STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

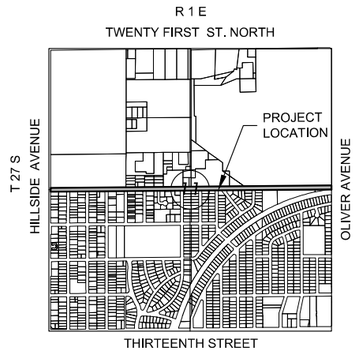
CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

C.O.W. PROJECT NO. 472-85215
PAVING O.C.A. NO. 707088

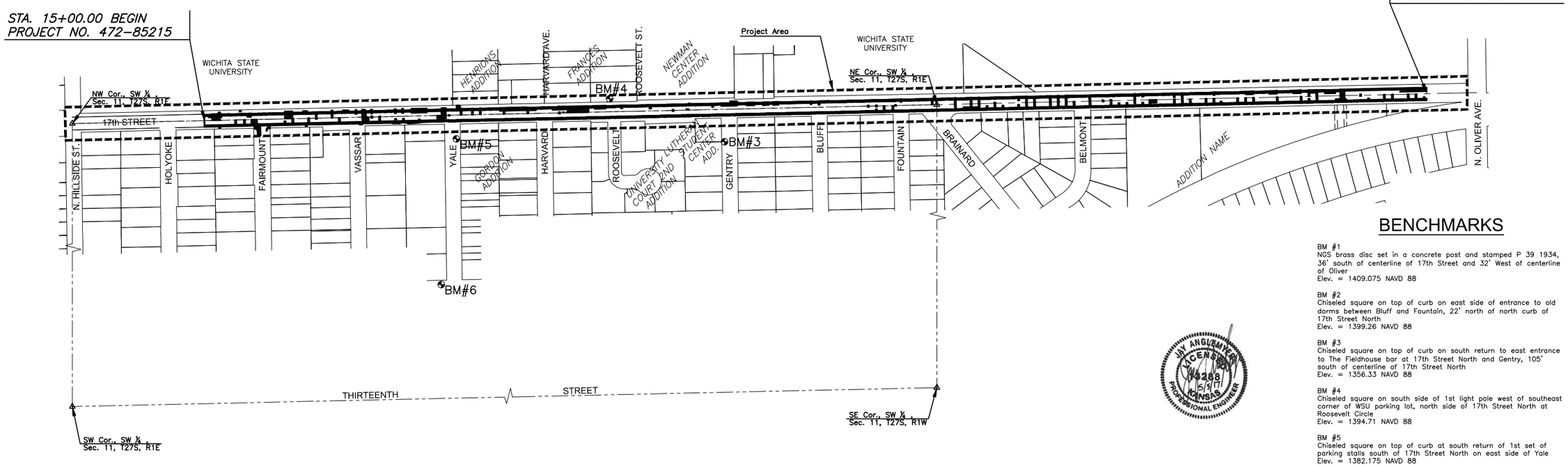
WATER PROJECT NO. 448-90762
WATER O.C.A. NO. 636350

GARY L. JANZEN, P.E. - CITY ENGINEER

INDEX TO DRAWINGS



VICINITY MAP
No Scale



BENCHMARKS

BM #1
NGS brass disc set in a concrete post and stamped P 39 1934, 36' south of centerline of 17th Street and 32' West of centerline of Oliver
Elev. = 1409.075 NAVD 88

BM #2
Chiseled square on top of curb on east side of entrance to old dorms between Bluff and Fountain, 22' north of north curb of 17th Street North
Elev. = 1399.26 NAVD 88

BM #3
Chiseled square on top of curb on south return to east entrance to The Fieldhouse bar at 17th Street North and Gentry, 105' south of centerline of 17th Street North
Elev. = 1356.33 NAVD 88

BM #4
Chiseled square on south side of 1st light pole west of southeast corner of WSU parking lot, north side of 17th Street North at Roosevelt Circle
Elev. = 1394.71 NAVD 88

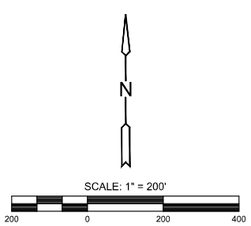
BM #5
Chiseled square on top of curb at south return of 1st set of parking stalls south of 17th Street North on east side of Yale
Elev. = 1382.175 NAVD 88

BM #6
Chiseled square on top of north curb of 16th Street North, 10' +/- west of curb inlet on northwest corner of Yale and 16th Street North
Elev. = 1376.235 NAVD 88

BM #7
Chiseled square on southeast corner of sidewalk, approximately 60' west of west edge of Paradise Baptist Church parking lot
Elev. = 1408.22 NAVD 88

BM #8
Chiseled square on top of curb, 19' southeast of south end of curb return on southeast corner of 17th Street and Brainard, in front of fire hydrant
Elev. = 1399.81 NAVD 88

BM #9
Chiseled square on top of curb at south end of curb return on southeast corner of 17th Street and Fairmount
Elev. = 1394.29 NAVD 88



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STREET REHABILITATION FOR
17TH STREET BETWEEN HILLSIDE & OLIVER
WICHITA, KS

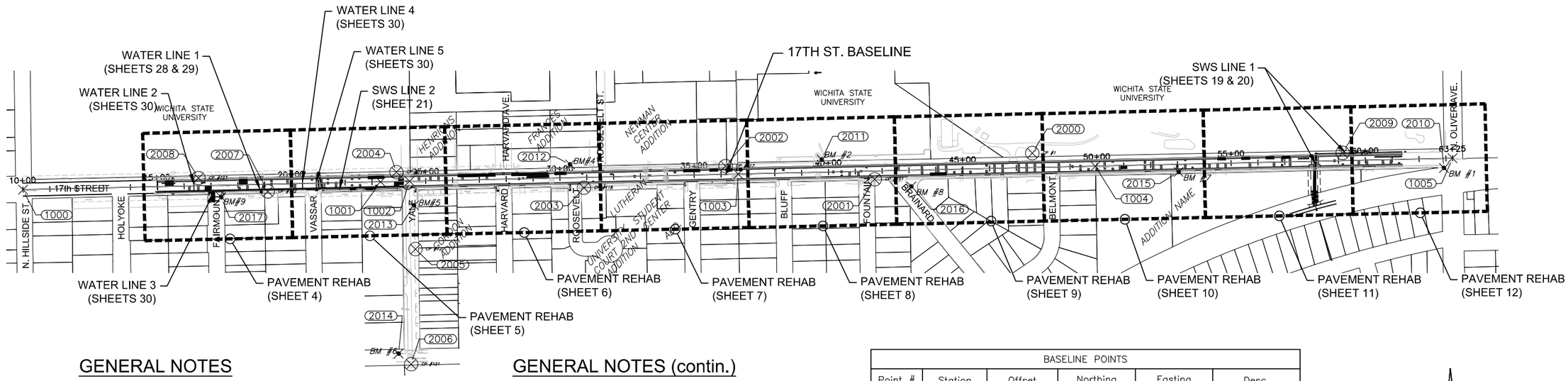
TITLE SHEET

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

DESIGNED	DRAWN	CHECKED
JRA	BKS	JRA

NO.	REVISION	DATE

SHEET NO.
1 OF 54



GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

2. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:

KANSAS ONE-CALL	687-2470

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

AT&T	1-316-246-8464
BLACK HILLS ENERGY (GAS)	1-800-694-8989
CITY OF WICHITA WATER	1-316-268-4555
CITY OF WICHITA SEWER	1-316-268-4073
CITY OF WICHITA STORMWATER	1-316-268-4090
CITY OF WICHITA TRAFFIC	1-316-268-4034
COX COMMUNICATIONS	1-888-249-3530
KANSAS GAS SERVICE	1-888-482-4950
WESTAR ENERGY	1-800-544-4857

3. UTILITY SERVICE LINES, POLES, ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLAN, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY AND EASEMENTS WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

4. 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, IN THE OPINION OF THE ENGINEER, THAT 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 WOULD 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 WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

5. 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 NOTICE PRIOR TO START OF 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. THE WATER DISTRIBUTION DIVISION SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE. VALVE BOXES AND WATER METERS WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO MATCH FIELD GRADES.

8. CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.

9. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

10. ALL TRAFFIC CONTROL DEVICES IN THE WORK ZONE (INCLUDING MARKINGS AND SIGNS) AND THEIR INSTALLATION AND MAINTENANCE SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL DEVICES IN THE TRAVELED WAY OR CLEAR ZONE SHALL BE CRASHWORTHY (NCHRP REPORT 350 OR MASH COMPLIANT).
http://safety.fhtwa.dot.gov./roadwaydept/policy guide/road hardware/wzd

11. ALL CONSTRUCTION EQUIPMENT, INCLUDING VEHICLES, MATERIALS, AND DEBRIS, SHALL BE STORED OUTSIDE OF THE CLEAR ZONE, WHERE THIS CANNOT BE ACHIEVED THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNS, ABJECT IDENTIFIERS, AND/OR BARRICADES IN COMPLIANCE WITH MUTCD.

12. EXCEPT WHEN REQUIRED FOR SAFETY, TRAFFIC CONTROL SHALL NOT BLOCK ANY LANES OR SIDEWALKS WHEN WORK IS NOT BEING PERFORMED.

13. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

14. CONTRACTOR SHALL REMOVE AND DELIVER TO 1801 S. McLEAN ALL MANHOLE FRAMES AND LIDS, HYDRANTS, VALVES, ETC., NOTED FOR REMOVAL DURING CONSTRUCTION. ALL ASSOCIATED COSTS TO TRANSPORT THE SALVAGED MATERIAL WILL BE SUBSIDIARY TO THE BID ITEM "TRANSPORTATION OF SALVAGED MATERIALS".

GENERAL NOTES (contin.)

15. ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE ADJACENT TO DEVELOPED PROPERTIES SHALL BE RESTORED WITH SOD TO MATCH EXISTING TURF TYPE. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION AND SODDING. ALL SODDING WORK SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AND THE CITY ADMINISTRATIVE REGULATION NO. AR6.5, WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. THE "SUMMARY OF QUANTITIES" SHOWS THE ESTIMATED AREA OF SODDING, WITH A BID ITEM FOR THE SAME. WHEN THE WEATHER/SEASON PREVENTS THE INSTALLATION OF SOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING EROSION CONTROL BLANKET (CURLEX I, OR APPROVED EQUAL) AT THE BACK OF CURB (8' WIDE MINIMUM). ALL COSTS FOR EROSION MAT INSTALLATION SHALL BE SUBSIDIARY TO "SITE RESTORATION". SEE SECTIONS 902.7 AND 902.8 OF THE STANDARD SPECIFICATIONS.

16. THE CONTRACTOR SHALL RESEED ALL UNDEVELOPED AREAS DISTURBED BY CONSTRUCTION WITH A MIXTURE OF RYEGRASS (APPLIED AT A RATE OF 200 LBS. PER ACRE) AND BUFFALO GRASS. DEPENDING ON THE SOIL CONDITIONS (APPLIED PER STANDARD SPECIFICATIONS), PURE NITROGEN FERTILIZER SHALL ALSO BE APPLIED AT A RATE OF 1.5 LBS. PER THOUSAND SQUARE FEET. THE SEED SHALL BE WATERED WITH A DEEP SOAKING EVERY TWO (2) WEEKS DURING DRY PERIODS UNTIL A MATURE STAND OF GRASS IS OBTAINED. THE "SUMMARY OF QUANTITIES" SHOWS THE ESTIMATED AREA OF DISTURBED AREA TO BE SEEDED, WITH A BID ITEM FOR THE SAME. THE PERMANENT SEEDING MAY BE OMITTED ONLY IF SODDING IS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING EROSION CONTROL BLANKET (CURLEX I, OR APPROVED EQUAL) AT THE BACK OF CURB, TO AND INCLUDING THE LIMITS OF ALL SEEDED AREAS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO "SITE RESTORATION".

17. CRUSHED ROCK BASE IS TO BE COMPACTED AND SMOOTHED WITH A STEEL FACED ROLLER PRIOR TO PLACEMENT OF PAVEMENT. TACK COAT WILL NOT BE APPLIED TO ROCK BASE.

18. PROPOSED CURBS MATCHING EXISTING CURBS SHALL BE ALTERED TO MATCH THE SHAPE AND DIMENSIONS OF THE EXISTING CURB. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGH SUCH TRANSITIONS.

19. A FULL DEPTH SAW CUT SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED. SAW JOINT TO FACILITATE REMOVAL WITHIN THREE (3) FEET OF EXISTING JOINTS WILL NOT BE PERMITTED AND FOR SUCH INSTANCES THE LIMITS OF REMOVAL SHALL EXTEND TO THE EXISTING JOINT. SUCH SAW CUTS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE REMOVAL OF SURFACE OR PAVEMENT.

WATER NOTES

1. OPENING AND CLOSING OF WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTIONS SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. THE PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. THE CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.

2. THE CONTRACTOR SHALL LAY A TRACER WIRE AND SET TEST STATIONS ALONG ALL WATER PIPE INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS AND TRACER WIRE DETAIL ON DETAIL SHEET WL-101. COST IS SUBSIDIARY TO PIPE INSTALLATION.

3. THE CONTRACTOR SHALL PROVIDE MATERIALS FOR TEMPORARY BLOWOFF OF WATERLINES. CONNECTIONS TO THE EXISTING WATERLINE(S) SHALL BE MADE WITH CLEAN, SWABBED PIPE AND FLUSHED UPON COMPLETION OF TIE-INS.

4. DEFLECTIONS AT PIPE JOINT OR COUPLINGS SHALL NOT EXCEED THE PIPE MANUFACTURER'S RECOMMENDED MAXIMUM.

5. ANY EXISTING JOINT EXPOSED DURING EXCAVATION SHALL BE REPLACED IF WITHIN FOUR FEET OF PROPOSED JOINT.

6. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

7. WATER VALVES ON LINES TO BE ABANDONED SHALL HAVE THE BOX AND LID REMOVED AND RETURNED TO THE CITY. ADJUSTMENTS TO THESE VALVES WILL NOT BE MADE.

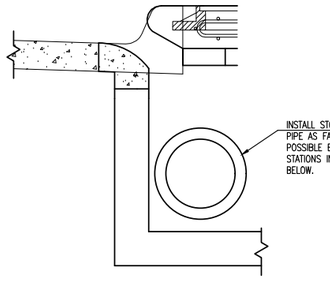
8. ADJUSTMENT OF WATER VALVES ON NEW WATER LINES WILL BE SUBSIDIARY TO THE COST OF INSTALLING THE VALVE. NO SEPARATE PAYMENT WILL BE MADE FOR ADJUSTING OF THESE VALVES, IF NECESSARY.

BASELINE POINTS

Point #	Station	Offset	Northing	Easting	Desc.
1000	10+00.00	0.00'	1696680.88	1659906.10	BEGIN PROJECT
1001	23+31.98	0.00'	1696710.11	1661237.75	PI
1002	24+39.67	0.00'	1696712.46	1661345.42	PI
1003	36+63.96	0.00'	1696738.81	1662569.42	PI
1004	49+94.05	0.00'	1696768.43	1663899.19	PI
1005	63+24.97	0.00'	1696797.72	1665229.79	END PROJECT

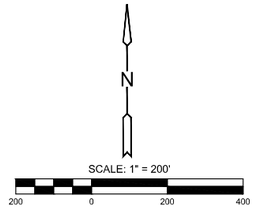
CONTROL POINTS

Point #	Station	Offset	Northing	Easting	Desc.
2000	47+60.42	53.69' LT.	1696816.90	1663664.42	1 MKEC CP
2001	41+71.75	30.71' RT.	1696719.42	1663077.78	101 MKEC CP
2002	36+17.55	30.92' LT.	1696768.72	1662522.36	117 MKEC CP
2003	30+88.42	38.60' RT.	1696687.83	1661994.86	118 MKEC CP
2004	23+91.61	34.43' LT.	1696745.83	1661296.62	119 MKEC CP
2005	24+56.21	253.19' RT.	1696459.68	1661367.41	120 MKEC CP
2006	24+30.73	680.84' RT.	1696031.58	1661351.32	121 MKEC CP
2007	19+11.08	26.51' RT.	1696674.38	1660817.54	122 MKEC CP
2008	16+54.28	28.63' LT.	1696723.86	1660559.60	123 MKEC CP
2009	59+15.91	28.76' LT.	1696817.47	1664820.19	124 MKEC CP
2010	62+91.95	35.39' RT.	1696761.61	1665197.55	BM #1
2011	39+76.07	46.84' LT.	1696792.59	1662880.41	BM #2
2012	30+38.58	49.26' LT.	1696774.60	1661943.14	BM #4
2013	24+54.41	90.31' RT.	1696622.49	1661362.10	BM #5
2014	23+85.23	640.44' RT.	1696070.98	1661304.95	BM #6
2015	53+04.02	28.22' RT.	1696747.04	1664209.70	BM #7
2016	43+07.49	60.24' RT.	1696692.92	1663214.14	BM #8
2017	17+37.08	44.35' RT.	1696652.72	1660643.97	BM # 9



SWS LINE 2
STA. 10+00.0 TO STA. 12+89.7

SCALE: NO SCALE



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17TH STREET REHABILITATION FOR STREET BETWEEN HILLSIDE & OLIVER
WICHITA, KS

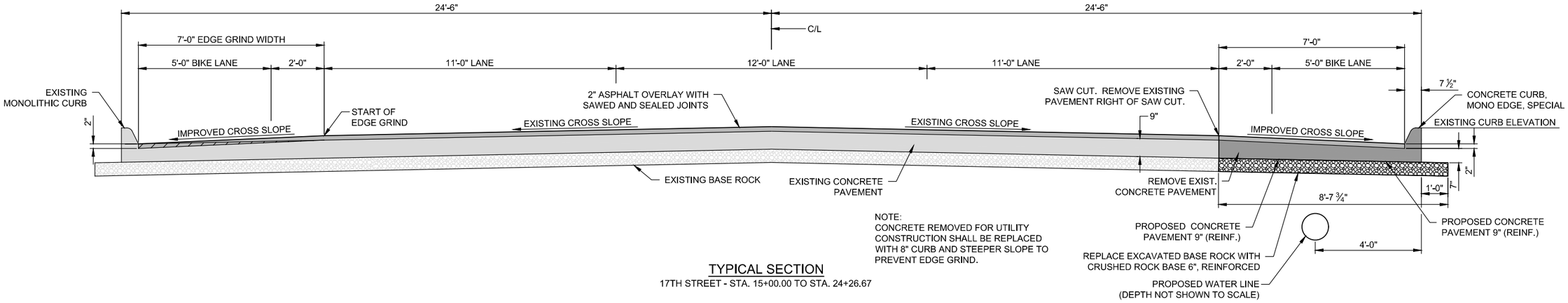
GENERAL NOTES & KEY MAP

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NTS

DESIGNED	DRAWN	CHECKED
JRA	LES	JRA

NO.	REVISION	DATE

SHEET NO.
2 OF 54



NOTE:
CONCRETE REMOVED FOR UTILITY CONSTRUCTION SHALL BE REPLACED WITH 8" CURB AND STEEPER SLOPE TO PREVENT EDGE GRIND.

TYPICAL SECTION

17TH STREET - STA. 15+00.00 TO STA. 24+26.67

TYPICAL SECTION

17TH STREET - STA. 24+26.67 TO STA. 57+70.00

NOTE:
CONCRETE REMOVED FOR UTILITY CONSTRUCTION SHALL BE REPLACED WITH 8" CURB AND STEEPER SLOPE TO PREVENT EDGE GRIND.

TYPICAL SECTION

17TH STREET - STA. 57+70.00 TO STA. 61+36.50

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WICHITA, KS

TYPICAL SECTIONS

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

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JRA	WNJ	JRA

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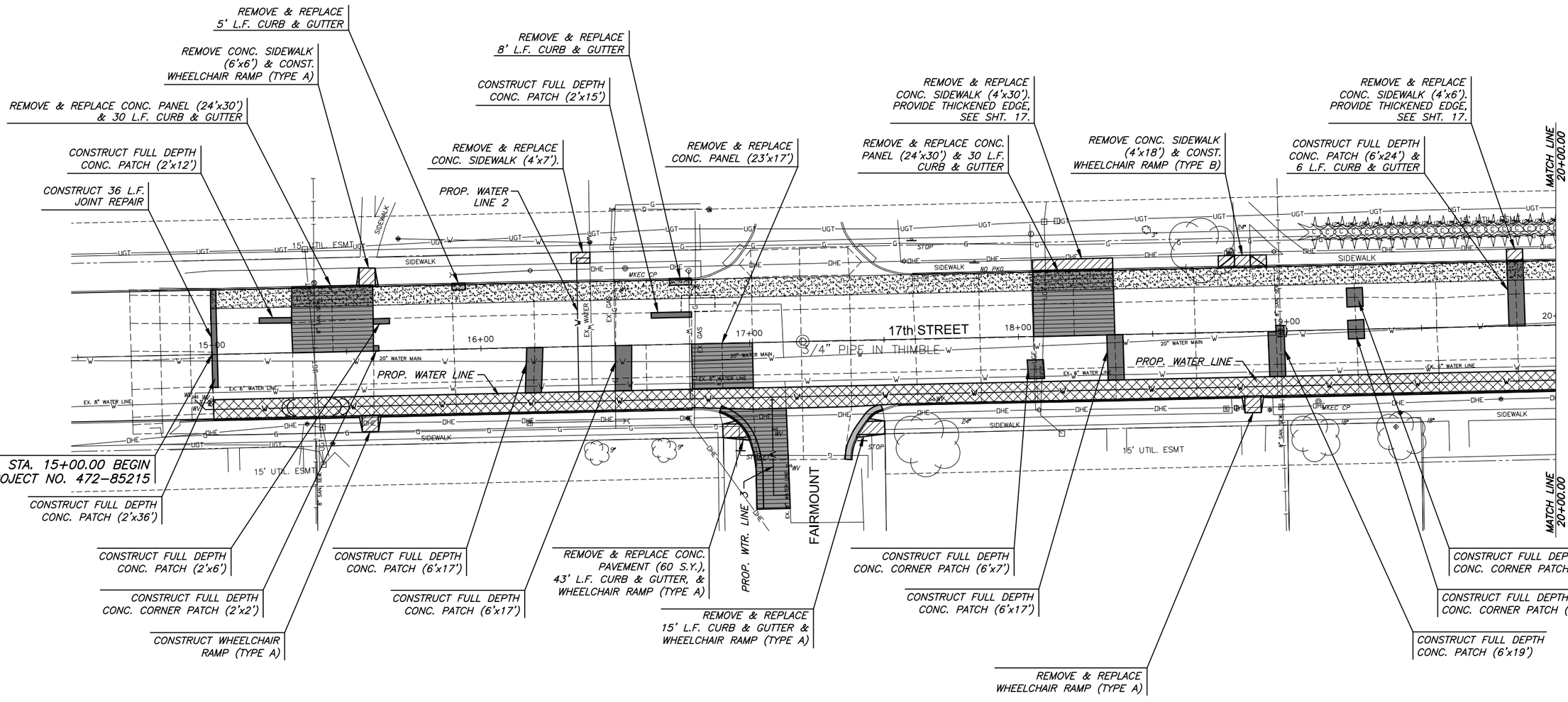

Utility Adjustments

Station	Offset	Exist. Elev.	Prop. Elev.	Description
18+97.53	0.18' Rt.	1391.42	1391.59	SSMH Adjusted/w New Ring & Cover

* CONCRETE CURB, MONO EDGE (6" & 1 1/2") WILL ALSO BE INCLUDED IN SOME OF THESE AREAS. CURB IS PAID FOR SEPARATELY, SEE SHT 17.

** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS. CURB IS PAID FOR SEPARATELY, SEE SHT. 16.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'
0 10 20 40

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

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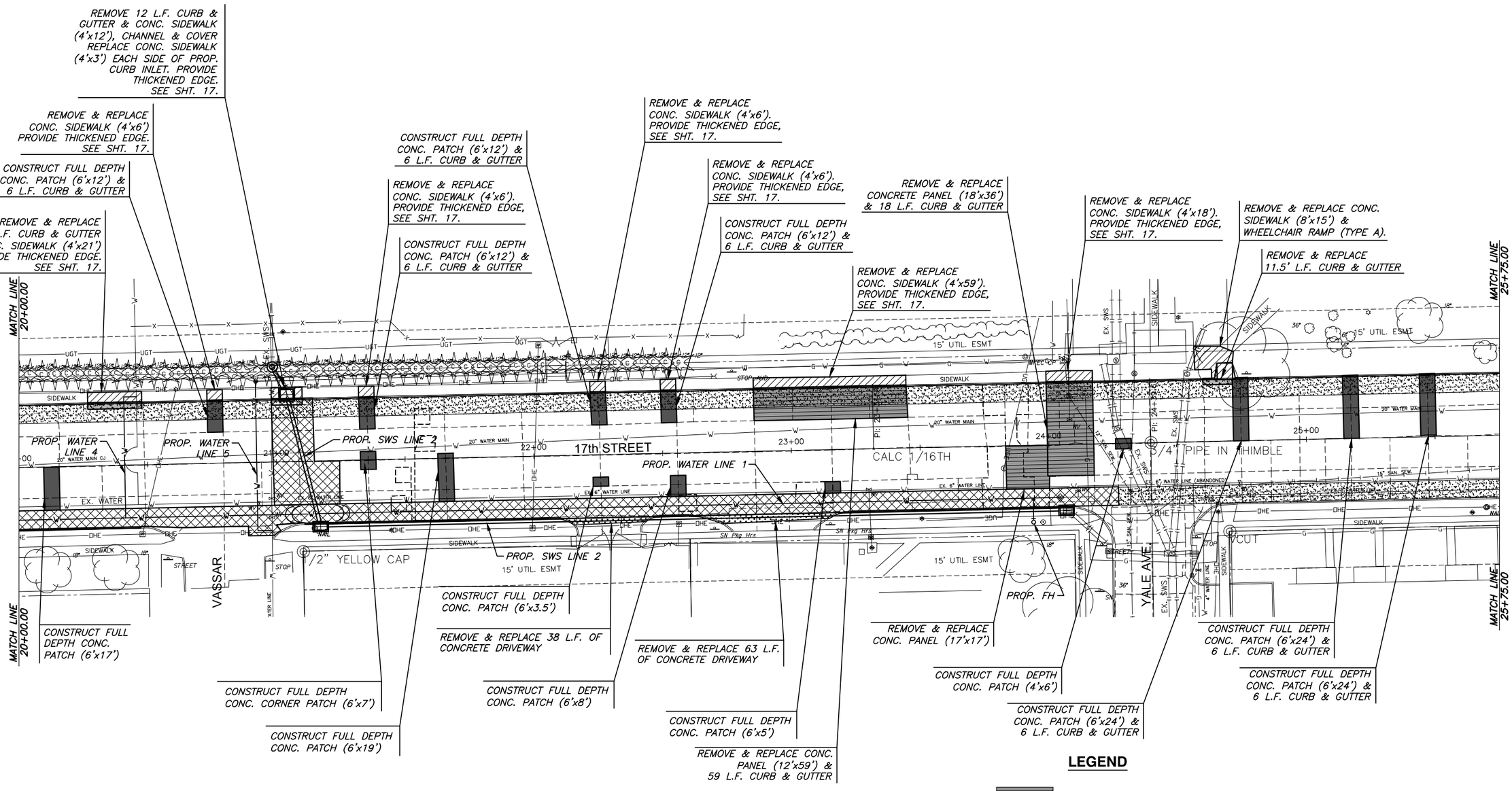

Utility Adjustments				
Station	**Offset**	**Exist. Elev.**	**Prop. Elev.**	**Description**
24+08.12	18.95' Lt.	1384.26	1384.41	SSMH Adjusted/w New Ring & Cover
24+26.50	5.69' Lt.	1384.37	1384.54	SWMH Adjusted/w New Ring & Cover
24+31.31	18.90' Rt.	1383.76	1384.00	SSMH Adjusted
24+62.51	23.03' Rt.	1383.71	1383.82	WV Adjusted

* CONCRETE CURB, MONO EDGE (6" & 1 1/2") WILL ALSO BE INCLUDED IN SOME OF THESE AREAS. CURB IS PAID FOR SEPARATELY, SEE SHT. 17.

** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS. CURB IS PAID FOR SEPARATELY, SEE SHT. 16.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'
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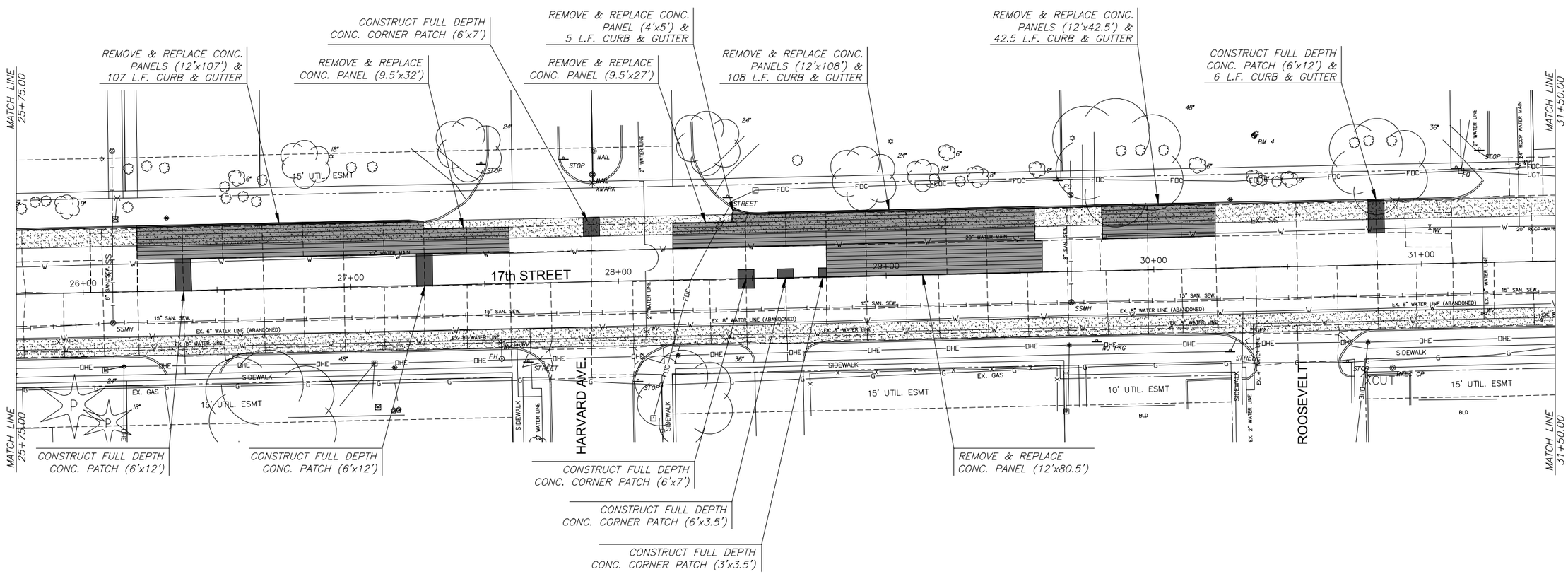

Utility Adjustments				
Station	**Offset**	**Exist. Elev.**	**Prop. Elev.**	**Description**
26+10.88	11.52' Rt.	1385.60	1385.77	SSMH Adjusted
27+55.79	22.16' Rt.	1386.82	1386.87	WV Adjusted
27+61.62	23.02' Rt.	1386.88	1386.88	WV Adjusted
28+10.06	19.02' Rt.	1387.47	1387.58	WV Adjusted
29+68.95	11.52' Rt.	1390.15	1390.32	SWMH Adjusted/w New Ring & Cover
30+36.67	23.01' Rt.	1391.14	1391.17	WV Adjusted
31+03.41	13.56' Lt.	1391.92	1392.09	WV Adjusted
31+22.96	19.01' Rt.	1392.25	1392.38	WV Adjusted

* CONCRETE CURB, MONO EDGE (6" & 1 1/2") WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

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- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'

0 10 20 40

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SHEET NO.

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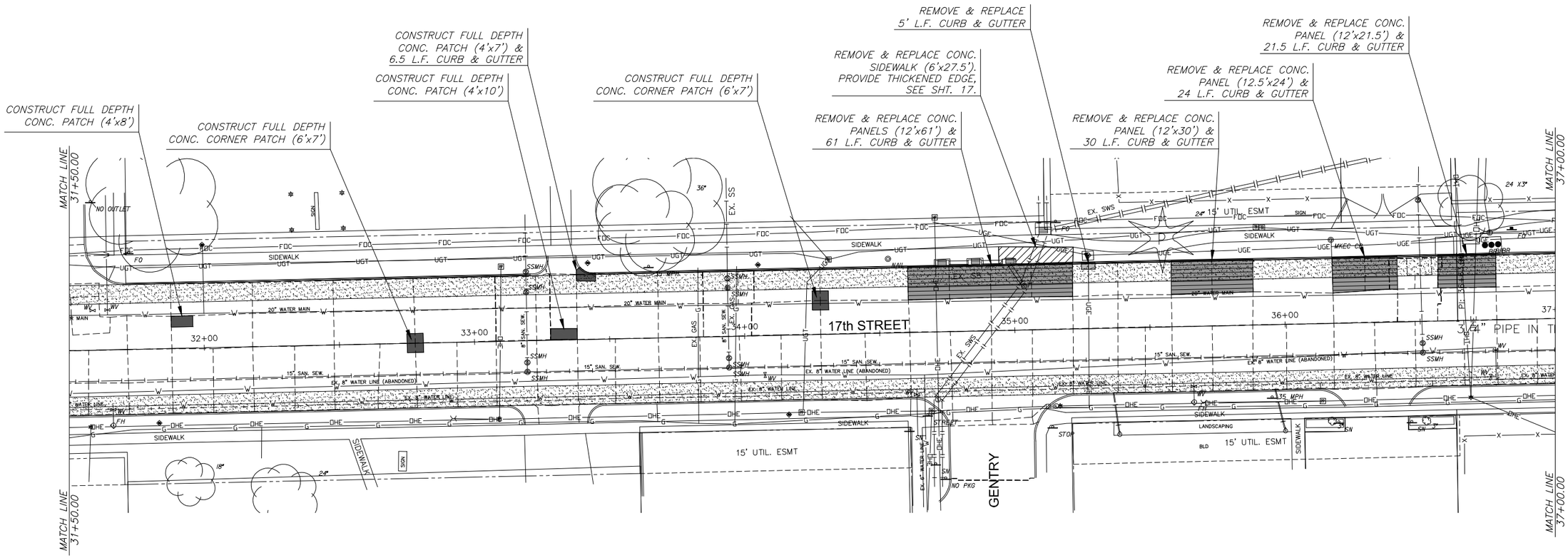

Utility Adjustments				
Station	Offset	Exist. Elev.	Prop. Elev.	Description
31+58.95	14.65' Lt.	1392.34	1392.51	WV Adjusted
31+64.41	14.77' Lt.	1392.41	1392.58	WV Adjusted
31+65.78	22.15' Rt.	1392.48	1392.49	WV Adjusted
33+19.35	11.51' Rt.	1390.47	1390.64	SSMH Adjusted
33+19.36	8.01' Rt.	1390.67	1390.84	SSMH Adjusted
33+19.50	18.00' Lt.	1390.55	1390.66	SSMH Adjusted
33+94.00	11.51' Rt.	1389.12	1389.29	SSMH Adjusted
33+94.00	8.01' Rt.	1389.28	1389.45	SSMH Adjusted
33+94.02	18.01' Lt.	1389.24	1389.37	SSMH Adjusted
33+94.02	21.51' Lt.	1389.16	1389.23	SSMH Adjusted
34+63.22	23.00' Rt.	1387.55	1387.62	WV Adjusted
35+03.74	16.21' Lt.	1387.77	1387.94	SWMH Adjusted/w New Ring & Cover
35+65.78	22.14' Rt.	1389.39	1389.42	WV Adjusted
36+50.74	8.00' Rt.	1393.24	1393.41	SSMH Adjusted
36+50.78	11.50' Rt.	1393.28	1393.45	SSMH Adjusted
36+75.71	21.00' Rt.	1393.50	1393.54	WV Adjusted

* CONCRETE CURB, MONO EDGE (6" & 1 1/2") WILL ALSO BE INCLUDED IN SOME OF THESE AREAS. CURB IS PAID FOR SEPARATELY, SEE SHT. 17.

** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS. CURB IS PAID FOR SEPARATELY, SEE SHT. 16.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'
0 10 20 40

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

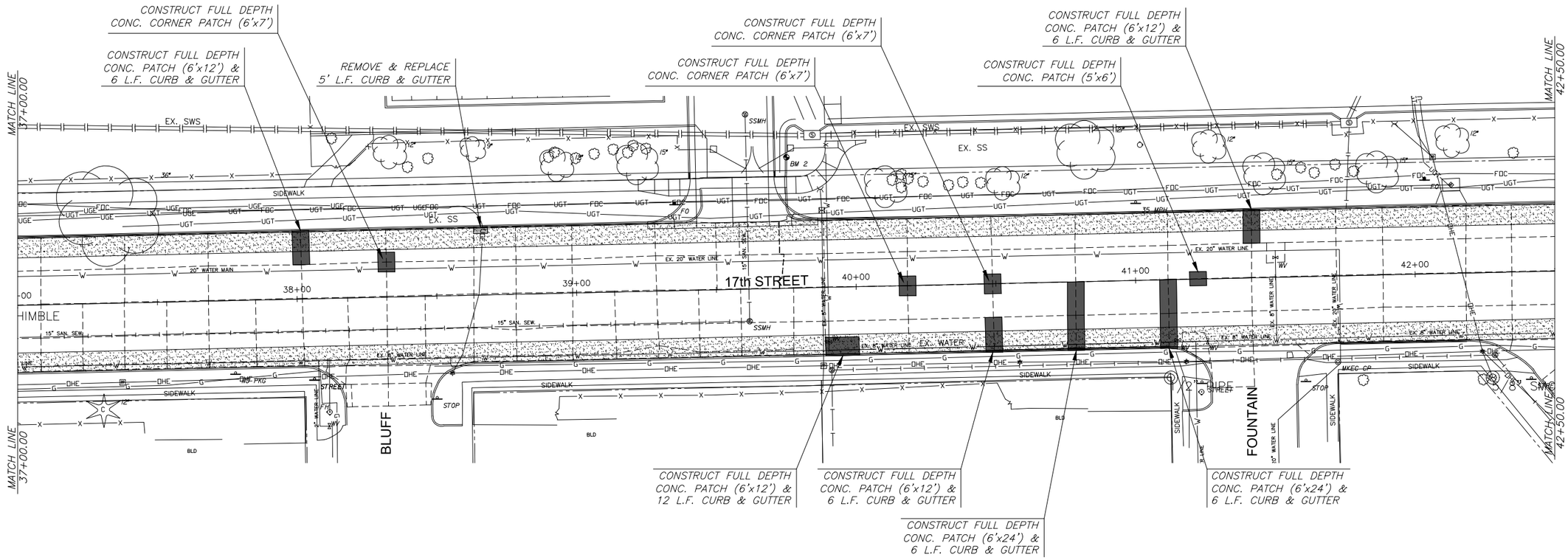
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

7 OF 54



Utility Adjustments				
Station	**Offset**	**Exist. Elev.**	**Prop. Elev.**	**Description**
39+61.65	11.50' Rt.	1397.27	1397.44	SSMH Adjusted
39+89.86	19.49' Rt.	1396.98	1397.09	WV Adjusted
41+14.57	21.58' Rt.	1397.23	1397.29	WV Adjusted
41+25.35	22.27' Rt.	1397.28	1397.32	WV Adjusted
41+50.19	7.12' Lt.	1398.02	1398.19	WV Adjusted

* CONCRETE CURB, MONO EDGE (6" & 1 1/2") WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'

0 10 20 40

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

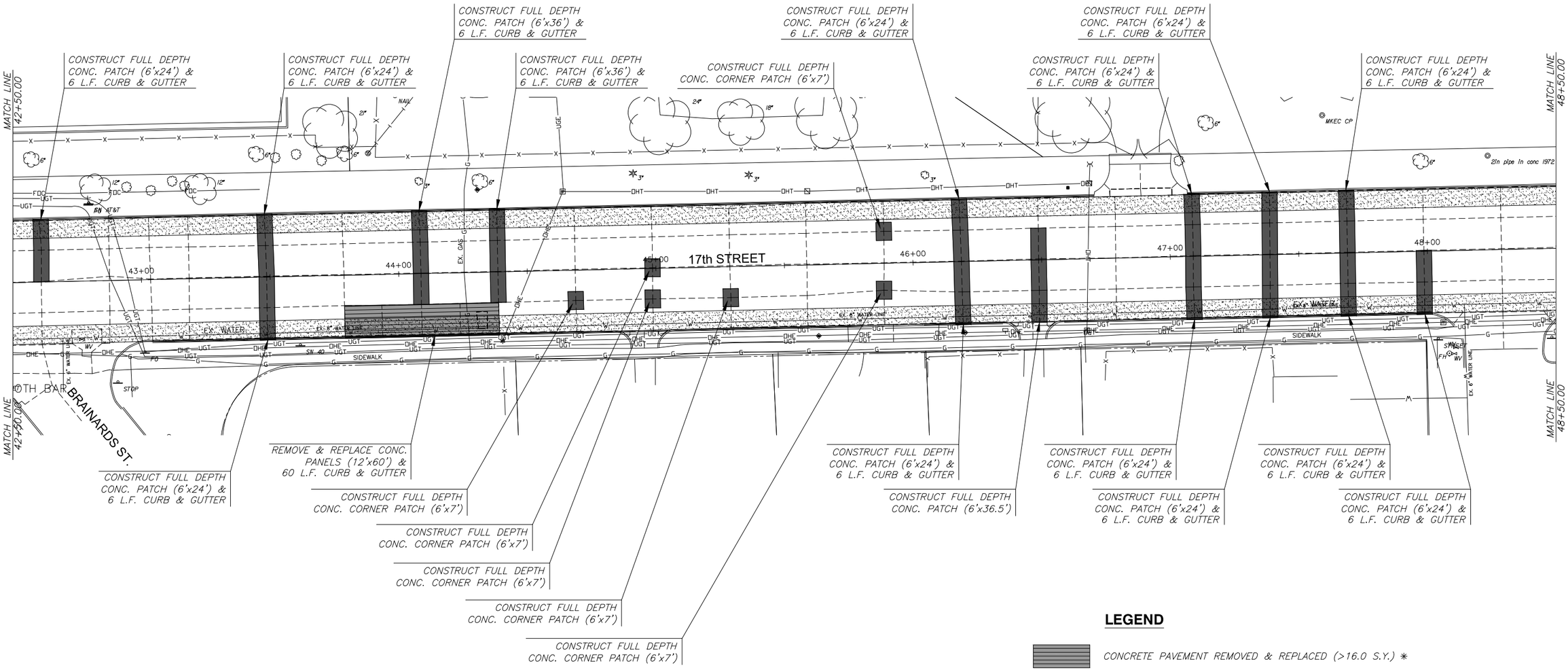
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

8 OF 54



Utility Adjustments				
Station	Offset	Exist. Elev.	Prop. Elev.	Description
42+76.34	22.57' Rt.	1398.44	1398.47	WV Adjusted

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** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'
0 10 20 40

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

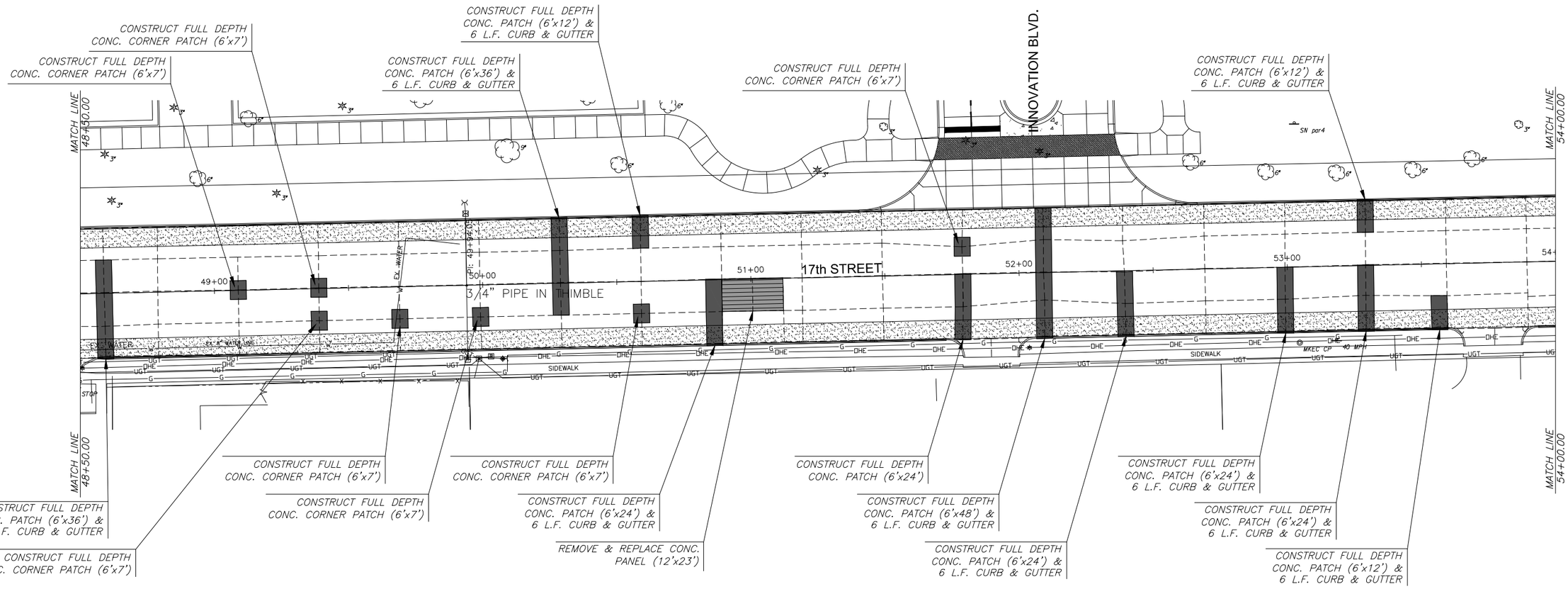
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

9 OF 54



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** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

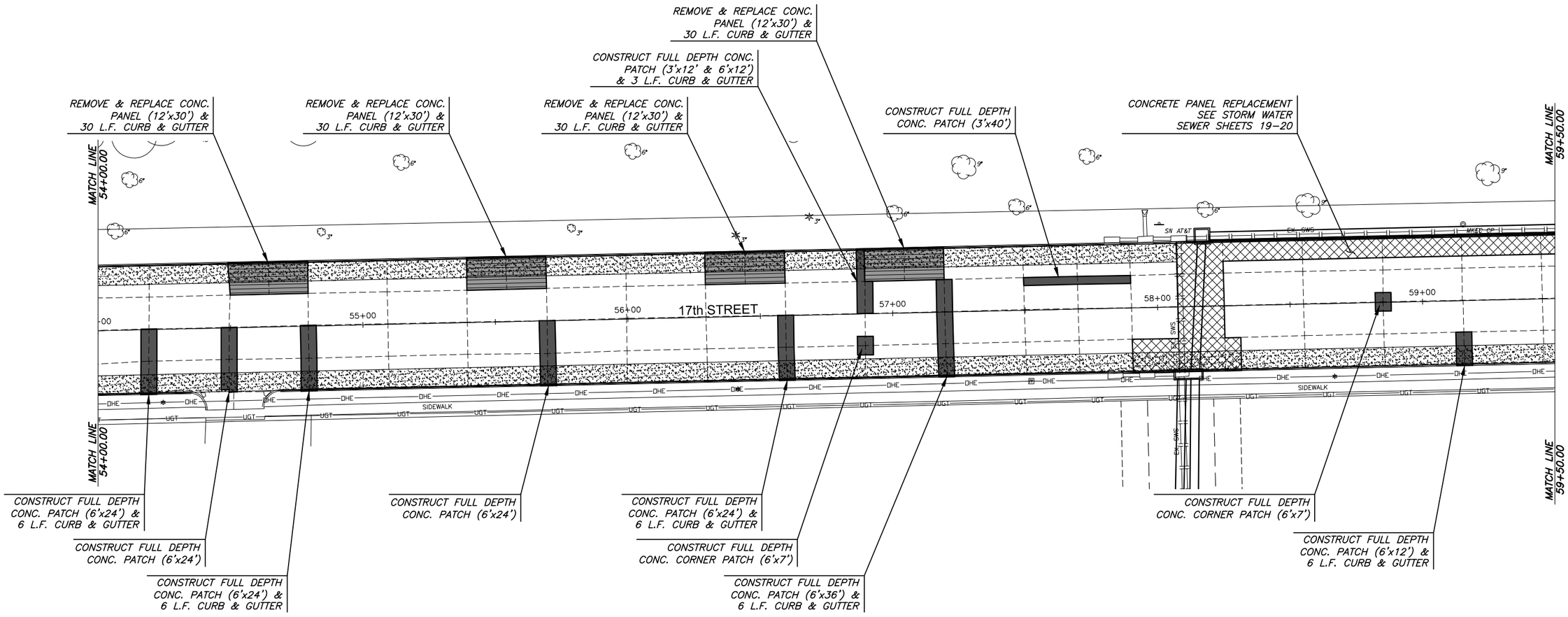
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

10 OF 54



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LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

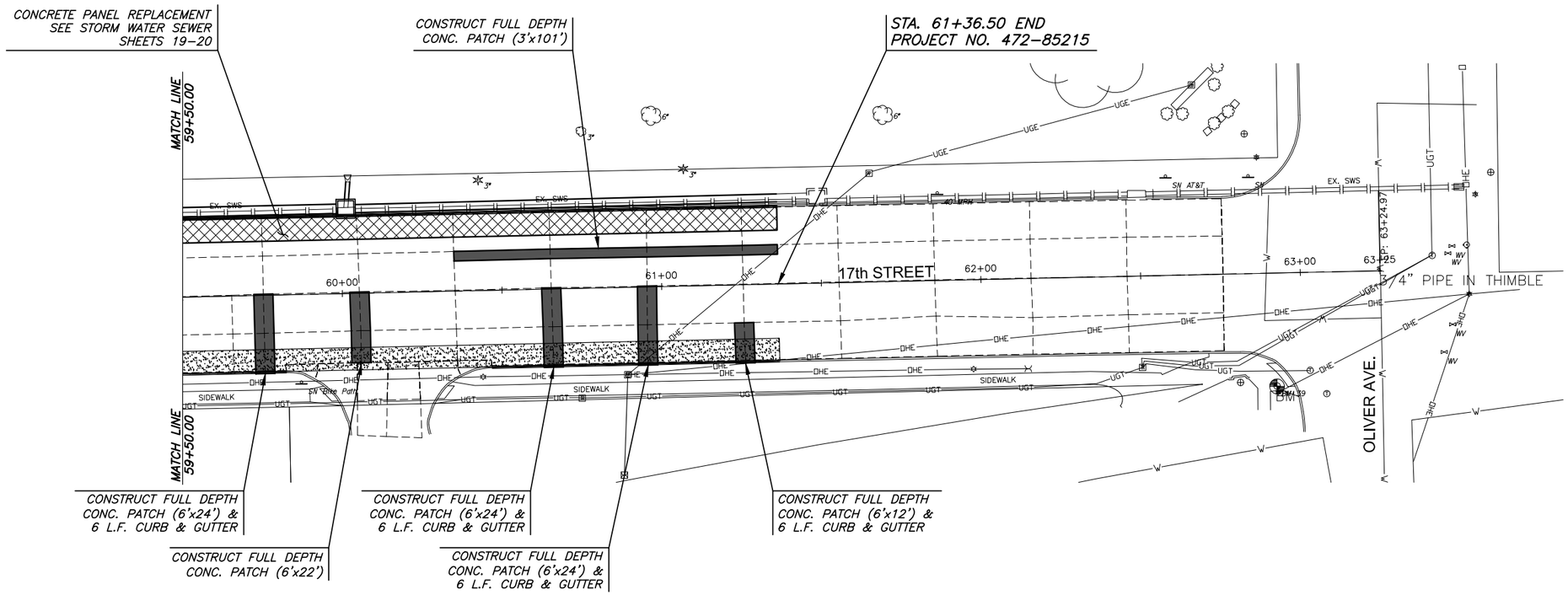
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

11 OF 54



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** CONCRETE CURB, MONO EDGE (SPECIAL) AND CRUSHED ROCK BASE 6", REINFORCED WILL ALSO BE INCLUDED IN SOME OF THESE AREAS.

LEGEND

- CONCRETE PAVEMENT REMOVED & REPLACED (>16.0 S.Y.) *
- CONCRETE PAVEMENT REMOVED & REPLACED (≤16.0 S.Y.) *
- CONCRETE CURB, MONO EDGE, REMOVED & REPLACED
- CONCRETE SIDEWALK REMOVED & REPLACED
- PAVEMENT REMOVED & CONCRETE PAVEMENT 9" (REINF.) **
- CONCRETE PAVEMENT, COLD MILLED
- REMOVE & REPLACE CONCRETE DRIVEWAY

N

SCALE: 1"=20'

0 10 20 40

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVING PLAN

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

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PAVEMENT REPAIR SUMMARY

Plan Sheet No.	Station	Offset	Repair Type	Repair Size	Concrete Pavement Removed & Replaced (> 16.0 S.Y.) (sy)	Concrete Curb, Mono Edge, Removed and Replaced (lf)	Concrete Pavement Removed & Replaced (≤ 16.0 S.Y.) (sy)	Concrete Sidewalk Removed and Replaced (sf)	Concrete Curb, Mono Edge (6" & 1 1/2") (lf)	Sidewalk Thickening (lf)	Notes
4	15+00.0 to 15+02.0	C/L	Conc. Patch	2'x36'			8.0				
	15+17.8 to 15+29.8	Lt.	Conc. Patch	2'x12'			2.7				
	15+29.8 to 15+60.0	Lt.	Full Panel	24'x30'	80.0				30.0		
	15+60.0 to 15+66.0	Lt.	Conc. Patch	2'x6'			1.4				
	15+60.0 to 15+62.0	Lt.	Corner Patch	2'x2'			0.5				
	15+55.2 to 15+61.3	Lt.	Sidewalk	6'x6'				36.0			
	15+89.7 to 15+94.7	Lt.	Curb	5'		5.0					
	16+17.1 to 16+23.1	Rt.	Conc. Patch	6'x17'			11.3				
	16+34.3 to 16+41.3	Lt.	Sidewalk	4'x7'				28.0			
	16+50.1 to 16+56.1	Rt.	Conc. Patch	6'x17'			11.3				
	16+63.6 to 16+78.6	Lt.	Conc. Patch	2'x15'			3.3				
	16+70.7 to 16+75.7	Lt.	Curb	8'		8.0					
	16+78.4 to 17+01.0	Rt.	Full Panel	23'x17'	43.4						
	16+98.7 to 17+01.0	Rt.	Curb	43'					43.0		
	16+91.4 to 17+13.0	Rt.	Valley Gutter		60.0						
	17+37.1 to 17+41.3	Rt.	Curb	15'		15.0					
	18+05.7 to 18+35.7	Lt.	Full Panel	24'x30'	80.0				30.0		
	18+03.4 to 18+09.3	Rt.	Corner Patch	6'x7'			4.7				
	18+05.7 to 18+35.7	Lt.	Sidewalk	4'x30'				120.0		30.0	
	18+33.0 to 18+39.0	Rt.	Conc. Patch	6'x17'			11.3				
	18+78.9 to 18+88.9	Lt.	Curb	10'		10.0					
	18+78,9 to 18+88.9	Lt.	Sidewalk	4'x10'				40.0			
	18+92.9 to 18+98.9	Rt.	Conc. Patch	6'x19'			12.7				
	19+22.7 to 19+28.7	C/L	Corner Patch	6'x7'			4.7				
	19+22.4 to 19+28.4	Lt.	Corner Patch	6'x7'			4.7				
	19+82.6 to 19+88.6	Lt.	Conc. Patch	6'x24'			16.0		6.0		
	19+82.6 to 19+88.6	Lt.	Sidewalk	4'x6'				24.0		6.0	
	Sheet Totals				263.4	38.0	92.6	248.0	109.0	36.0	
5	20+09.6 to 20+15.6	Rt.	Conc. Patch	6'x17'			11.3				
	20+27.3 to 20+48.3	Lt.	Sidewalk & Curb	4'x21'		21.0		84.0		21.0	
	20+73.6 to 20+79.6	Lt.	Conc. Patch	6'x12'			8.0				
	20+73.6 to 20+79.6	Lt.	Sidewalk & Curb	4'x6'				24.0	6.0	6.0	
	20+98.5 to 21+01.5	Lt.	Sidewalk	4'X3'		10.0		40.0		3.0	
	21+07.5 to 21+10.5	Lt.	Sidewalk	4'x3'						3.0	
	21+32.7 to 21+38.7	C/L	Corner Patch	6'x7'			4.7				
	21+32.9 to 21+38.5	Lt.	Conc. Patch	6'x12'			8.0				
	21+32.9 to 21+38.5	Lt.	Sidewalk & Curb	4'x6'				24.0	6.0	6.0	
	21+62.7 to 21+68.7	Rt.	Conc. Patch	6'x19'			12.7				
	22+22.8 to 22+28.7	Lt.	Conc. Patch	6'x12'			8.0				
	22+22.8 to 22+28.7	Lt.	Sidewalk & Curb	4'x6'				24.0	6.0	6.0	
	22+22.8 to 22+28.8	Rt.	Conc. Patch	6'x3.5'			2.3				
	22+49.8 to 22+55.8	Lt.	Conc. Patch	6'x12'			8.0				
	22+49.8 to 22+55.8	Lt.	Sidewalk & Curb	4'x6'				24.0	6.0	6.0	
	22+52.8 to 22+58.8	Rt.	Conc. Patch	6'x8'			5.3				
	22+85.8 to 23+45.5	Lt.	Conc. Panel	12'x59'	78.7						
	22+85.8 to 23+45.5	Lt.	Sidewalk & Curb	4'x59'				236.0	59.0	59.0	
	23+12.8 to 23+18.8	Rt.	Conc. Patch	6'x5'			3.3				
	23+83.2 to 23+99.5	Rt.	Conc. Panel	17'x17'	32.1						
	23+99.5 to 24+17.5	Lt. & Rt.	Conc. Patch	18'x36'	72.0						
	23+99.5 to 24+17.5	Lt.	Sidewalk & Curb	4'x18'				72.0	18.0	18.0	
	24+25.9 to 24+31.9	C/L	Conc. Patch	4'x6'			2.7				
	24+57.3 to 24+72.4	Lt.	Sidewalk	8'x15'				13.3			
	24+60.4 to 24+71.7	Lt.	Curb	11.5'		11.5					
	24+71.7 to 24+77.7	Lt.	Conc. Patch & Curb	6'x24'			16.0		6.0		
	25+14.6 to 25+20.6	Lt.	Conc. Patch & Curb	6'x24'			16.0		6.0		
	25+44.5 to 25+50.5	Lt.	Conc. Patch & Curb	6'x24'			16.0		6.0		
	Sheet Totals				182.8	42.5	122.3	541.3	119.0	128.0	

PAVEMENT REPAIR SUMMARY

Plan Sheet No.	Station	Offset	Repair Type	Repair Size	Concrete Pavement Removed & Replaced (> 16.0 S.Y.) (sy)	Concrete Curb, Mono Edge, Removed and Replaced (lf)	Concrete Pavement Removed & Replaced (≤ 16.0 S.Y.) (sy)	Concrete Sidewalk Removed and Replaced (sf)	Concrete Curb, Mono Edge (6" & 1 1/2") (lf)	Sidewalk Thickening (lf)	Notes
6	26+20.4 to 27+59.5	Lt.	Panel Replacement	12'x107'	142.7						
	26+20.4 to 27+59.5	Lt.	Curb	107'					107.0		
	26+34.6 to 26+40.6	Lt.	Conc. Patch	6'x12'			8.0				
	27+24.6 to 27+30.6	Lt.	Conc. Patch	6'x12'			8.0				
	27+27.7 to 27+59.5	Lt.	Panel Replacement	9.5'x32'	33.8						
	27+87.5 to 27+93.1	Lt.	Corner Patch	6'x7'			4.7				
	28+20.6 to 28+47.7	Lt.	Panel Replacement	9.5'x27'	28.5						
	28+42.8 to 28+47.7	Lt.	Panel Replacement	4'x5'	2.2						
	28+42.8 to 28+47.7	Lt.	Curb	5'					5.0		
	28+44.7 to 28+50.7	C/L	Corner Patch	6'x7'			4.7				
	28+47.7 to 29+55.8	Lt.	Panel Replacement	12'x108'	144.0						
	28+47.7 to 29+55.8	Lt.	Curb	108'					108.0		
	28+59.6 to 28+65.2	C/L	Corner Patch	6'x3.5'			2.3				
	28+74.9 to 28+80.6	C/L	Corner Patch	3'x3.5'			1.2				
	28+77.8 to 29+58.4	Lt.	Panel Replacement	12'x80.5'	107.3						
	29+80.9 to 30+23.2	Lt.	Panel Replacement	12'x42.5'	56.7						
	29+80.9 to 30+23.2	Lt.	Curb	42.5'					42.5		
	30+80.4 to 30+86.4	Lt.	Conc. Patch	6'x12'			8.0				
	30+80.4 to 30+86.4	Lt.	Curb	6'					6.0		
	Sheet Totals				515.2	0.0	36.9	0.0	268.5	0.0	
7	31+87.9 to 31+95,9	Lt.	Conc. Patch	4'x8'			3.6				
	32+75.2 to 32+80.9	C/L	Corner Patch	6'x7'			4.7				
	33+28.2 to 33+38.0	Lt.	Conc. Patch	4'x10'			4.4				
	33+38.2 to 33+45.2	Lt.	Conc. Patch	4'x7'			3.1				
	33+38.2 to 33+45,2	Lt.	Curb	6.5'					6.5		
	34+25.4 to 34+31.1	C/L	Corner Patch	6'x7'			4.7				
	34+60.8 to 35+21.6	Lt.	Panel Replacement	12'x61'	81.3						
	34+60.8 to 35+21.6	Lt.	Curb	61'					61.0		
	34+94.6 to 35+21.9	Lt.	Sidewalk	6'x27.5'				165.0		27.5	
	35+25.2 to 35+30.2	Lt.	Curb	5'		5.0					
	35+58.2 to 35+88.4	Lt.	Panel Replacement	12'x30'	40.0						
	35+58.2 to 35+88.4	Lt.	Curb	30'					30.0		
	36+18.0 to 36+41.9	Lt.	Panel Replacement	12.5'x24'	33.3						
	36+18.0 to 36+41.9	Lt.	Curb	24'					24.0		
	36+56.8 to 36+78.3	Lt.	Panel Replacement	12'x21.5'	28.7						
	36+56.8 to 36+78.3	Lt.	Curb	21.5'					21.5		
	Sheet Totals				183.3	5.0	20.5	165.0	143.0	27.5	
8	37+98.8 to38+04.8	Lt.	Conc. Patch	6'x12'			8.0				
	37+98.8 to38+04,8	Lt.	Curb	6'					6.0		
	38+29.4 to 38+35.0	Lt.	Corner Patch	6'x7'			4.7				
	38+63.6 to 38+68.6	Lt.	Curb	5'		5.0					
	39+88.6 to 40+00.6	Rt.	Conc. Patch	6'x12'			8.0				
	39+88.6 to 40+00.6	Rt.	Curb	12'					12.0		
	40+15.5 to 40+21.1	C/L	Corner Patch	6'x7'			4.7				
	40+46.0 to 40+51.7	C/L	Corner Patch	6'x7'			4.7				
	40+46.0 to 40+51.7	Rt.	Conc. Patch	6'x12'			8.0				
	40+46.0 to 40+51.7	Rt.	Curb	6'					6.0		
	40+75.6 to 40+81.6	Rt.	Conc. Patch	6'x24'			16.0				
	40+75.6 to 40+81.6	Rt.	Curb	6'					6.0		
	41+08.6 to 41+14.6	Rt.	Conc. Patch	6'x24'			16.0				
	41+08.6 to 41+14.6	Rt.	Curb	6'					6.0		
	41+19.4 to 41+25.4	C/L	Conc. Patch	5'x6'			3.3				
	41+38.8 to 41+44.8	Lt.	Conc. Patch	6'x12'			8.0				
	41+38.8 to 41+44.8	Lt.	Curb	6'					6.0		
	Sheet Totals				0.0	5.0	81.4	0.0	42.0	0.0	

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVEMENT REPAIR SCHEDULE

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NTS

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

13 OF 54

PLOTTED: Wednesday, May 03, 2017 @ 03:48PM

PAVEMENT REPAIR SUMMARY

Plan Sheet No.	Station	Offset	Repair Type	Repair Size	Concrete Pavement Removed & Replaced (> 16.0 S.Y.) (sy)	Concrete Curb, Mono Edge, Removed and Replaced (lf)	Concrete Pavement Removed & Replaced (≤ 16.0 S.Y.) (sy)	Concrete Sidewalk Removed and Replaced (sf)	Concrete Curb, Mono Edge (6" & 1 1/2") (lf)	Sidewalk Thickening (lf)	Notes
9	42+58.1 to 42+64.1	Lt.	Conc. Patch	6'x24'			16.0				
	42+58.1 to 42+64.1	Lt.	Curb	6'					6.0		
	43+45.7 to 43+51.7	Lt.	Conc. Patch	6'x24'			8.0				
	43+45.7 to 43+51.7	Lt.	Curb	6'					6.0		
	43+45.7 to 43+51.7	Rt.	Conc. Patch	6'x24'			8.0				
	43+45.7 to 43+51.7	Rt.	Curb	6'					6.0		
	43+78.7 to 44+38.6	Rt.	Panel Replacement	12'x60'	80.0						
	43+78.7 to 44+38.6	Rt.	Curb	60'					60.0		
	44+05.7 to 44+11.7	Lt. & Rt.	Conc. Patch	6'x36'			24.0				
	44+05.7 to 44+11.7	Lt.	Curb	6'					6.0		
	44+35.6 to 44+41.6	Lt. & Rt.	Conc. Patch	6'x36'			24.0				
	44+35.6 to 44+41.6	Lt.	Curb	6'					6.0		
	44+65.8 to 44+71.5	Rt.	Corner Patch	6'x7'			4.7				
	44+95.9 to 45+01.6	C/L	Corner Patch	6'x7'			4.7				
	44+95.7 to 45+01.4	Rt.	Corner Patch	6'x7'			4.7				
	45+26.1 to 45+31.7	Rt.	Corner Patch	6'x7'			4.7				
	45+86.1 to 45+91.8	Lt.	Corner Patch	6'x7'			4.7				
	45+85.6 to 45+91.3	Rt.	Corner Patch	6'x7'			4.7				
	46+15.8 to 46+21.8	Lt.	Conc. Patch	6'x24'			16.0				
	46+15.8 to 46+21.8	Lt.	Curb	6'					6.0		
	46+15.8 to 46+21.8	Rt.	Conc. Patch	6'x24'			16.0				
	46+15.8 to 46+21.8	Rt.	Curb	6'					6.0		
	46+45.8 to 46+51.8	Lt. & Rt.	Conc. Patch	6'x36.5'			24.3				
	47+06.0 to 47+12.0	Lt.	Conc. Patch	6'x24'			16.0				
	47+06.0 to 47+12.0	Lt.	Curb	6'					6.0		
	47+06.0 to 47+12.0	Rt.	Conc. Patch	6'x24'			16.0				
	47+06.0 to 47+12.0	Rt.	Curb	6'					6.0		
	47+35.8 to 47+41.8	Lt.	Conc. Patch	6'x24'			16.0				
	47+35.8 to 47+41.8	Lt.	Curb	6'					6.0		
	47+35.8 to 47+41.8	Rt.	Conc. Patch	6'x24'			16.0				
	47+35.8 to 47+41.8	Rt.	Curb	6'					6.0		
	47+65.9 to 47+71.9	Lt.	Conc. Patch	6'x24'			16.0				
	47+65.9 to 47+71.9	Lt.	Curb	6'					6.0		
	47+65.9 to 47+71.9	Rt.	Conc. Patch	6'x24'			16.0				
	47+65.9 to 47+71.9	Rt.	Curb	6'					6.0		
	47+95.6 to 48+01.6	Rt.	Conc. Patch	6'x24'			16.0				
	47+95.6 to 48+01.6	Rt.	Curb	6'					6.0		
	Sheet Totals				80.0	0.0	276.5	0.0	144.0	0.0	
10	48+56.0 to 48+62.0	Lt. & Rt.	Conc. Patch	6'x36'			24.0				
	48+56.0 to 48+62.0	Rt.	Curb	6'					6.0		
	49+06.1 to 49+11.7	C/L	Corner Patch	6'x7'			4.7				
	49+36.1 to 49+41.7	C/L	Corner Patch	6'x7'			4.7				
	49+36.0 to 49+41.7	Rt.	Corner Patch	6'x7'			4.7				
	49+66.1 to 49+71.7	Rt.	Corner Patch	6'x7'			4.7				
	49+96.2 to 50+01.8	Rt.	Corner Patch	6'x7'			4.7				
	50+26.1 to 50+32.1	Lt. & Rt.	Conc. Patch	6'x36'			24.0				
	50+26.1 to 50+32.1	Lt.	Curb	6'					6.0		
	50+56.2 to 50+62.2	Lt.	Conc. Patch	6'x12			8.0				
	50+56.2 to 50+62.2	Lt.	Curb	6'					6.0		
	50+56.1 to 50+61.8	Rt.	Corner Patch	6'x7'			4.7				
	50+83.2 to 50+89.2	Rt.	Conc. Patch	6'x24'			16.0				
	50+83.2 to 50+89.2	Rt.	Curb	6'					6.0		
	50+89.2 to 51+11.9	Rt.	Panel Replacement	12'x23'	30.7						
	51+76.0 to 51+82.0	Rt.	Conc. Patch	6'x24'			16.0				
	51+76.1 to 51+81.8	Lt.	Corner Patch	6'x7'			4.7				
	52+06.2 to 52+12.2	Lt. & Rt.	Conc. Patch	6'x48'			32.0				
	52+06.2 to 52+12.2	Lt. & Rt.	Curb	6'					6.0		
	52+36.3 to 52+42.3	Rt.	Conc. Patch	6'x24'			16.0				
	52+36.3 to 52+42.3	Rt.	Curb	6'					6.0		
	52+96.2 to 53+02.2	Rt.	Conc. Patch	6'x24'			16.0				
	52+96.2 to 53+02.2	Rt.	Curb	6'					6.0		
	53+26.2 to 53+32.2	Rt.	Conc. Patch	6'x24'			16.0				
	53+26.2 to 53+32.2	Rt.	Curb	6'					6.0		
	53+26.4 to 53+32.4	Lt.	Conc. Patch	6'x12'			8.0				
	53+26.4 to 53+32.4	Lt.	Curb	6'					6.0		
	53+53.3 to 53+59.3	Rt.	Conc. Patch	6'x12'			8.0				
	53+53.3 to 53+59.3	Rt.	Curb	6'					6.0		
	Sheet Totals				30.7	0.0	216.9	0.0	60.0	0.0	

