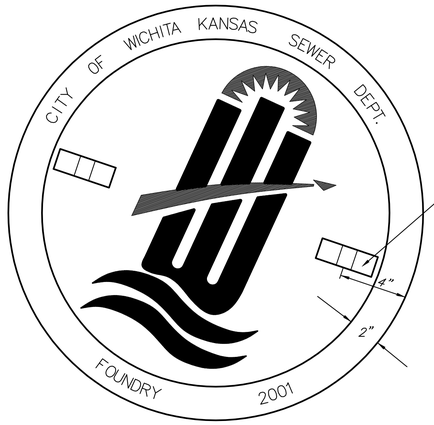
FLAT CONCRETE SLAB DETAILS

THE CITY OF WICHITA CITY ENGINEER'S OFFICE CITY HALL – SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX	***SHALLOW MANHOLES*** ***TYPE 'P' & 'C'***	
	JAMES L. ARMOUR, P.E. – CITY ENGINEER	
	PROJECT NUMBER 1978 PPS	OCA NO. (607861)
	DATE MAR 96	SHEET C-409

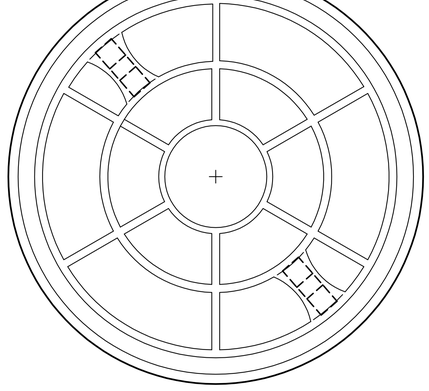
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