PAVEMENT REPAIR SUMMARY

Plan Sheet No.	Station	Offset	Repair Type	Repair Size	Concrete Pavement Removed & Replaced (> 16.0 S.Y.) (sy)	Concrete Curb, Mono Edge, Removed and Replaced (lf)	Concrete Pavement Removed & Replaced (≤ 16.0 S.Y.) (sy)	Concrete Sidewalk Removed and Replaced (sf)	Concrete Curb, Mono Edge (6" & 1 1/2") (lf)	Sidewalk Thickening (lf)	Notes
11	54+16.2 to 54+22.2	Rt.	Conc. Patch	6'x24'			16.0				
	54+16.2 to 54+22.2	Rt.	Curb	6'					6.0		
	54+46.5 to 54+52.5	Rt.	Conc. Patch	6'x24'			16.0				
	54+50.1 to 54+79.6	Lt.	Panel Replacement	12'x30'	40.0						
	54+50.1 to 54+79.6	Lt.	Curb	30'					30.0		
	54+76.4 to 54+82.4	Rt.	Conc. Patch	6'x24'			16.0				
	54+76.4 to 54+82.4	Rt.	Curb	6'					6.0		
	55+39.5 to 55+69.6	Lt.	Panel Replacement	12'x30'	40.0						
	55+39.5 to 55+69.6	Lt.	Curb	30'					30.0		
	55+66.5 to 55+72.5	Rt.	Conc. Patch	6'x24'			16.0				
	56+29.5 to 56+59.7	Lt.	Panel Replacement	12'x30'	40.0						
	56+29.5 to 56+59.7	Lt.	Curb	30'					30.0		
	56+56.6 to 56+62.6	Rt.	Conc. Patch	6'x24'			16.0				
	56+56.6 to 56+62.6	Rt.	Curb	6'					6.0		
	56+86.6 to 56+92.6	Lt.	Conc. Patch	6'x12'			8.0				
	56+86.6 to 56+89.7	Lt.	Conc. Patch	3'x12'			4.0				
	56+86.6 to 56+89.7	Lt.	Curb	3'					3.0		
	56+86.6 to 56+92.3	Rt.	Corner Patch	6'x7'			4.7				
	56+89.7 to 57+19.7	Lt.	Panel Replacement	12'x30'	40.0						
	56+89.7 to 57+19.7	Lt.	Curb	30'					30.0		
	57+16.6 to 57+22.6	Lt. & Rt.	Conc. Patch	6'x36'			24.0				
	57+16.6 to 57+22.6	Rt.	Curb	6'					6.0		
	57+49.6 to 57+90.0	Lt.	Conc. Patch	3'x40'			13.3				
	58+82.3 to 58+88.0	C/L	Corner Patch	6'x7'			4.7				
	59+12.3 to 59+18.3	Rt.	Conc. Patch	6'x12'			8.0				
	59+12.3 to 59+18.3	Rt.	Curb	6'					6.0		
	Sheet Totals				160.0	0.0	146.7	0.0	153.0	0.0	
12	59+72.2 to 59+78.2	Rt.	Conc. Patch	6'x24'			16.0				
	59+72.2 to 59+78.2	Rt.	Curb	6'					6.0		
	60+02.3 to 60+08.3	Rt.	Conc. Patch	6'x22'			14.7				
	60+35.2 to 61+36.5	Lt.	Conc. Patch	3'x101'			33.7				
	60+62.4 to 60+68.4	Rt.	Conc. Patch	6'x24'			16.0				
	60+62.4 to 60+68.4	Rt.	Curb	6'					6.0		
	60+92.4 to 60+98.4	Rt.	Conc. Patch	6'x24'			16.0				
	60+92.4 to 60+98.4	Rt.	Curb	6'					6.0		
	61+22.6 to 61+28.6	Rt.	Conc. Patch	6'x12'			8.0				
	61+22.6 to 61+28.6	Rt.	Curb	6'					6.0		
	Sheet Totals				0.0	0.0	104.4	0.0	24.0	0.0	
	Project Total				1,415.4	90.5	1,098.2	954.3	1,062.5	191.5	

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17TH STREET BETWEEN HILLSIDE & OLIVER

STREET REHABILITATION FOR

WICHITA, KS

PAVEMENT REPAIR SCHEDULE

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NTS

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

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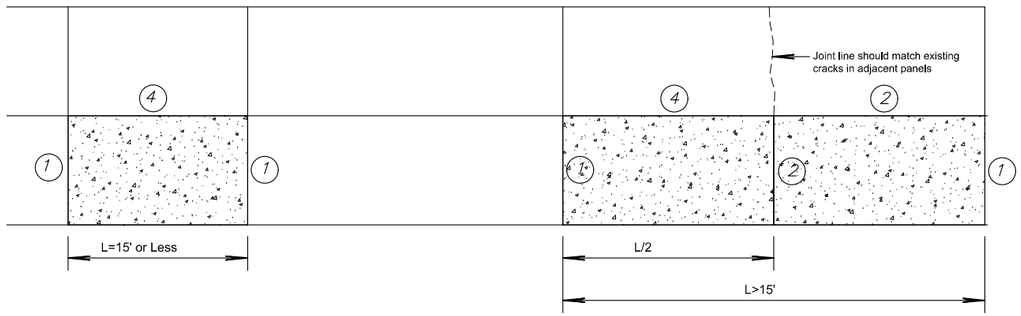
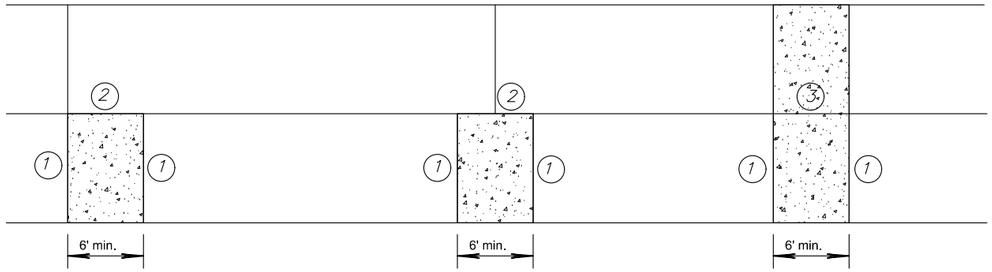
J:\PROJECTS\2015\15010\4017_COW_17TH STREET REHAB_150177 CAD\SHTS\05 CIVIL\PAV\15177ED02.DWG



PANEL REPLACEMENT PLAN

PANEL REPLACEMENT PAID FOR AS "CONCRETE PAVEMENT REMOVED & REPLACED (>16 S.Y.)".

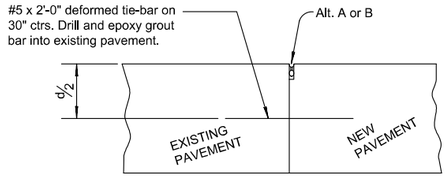
See Joint Repair Plan note.



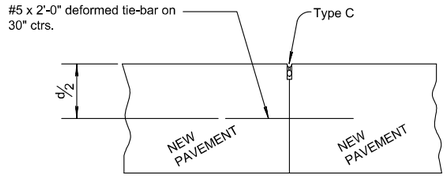
JOINT REPAIR PLAN

JOINT REPAIR PATCHES PAID FOR AS "CONCRETE PAVEMENT REMOVED & REPLACED (≤16 S.Y.)".

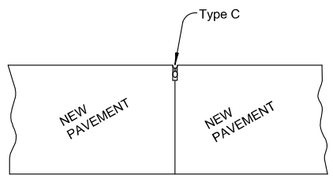
Note:
When practical it should be a general practice to construct slabs the same length as those being repaired. A patch must be at least 6' in length. It can be as long as 15'. If a continuous repair exceeds 15' then the repair should be dividied into as many slabs as possible with lengths less than 15'.



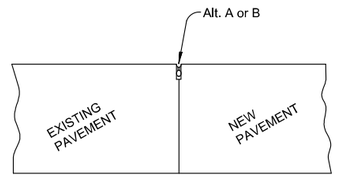
TYPE (1) – JOINT



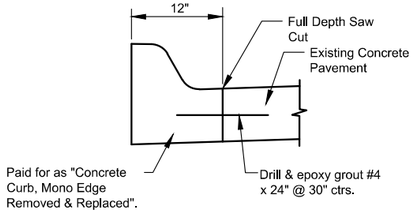
TYPE (2) – JOINT



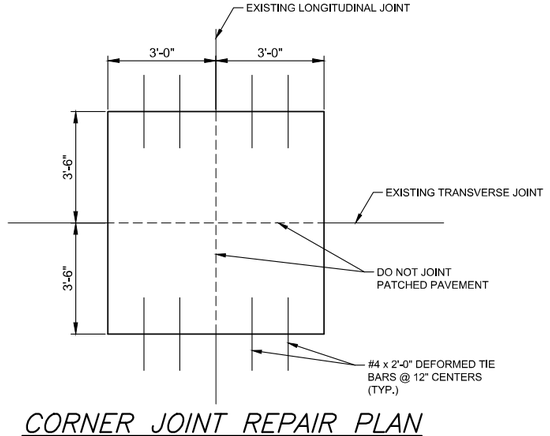
TYPE (3) – JOINT



TYPE (4) – JOINT

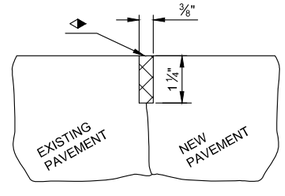


MONOLITHIC CURB REPLACEMENT

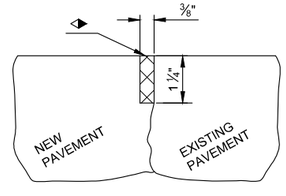


CORNER JOINT REPAIR PLAN

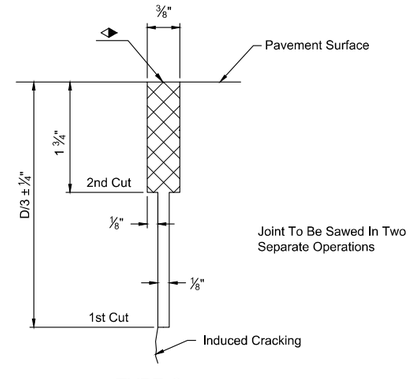
CORNER JOINT PATCHES PAID FOR AS "CONCRETE PAVEMENT REMOVED & REPLACED (≤16 S.Y.)".



ALT. A - SAWED



ALT. B - FORMED



TYPE C

MAKE AN INITIAL ⅛" SAW CUT (D/3 ± ¼" DEPTH); THE SECOND ⅜" SAW CUT IS A SEPARATE OPERATION DONE AFTER CONCRETE HAS GAINED SUFFICIENT STRENGTH TO AVOID SPALLING AS DETERMINED BY THE ENGINEER.

DETAIL FOR CONCRETE JOINTS

◆▶ FILL ALL SAWED JOINTS ON THE PROJECT FLUSH WITH THE PAVEMENT SURFACE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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17TH STREET BETWEEN HILLSIDE & OLIVER

STREET REHABILITATION FOR

WICHITA, KS

CONCRETE PAVEMENT PATCHING DETAILS

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE

SHEET NO.

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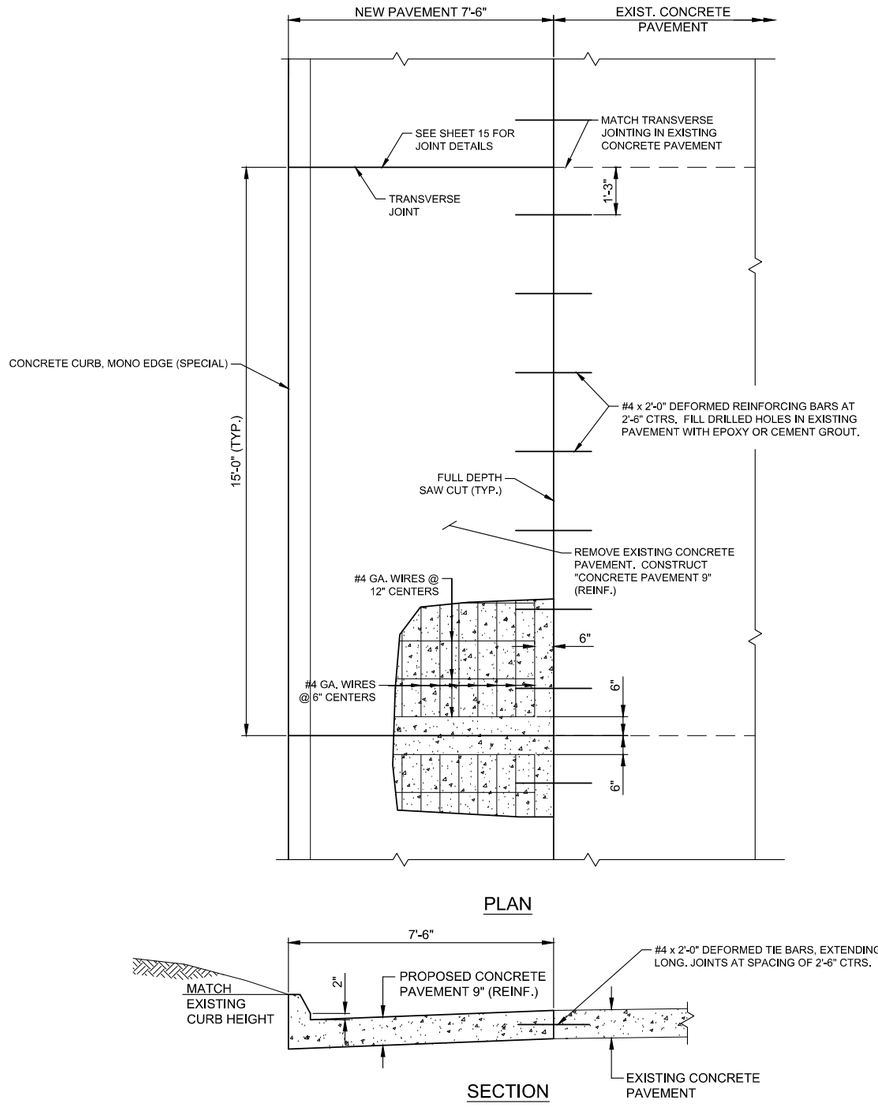
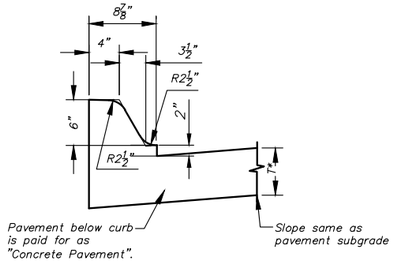


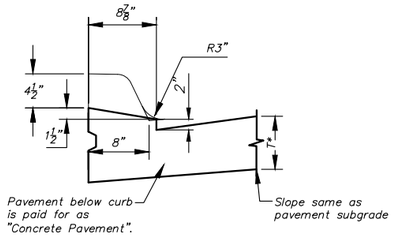
PLAN

SECTION

CONCRETE PAVEMENT 9" (REINF.)

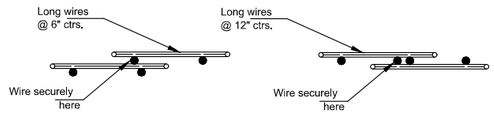


6" CURB



1 ½" CURB (AT DRIVEWAYS)

CONCRETE CURB, MONO EDGE (SPECIAL)



DETAIL OF LAP FOR WIRE MESH

NOTE: The lap shall extend beyond the first transverse wire of each sheet.
The sheets shall be wired securely at the edges and at intervals not to exceed 2'-6" for the full width of the sheet. Approx. weight of wire mesh = 44 lbs. per 100 sq. ft.
Other methods for fastening the sheets of wire mesh at the laps may be used with the approval of the Engineer.

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

CONCRETE PAVING DETAILS

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE

SHEET NO.

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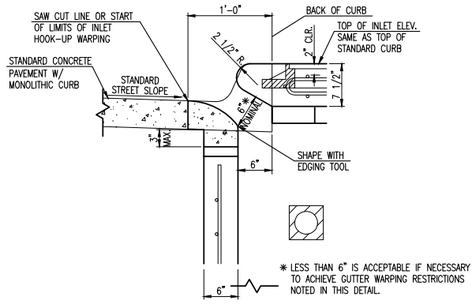
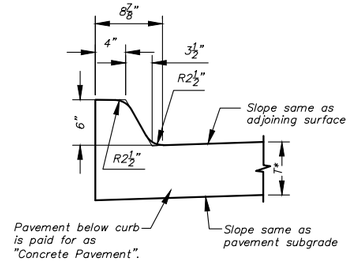
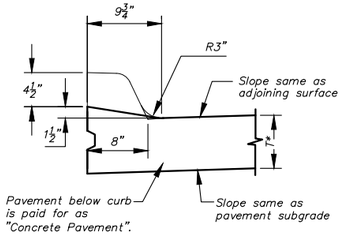


INLET HOOK-UP DETAIL

SCALE: NO SCALE



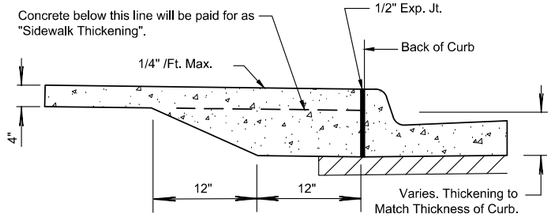
Concrete Curb, Mono Edge (6")



Concrete Curb, Mono Edge (1 1/2")

MONOLITHIC EDGE CURB

SCALE: NO SCALE

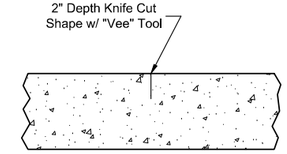


SIDEWALK THICKENING

SCALE: NO SCALE

Note: All Sidewalk at Back of Curb Shall Conform to this Detail

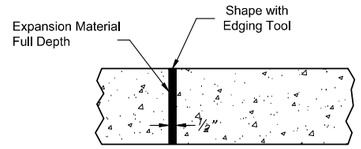
NOTE:
Sidewalk shall always have a cross-slope of 1/4 inch per foot or less, even through driveways unless directed otherwise by the Engineer.



No Sawn Joints Will Be Allowed

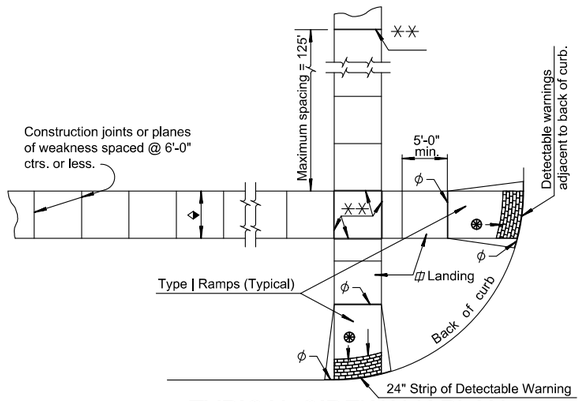
CONTRACTION JOINT (C.J.)

SCALE: NO SCALE



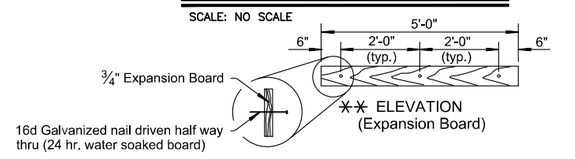
EXPANSION JOINT (E.J.)

SCALE: NO SCALE



TYPICAL SIDEWALK PLAN

SCALE: NO SCALE



For other than 5'-0" (width) use 6" from the end and balanced (3'-0" max.) nail spacing.

ϕ Expansion Joint (¾" board) placed at either back of curb line or at sidewalk back of curb line or at sidewalk line.

⚹⚹ Expansion joint (¾" board) located as shown.

Variable width (5'-0" min.). Entrance walk to be same width as approach walk. Use sidewalk width of 4'-0" where existing conditions prohibit use of 5'-0".

New construction ramp slopes are 12: 1 or flatter. Desirable ramp slopes for existing sites are 12:1 or flatter. Where space limitations prohibit construction of a 12:1 slope on existing sites, use the following slopes:
8:1 or flatter for a maximum rise of 3 inches
10:1 or flatter for a maximum rise of 6 inches

Use a landing slope of 48: 1 or flatter. Landings are the same width as ramp and a minimum 5'-0" in length.

Use a counter slope of 20:1 or flatter at the base of sidewalk ramps. See curb and gutter detail sheet.

Detectable warning installation is typical and required on Sidewalk Ramps Type 1, Type 2, Type 3, median ramp crossings and other locations as shown in the plans. See ramp detail sheeet.

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

SIDEWALK & CURB DETAILS

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

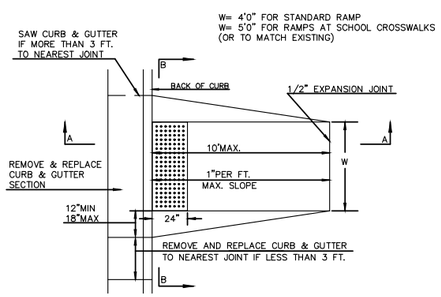
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

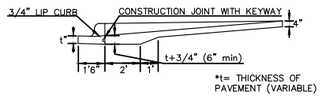
NO.	REVISION	DATE

SHEET NO.

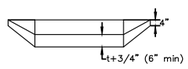
17 OF 54

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH COMBINED CURB & GUTTER (TYPE A)



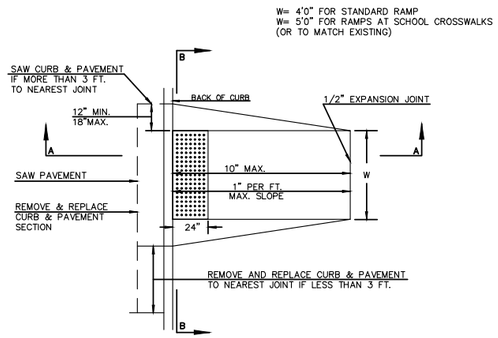


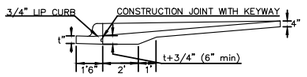
SECTION A–A



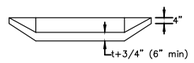
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR CONCRETE STREETS WITH MONOLITHIC CURB (TYPE A)



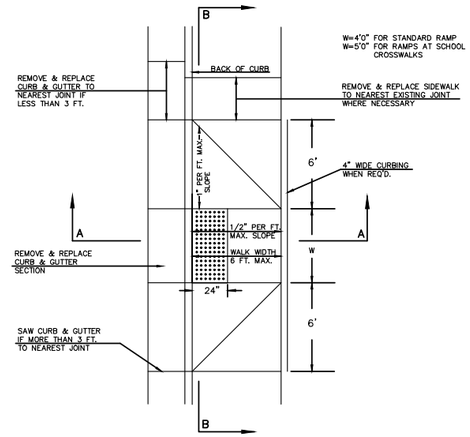


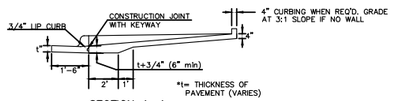
SECTION A–A



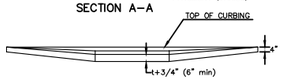
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH COMBINED CURB & GUTTER AND FULL WALK (TYPE B)



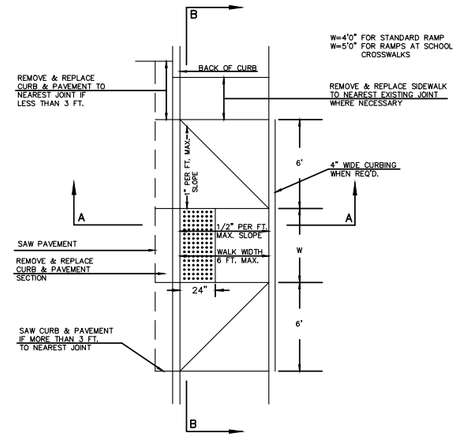


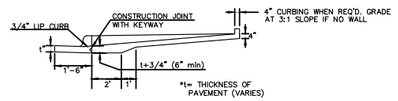
SECTION A–A



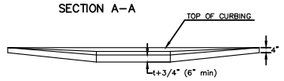
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH MONOLITHIC CURB AND FULL WALK (TYPE B)



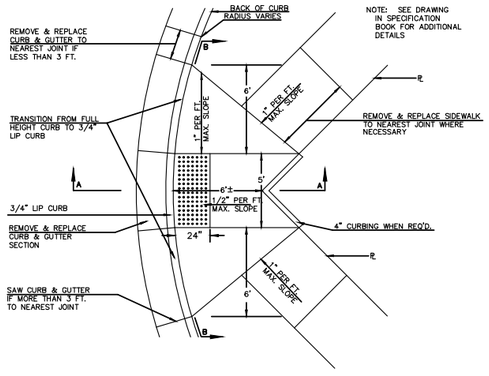


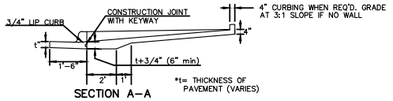
SECTION A–A



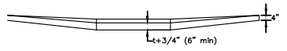
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREET WITH COMBINED CURB AND GUTTER ON RADIUS WITH 6'± FROM BACK OF CURB TO PROPERTY CORNER (TYPE C)



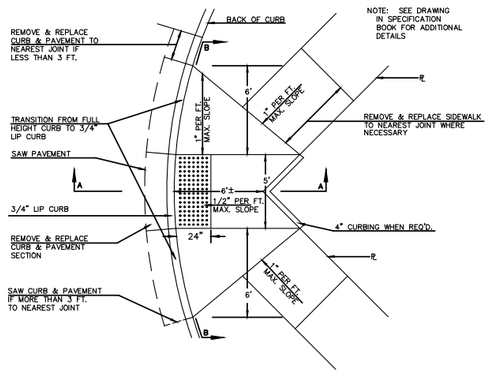


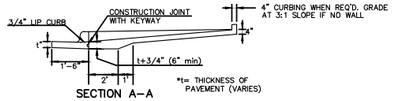
SECTION A–A



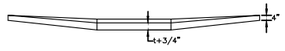
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREET WITH MONOLITHIC CURB ON RADIUS WITH 6'± FROM BACK OF CURB TO PROPERTY CORNER (TYPE C)



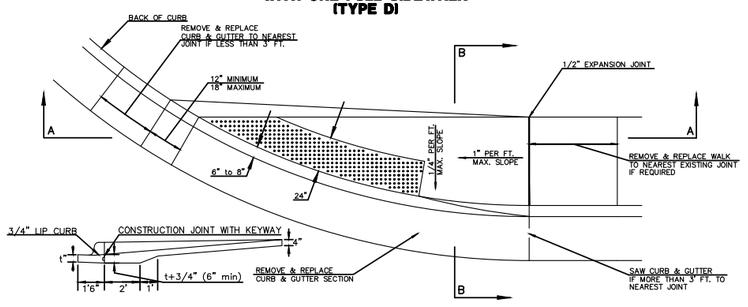


SECTION A–A



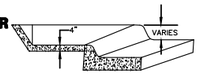
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH COMBINED CURB & GUTTER WITH ONE FULL SIDEWALK (TYPE D)

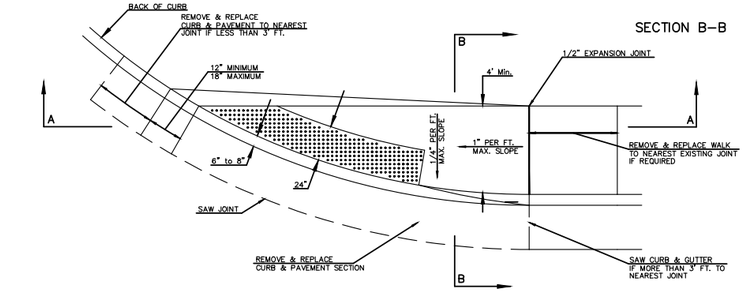


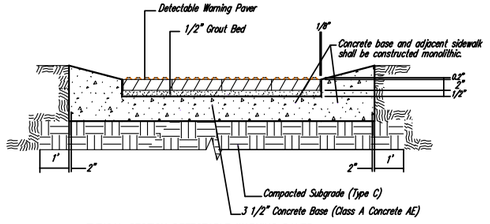
SECTION A–A

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH MONOLITHIC CURB WITH ONE FULL SIDEWALK (TYPE D)



SECTION B–B

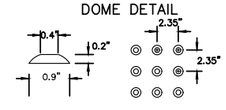




TYPICAL SECTION DETECTABLE WARNING PAVER
SECTION A–A

NOTE: HANOVER DETECTABLE WARNING PAVERS (OR AN APPROVED ALTERNATE) SHALL BE USED IN ALL WHEELCHAIR RAMPS. THE 11 3/4" 'RED 15' PAVER SHALL BE USED IN ALL APPLICATIONS.
HANOVER ARCHITECTURAL PRODUCTS
240 BENDER ROAD
HANOVER, PA 17331
1-717-637-0500
www.hanoverpavers.com

DOME DETAIL



CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

WHEELCHAIR RAMP DETAILS WITH DETECTABLE WARNING

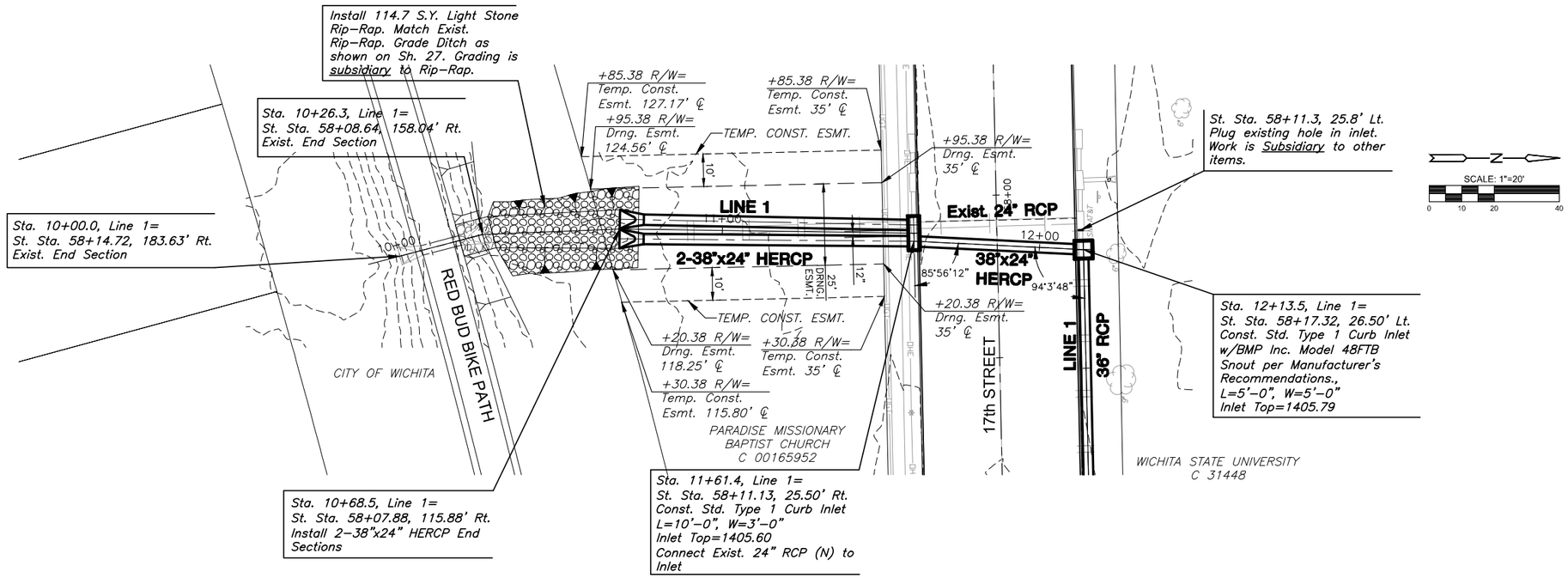
CITY ENGINEER
GARY JANZEN, P.E.

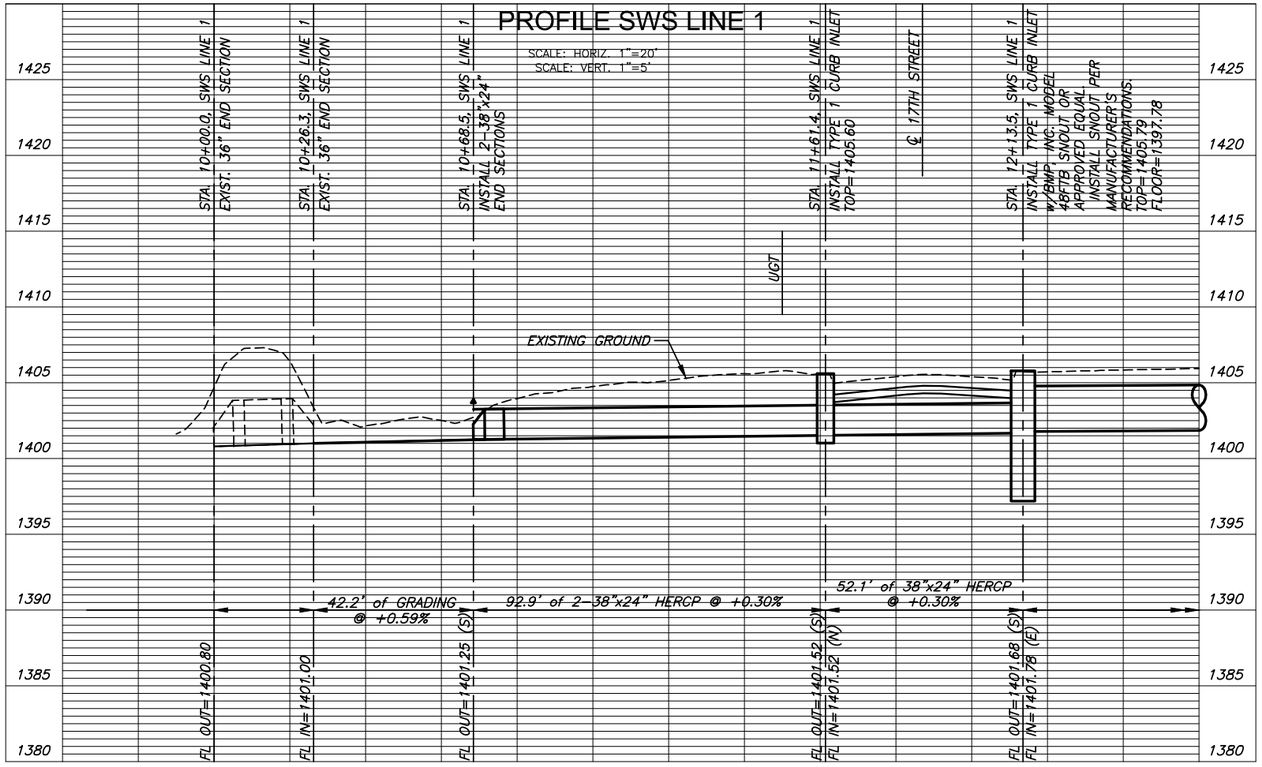
PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	08/2013

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
18 OF 54

PV-110





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STORM WATER SEWER PLAN FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

STORM SEWER PLAN & PROFILE

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	WNJ	BLB

NO.	REVISION	DATE

SHEET NO.

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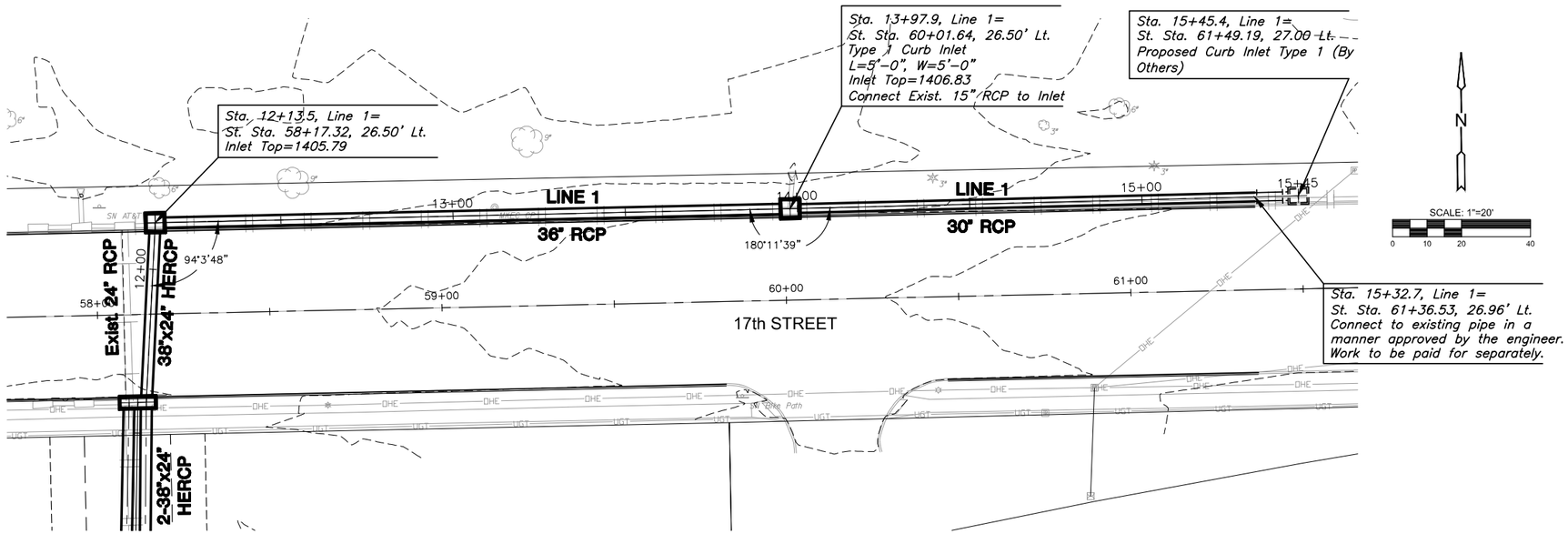
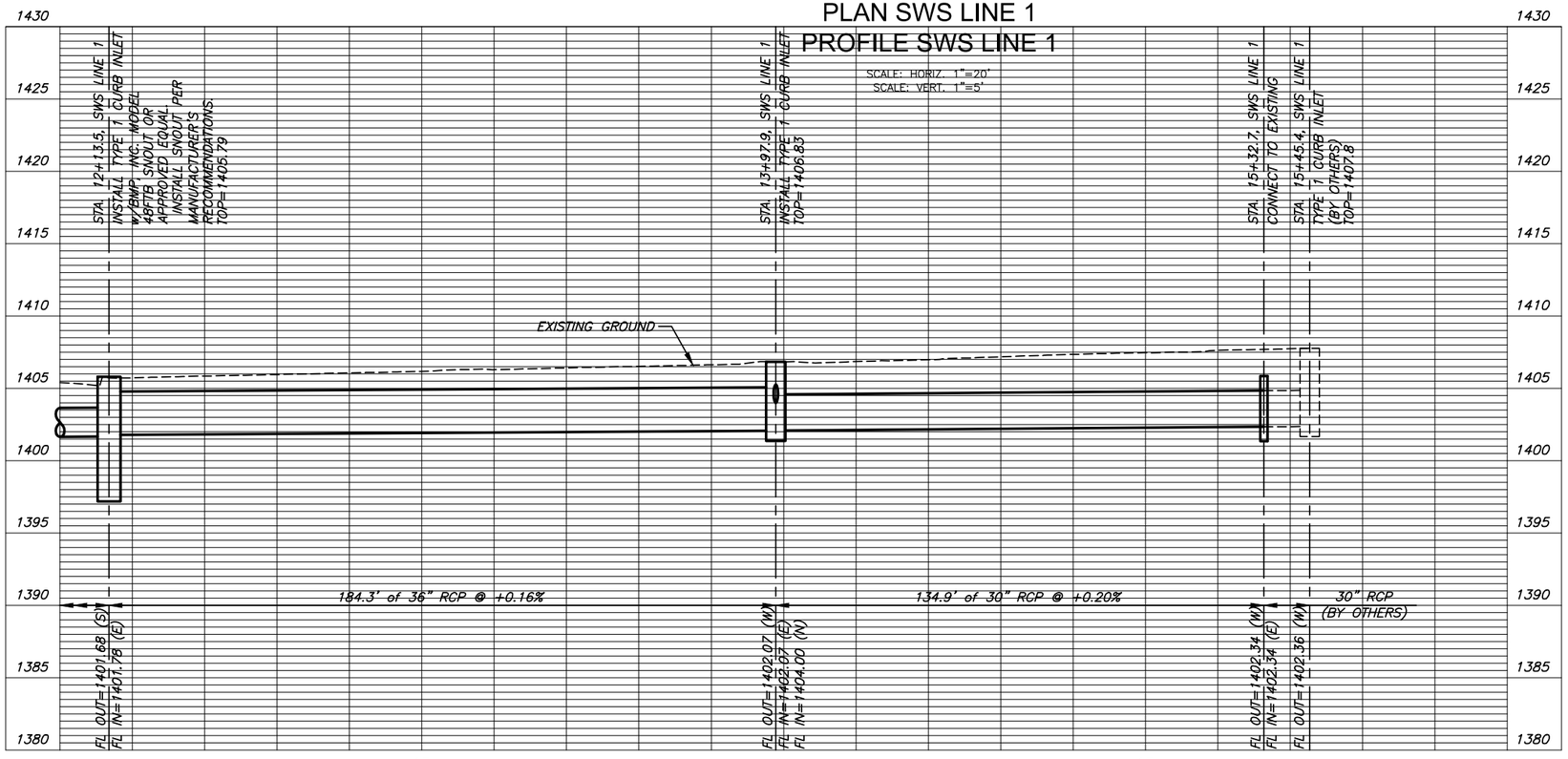




MKEC
Wichita, KS • 316-684-6600

STORM WATER SEWER PLAN FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

STORM SEWER PLAN & PROFILE

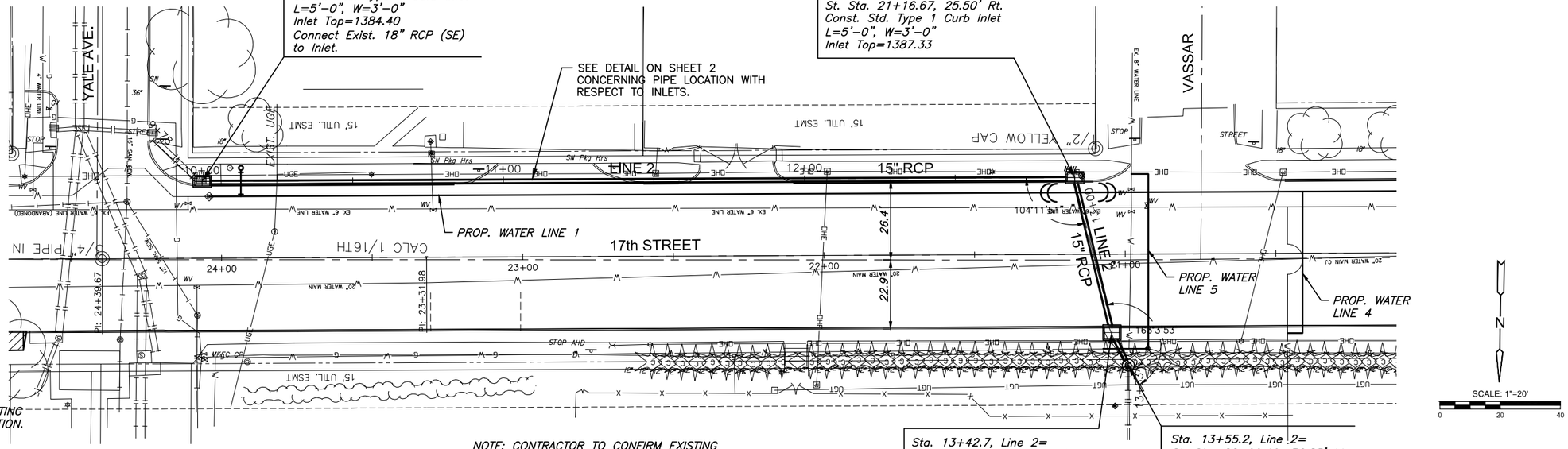
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	WNJ	BLB

NO.	REVISION	DATE

SHEET NO.

20 OF 54



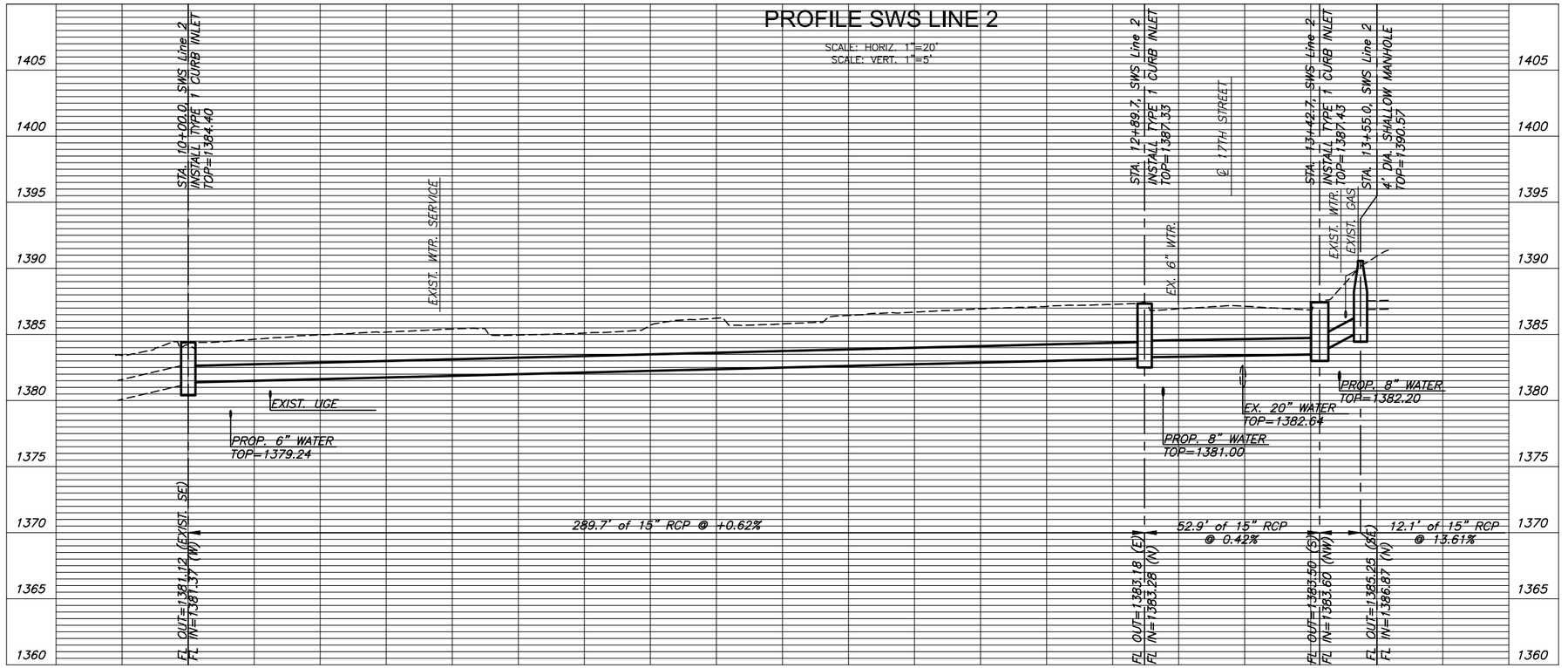
NOTE:
CONTRACTOR TO VERIFY THE DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

NOTE: CONTRACTOR TO CONFIRM EXISTING CONDITIONS PRIOR TO INSTALLATION OR MANUFACTURE OF STORM SEWER APPURTENANCES.

SCALE: 1"=20'
0 20 40

PLAN SWS LINE 2
PROFILE SWS LINE 2

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



MKEC
Wichita, KS • 316-684-8600

STORM WATER SEWER PLAN FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

STORM SEWER PLAN & PROFILE

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE

SHEET NO.

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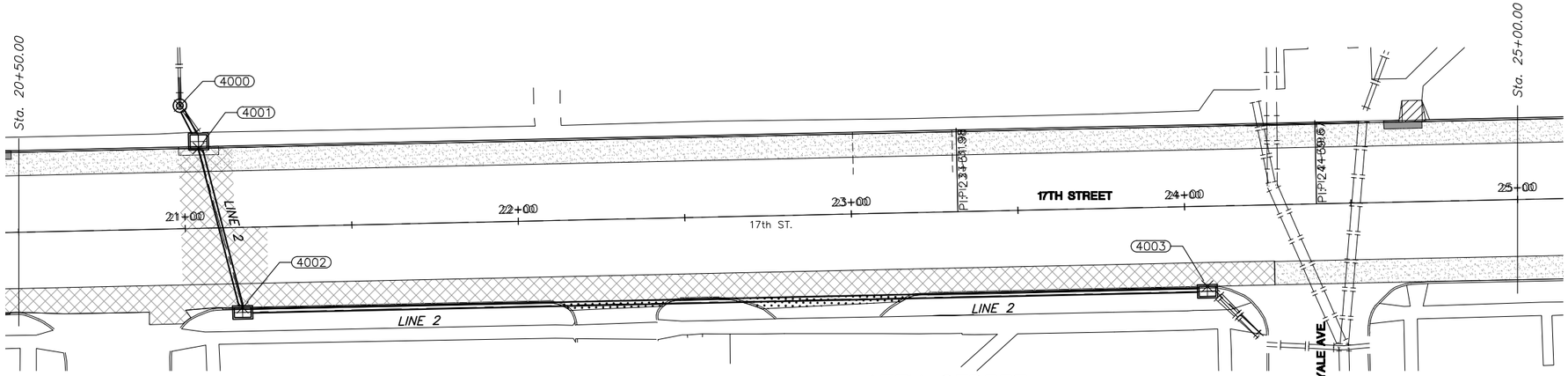
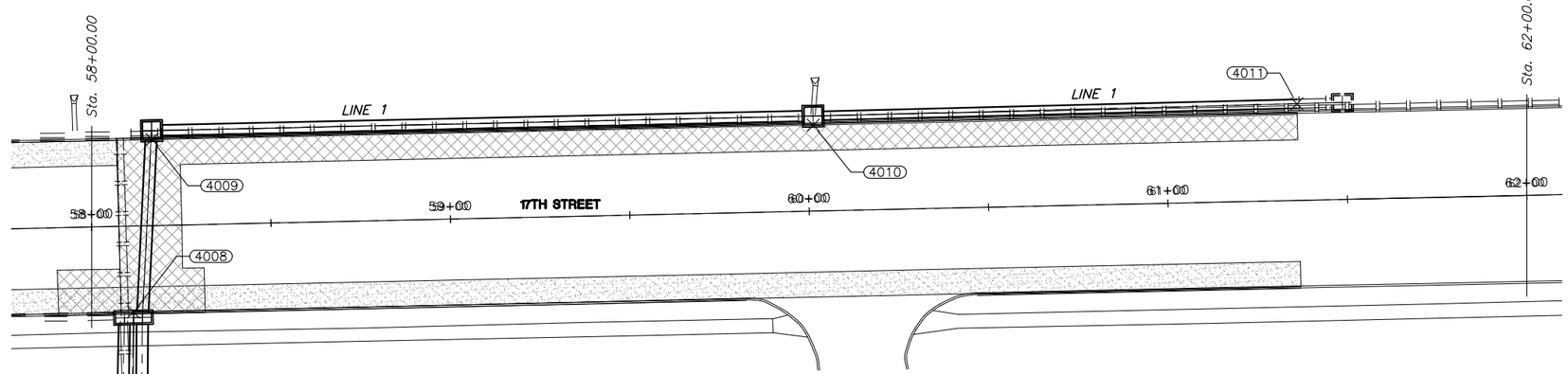
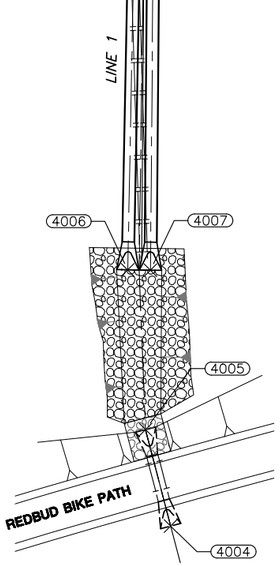
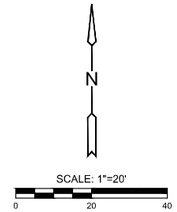


17TH STREET



17TH STREET





STORM WATER SEWER POINTS						
Point #	Station	Offset	Northing	Easting	Desc.	SWS Line
4000	20+99.19	36.85' LT.	1696741.84	1661004.22	SHALLOW SWS MH	2
4001	21+04.54	24.00' LT.	1696729.11	1661009.84	TYPE 1 INLET	2
4002	21+16.67	24.00' RT.	1696681.39	1661023.03	TYPE 1 INLET	2
4003	24+06.34	24.03' RT.	1696687.71	1661312.62	TYPE 1 INLET	2
4004	58+14.72	183.63' RT.	1696602.91	1664723.70	EXIST. END SECTION	1
4005	58+08.64	158.04' RT.	1696628.35	1664717.06	EXIST. END SECTION	1
4006	58+04.88	115.77' RT.	1696670.53	1664712.37	PROP. END SECTION	1
4007	58+10.88	115.99' RT.	1696670.44	1664718.37	PROP. END SECTION	1
4008	58+11.13	24.00' RT.	1696762.42	1664716.59	TYPE 1 INLET	1
4009	58+17.32	24.00' LT.	1696810.54	1664721.73	TYPE 1 INLET	1
4010	60+01.64	24.00' LT.	1696814.60	1664906.01	TYPE 1 INLET	1
4011	61+36.53	26.96' LT.	1696820.52	1665040.79	CONNECT TO EXIST.	1

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STORM WATER SEWER PLAN FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

SWS BUBBLE MAP

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=20'

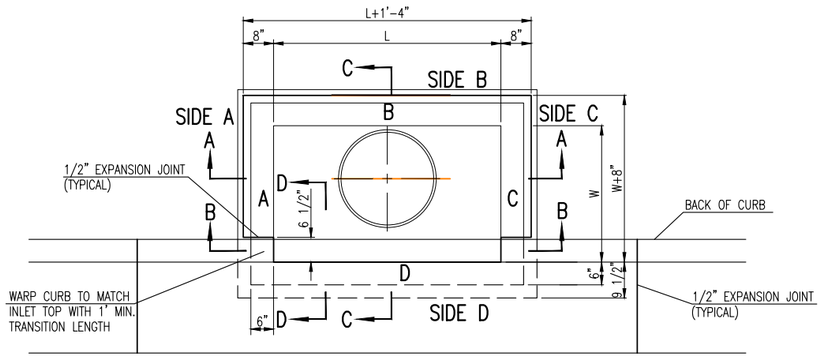
DESIGNED	DRAWN	CHECKED
JRA	RAM	JRA

NO.	REVISION	DATE

SHEET NO.

22 OF 54

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0597-01	2016	23	54



TOP VIEW

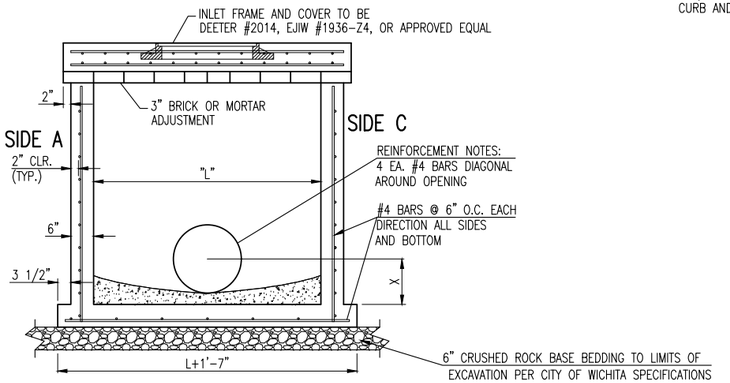
BAR SCHEDULE		
INLET OPENING	B1 BARS	SPACING
5'-0"	#4	4"
10'-0"	#6	3.5"

PRECAST CURB INLET WIDTHS				
W	PRE-CAST TOP SIZE			PIPE DIA.**
	WIDTH	LENGTH	TOP	
3'-0"	W+8"	L+1'-4"	7 1/2"	21" & SMALLER
4'-0"	W+8"	L+1'-4"	7 1/2"	24" & 30"
5'-0"	W+8"	L+1'-4"	7 1/2"	36" & 42"
6'-0"	W+8"	L+1'-4"	7 1/2"	48" & 54"
7'-0"	W+8"	L+1'-4"	7 1/2"	60" & 66"

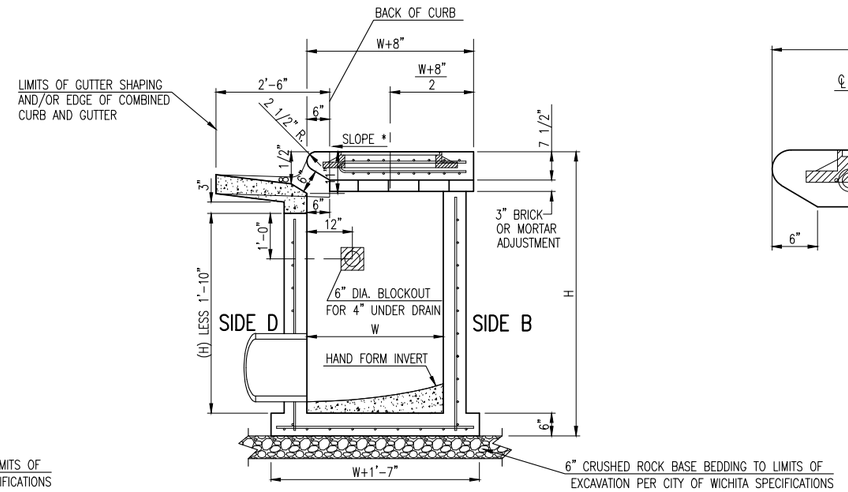
** FOR PIPES PERPENDICULAR TO INLET WALL

GENERAL NOTES

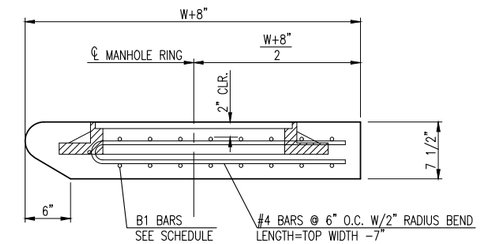
1. CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=5'-0" AND H=7'-0" OR LESS.
3. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
4. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
5. INLET FRAME AND COVER TO BE DEETER #2014, EJIW #1936 Z4, OR APPROVED EQUAL, SEE SW-303.
6. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



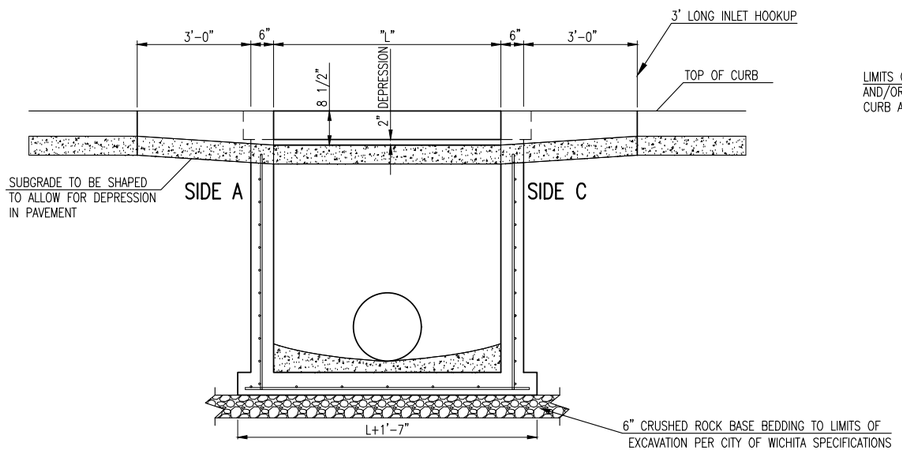
SECTION "A-A"



SECTION "C-C"



NOTES:
* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



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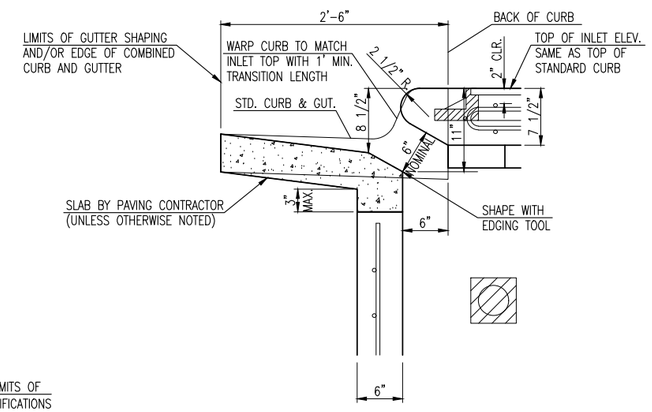


SECTION "D-D"

REVISED: MARCH 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD TYPE 1
CURB INLET
5'-0" OR 10'-0" OPENING

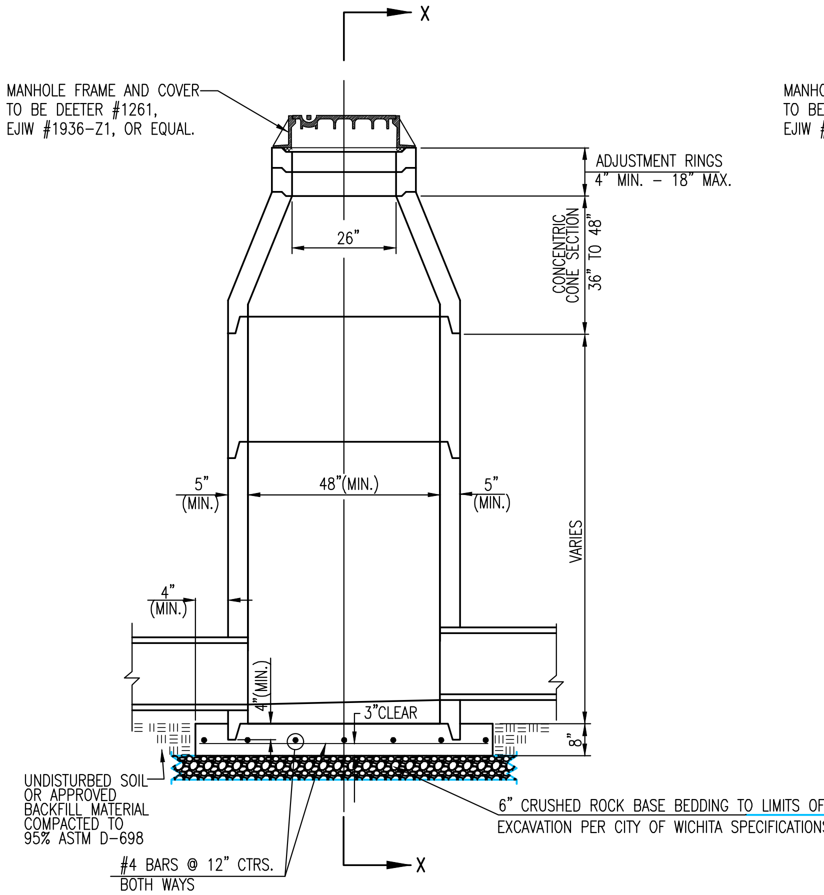
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	03/2015

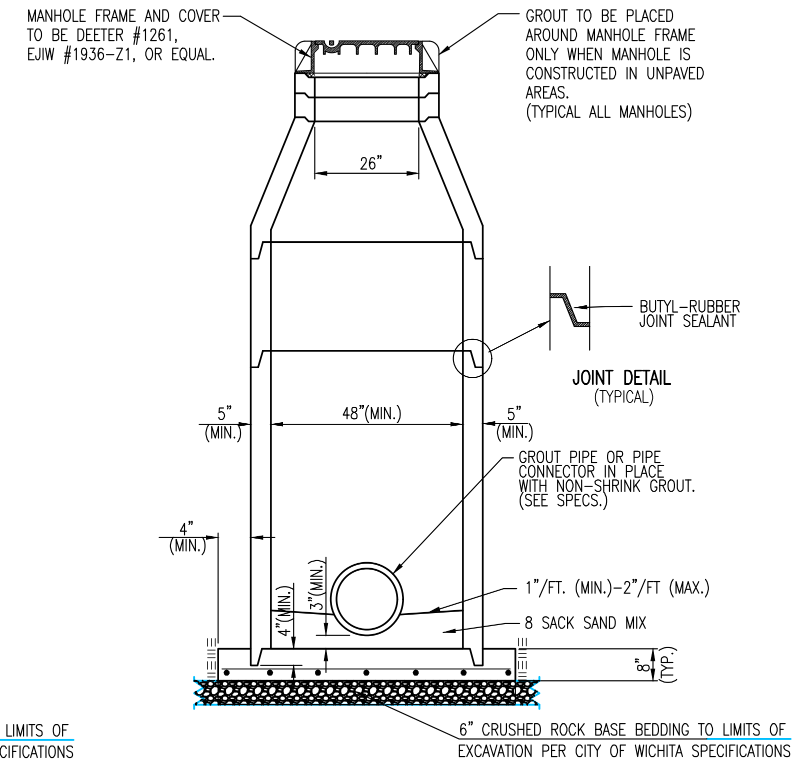
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
23 OF 54

SW-10



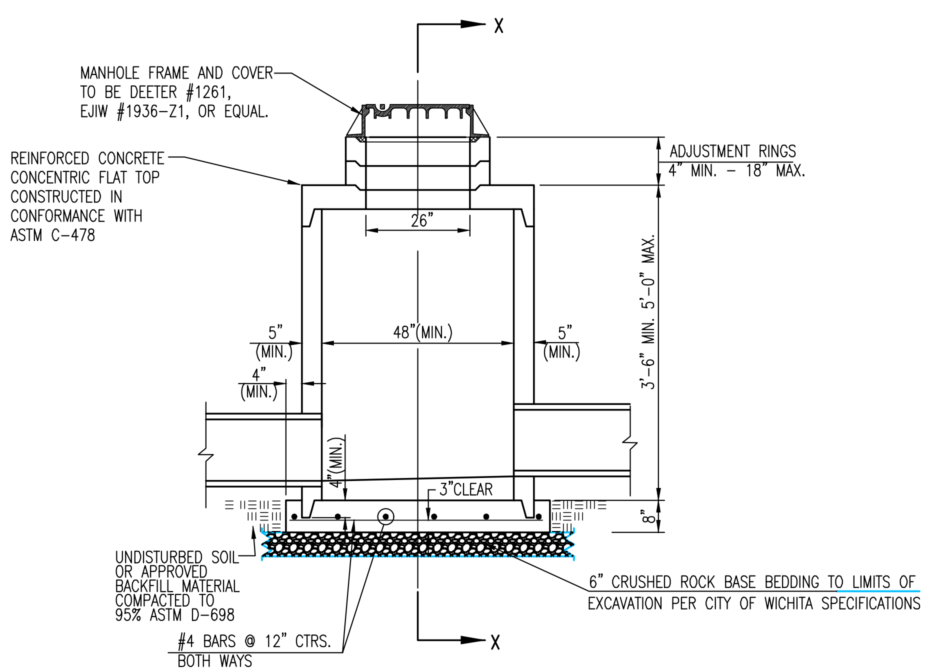
PRECAST
STANDARD MANHOLE
TYPE "A"



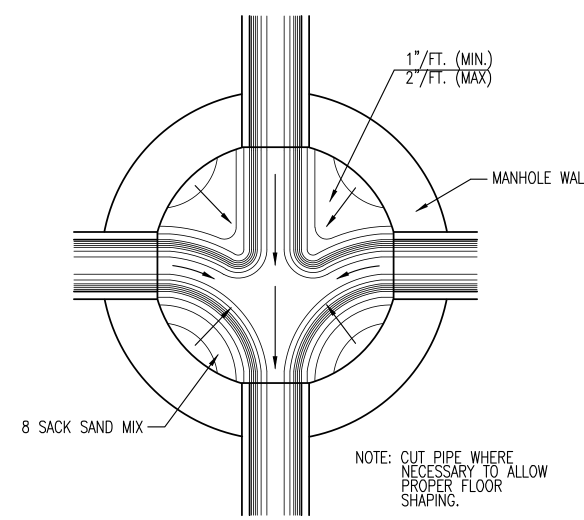
SECTION X-X
(TYPICAL)

GENERAL NOTES

1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
2. STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
3. ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
4. 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.
5. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C-478 AS MODIFIED BY THE SPECIFICATIONS.
6. CONCRETE USED FOR MANHOLE CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASE.
8. MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5 FOOT INSIDE DIAMETER (MIN.)
9. MANHOLES WITH PRECAST BASES MAY BE USED AT THE CONTRACTORS OPTION. THESE MANHOLES SHALL HAVE AN 8" MINIMUM BASE THICKNESS AND SHALL BE PLACED ON AN 8" MIN. CRUSHED ROCK BASE. PIPES SHALL BE ENCASED WITH CRUSHED ROCK TO AT LEAST 3 FEET FROM THE MANHOLE WALL.
10. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN MANHOLE WALL SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.
11. THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE MANHOLE WALL.
12. MANHOLE INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE MANHOLE WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
13. MANHOLE FRAME AND COVER TO BE DEETER #1261, EJIW #1936-Z1, OR APPROVED EQUAL, SEE SW-303.
14. FOR FLAT GRATED INLET APPLICATION, GRATE TO BE DEETER #1933, EJIW #1205 MDI, OR APPROVED EQUAL.
15. FOR BEEHIVE GRATE APPLICATION, GRATE TO BE DEETER #4495, EJIW #120545, OR APPROVED EQUAL.