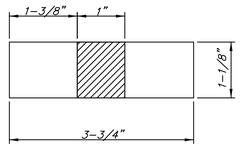


TOP VIEW

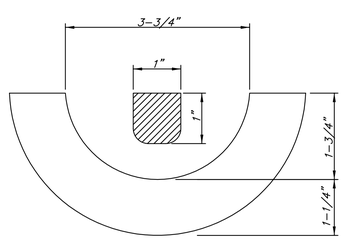


BOTTOM VIEW

PICKHOLE DETAIL

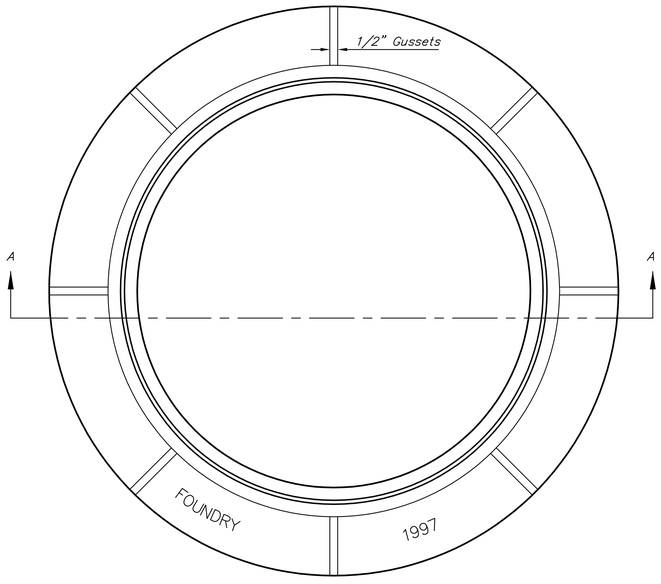


TOP VIEW

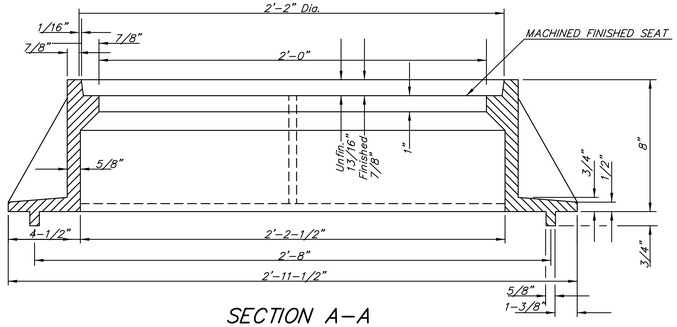


SECTION VIEW

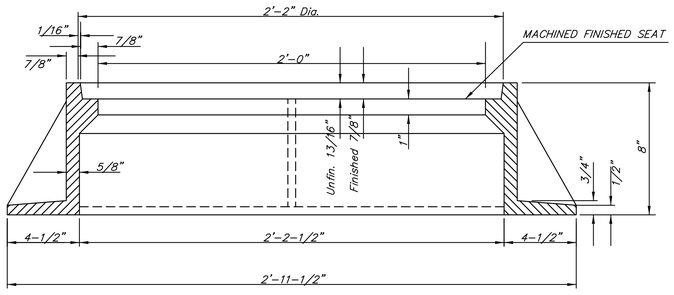
MANHOLE FRAME
Weight = 240 Lbs.



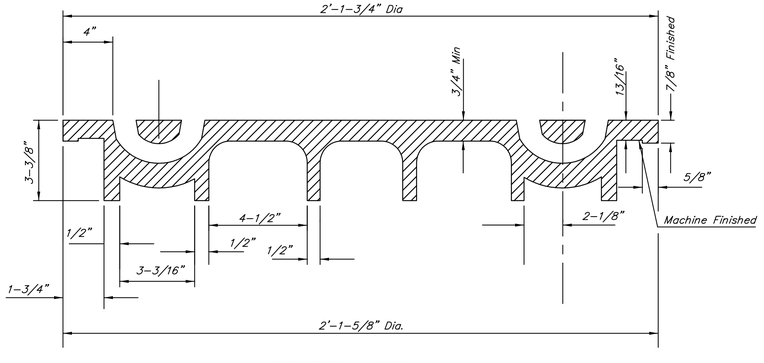
TOP VIEW



SECTION A–A
MUD RING



SECTION A–A



SECTION VIEW

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A–48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

2. MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.

3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON–ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

4. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUM–FERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

5. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED WITH THE CITY OF WICHITA LOGO AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

THE CITY OF WICHITA
CITY ENGINEER'S OFFICE
CITY HALL – SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

MANHOLE FRAME AND COVER

JAMES L. ARMOUR, P.E. – CITY ENGINEER

PROJECT NUMBER	OCA NO.
1978 PPS	(607861)
DATE: MAR 96	SHEET C–410

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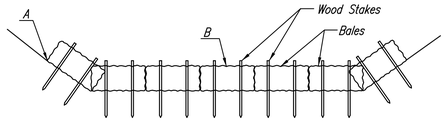
NOTE: Point A must be higher than Point B so that water flows over the bales and not around them.



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.
Straw bale ditch 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".

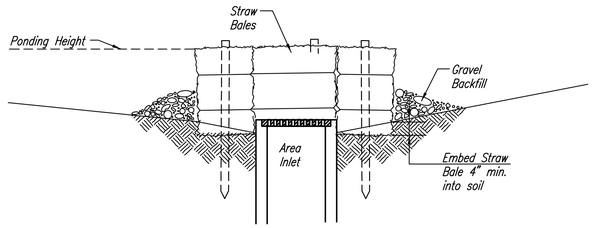
List of common placement/installation mistakes to avoid:

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.

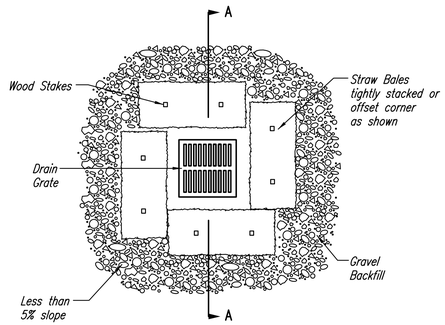
Inspection and Maintenance:

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.
Twine should be used to bind bales. The use of wire binding is prohibited because it does not biodegrade readily.

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.