PRECAST
SHALLOW MANHOLE
TYPE "B"

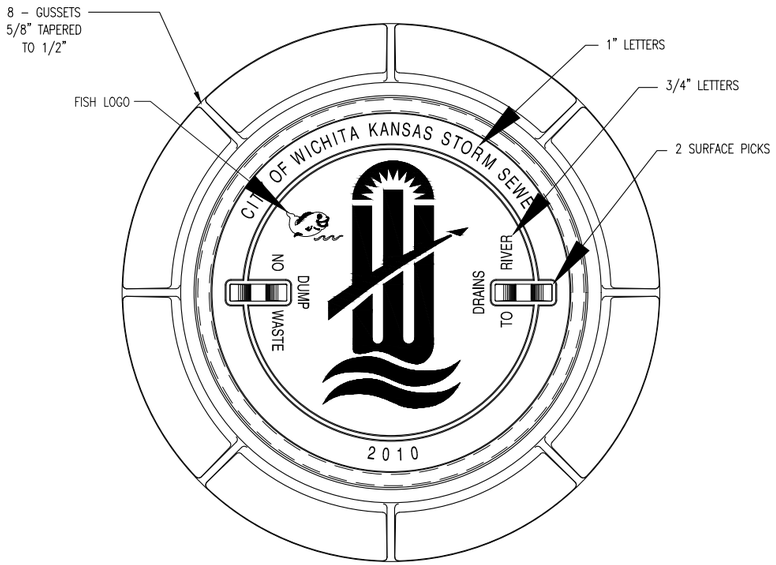


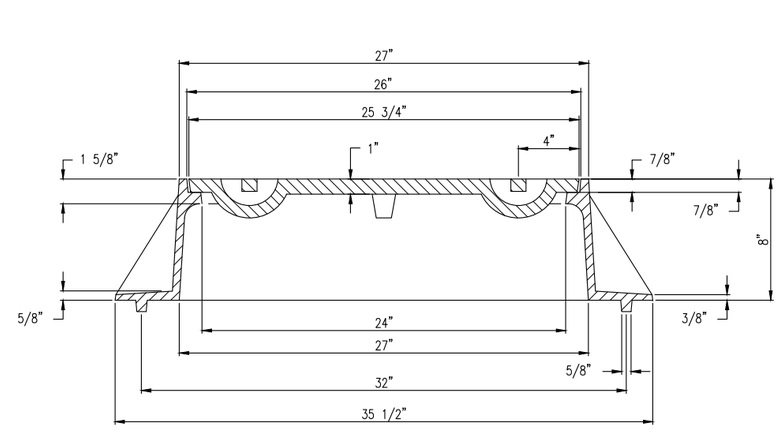
TYPICAL MANHOLE
FLOOR SHAPING

REVISED: MARCH 2015

CITY OF WICHITA — PUBLIC WORKS & UTILITIES ENGINEERING DIVISION	PRECAST CONCRETE MANHOLE (STORM SEWER)	
	CITY ENGINEER: GARY JANZEN, P.E.	
PROJECT NUMBER: 472-85215	OCA NUMBER: 707088	DATE: 5/3/2017
CITY ENGINEER'S OFFICE, CITY HALL - SEVENTH FLOOR, 455 NORTH MAIN STREET, WICHITA, KANSAS 67202-1620, (316) 268-4501		SHEET: 24 OF 54

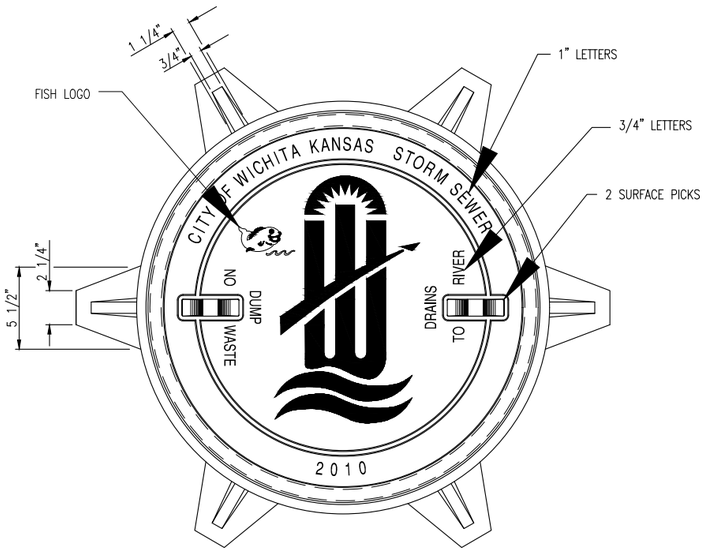
SW-301

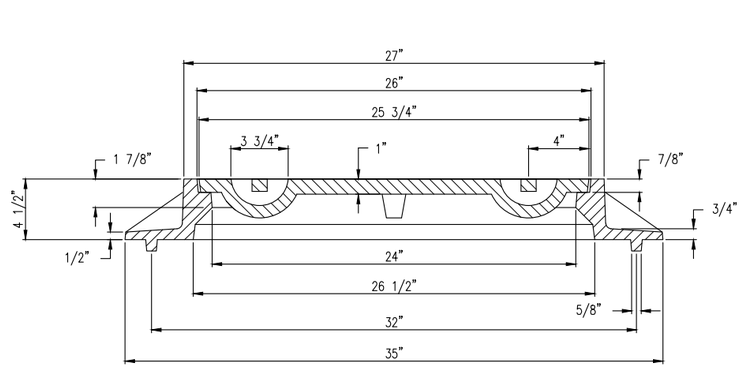




MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z1

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
2. COVER TO BE DEETER #1261 OR EJIW #1936A.





INLET FRAME
DEETER #2014 OR EJIW #1936-Z4

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.
2. NOT TO BE USED UNDER PAVEMENT.
3. COVER TO BE DEETER #1261 OR EJIW #1936A.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MANHOLE/INLET FRAME AND COVER (STORM SEWER)

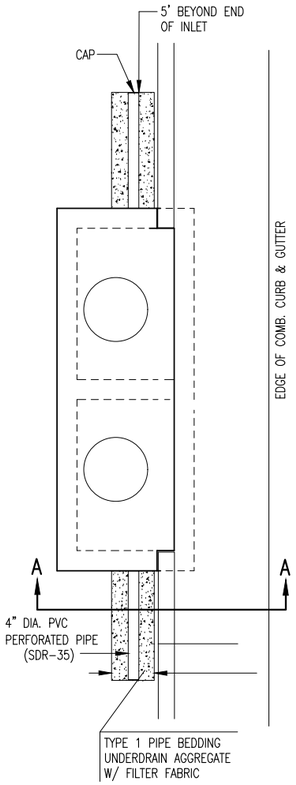
CITY ENGINEER
GARY L. JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	11/2010

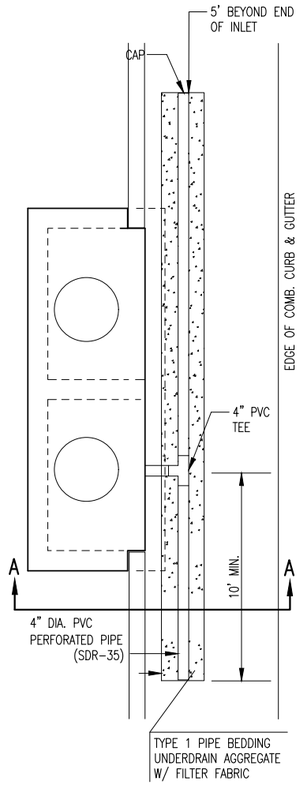
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
25 OF 54

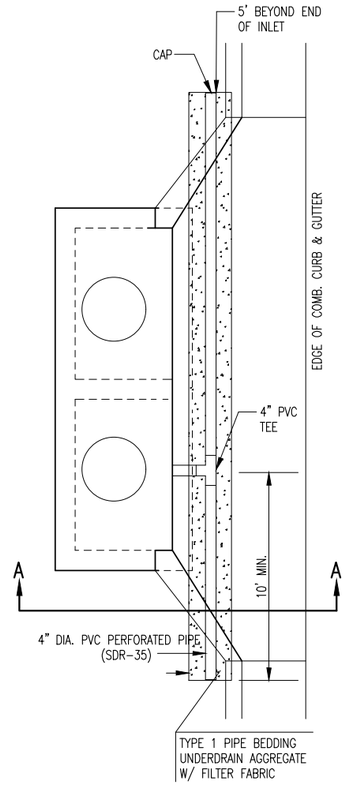
PAVEMENT UNDERDRAIN SHALL BE INSTALLED ON ALL CURB INLETS.



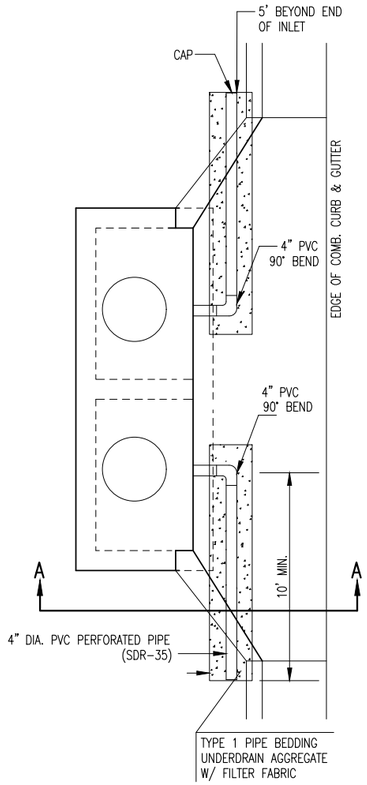
TYPE 1
OPTION 1



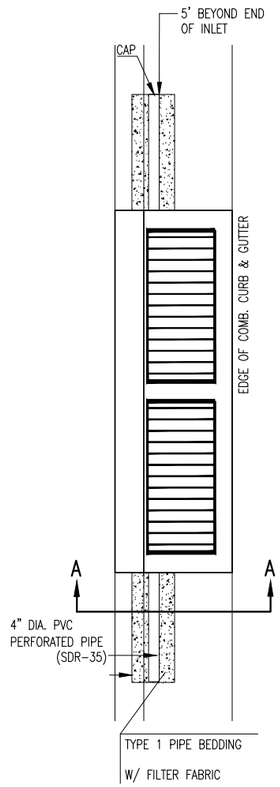
TYPE 1
OPTION 2



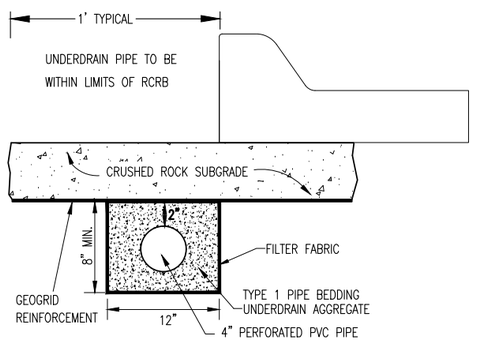
TYPE 1-A INLET
OPTION 1



TYPE 1-A INLET
OPTION 2



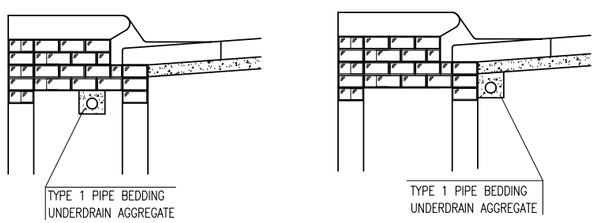
TYPE 2



SECTION A-A (TYPICAL)

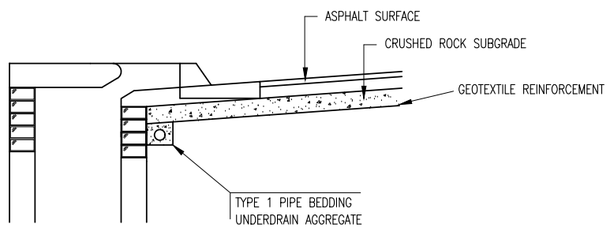
GENERAL NOTES

1. PAVEMENT CONTRACTOR WILL BE REQUIRED TO INSTALL SDR 35, 4" PERFORATED DRAIN PIPE AND TEE AS INDICATED IN THE DETAILS.
2. WHEN SWS CONSTRUCTED BY SEPARATE PROJECT, SWS CONTRACTOR SHALL INSTALL SDR 35, 4" DRAIN PIPE STUB ONLY THROUGH WALLS OF CURB INLETS AND CAP TO ALLOW FUTURE CONNECTION OF TEE AND ADDITIONAL DRAIN PIPE BY OTHERS.
2. UNDERDRAIN PIPE SHALL BE PAID AS A MEASURED QUANTITY BY THE LINEAL FOOT.



(MIN. 16 PERFORATIONS PER LIN. FT. @ 1/4" DIA.)
PERFORATIONS TO BE ON BOTTOM HALF

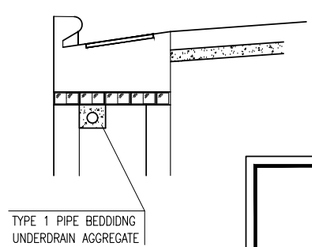
SECTION A-A



SECTION A-A

PAVEMENT UNDERDRAIN DETAIL

BID ITEM TO BE PROVIDED PER 4" PERFORATED UNDERDRAIN PIPE.



SECTION A-A

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

CURB INLET PAVEMENT UNDERDRAIN DETAIL

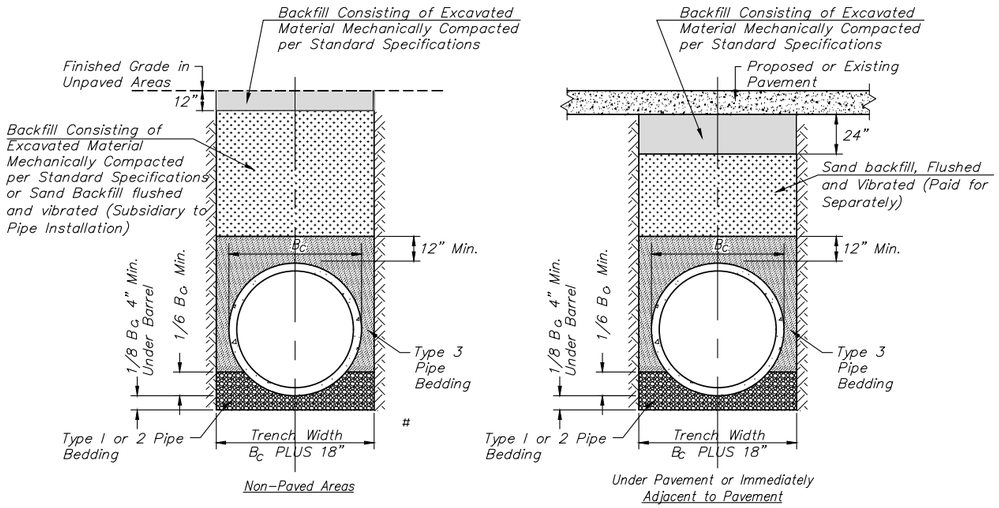
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	10/2012

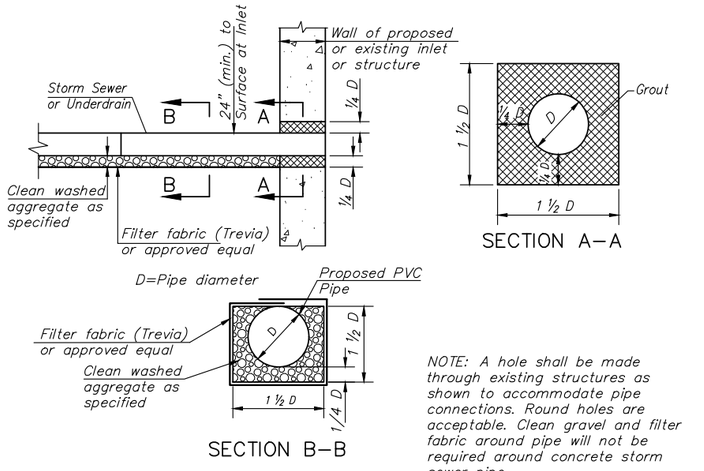
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
26 OF 54

SW-111

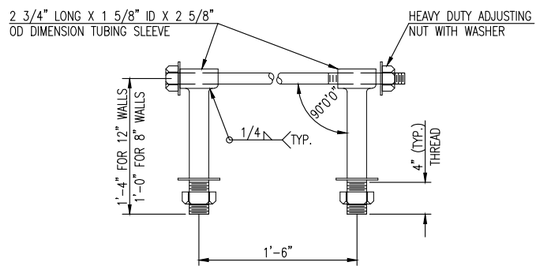


STORM SEWER TRENCH DETAILS



PIPE CONNECTION DETAIL

NOTE: A hole shall be made through existing structures as shown to accommodate pipe connections. Round holes are acceptable. Clean gravel and filter fabric around pipe will not be required around concrete storm sewer pipe.

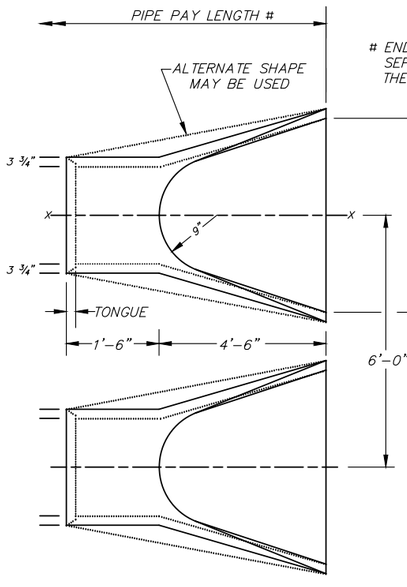


HEAVY DUTY (H.D.) COUPLER

NO SCALE

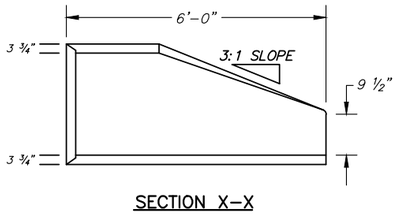
NOTES

1. BOLTS TO BE A–36 1 1/2" DIAMETER.
2. BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED.
3. WASHERS TO BE 3 1/2" O.D. X 7 GAUGE.
4. SHIP WITH NUTS AND WASHERS PLACED ON BOLTS.



PIPE PLAN

END SECTIONS ARE NOT PAID FOR SEPARATELY BUT ARE INCLUDED IN THE OVERALL PIPE LENGTH.



SECTION X–X

NOTES:

FILTER COURSE AND GROUTED TOE WALL SUBSIDIARY TO "RIP RAP, LIGHT STONE".

TIES ARE SUBSIDIARY TO STORM SEWER PIPE.

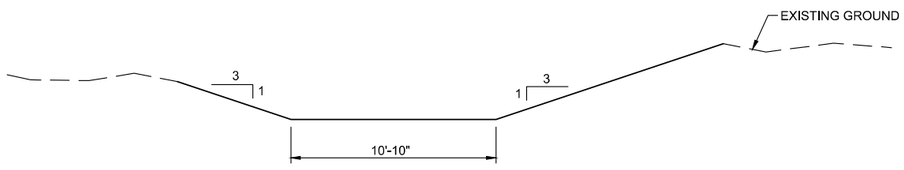
TIE RODS SHALL BE GALVANIZED OR POWER WASHED AND DIPPED IN AN APPROVED ZINC RICH EPOXY PRIME PAINT AFTER FABRICATION.

RIP–RAP DIMENSIONS AT PIPE INLETS AND OUTLETS MAY BE ADJUSTED TO FIT ACTUAL FIELD CONDITIONS IF APPROVED BY THE ENGINEER.

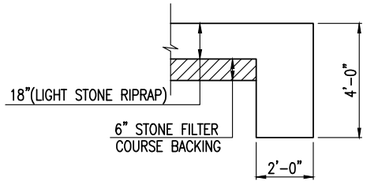
TIES TO BE USED ONLY TO HOLD PIPE SECTIONS TOGETHER, NOT FOR PULLING SECTIONS TIGHT.

CONNECT END SECTION AND PIPE SECTIONS WITH PIPE TIES A MINIMUM DISTANCE OF 20' FROM THE END OF THE END SECTION.

① TIE ROD THREADS SHALL PROJECT TO THE INSIDE OF PIPE EXCEPT AS
② NOTED IN PLANS.



SECTION C-C



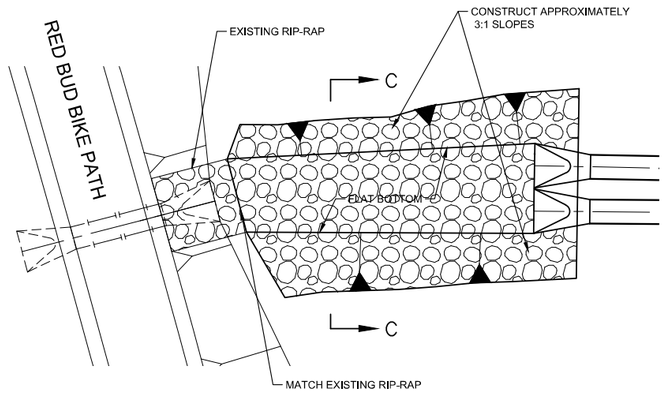
TYPICAL SECTION THRU TOEWALL

NO SCALE

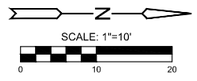
NOTES

1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
2. TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP.
3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED, UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.

LIGHT STONE RIPRAP DETAILS



STORM SEWER OUTFALL CHANNEL DETAIL



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17TH STREET BETWEEN HILLSIDE & OLIVER

STREET REHABILITATION FOR

WICHITA, KS

MISC. SWS DETAILS

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE

SHEET NO.

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Ex. C.O.W. PROJ. 448-90432
Sta. 10+00.00, Line 1=
St. Sta. 14+93.51, 17.01' Rt.
Ex. 8"x8" DIMJ Tee
Plug Ex. 8" Tee (N)
Abandon Ex. 6" Water (E)
Ex. 8" Anch. Valve Assy. (E)
(MJ Gate Valve)
Ex. 5.00' of 8" DICL Pipe (E)
Remove 2" Blowoff Assy. (E)
Connect To Begin Line 1
1-8" DIMJ 45° Bend

20.0' of 8" Pipe

Ex. 4.79' of 8" DICL Pipe

28.51' of 8" Pipe

CAUTION: Ex. San. Swr. & UGT

4.93' of 8" DICL Pipe

Sta. 10+04.93, Line 1=
St. Sta. 14+97.00, 20.50' Rt.
1-8" DIMJ 45° Bend

Sta. 10+33.44 to Sta. 10+35.44, Line 1=
St. Sta. 15+25.51, 20.50' Rt., to Sta.
15+27.51, 20.50' Rt.
2-8" DIMJ 45° Bends
2.83' of 8" DICL Pipe

NOTE:
CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.

Sta. 10+55.44 to Sta. 10+58.44, Line 1=
St. Sta. 15+47.51, 20.50' Rt., to Sta.
15+50.51, 20.50' Rt.
2-8" DIMJ 45° Bends
4.24' of 8" DICL Pipe

85.55' of 8" Pipe

Sta. 11+43.99, Line 1=
Sta. 10+00.00, Line 2=
St. Sta. 16+36.05, 20.50' Rt.
1- 8"x8" DIMJ Tee
1-8" Anch. Valve Assy. (N)
(MJ Gate Valve)
Valve Box El.=1392.15

St. Sta. 16+77.93, 27.91' Lt. & 24.11' Lt.
Preserve Ex. Fire Hydt.

St. Sta. 16+51.06, 23.75' Lt.
Fill valve box with concrete

CAUTION: Ex. Gas Line

30.30' of 8" Pipe

CAUTION: Ex. Wtr.

41.50' of 8" Pipe

Sta. 11+85.49, Line 1=
St. Sta. 16+77.55, 20.50' Rt.
1- 8"x6" DIMJ Tee
5.89' OF 6" DICL Pipe (N)
to connect to ex. 6" Fire
Hydt. Branch
Abandon Ex. 6" W & E

Sta. 12+15.79, Line 1=
Sta. 10+00.00, Line 3=
St. Sta. 17+07.85, 20.50' Rt.
1-8"x8" DIMJ Tee
1-8" Anch. Valve Assy. (S)
(MJ Gate Valve)
Valve Box El.=1393.98

St. Sta. 17+67.37, 22.71' Rt.
Fill valve box with concrete

St. Sta. 17+13.60, 46.17' Rt.
Fill valve box with concrete

St. Sta. 17+08.63, 32.45' Rt.
Fill valve box with concrete

CAUTION: Ex. Underground Utilites

284.21' of 8" Pipe

Sta. 15+00.00, Line 1
Match

CAUTION: Ex. San. Swr.

SSMH TOP=1391.42
FL 8" CLAY N=1384.57
FL 8" CLAY S=1384.57

SSMH TOP=1389.46
FL 8" PVC S=1384.46
FL 8" PVC N=1384.36

17th STREET

LINE 1

LINE 2

FAIRMOUNT

15' UTIL. ESMT

SCALE: 1"=20'

PLAN WATER LINE 1
PROFILE WATER LINE 1
SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'

EX. 8" PIPE/45° BEND
45° BEND
45° BEND
45° BEND
45° BEND
TEE
TEE
TEE
MATCH
EXISTING GROUND
EX. 8" SS
FL=1,384.03
EX. UGT
EX. GAS
EX. GAS
EX. 8" WTR
OIL FAIRMOUNT
EX. UGT
EX. UGT
EX. 8" SS
FL=1,384.45
(EX. 8")
+00.00
+04.93
+33.44
+35.44
+55.44
+58.44
+43.99
+85.49
+15.79
+50.00
+00.00
1384.3
1384.3
1384.0
1382.0
1382.0
1385.0
1387.6
1389.23
1390.0
1385.0
8" PIPE @ -1.05%
8" PIPE @ 0.00%
8" PIPE @ +3.04%
8" PIPE @ +2.28%
8" PIPE @ -2.00%
1415
1410
1405
1400
1395
1390
1385
1380
1375
1370
10
11
12
13
14
15

J:\PROJECTS\2015\15010140177_COW_17TH STREET REHAB_150177 CAD\SHTS\05 CIVIL\WTR\15177CP01.DWG

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WATER DISTRIBUTION PLANS FOR
17TH STREET BETWEEN HILLSIDE & OLIVER
WICHITA, KS

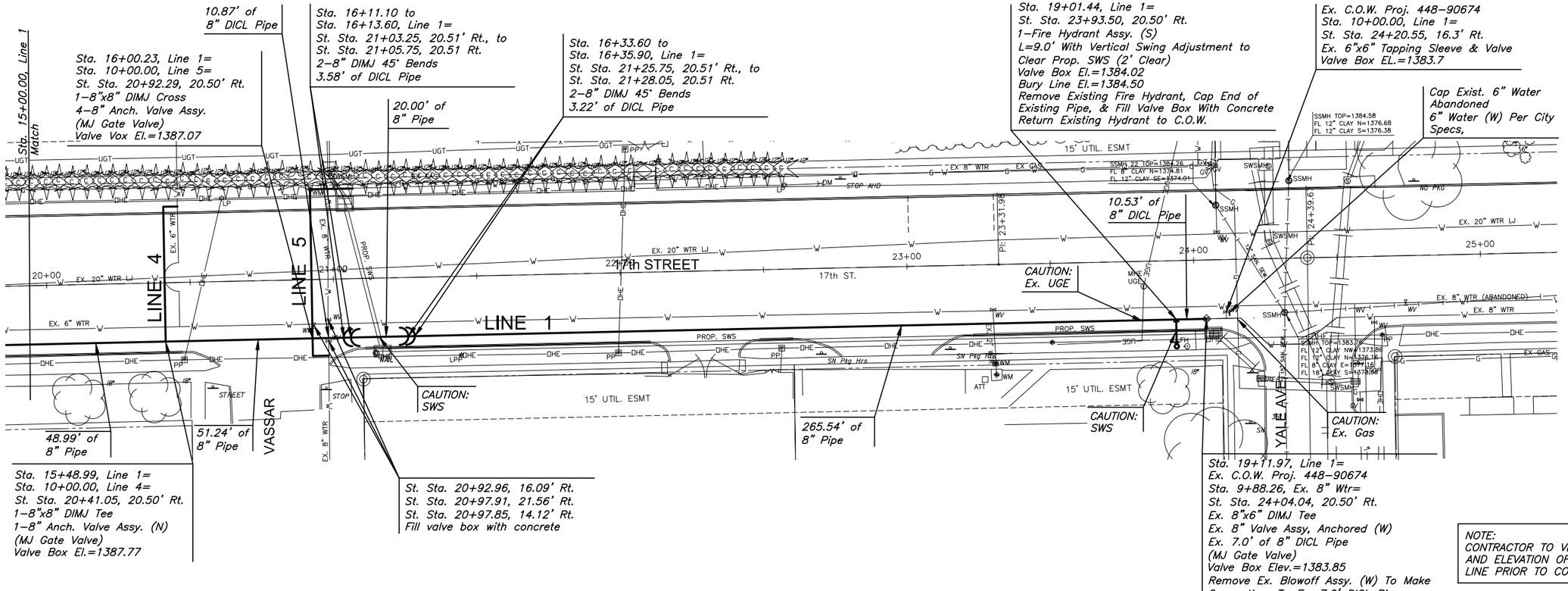
WATER LINE PLAN & PROFILE 1

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

DESIGNED	DRAWN	CHECKED
JTC	DM	JRA

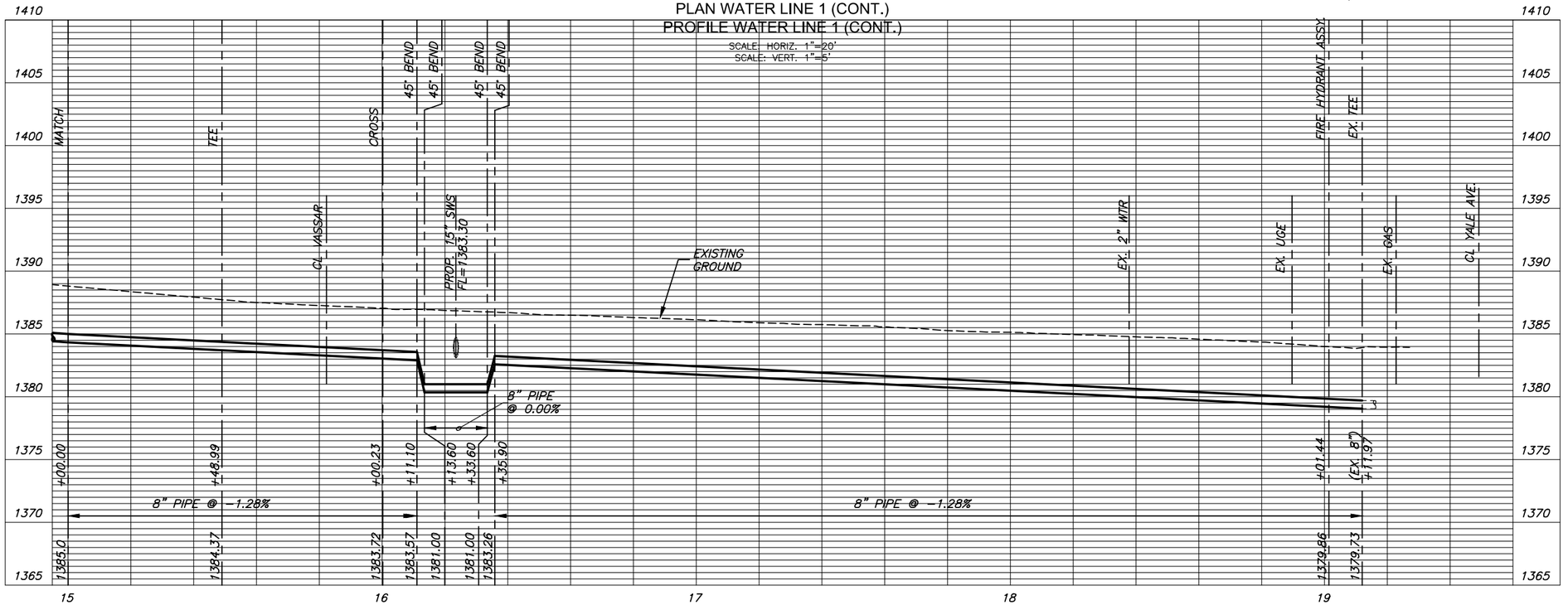
NO.	REVISION	DATE

SHEET NO.
28 OF 54



PLAN WATER LINE 1 (CONT.)
PROFILE WATER LINE 1 (CONT.)