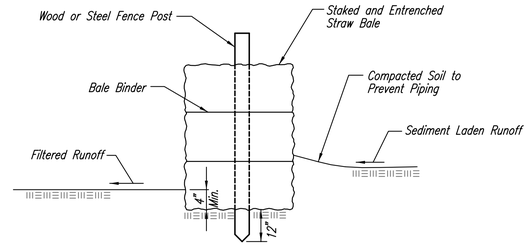
List of common placement installation mistakes to avoid:

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 of 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?



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.
Twine should be used to bind bales. The use of wire binding is prohibited because it does not biodegrade readily.

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 practical, 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?

CITY OF WICHITA

SOIL EROSION BMPs

STRAW BALE DITCH CHECK AND BARRIER DETAILS

JIM ARMOUR, P.E.
CITY ENGINEER

PROJECT NUMBER	OCA NO.
1978 PPS	(607861)
DATE: JAN. 2007	SHEET C-502

Saved 06-17-2009 4:51:20 PM by RFT
Plotted 06-17-2009 4:54:27 AM by RFT
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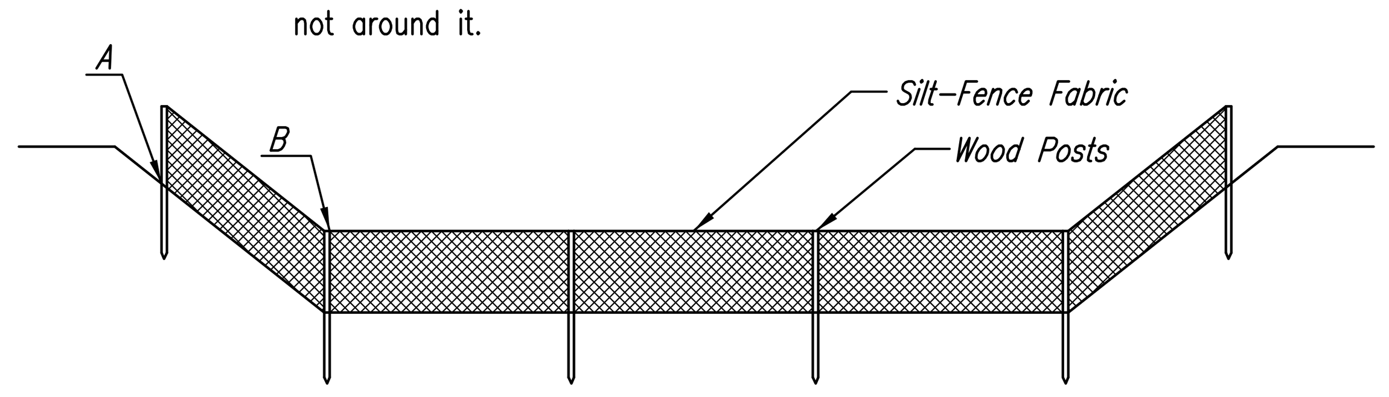
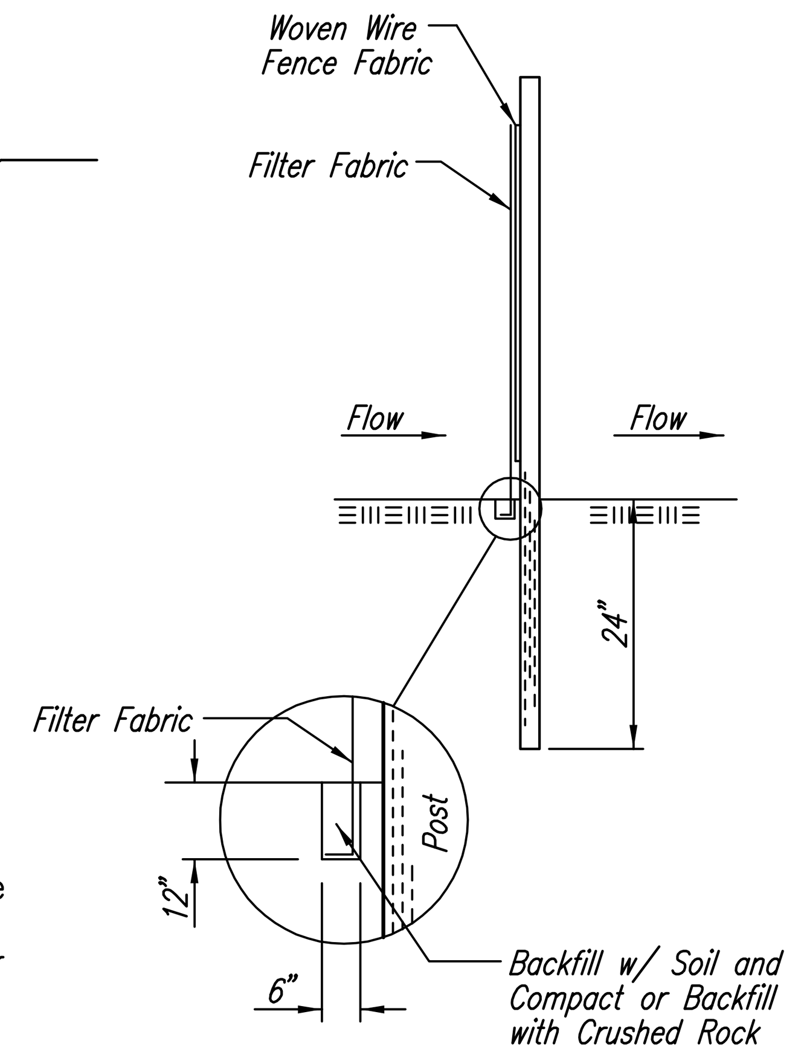
NOTE: Point A must be higher than Point B so that water flows over the silt fence fabric and not around it.



ELEVATION

SILT FENCE DITCH CHECKS
(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

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:

Place silt fence in ditches where it is unlikely that it will be overtopped.
Water should flow through a silt fence ditch check, not over it. Silt fence ditch checks often fail when overtopped.
Silt fence ditch checks should be placed perpendicular to the flowline of the ditch.
The silt fence should extend far enough so that the ground level at the ends of the fence is higher than the top of the low point of the fence. This prevents water from flowing around the check.
Silt fence ditch checks should not be placed in ditches where high flows are expected.
Rock checks should be used instead.
Silt fence 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 Ditch grade (%)	Spacing 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 at least 12" deep by 6" 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 for later use.
Roll out a continuous length of silt fence fabric on the downstream side of the trench.
Place the edge of the fabric in the trench starting at the top upstream edge of the trench.
Line two sides of the trench with the fabric as shown on detail. 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 on the upstream side of the trench to clear an area for driving in the posts. Just downstream of the trench, drive posts into the ground to a depth of at least 24". Place posts no more than 4' apart.
Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

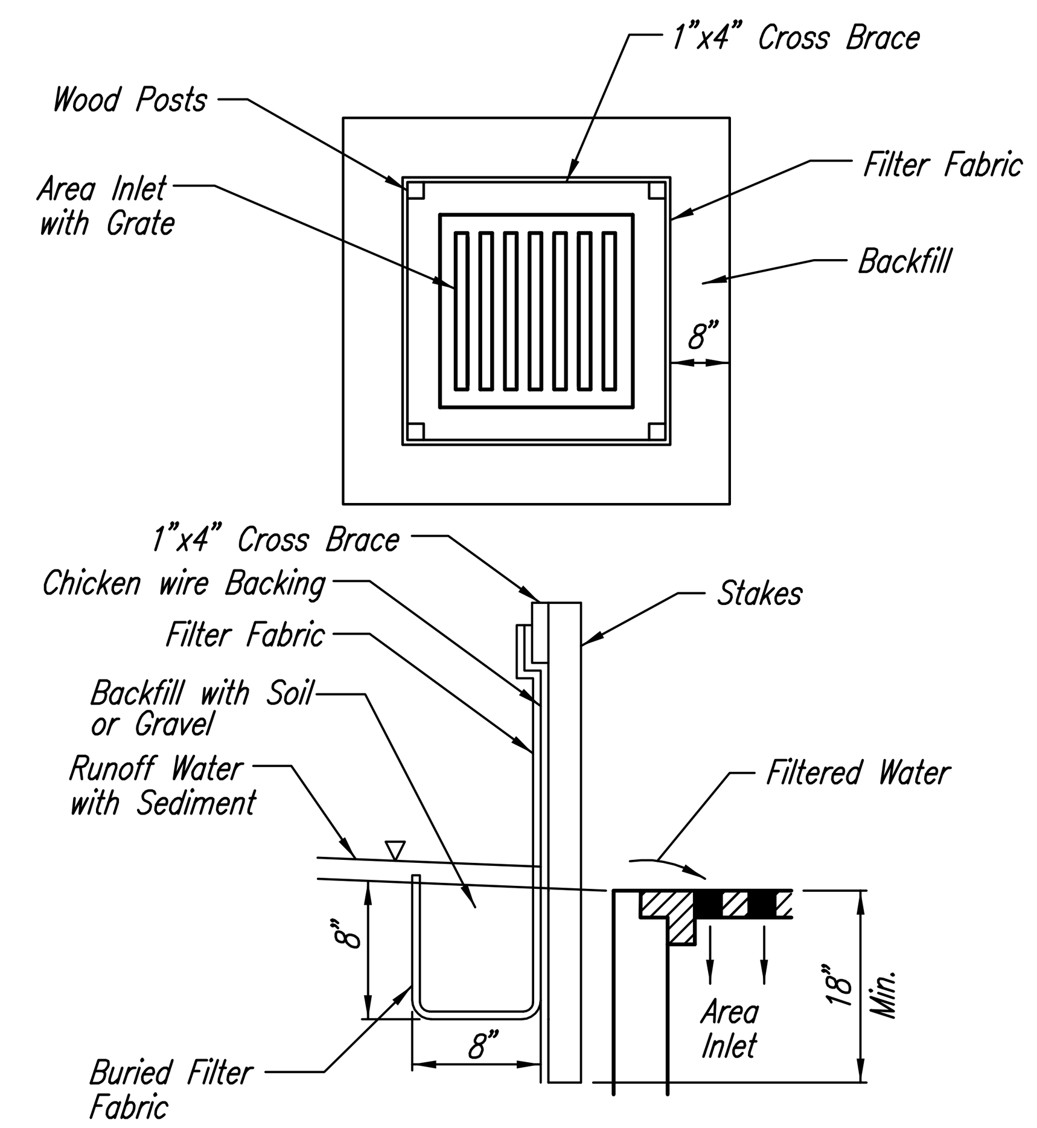
List of common placement/installation mistakes to avoid:

Water should flow through a silt fence ditch check–not over it. Place silt fence in ditches where it is unlikely that it will be overtopped. Silt fence installations quickly deteriorate when water overtops them.
Do not place silt fence posts on the upstream 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 a silt fence ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.
Do not place silt fence 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 fence is higher than the low point on the top of the fence.