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



MKEC
Wichita, KS • 316-684-9600

WATER DISTRIBUTION PLANS FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

WATER LINE PLAN & PROFILE 1

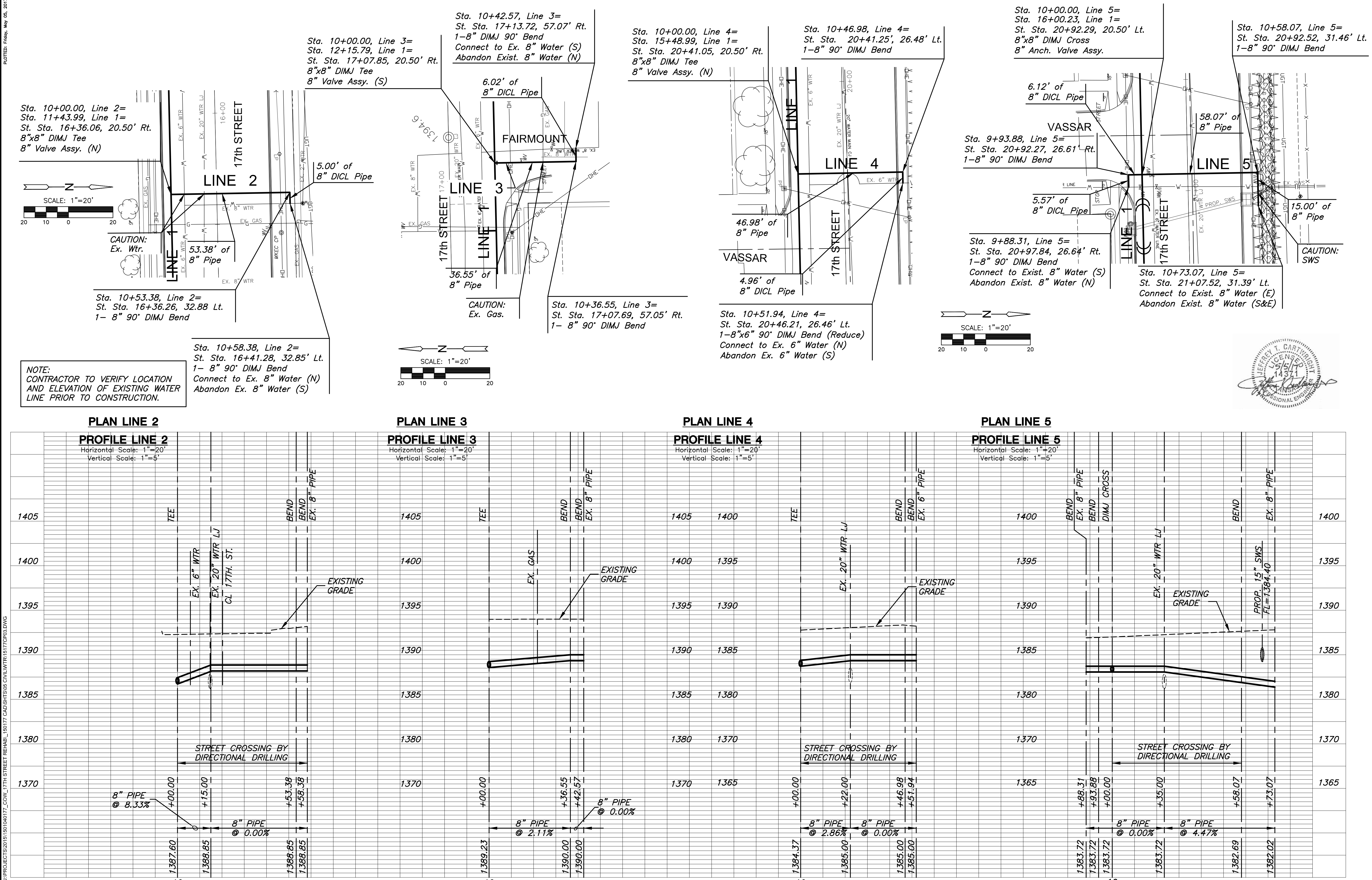
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

DESIGNED	DRAWN	CHECKED
JTC	DM	JRA

NO.	REVISION	DATE

SHEET NO.

29 OF 54


Sta. 10+00.00, Line 2=
Sta. 11+43.99, Line 1=
St. Sta. 16+36.06, 20.50' Rt.
8"x8" DIMJ Tee
8" Valve Assy. (N)
Sta. 10+00.00, Line 3=
Sta. 12+15.79, Line 1=
St. Sta. 17+07.85, 20.50' Rt.
8"x8" DIMJ Tee
8" Valve Assy. (S)
Sta. 10+42.57, Line 3=
St. Sta. 17+13.72, 57.07' Rt.
1–8" DIMJ 90° Bend
Connect to Ex. 8" Water (S)
Abandon Exist. 8" Water (N)
6.02' of
8" DICL Pipe
FAIRMOUNT
Sta. 10+00.00, Line 4=
Sta. 15+48.99, Line 1=
St. Sta. 20+41.05, 20.50' Rt.
8"x8" DIMJ Tee
8" Valve Assy. (N)
Sta. 10+46.98, Line 4=
St. Sta. 20+41.25', 26.48' Lt.
1–8" 90° DIMJ Bend
Sta. 10+00.00, Line 5=
Sta. 16+00.23, Line 1=
St. Sta. 20+92.29, 20.50' Lt.
8"x8" DIMJ Cross
8" Anch. Valve Assy.
Sta. 10+58.07, Line 5=
St. Sta. 20+92.52, 31.46' Lt.
1–8" 90° DIMJ Bend
6.12' of
8" DICL Pipe
VASSAR
58.07' of
8" Pipe
Sta. 9+93.88, Line 5=
St. Sta. 20+92.27, 26.61' Rt.
1–8" 90° DIMJ Bend
LINE 2
17th STREET
5.00' of
8" DICL Pipe
SCALE: 1"=20'
CAUTION:
Ex. Wtr.
53.38' of
8" Pipe
LINE 1
Sta. 10+53.38, Line 2=
St. Sta. 16+36.26, 32.88 Lt.
1– 8" 90° DIMJ Bend
Sta. 10+58.38, Line 2=
St. Sta. 16+41.28, 32.85' Lt.
1– 8" 90° DIMJ Bend
Connect to Ex. 8" Water (N)
Abandon Ex. 8" Water (S)
NOTE:
CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.
LINE 3
17th STREET
36.55' of
8" Pipe
CAUTION:
Ex. Gas.
Sta. 10+36.55, Line 3=
St. Sta. 17+07.69, 57.05' Rt.
1– 8" 90° DIMJ Bend
LINE 4
46.98' of
8" Pipe
VASSAR
4.96' of
8" DICL Pipe
17th STREET
Sta. 10+51.94, Line 4=
St. Sta. 20+46.21, 26.46' Lt.
1–8"x6" 90° DIMJ Bend (Reduce)
Connect to Ex. 6" Water (N)
Abandon Ex. 6" Water (S)
LINE 5
5.57' of
8" DICL Pipe
15.00' of
8" Pipe
CAUTION:
SWS
Sta. 9+88.31, Line 5=
St. Sta. 20+97.84, 26.64' Rt.
1–8" 90° DIMJ Bend
Connect to Exist. 8" Water (S)
Abandon Exist. 8" Water (N)
Sta. 10+73.07, Line 5=
St. Sta. 21+07.52, 31.39' Lt.
Connect to Exist. 8" Water (E)
Abandon Exist. 8" Water (S&E)
PLAN LINE 2
PLAN LINE 3
PLAN LINE 4
PLAN LINE 5
PROFILE LINE 2
Horizontal Scale: 1"=20'
Vertical Scale: 1"=5'
PROFILE LINE 3
PROFILE LINE 4
PROFILE LINE 5
EXISTING GRADE
STREET CROSSING BY DIRECTIONAL DRILLING
8" PIPE @ 8.33%
8" PIPE @ 0.00%
8" PIPE @ 2.11%
8" PIPE @ 2.86%
8" PIPE @ 4.47%
PROP. 15" SWS FL=1384.40

WATER DISTRIBUTION PLANS FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

MKEC
Wichita, KS • 316-684-9600

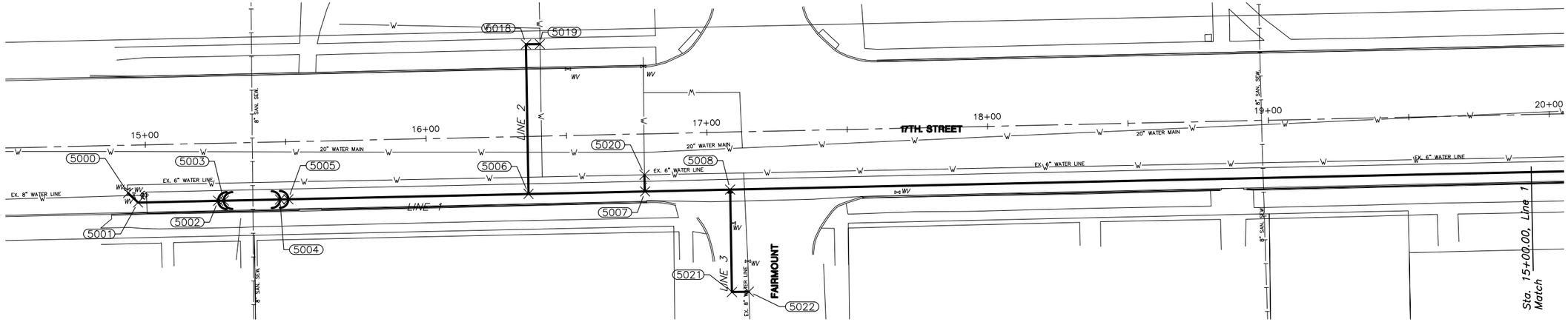
WATER LINE PLAN & PROFILE 2-5

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

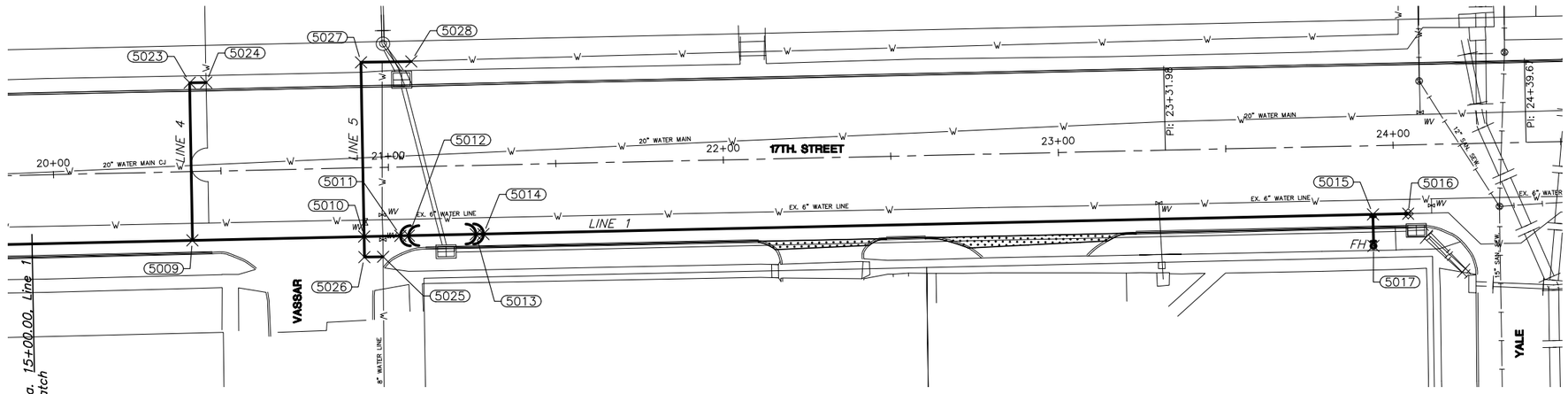
DESIGNED	DRAWN	CHECKED
JTC	DM	JRA

NO.	REVISION	DATE

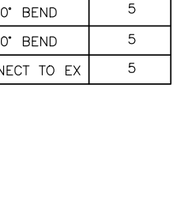
SHEET NO.



17TH. STREET



17TH. STREET



WATER POINTS						
Point #	Station	Offset	Northing	Easting	Desc.	Wtr Line
5000	14+93.51	17.01' RT.	1696674.70	1660399.86	8" CONNECT TO EX	1
5001	14+97.10	20.50' RT.	1696671.29	1660403.42	8" 45° BEND	1
5002	15+25.51	20.50' RT.	1696671.92	1660431.93	8" 45° BEND	1
5003	15+27.51	20.50' RT.	1696671.96	1660433.93	8" 45° BEND	1
5004	15+47.51	20.50' RT.	1696672.40	1660453.92	8" 45° BEND	1
5005	15+50.51	20.50' RT.	1696672.47	1660456.92	8" 45° BEND	1
5006	16+36.05	20.50' RT.	1696674.35	1660542.44	8"x8" TEE	1
5007	16+77.55	20.50' RT.	1696675.25	1660583.93	8"x6" TEE	1
5008	17+07.85	20.50' RT.	1696675.92	1660614.23	8"x8" TEE	1
5009	20+41.05	20.50' RT.	1696683.23	1660947.34	8"x8" TEE	1

WATER POINTS						
Point #	Station	Offset	Northing	Easting	Desc.	Wtr Line
5010	20+92.29	20.51' RT.	1696684.35	1660998.58	8"x8" CROSS	1
5011	21+02.46	20.51' RT.	1696684.59	1661009.44	8" 45° BEND	1
5012	21+05.66	20.51' RT.	1696684.64	1661011.94	8" 45° BEND	1
5013	21+25.66	20.51' RT.	1696685.08	1661031.93	8" 45° BEND	1
5014	21+29.66	20.51' RT.	1696685.13	1661034.23	8" 45° BEND	1
5015	23+93.50	20.50' RT.	1696690.95	1661299.71	FH CONNECTION	1
5016	24+04.04	20.50' RT.	1696691.18	1661310.24	8" CONNECT EX	1
5017	23+93.46	29.90' RT.	1696681.56	1661299.88	FH	1
5018	16+36.28	32.88' LT.	1696727.71	1660541.51	8" 90° BEND	2
5019	16+41.28	32.85' LT.	1696727.80	1660546.50	8" 90° BEND	2

WATER POINTS						
Point #	Station	Offset	Northing	Easting	Desc.	Wtr Line
5020	16+77.45	14.61' RT.	1696681.14	1660583.71	6" CONNECT TO EX	1
5021	17+07.69	57.05' RT.	1696639.38	1660614.87	8" 90° BEND	3
5022	17+13.72	57.07' RT.	1696639.49	1660620.90	8" 90° BEND	3
5023	20+41.25	26.48' LT.	1696730.21	1660946.52	8" 90° BEND	4
5024	20+46.21	26.46' LT.	1696730.29	1660951.47	8" 90° BEND	4
5025	20+97.84	26.64' RT.	1696678.34	1661004.26	8" 90° BEND	5
5026	20+92.27	26.61' RT.	1696678.25	1660998.68	8" 90° BEND	5
5027	20+92.52	31.46' LT.	1696736.31	1660997.66	8" 90° BEND	5
5028	21+07.52	31.39' LT.	1696736.57	1661012.66	8" CONNECT TO EX	5

MKEC
Wichita, KS • 316-684-8600

STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

WATER BUBBLE MAP

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS NOTED

DESIGNED	DRAWN	CHECKED
JTC	DM	JRA

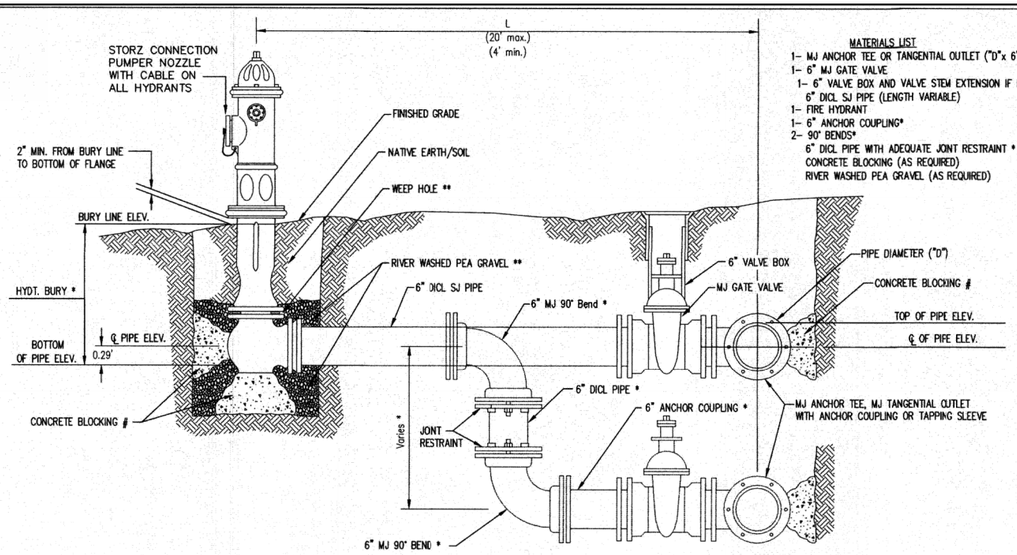
NO.	REVISION	DATE

SHEET NO.

31 OF 54

PLOTTED: Friday, May 05, 2017 @ 02:16PM

J:\PROJECTS\2015\150104177_CIOW_17TH STREET REHAB_150177 CAD\SHTS\05 CIVIL\CONTROL-BUBBLE\150177CB01.DWG



MATERIALS LIST
1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
1- 6" MJ GATE VALVE
1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
6" DICL SJ PIPE (LENGTH VARIABLE)
1- FIRE HYDRANT
1- 6" ANCHOR COUPLING*
2- 90° BENDS*
6" DICL PIPE WITH ADEQUATE JOINT RESTRAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

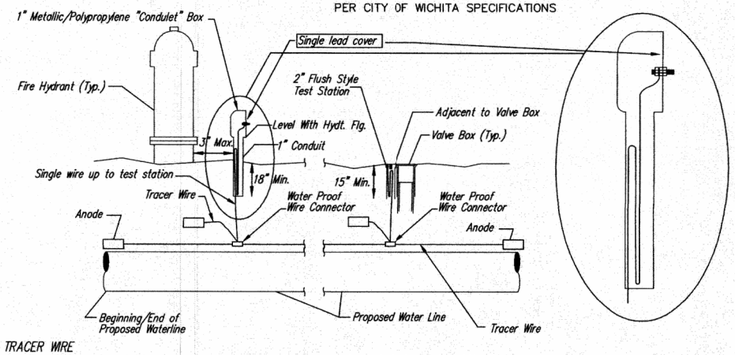
* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DICL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

** CAUTION: WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

FIRE HYDRANT ASSEMBLY

PER CITY OF WICHITA SPECIFICATIONS



TRACER WIRE

Conductive type pipe locator/tracer wire shall be install to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. A waterproof connector shall be used at splice locations. A complete list of approved tracer wire and waterproof connectors can be found on the City of Wichita's website at www.wichita.gov.

WIRE

The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. Wire connectors shall be installed per manufacturer recommendations. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

TEST STATIONS

*The test station for fire hydrant application shall be a 1" "conduiet" style station as manufactured by AGRA Industries with a removable solid cover having a single lead extending from the face or approved equal. The "conduit" style test station shall be attached to a 1" rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. The test station for valve applications shall be a 2" flush style test station with wire connector on lid. Model # T2PH7B1LP Handley Industries or CD14*TP SnakePit as manufactured by Copperhead Industries or approved equal. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be install to dlow 12" of wire within the test station. The location of all test stations shall be recorded, and shown in the as-built drawings. Flush style test stations shall not be installed in pavement or sidewalk unless approved by the Engineer. Contractor shall extend tracer wire & move flush mount test station to nearest location out of pavement or sidewalk.*

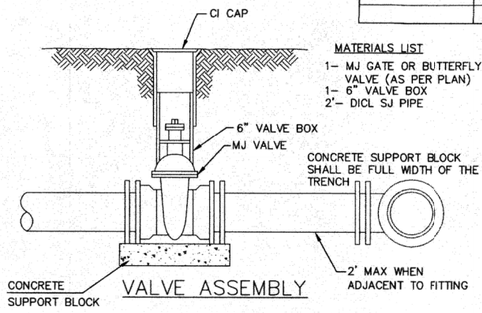
ANODES

The anodes shall be 3 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to 12 AWG CCS which shall be extended to the test station.

TRACER WIRE DETAIL

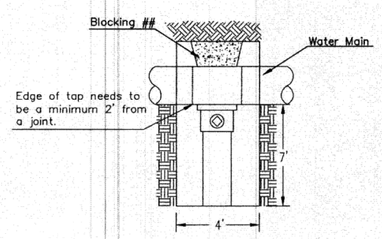
COST IS SUBSIDIARY TO PIPE INSTALLATION

FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
19+01.44	1384.50	1379.86	SPECIAL VERTICAL SWING TO CLEAR SWS	



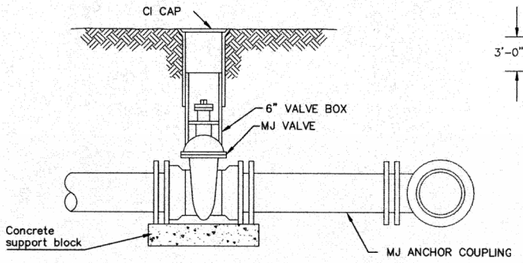
MATERIALS LIST
1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1- 6" VALVE BOX
2'- DICL SJ PIPE

VALVE ASSEMBLY



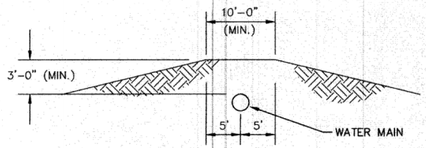
CITY TAP

When the City of Wichita makes tap, blocking is to be done by Contractor



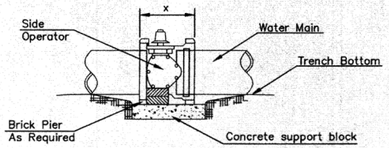
MATERIALS LIST
1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1-MJ ANCHOR COUPLING (12" OR SMALLER)
1-6" VALVE BOX
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

ANCHORED VALVE ASSEMBLY



PROTECTIVE FILL DETAIL

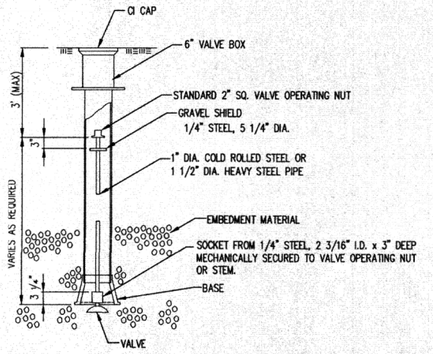
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



NOTES

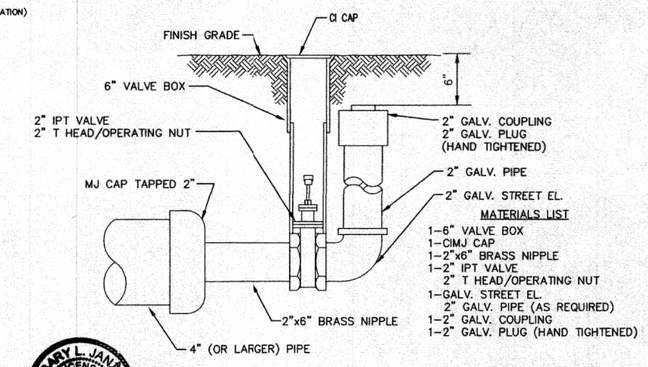
1. This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
2. 6" Valve Box and Cover required per City of Wichita Std. Specifications.
3. Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



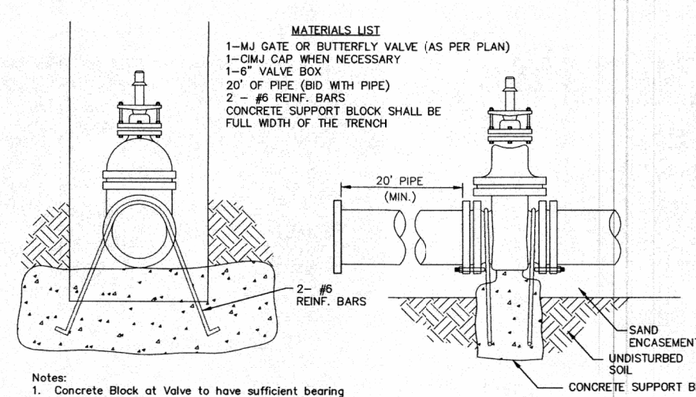
VALVE STEM EXTENSION DETAIL

NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



MATERIALS LIST
1-6" VALVE BOX
1-CIMJ CAP
1-2"x6" BRASS NIPPLE
1-2" IPT VALVE
2" T HEAD/OPERATING NUT
1-GALV. STREET EL.
2" GALV. PIPE (AS REQUIRED)
1-2" GALV. COUPLING
1-2" GALV. PLUG (HAND TIGHTENED)

2" BLOWOFF ASSEMBLY



MATERIALS LIST
1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1-CIMJ CAP WHEN NECESSARY
1-6" VALVE BOX
20' OF PIPE (BID WITH PIPE)
2 - #6 REINF. BARS
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

Notes:
1. Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
2. The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
3. All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES	
VALVE	THRUST AT 150 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL

GARY L. JANZEN LICENSED 16284 KANSAS PROFESSIONAL ENGINEER
10/27/16

REVISED: OCTOBER 2016

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STANDARD WATER ASSEMBLY DETAIL

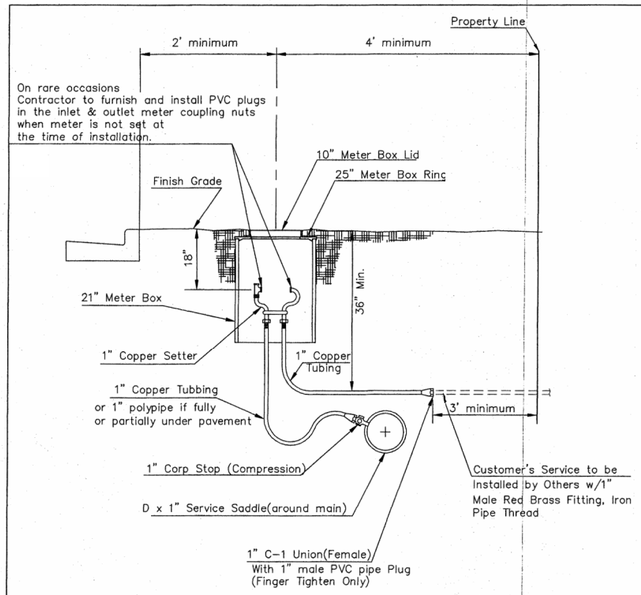
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	10/2016

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
32 OF 54

WL-101



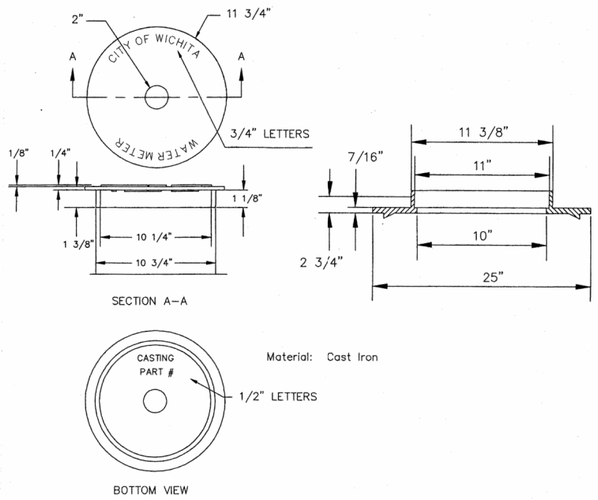
Minimum length of pigtail on consumer side is 36" of copper tubing from meter set.

Bore hole under paving shall be a maximum of 2" in diameter and a minimum of 36" below top of pavement.

Service Saddles are required on all mains.

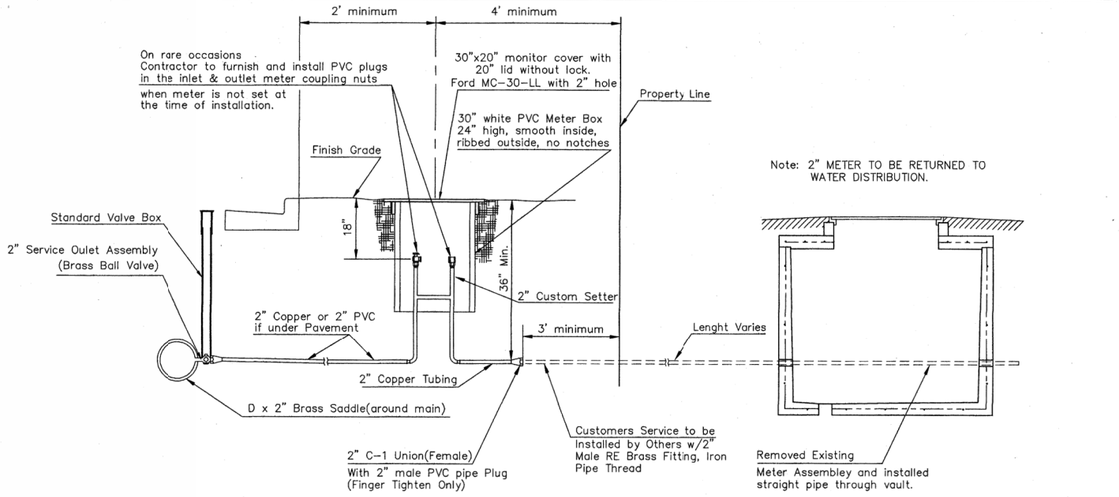
Meter boxes will be located on each lot to be served, as indicated in the SPECIAL PROVISIONS

TYPICAL 1" METER SETTING



Material: Cast Iron

NOT TRAFFIC RATED
RING & LID FOR 1" METER BOX

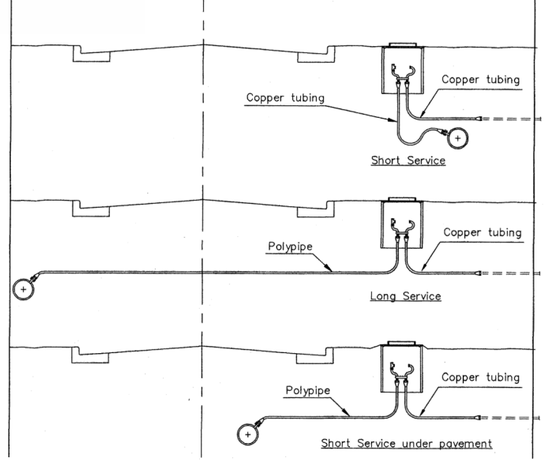


TYPICAL 2" METER SETTING

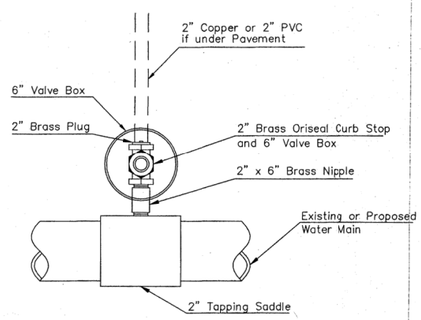
Note: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.

TYPICAL 2" METER SETTING INVOLVING EXISTING 2" METER VAULT

Note: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



SERVICE TYPES



Note: Where the 2" Service Outlet Assembly is to be used to connect a 2" main to another main, the 2" valve shall be a 2" IPT Gate Valve. 2" ball or globe vavles shall not be approved for this use.

2" SERVICE OUTLET ASSEMBLY

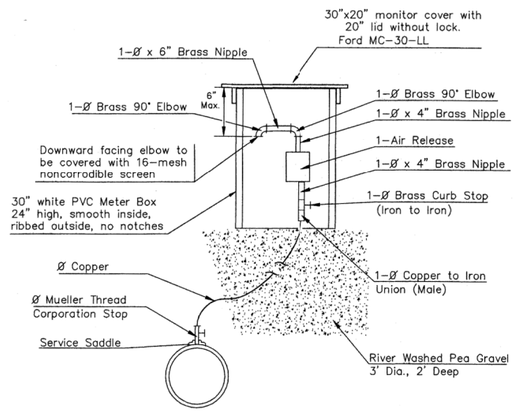
TOP VIEW

1 – Ø Mueller Thread Corporation Stop
– Ø Type "K" Copper Tubing
1 – Ø Copper to Iron Union (Male)
1 – Ø Brass Curb Stop (Iron to Iron)
2 – Øx4" Brass Nipple

Air Release
2 – Ø Brass Elbows (90°)
1 – 1"x6" Brass Nipple
1 – 30" Monitor Cover
1 – 20" Meter Lid

NOTE:

THE 1"/2" AIR RELEASE ASSEMBLY WILL TYPICALLY BE USED ON WATER MAINS 24" AND SMALLER, AS SPECIFICALLY DESIGNATED IN THE PLANS. COMBINATION AIR RELAEASE ASSEMBLIES WILL BE SPECIFICALLY DESIGNED FOR PROJECTS WITH LARGER MAINS, AND WILL BE INCLUDED IN THE PLANS.