Do not place silt fence ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.

Inspection and Maintenance:

Silt fence 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 the silt fence sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the ditch check?



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The wire or polymeric mesh backing used to help support the 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.
The material used to frame the tops of the posts should be 1" by 4" boards.
Silt fence fabric and support backing should be attached to the wooden posts and frame with staples, wire, zip ties, or nails.

Placement:

Place a silt fence drop inlet barrier in a location where it is unlikely to be overtopped.
Water should flow through silt fence, not over it. Silt fence barriers for area inlets often fail when repeatedly overtopped.
When used as a barrier for area inlets, silt fence fabric and posts must be supported at the top by a wooden frame.
When a silt fence barrier for area inlets 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 8" deep by 8" wide.
Drive posts to a depth of at least 18" around the perimeter of the area inlet.
The distance between posts should be 4' or less. If the distance between two adjacent corner posts is more than 4', add another post(s) between them.
Connect the tops of all the posts with a wooden frame made of 1" by 4" boards. Use nails or screws for fastening.
Attach the wire or polymeric–mesh backing to the outside of the post/frame structure with staples, wire, zip ties, or nails.
Roll out a continuous length of silt fence fabric long enough to wrap around the perimeter of the area inlet. Add more length for overlapping the fabric joint. Place the edge of the fabric in the trench, starting at the outside edge of the trench. 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.
Attach the silt fence to the outside of the post/frame structure with staples, wire, zip ties, or nails. The joint should be overlapped to the next post.