MATERIALS FOR 1" or 2" AIR RELEASE ASSEMBLY
Ø = 1" or 2"

GARY L. JANZEN
LICENSED
16294
KANSAS
PROFESSIONAL ENGINEER
01/26/15

REVISED: JANUARY 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD WATER SERVICE DETAIL

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	01/2015

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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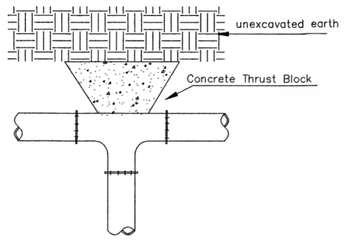
WL-102



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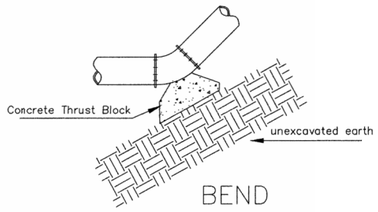
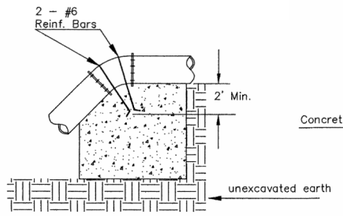
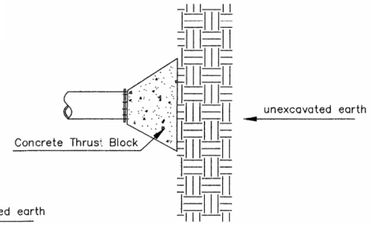


BEND



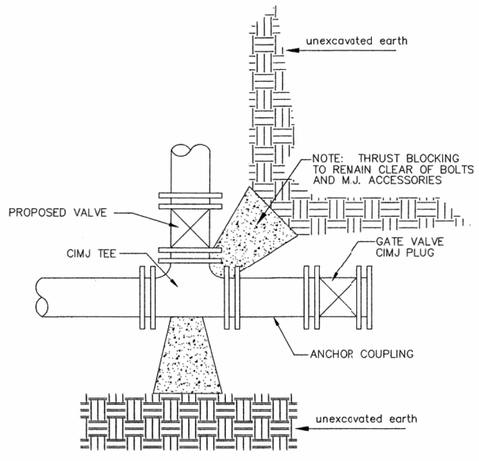
VERTICAL BEND



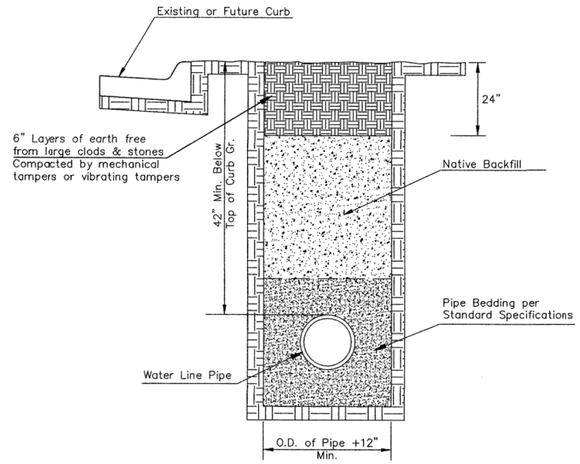
PLUG

PIPE SIZE	THRUST AT FITTINGS IN TONS–AT 150#/IN^{2}P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

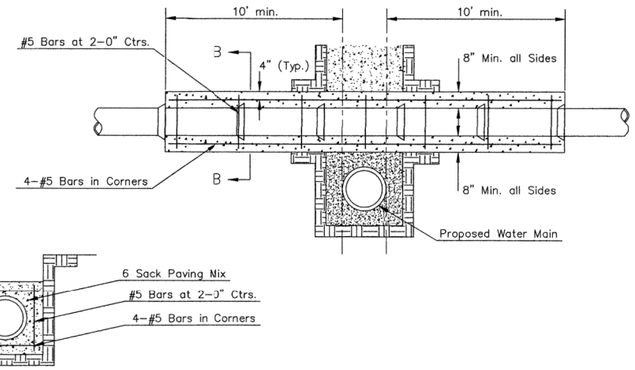
TYPICAL THRUST BLOCKS



KEY BLOCK DETAIL



TRENCH COMPACTION IN ROAD RIGHT–OF–WAY

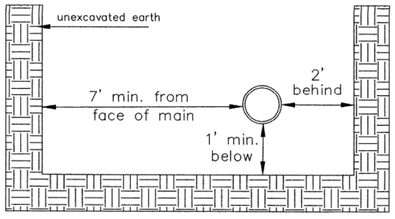


SECTION B–B

Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

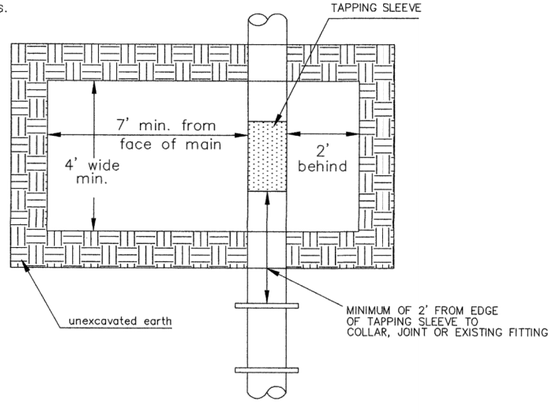
REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

SIDE VIEW

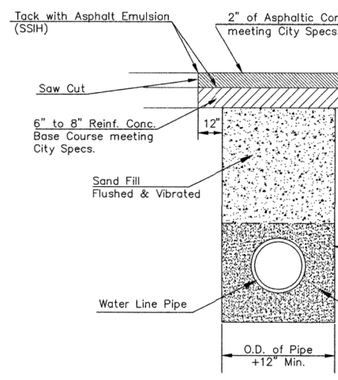


Note: When shoring is required it is to be per The City of Wichita Standard Specifications.

TOP VIEW



EXCAVATION FOR WET TAP



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

* PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS

GARY L. JANZEN LICENSED 16264 KANSAS PROFESSIONAL ENGINEER
07/21/15

REVISED: JULY 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E..

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	07/2015

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
34 OF 54

WL-104

PAVEMENT AND BASE ITEMS

Plan Sheet No.	Location	Side	Concrete Pavement 9" (Reinf.) (sy)	Crushed Rock Base 6", Reinforced (sy)	AC Surface Course, 2" (sy)	Concrete Pavement, Cold Milled (sy)	Saw & Seal Joints (lf)	Concrete Curb, Mono Edge (Special) (lf)	Concrete Driveway Remove & Replace (lf)	Remarks
4	Sta. 15+00 to Sta. 20+00		423.3	480.3	2,694.6	389.0	2,847.1	422.9		
5	Sta. 20+00 to Sta. 25+75		456.8	508.4	3,076.4	562.6	3,613.7	244.5	101.0	
6	Sta. 25+75 to Sta. 31+50				3,080.2	894.5	3,732.8			
7	Sta. 31+50 to Sta. 37+00				2,935.3	855.6	3,732.2			
8	Sta. 37+00 to Sta. 42+50				2,934.5	855.6	3,289.1			
9	Sta. 42+50 to Sta. 48+50				3,200.0	933.3	3,153.8			
10	Sta. 48+50 to Sta. 54+00				2,933.3	855.6	2,851.3			
11	Sta. 54+00 to Sta. 59+50		233.6	255.0	2,933.3	744.9	2,760.8	221.0		
12	Sta. 59+50 to Sta. 61+36.50		158.0	179.2	994.7	145.1	1,316.2	186.5		
TOTALS			1,271.7	1,422.9	24,782.3	6,236.2	27,297.0	1,074.9	101.0	

SUMMARY OF WATER ITEMS

Line No.	Pipe, DICL 8" (lf)	Pipe, WL 8" (lf)	Valve Assy., 8" (ea)	Fire Hydrant (ea)	Fire Hydrant Removed (ea)	Pipe, Cut & Cap (ea)	Valve Box Adjusted* (ea)	Valve Box Conc. Filled≠ (ea)	Short Service (ea)	Long Service (ea)
Line 1	46.1	875.8	7	1	1	2		7		
Line 2	5.0	53.4				1				
Line 3	6.0	36.6				1				
Line 4	5.0	47.0				1				
Line 5	11.7	73.1				3				
TOTALS	73.8	1085.9	7	1	1	8	18	7	6	3

*See Paving Plan Sheets for Locations. ≠ See Water Plan Sheets for Locations

WATER SERVICE CONNECTION SCHEDULE

Address	Account #	Baseline Station	Offset	Line #	Short	Long	Comments	Remarks
3321 E. 17TH	23320-101	15+44	34' RT.	1	1		3/4" DOM.	
1845 N. FAIRMOUNT	23320-100	15+70	41' LT.	2	1		N/A	
1845 N. FAIRMOUNT	131498-200	16+41	39' LT.	2	1		4" LAWN	
NO ADDRESS	131498-101					1	No Description	
3419 E.17TH.	29529-200	19+41	31' RT.	1	1		3/4" LAWN.	
1845 N. FAIRMOUNT	24729-100	20+93	31' LT.	5	1		6" DOM.	
NO ADDRESS	24729-101	21+04	50' LT.	1		1	No Description	
NO ADDRESS	24729-300					1	No Description	
1749 N. YALE	58003-100	23+30	38' RT.	1	1		2" DOM.	

SUMMARY OF QUANTITIES - DRAINAGE ITEMS**

Line No.	Pipe					Inlets and Manholes							Miscellaneous		
	Pipe, SWS, RCP 15" (lf)	Pipe, SWS, RCP 30" (lf)	Pipe, SWS, RCP 36" (lf)	Pipe, SWS, HERCP (24"x38") {30"} (lf)	Fill, Sand (Flushed & Vibrated) (lf)	Inlet, Curb (Type 1) (L=5', W=3') (ea)	Inlet, Curb (Type 1) (L=5', W=4') (ea)	Inlet, Curb (Type 1) (L=5', W=5') (ea)	Inlet, Curb (Type 1) (L=10', W=3') (ea)	MH, Shallow SWS (4') (ea)	Pipe, SWS, PVC 4", Perforated (lf)	Inlet Hookup (ea)	Snout+ (ea)	Riprap, Light Stone (sy)	Pipe Connect to Existing (ea)
1		135	185	238	320			2	1		30	3	1	115	3
2	355				355	2	1			1	30	3			2
TOTALS	355	135	185	238	675	2	1	2	1	1	60	6	1	115	5

** All pipe conduit is measured per lineal feet and structures are measured per each. + Paid for as "Manhole Water Quality BMP"

EARTHWORK

Location	EXCAVATION ITEMS			Fill, Compacted (95% Density) (cy)	Remarks
	Pavement Removed (sy)	Excavation (cy)	VMF		
Project	1,271.7				For entire project
TOTALS	1,271.7				

REMOVAL OF EXISTING STRUCTURES*

Plan Sheet No.	Location	Offset	Item	Remarks
5	Sta. 21+06	24.5' Lt.	Sidewalk Flume	Subsidiary to "Transportation of Salvaged Material"
5	Sta. 24+07	25.9' Rt.	Conc. Inlet	Bid as "Inlet Removed"
11	Sta. 58+12 to Sta. 59+50	25.0' Lt.	138' of 15" RCP	Bid as "Pipe Removed"
11	Sta. 58+08	25.0' Rt.	Conc. Inlet	Bid as "Inlet Removed"
11	Sta. 58+08	Rt.	87' of 24" RCP	Bid as "Pipe Removed"
12	Sta. 59+50 to Sta. 61+36.50	25.0' Lt.	186.5' of 15" RCP	Bid as "Pipe Removed"
12	Sta. 60+00	25.0' Lt.	Conc. Inlet	Bid as "Inlet Removed"

* This list does not necessarily constitute a complete list of items to be removed during construction. The list is provided for information only. Pavement removal is paid for separately.
Water System removals are subsidiary to other water items.
Manhole lids and frames removed are to be returned to the City.

Notes:

"Crushed Rock Base 6" Reinforced" and "Concrete Pavement Removed" will be paid for separately. Removal in these areas will include the curb. The proposed monolithic curb, whether special or standard, will be paid for separately.

In areas marked or the removal of pavement, including curb, preparation of subgrade below the patch and replacement of the pavement will be included in the bid price for either "Concrete Pavement Removed and Replaced' bid item. The distinction between the two items will be made on size of patch only. Monolithic curb associated with these patches will be paid for separately.

The bid item "Monolithic Curb Removed and Replaced" is designated for areas where existing curb only is to be removed and replaced. Removal shall be to the limits shown on the plans.

"Sidewalk Thickening" will be paid for in addition "Concrete Sidewalk Removed and Replaced". Pay limits are shown in the plans.

LINE NO.	BID ITEM DESCRIPTION	QUANTITY	UNIT
	Lump Sum Bid Items - Paving		
1	Mobilization	1	LS
2	Transport of Salvaged Materials	1	LS
3	Site Restoration	1	LS
	Lump Sum Bid Items - Traffic		
4	Pavement Marking	1	LS
5	Signing	1	LS
6	Traffic Control	1	LS
	Measured Quantity Bid Items - Paving		
7	Field Office and Laboratory (Type A)	1	ea
8	Concrete Pavement Removed	1,272	sy
9	Concrete Pavement 9" (Reinf.)	1,272	sy
10	Crushed Rock Base 6", Reinforced	1,423	sy
11	AC Surface Course, 2"	24,783	sy
12	Concrete Pavement, Cold Milled	6,237	sy
13	Saw and Seal Joints	27,297	lf
14	Concrete Curb, Mono Edge, (Special)	1,075	lf
15	Concrete Driveway Removed & Replaced	101	lf
16	Concrete Pavement Removed & Replaced (>16.0 s.y.)	1,416	sy
17	Concrete Pavement Removed & Replaced (< 16.0 s.y.)	1,099	sy
18	Concrete Curb, Mono Edge, Removed & Replaced	91	lf
19	Concrete Sidewalk Removed & Replaced	955	sf
20	Concrete Curb, Mono Edge (6" & 1-1/2")	1,063	lf
21	Sidewalk Thickening	192	lf
22	Wheelchair Ramp w/ Detectable Warnings	6	ea
23	Manhole Adjusted w/ New Ring & Cover	5	ea
24	Manhole Adjusted	12	ea
25	Pipe Removed	412	lf
26	Inlet Removed	3	ea
27	AC Pavement 6", Temporary	200	sy
	Measured Quantity Bid Items - Drainage		
28	Pipe, SWS, RCP 15"	355	lf
29	Pipe, SWS, RCP 30"	135	lf
30	Pipe, SWS, RCP 36"	185	lf
31	Pipe, SWS, HERCP (24"x38"){30}	238	lf
32	Sand Backfill, Flushed and Vibrated	675	lf
33	Inlet, Curb (Type 1)(L=5' W=3')	2	ea
34	Inlet, Curb (Type 1)(L=5' W=4')	1	ea
35	Inlet, Curb (Type 1)(L=5' W=5')	2	ea
36	Inlet, Curb (Type 1)(L=10' W=3')	1	ea
37	MH, Shallow SWS (4')	1	ea
38	Pipe, SWS, PVC 4", Perforated	60	lf
39	Inlet Hook-up	6	ea
40	Manhole Water Quality BMP	1	ea
41	Riprap, Light Stone	115	sy
42	Pipe Connect to Existing	5	ea
	Measured Quantity Bid Items - Erosion Control BMP		
43	BMP, Back of Curb Protection	2,254	lf
44	BMP, Curb Inlet Protection	18	ea
45	BMP, Silt Fence	36	lf
	Measured Quantity Bid items - Traffic		
46	Sign, Elec. Portable Message (each per day)	60	days
	Measured Quantity Bid Items - Water		
47	Pipe, WL 8"	1086	lf
48	Pipe, DICL 8"	74	lf
49	Valve Assembly,8"	7	ea
50	Fire Hydrant Assembly	1	ea
51	Fire Hydrant Removed	1	ea
52	Pipe, Cut & Cap	8	ea
53	Valve Box Adjusted	18	ea
54	Valve Box, Concrete Filled	7	ea
55	Service Line, Short	6	ea
55	Service Line, Long	3	ea

MKEC
Wichita, KS • 316-684-9600

STREET REHABILITATION FOR 17TH STREET BETWEEN HILLSIDE & OLIVER
WICHITA, KS

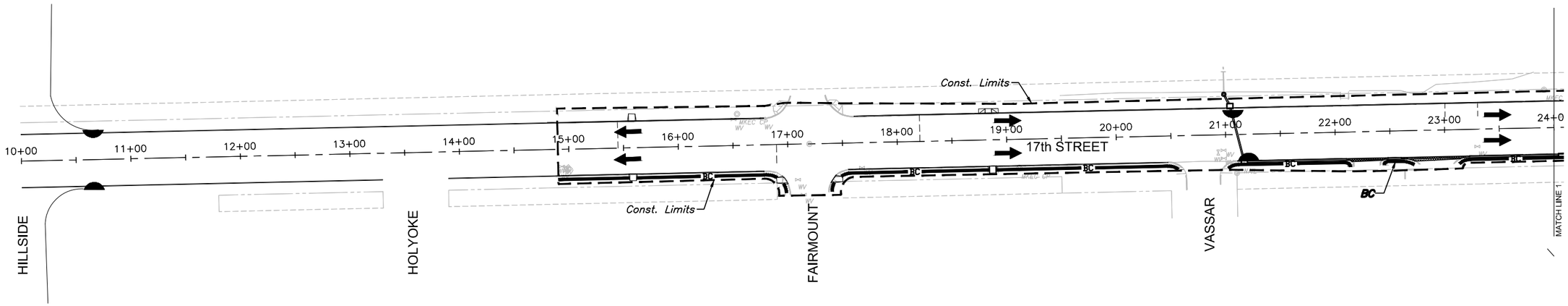
SUMMARY OF QUANTITIES

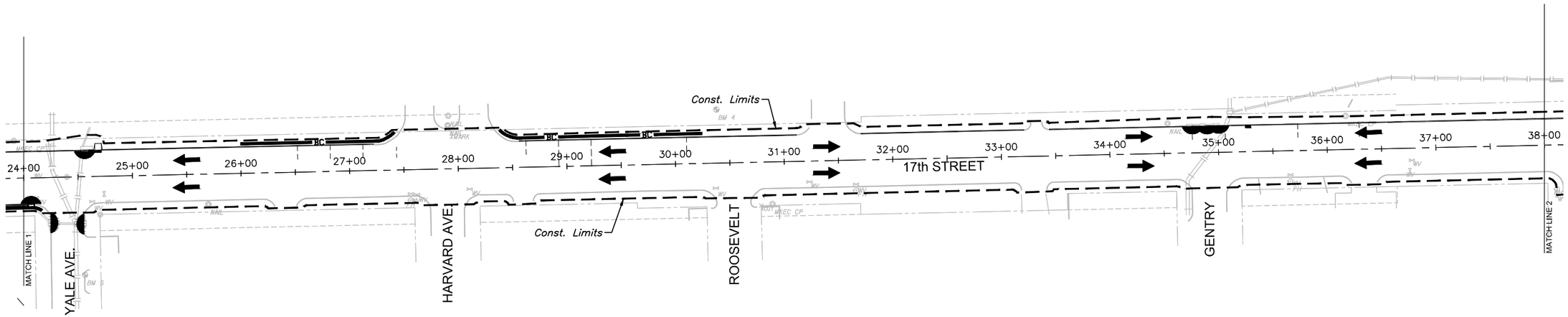
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

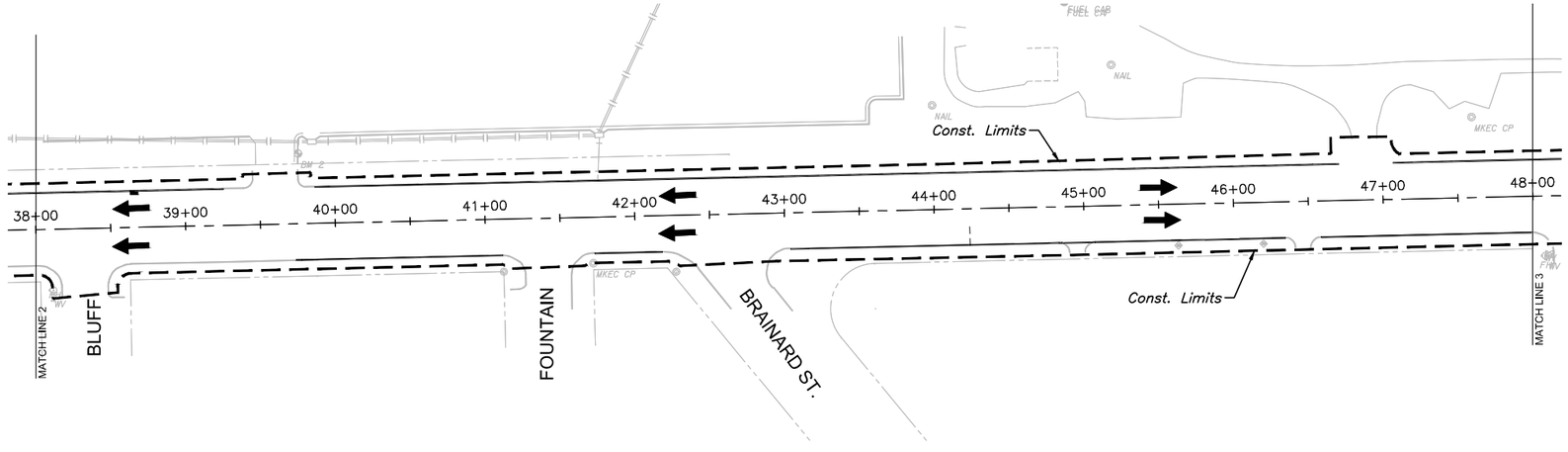
DESIGNED	DRAWN	CHECKED
JRA	LES	JRA

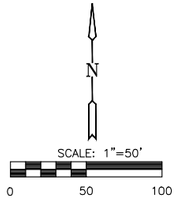
NO.	REVISION	DATE

SHEET NO.
35 OF 54









LEGEND

- FLOW ARROW
- CURB INLET PROTECTION
- SB — SILT FENCE
- BC — BACK OF CURB PROTECTION
- LIMITS OF CONSTRUCTION

MKEC
Wichita, KS • 316-684-6000

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

EROSION CONTROL PLAN

EROSION CONTROL PLAN

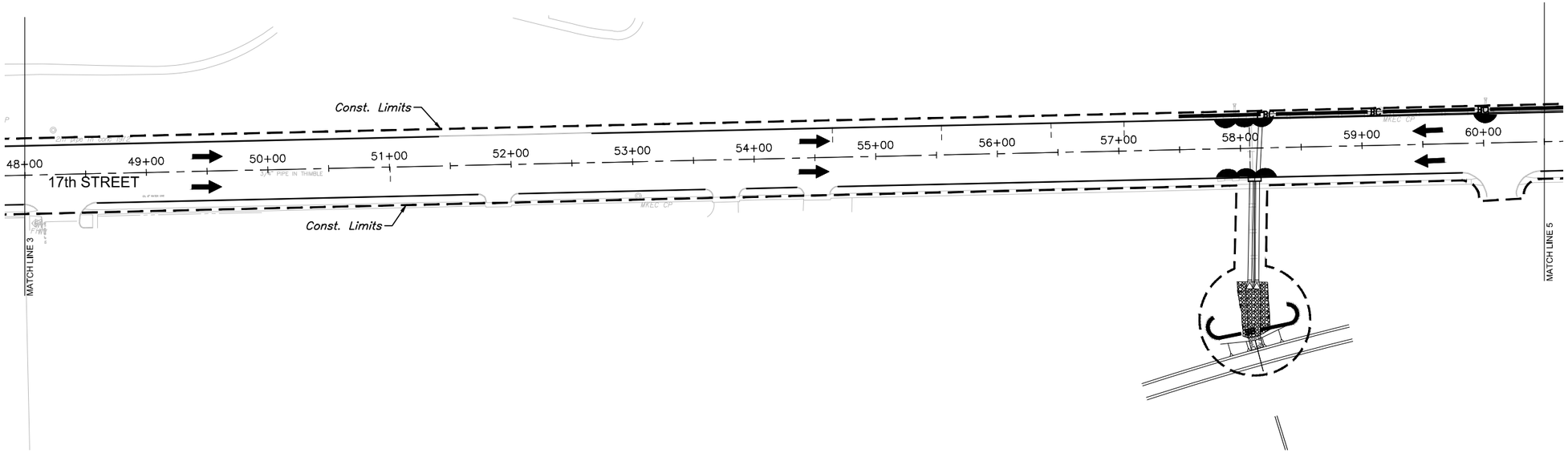
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

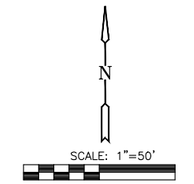
DESIGNED	DRAWN	CHECKED
JRA	LES	JRA

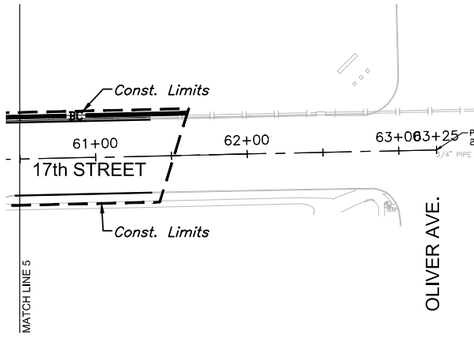
NO.	REVISION	DATE

SHEET NO.

36 OF 54







NOTES:

THIS PROJECT WILL DISTURB <1.0 ACRES.

REFER TO CITY OF WICHITA STANDARDS FOR BMP INSTALLATION, INSPECTION AND MAINTENANCE DETAILS AND SPECIFICATIONS.

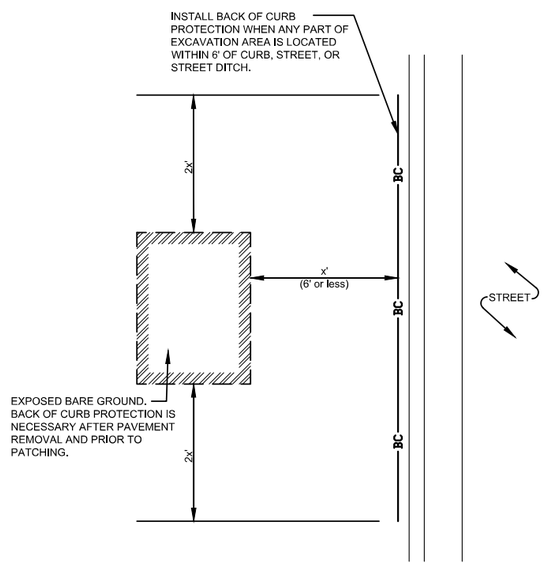
COST FOR EACH EROSION AND SEDIMENT CONTROL ITEM SHALL INCLUDE MAINTENANCE, INSPECTION AND EVENTUAL REMOVAL. BESIDES KEEPING EACH DEVICE IN WORKING ORDER, MAINTENANCE SHALL INCLUDE, AT A MINIMUM, SEDIMENT REMOVAL BEFORE 50% OF THE DEVICE'S CAPACITY IS REACHED.

CONTRACTOR SHALL ADJUST EROSION AND SEDIMENT CONTROL PLANS TO CONFORM TO ACTUAL CONSTRUCTION OPERATIONS. ALL CHANGES TO PLAN SHALL BE APPROVED BY THE CITY.

SMALL AND INTERIM STOCK PILES NOT IMMEDIATELY HAULED OFF-SITE SHOULD BE ENCLOSED AND PROTECTED WITH SILT BARRIER AROUND THE ENTIRE CIRCUMFERENCE OF THE STOCK PILE. INSTALLING AND MAINTAINING THIS FENCE SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "EROSION CONTROL BMP (SILT BARRIER)".

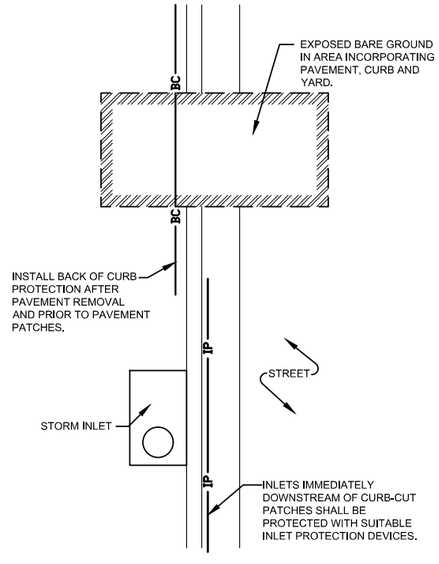
ADDITIONAL BACK OF CURB PROTECTION WILL BE REQUIRED BEYOND WHAT IS SHOWN IN THE PLAN IN ORDER TO SATISFY THE DETAILS SHOWN ON THIS SHEET. THE QUANTITY IN THE SUMMARY ACCOUNTS FOR THE ANTICIPATED ADDITIONAL PROTECTION.

EROSION CONTROL BMP SUMMARY		
ITEMS	QUANTITY	UNIT
BMP, Back of Curb Protection	2,254	L.F.
BMP, Curb Inlet Protection	18	Each
BMP, Silt Fence	36	L.F.



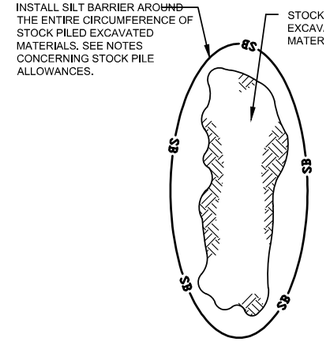
BACK OF CURB PROTECTION

NOT TO SCALE



BACK OF CURB PROTECTION - CURB CUT

NOT TO SCALE



STOCKPILED EXCAVATION PROTECTION

NOT TO SCALE

LEGEND

- FLOW ARROW
- CURB INLET PROTECTION
- SB — SILT FENCE
- BC — BACK OF CURB PROTECTION
- LIMITS OF CONSTRUCTION

MKEC
Wichita, KS • 316-684-8600

17TH STREET BETWEEN HILLSIDE & OLIVER

EROSION CONTROL PLAN

WICHITA, KS

EROSION CONTROL PLAN

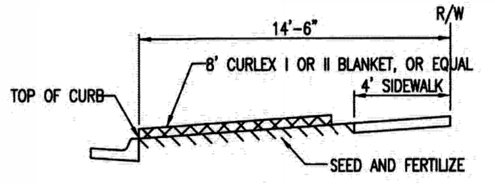
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

DESIGNED	DRAWN	CHECKED
JRA	LES	JRA

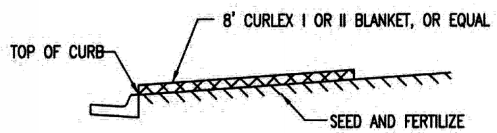
NO.	REVISION	DATE

SHEET NO.

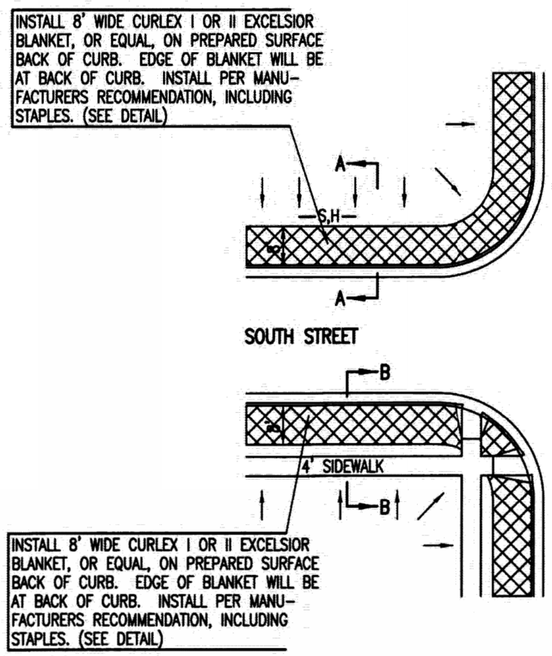
37 OF 54



SECTION B-B



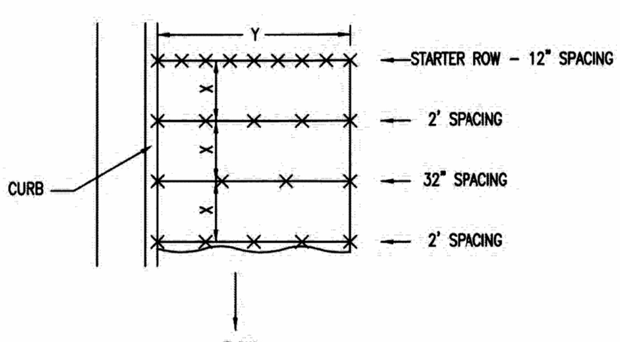
SECTION A-A



GENERAL NOTES

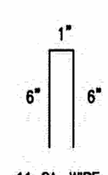
1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE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

BACK OF CURB PROTECTION DETAIL



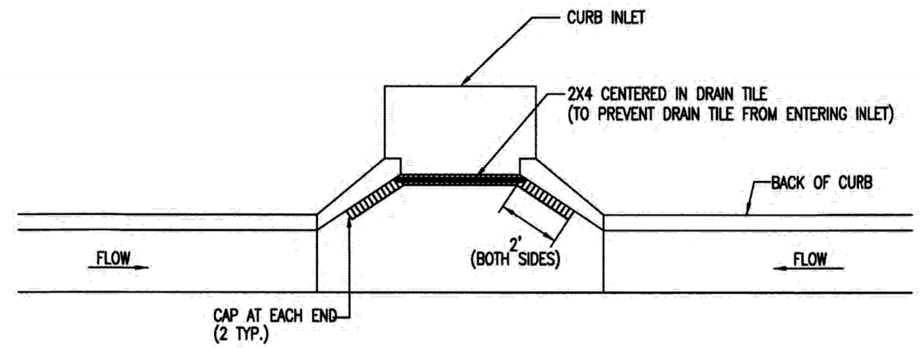
STAPLE PATTERN

NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)



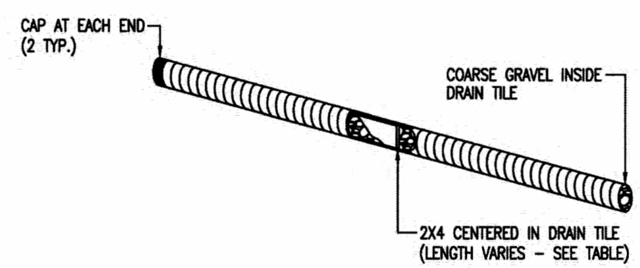
STAPLE

DETAILS FOR APPROVED EROSION CONTROL MAT

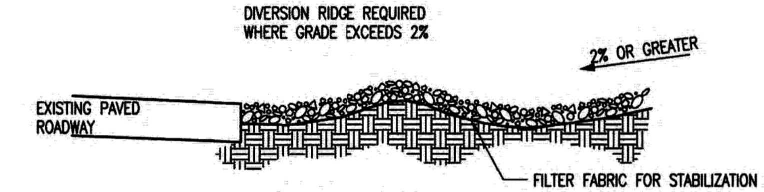


NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

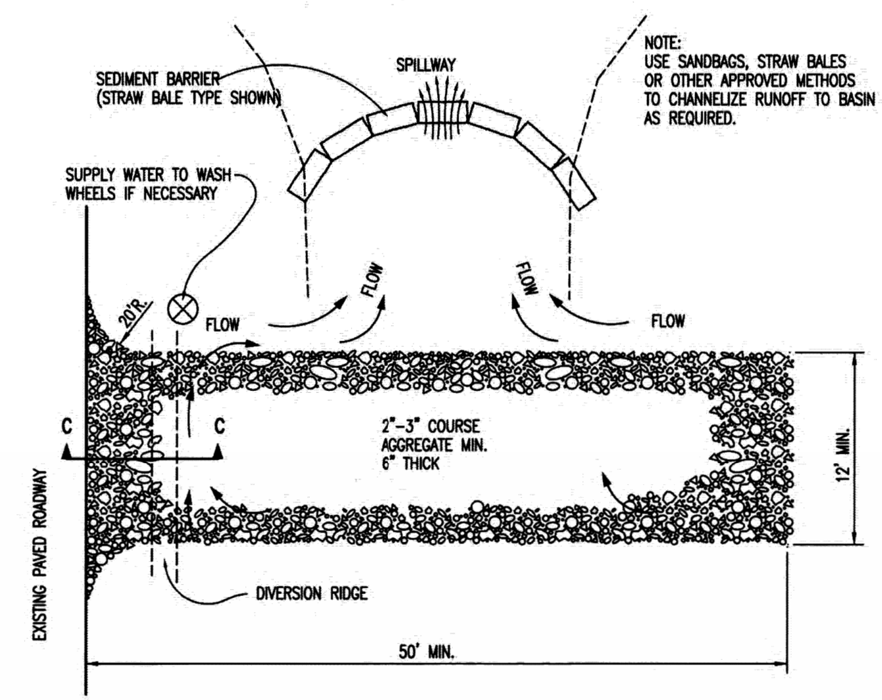
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL 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.