Note: When a silt fence barrier for area inlet 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.

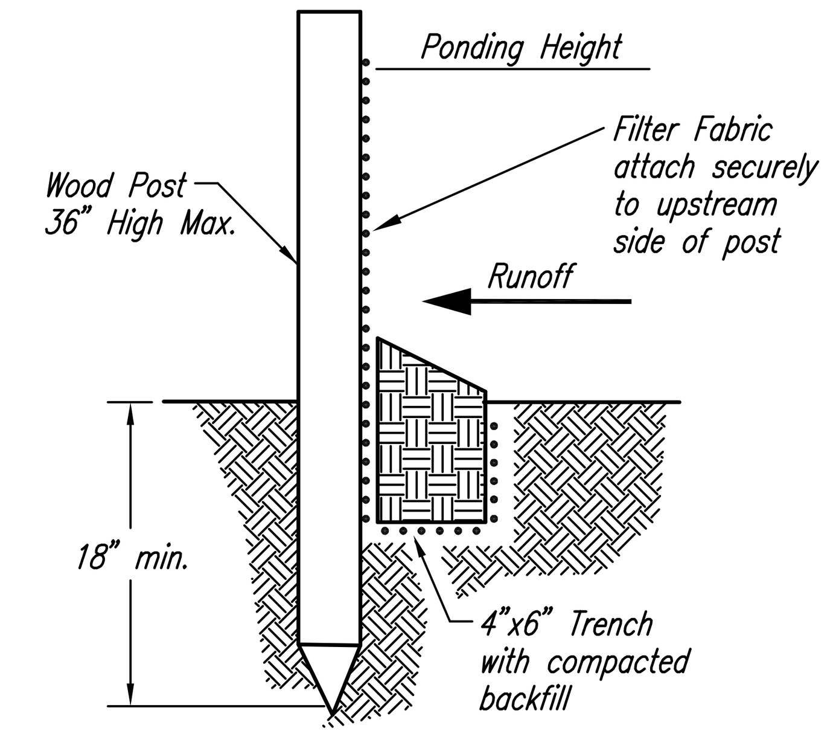
List of common placement/installation mistakes to avoid:

Water should flow through a silt fence barrier for area inlet–not over it. Place a silt fence barrier for area inlet in a location where it is unlikely to be overtopped. Silt fence barrier for area inlets often fail when repeatedly overtopped.
Do not place posts on the outside of the silt fence barrier for area inlet. In this configuration, the force of the water is not resisted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail.
Do not install silt fence barrier for area inlets without framing the top of the posts.
The corner posts around area inlets are stressed in two directions whereas a normal silt fence is only stressed in one direction. This added stress requires more support.

Inspection and Maintenance:

Silt fence barrier for area inlets 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 under the silt fence?
Does the silt fence sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the area inlet barrier?



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 BMPs

SILT FENCE DITCH CHECK AND BARRIER DETAILS

JIM ARMOUR, P.E.
CITY ENGINEER

PROJECT NUMBER	OCA NO.
1978 PPS	(607861)
DATE JAN. 2007	SHEET C–501

Saved 06-17-2009 4:51:02 PM by RFT
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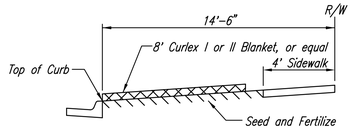
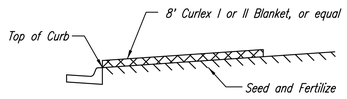
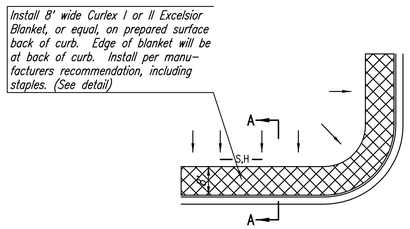


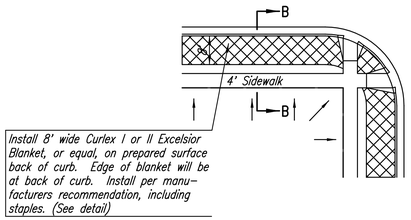
SECTION B-B



SECTION A-A



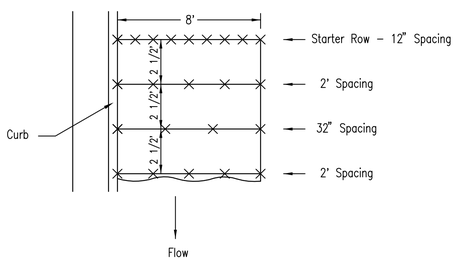
SOUTH STREET



NOTES:

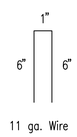
1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

BACK OF CURB PROTECTION DETAIL



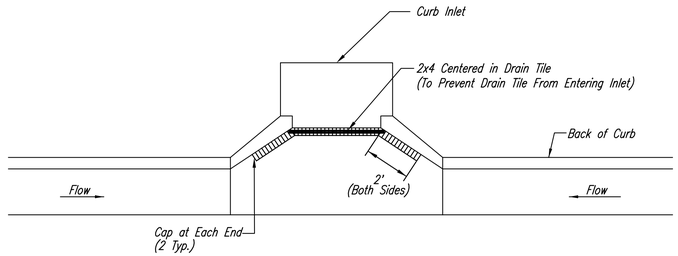
STAPLE PATTERN

NOTES: Use 6" seam overlap



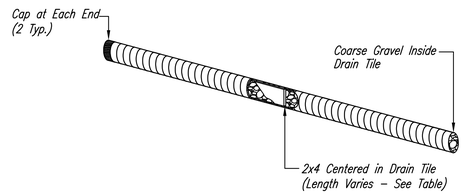
STAPLE

DETAILS FOR CURLEX I OR II BLANKETS

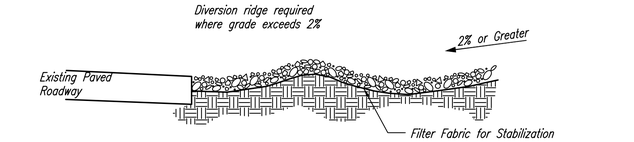


Note:
Place 4" perforated PVC pipe, filled with 1/2"-1" dia. gravel, in front of curb inlet as shown.

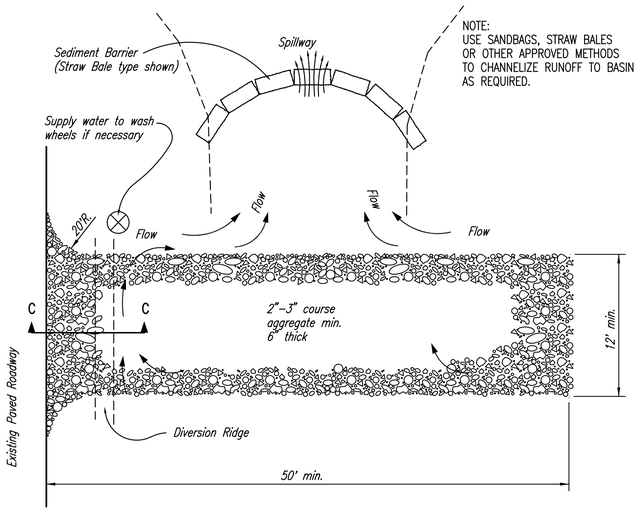
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

CITY OF WICHITA

SOIL EROSION BMPs

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

JIM ARMOUR, P.E.
CITY ENGINEER

PROJECT NUMBER	OCA NO.
1978 PPS	(607861)
DATE: JAN. 2007	SHEET C-503