REVISION DATE: MAY 2013

GARY J. JANZEN
KANSAS
PROFESSIONAL ENGINEER
05/30/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

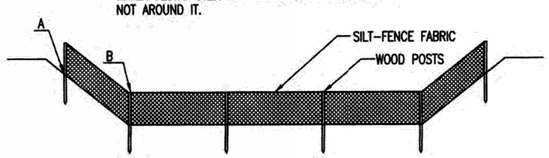
PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET

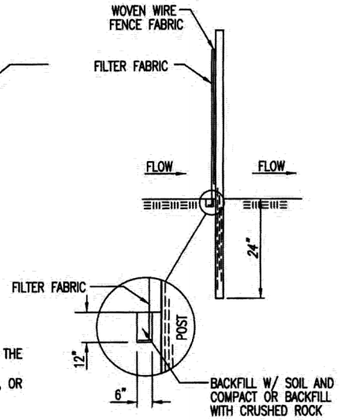
SW-501

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 GRADE (%)	DITCH 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.

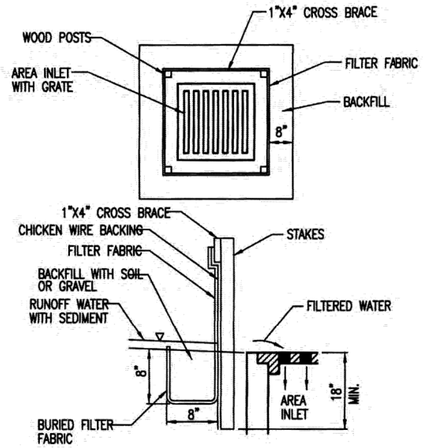
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 SLT 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.

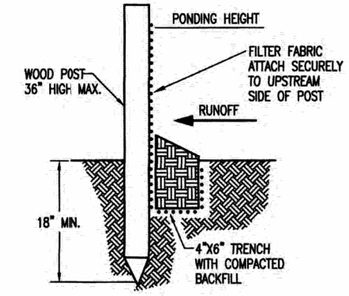
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED PROFESSIONAL ENGINEER KANSAS
05/24/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

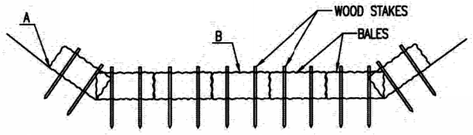
PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
39 OF 54

SW-502

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 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'.

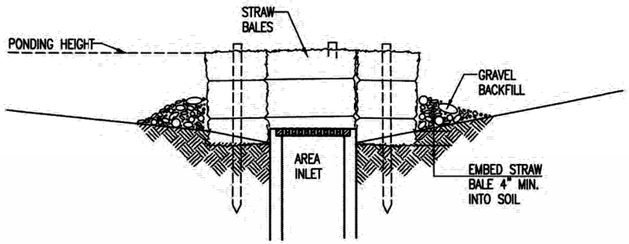
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

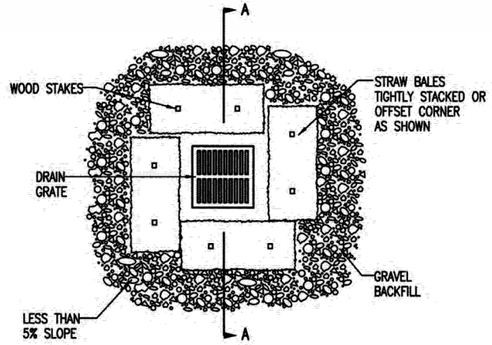
INSPECTION AND MAINTENANCE:

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.

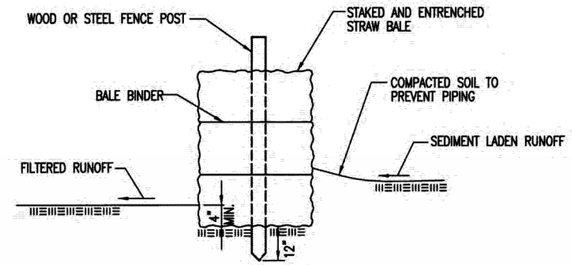
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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?

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 19284 KANSAS PROFESSIONAL ENGINEER
05/30/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	

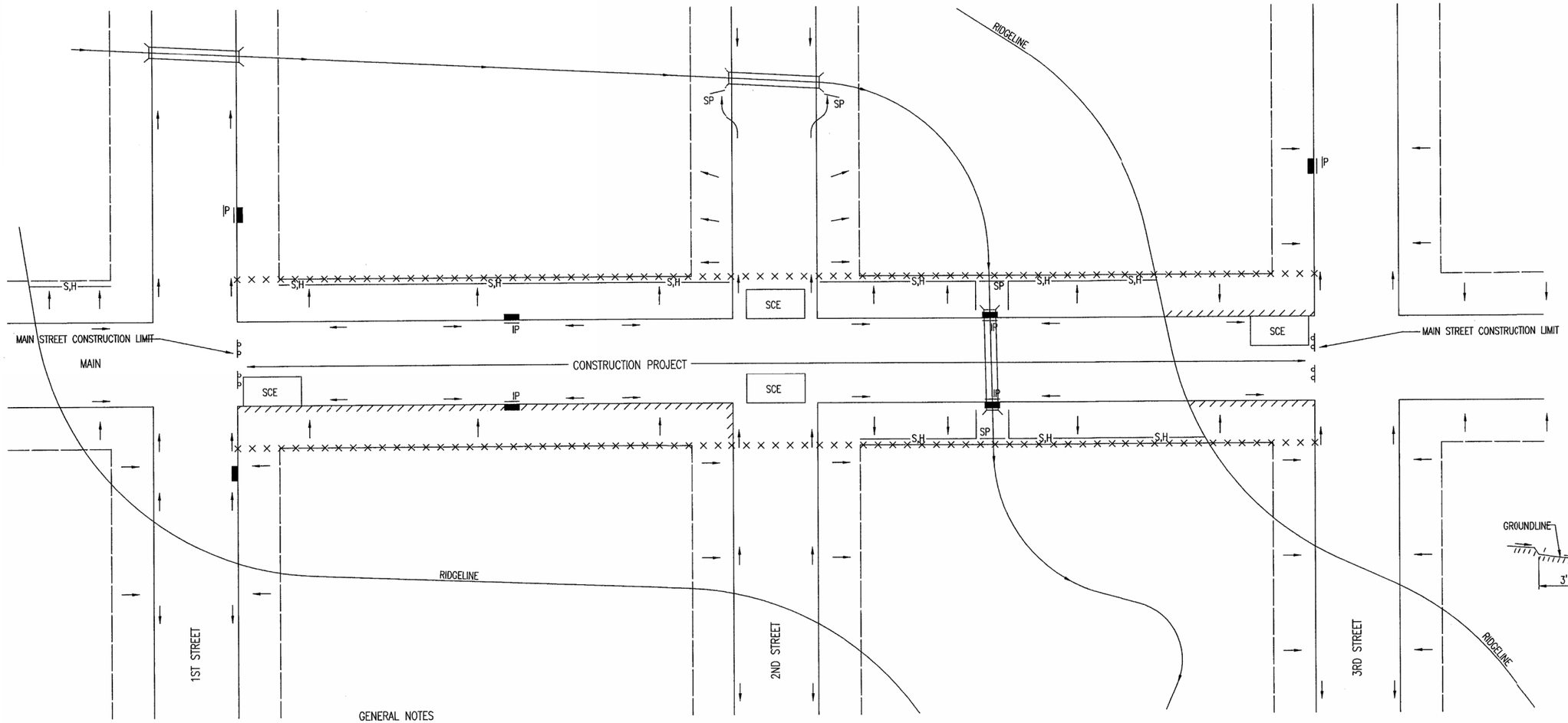
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

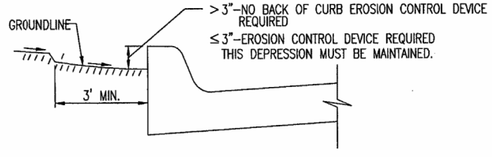
SHEET
40 OF 54

SW-503

GENERAL NOTES

1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
6. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, STUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.





CURB BACKFILL DETAIL

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

- R-O-W LIMITS
- DRAINAGE FLOW PATH
- R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP — INLET PROTECTION
- S,H — SILT FENCE OR HAY BALE BARRIER
- SP — STREAM PROTECTION
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- BACK OF CURB PROTECTION

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
2. THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
3. EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
4. INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
5. EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
7. ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
8. THE CONTACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
   A. THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs – BACK OF CURB SEDIMENT BARRIER DETAILS)
   B. THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
   C. ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
   D. SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

GARY L. JANZEN LICENSED 16294 KANSAS PROFESSIONAL ENGINEER
06/05/15

REVISION: JUNE 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STREET IMPROVEMENT PROJECTS

CITY ENGINEER: GARY JANZEN, P.E.

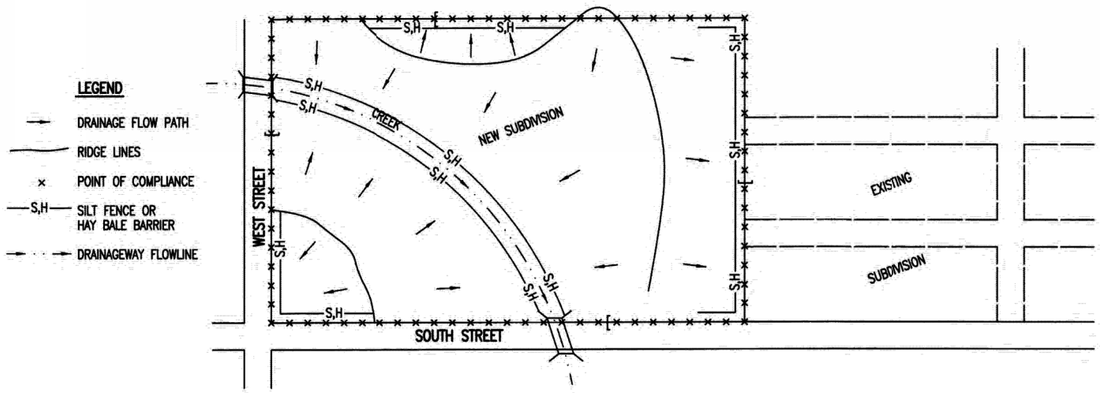
PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET: 41 OF 54

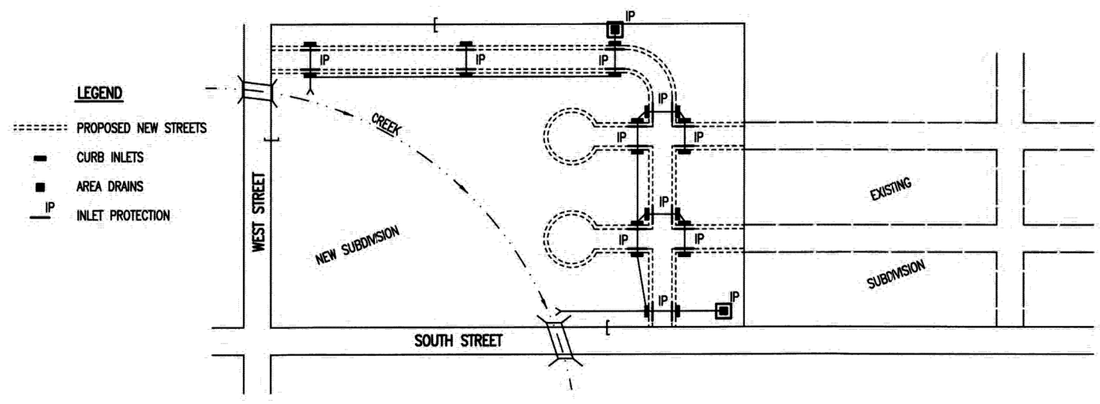
SW-504

PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



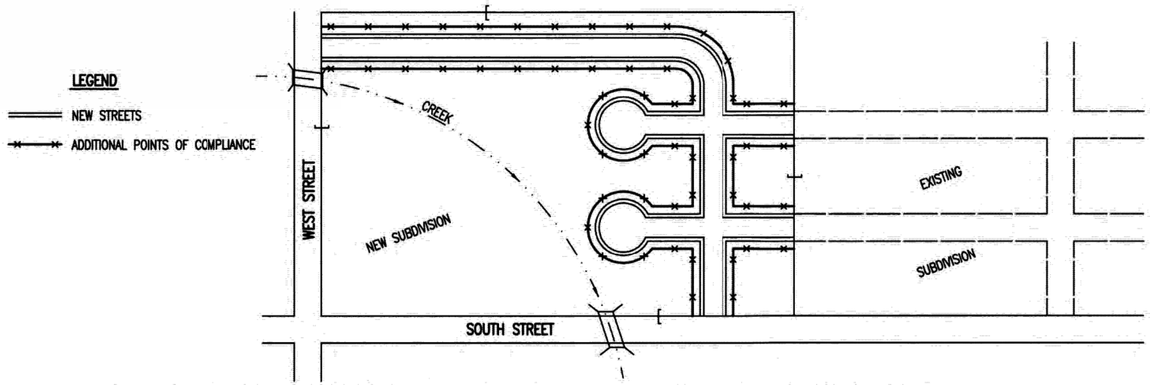
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 2 – INSTALLATION OF STORM SEWER



1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 – STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
7. ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
8. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

PHASE 3 – STREET CONSTRUCTION

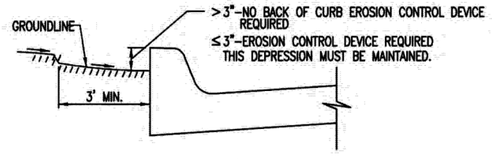


1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
   A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
   B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
6. FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED PROFESSIONAL ENGINEER KANSAS 16284 — 05/30/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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SW-505

PLOTTED: Tuesday, May 02, 2017 @ 05:44PM

MKEC
Wichita, KS • 316-684-8600

17TH STREET BETWEEN HILLSIDE & OLIVER

PAVEMENT MARKING AND SIGNAGE PLANS

WICHITA, KS

PAVEMENT MARKING & SIGNING PLAN

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=40'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

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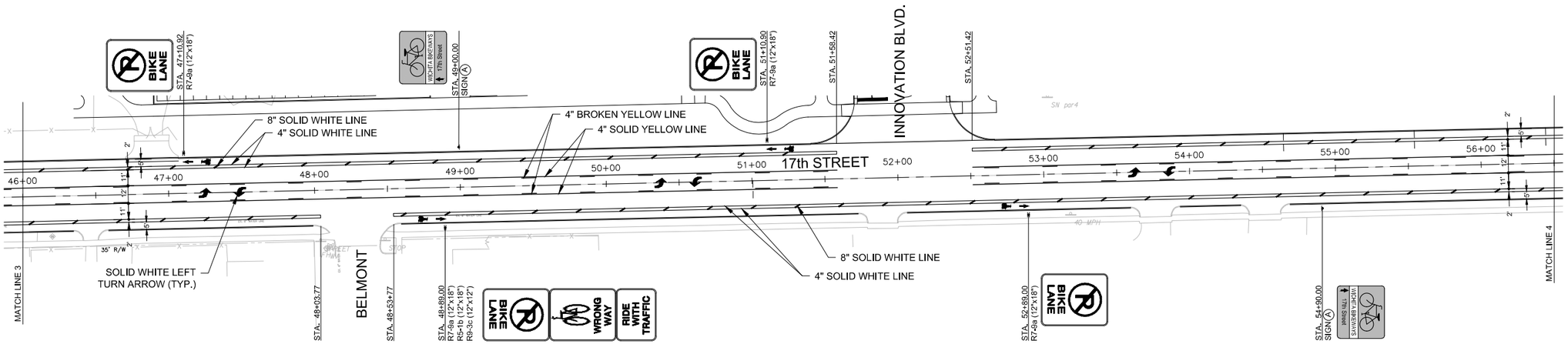
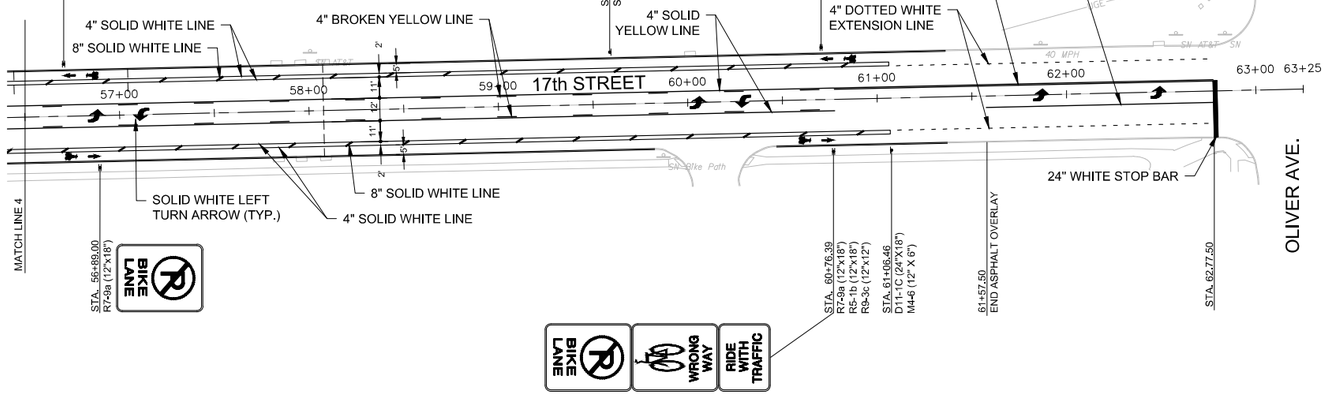
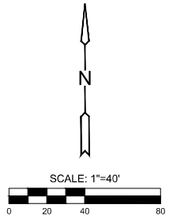




NOTES:
- REMOVE EXISTING PAVEMENT MARKINGS BETWEEN STATIONS 61+36.50 AND 62+77.50

- ALL EXISTING SIGNS ARE TO REMAIN.



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Wichita, KS • 316-684-8600

PAVEMENT MARKING AND SIGNAGE PLANS

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVEMENT MARKING & SIGNING PLAN

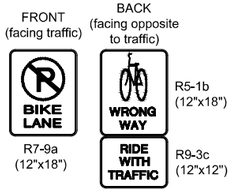
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=40'

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

SHEET NO.

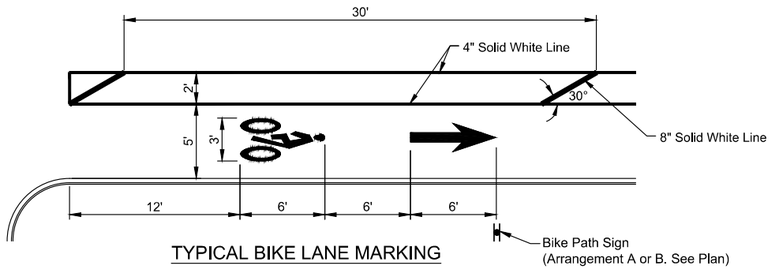
44 OF 54



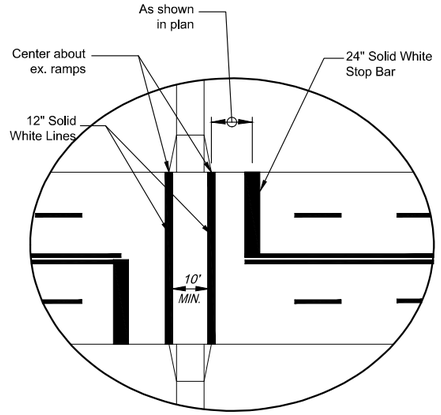
NOTE: Bike Path Sign Placement is Typical. Location may be Adjusted to avoid Conflicts with Utilities, Signs, or other Objects.

TYPICAL BIKE PATH SIGN - ARRANGEMENT (B)

TYPICAL BIKE PATH SIGN - ARRANGEMENT (A)



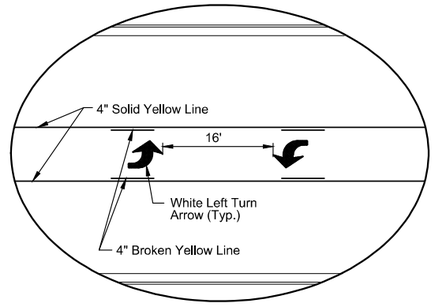
TYPICAL BIKE LANE MARKING



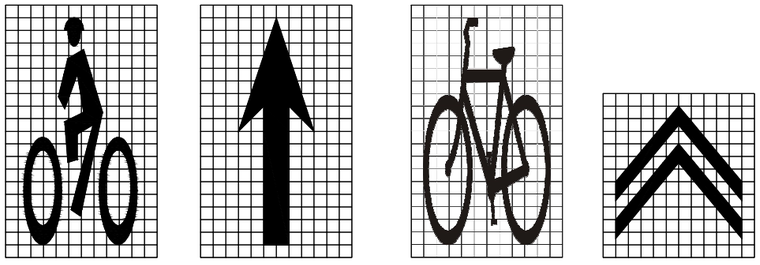
TYPICAL PAINTED CROSSWALK

Crosswalk lines shall be 12" solid white lines. They shall be spaced a minimum of 10' apart from inside edge to inside edge.

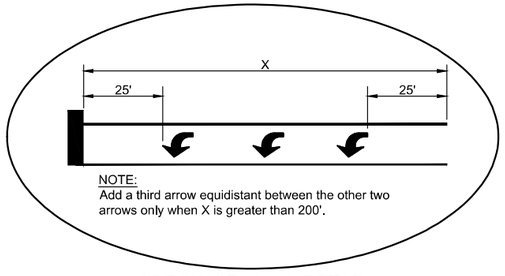
When required, Stop Lines shall be installed a minimum of 5' from crosswalks.



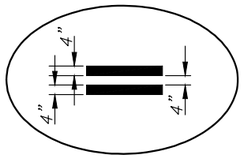
TWO WAY LEFT TURN DETAIL



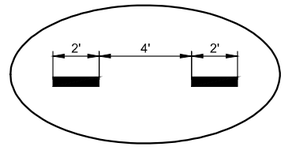
TYPICAL BIKE LANE SYMBOLS ☐ = 4"x4"



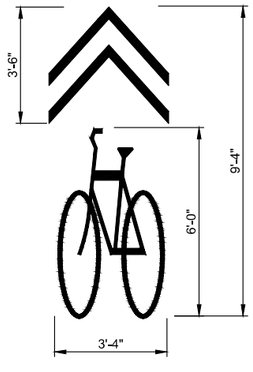
ARROW SPACING DETAIL



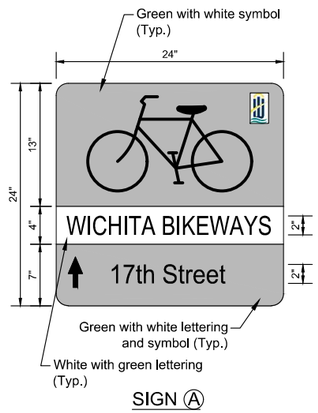
TYPICAL SPACING FOR 4" DOUBLE YELLOW LINE



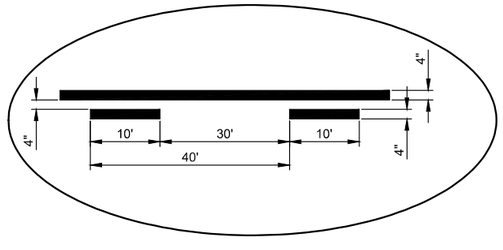
TYPICAL SPACING
FOR 4" DOTTED WHITE EXTENSION LINE



SHARED LANE MARKING



SIGN (A)



TYPICAL SPACING
FOR 4" BROKEN YELLOW LINES &
4" SOLID YELLOW LINE

Pavement Markings - All pavement markings shall be epoxy. All pavement markings on concrete shall be epoxy. Pavement markings shall be installed per manufacturer's recommendations and shall meet KDOT's 2015 Edition of the Standard Specification Section 806. Full traffic may not be restored (and substantial project completion achieved) until all pavement markings are in place. Should construction timing be such that restoration of traffic becomes necessary during temperatures prohibiting the installation of thermoplastic markings, the contractor shall install and maintain temporary markings until such time that thermoplastic markings may be properly installed. Except for the material requirement, temporary pavement markings shall be placed equivalent, in every manner (i.e. dimension, frequency, spacing, etc.), to the permanent marking layout. The cost for temporary pavement markings will not be paid for directly, but shall be considered subsidiary to the bid item for "Pavement Markings".

SUMMARY OF QUANTITIES (FOR INFORMATION ONLY)

ITEMS	QUANTITY	UNIT
Pavement Marking (White)(4")	17,050	L.F.
Pavement Marking (White)(6")	120	L.F.
Pavement Marking (White)(8")	1,116	L.F.
Pavement Marking (White)(12")	96	L.F.
Pavement Marking (White)(24")	76	L.F.
Pavement Marking (Yellow)(4")	10,548	L.F.
Pavement Marking Symbol (Left Arrow)	34	Each
Pavement Marking Symbol (Thru Arrow)	26	Each
Pavement Marking Symbol (Bike)	27	Each
Pavement Marking Symbol (Sharrow)	1	Each
Pavement Marking Removal	750	L.F.

RECAPITULATION OF QUANTITIES

BID ITEM	QUANTITY	UNIT
Pavement Marking	Lump Sum	L.S.

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PAVEMENT MARKING AND SIGNAGE PLANS

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

PAVEMENT MARKING & SIGNING DETAILS

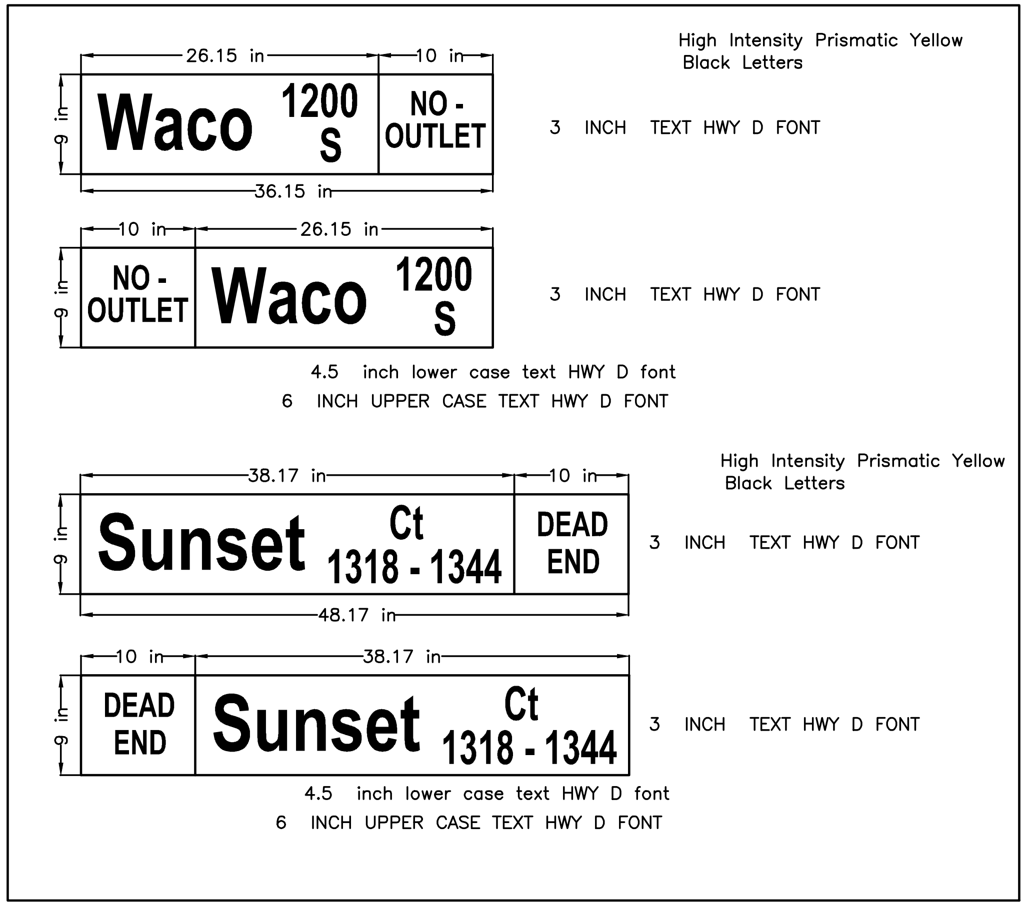
PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

DESIGNED	DRAWN	CHECKED
JRA	BKS	BLB

NO.	REVISION	DATE

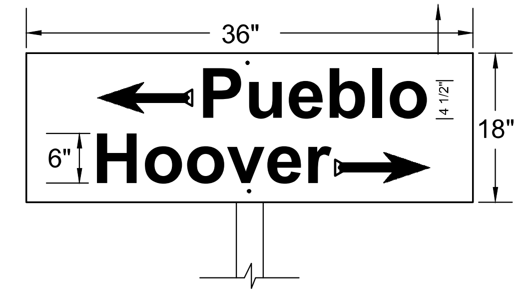
SHEET NO.

45 OF 54

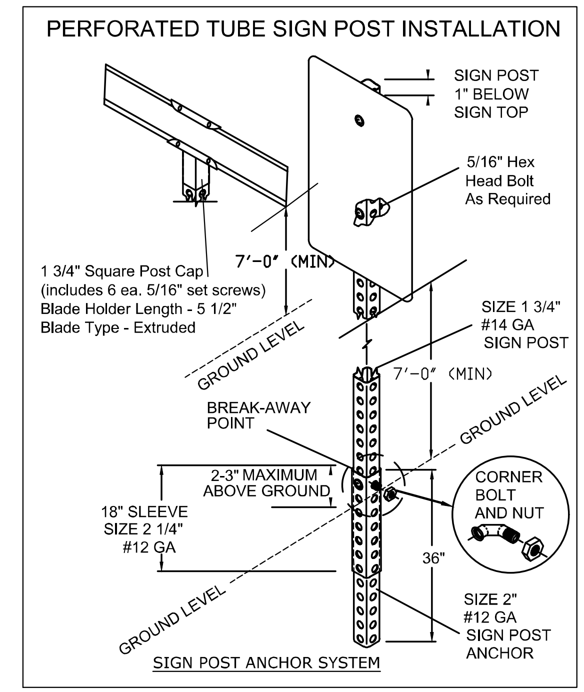


SIGN ASSEMBLY TABLE

STATION	OFFSET	SIGN	QUANTITY	
			SIGNS	POSTS
17TH STREET				
11+50.00	27.50' Rt.	W4-2R	1	1
15+30.00	27.50' Rt.	R7-9A / R5-1B / R9-3C	3	1
16+48.68	27.50' Lt.	R7-9A	1	1
17+84.96	27.50' Rt.	R7-9A	1	1
19+06.68	30.50' Lt.	R7-9A / R5-1B / R9-3C	3	1
19+60.00	27.50' Rt.	SIGN A	2	1
21+40.67	27.50' Rt.	R7-9A	1	1
22+92.41	30.50' Lt.	R7-9A	1	1
25+01.99	27.50' Rt.	R7-9A / R5-1B / R9-3C	3	1
25+60.00	27.50' Lt.	SIGN A	1	1
26+92.39	27.50' Lt.	R7-9A	1	1
28+45.54	27.50' Rt.	R7-9A	1	1
29+50.00	27.50' Rt.	SIGN A	1	1
30+81.77	27.50' Lt.	R7-9A / R5-1B / R9-3C	3	1
31+13.38	27.50' Rt.	R7-9A	1	1
33+95.00	27.50' Lt.	R7-9A	1	1
35+51.10	27.50' Rt.	R7-9A	1	1
38+92.66	27.50' Rt.	R7-9A / R5-1B / R9-3C	3	1
38+95.98	27.50' Lt.	R7-9A	1	1
42+02.97	27.50' Rt.	R7-9A	1	1
43+10.93	27.50' Lt.	R7-9A / R5-1B / R9-3C	3	1
43+33.84	27.50' Rt.	R7-9A	1	1
47+10.92	27.50' Lt.	R7-9A	1	1
48+89.00	27.50' Rt.	R7-9A / R5-1B / R9-3C	3	1
49+00.00	27.50' Lt.	SIGN A	1	1
51+10.90	27.50' Lt.	R7-9A	1	1
52+89.00	27.50' Rt.	R7-9A	1	1
54+90.00	27.50' Rt.	SIGN A	1	1
56+71.00	27.50' Lt.	R7-9A / R5-1B / R9-3C	3	1
56+89.00	27.50' Rt.	R7-9A	1	1
59+60.00	27.50' Lt.	SIGN A	1	1
60+71.00	27.50' Lt.	R7-9A	1	1
60+76.39	27.50' Rt.	R7-9A / R5-1B / R9-3C	3	1
TOTAL			**52**	**33**



FLAT PLATE STREET NAME SIGN



NOTE: REFERENCES BELOW TO "STANDARD SPECIFICATIONS" DENOTE "STANDARD SPECIFICATION FOR STATE ROAD AND BRIDGE CONSTRUCTION EDITION 1990" BY THE KANSAS DEPARTMENT OF TRANSPORTATION.

1. ***FABRICATION AND INSTALLATION OF ALL SIGNS SHALL CONFORM TO THE LATEST EDITION OF THE MUTCD.***

1a. POST ANCHORS: POSTS SHALL BE ANCHORED WITH A YIELDING BASE POST SUPPORT AS DETAILED.

2. POSTS FOR TRAFFIC CONTROL SIGNS: POSTS SHALL BE GALVANIZED AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 1620 OF THE STANDARD SPECIFICATIONS, EXCEPT THAT ALL POSTS SHALL WEIGH 3 LBS./FT. MINIMUM.

3. POSTS FOR STREET NAME SIGNS (SNS): POSTS SHALL BE 9 FEET LONG, CONSTRUCTED FROM #14 GALVANIZED STEEL PIPE AND SHALL BE 1 3/4" SQUARE WEIGHING A MINIMUM OF 3 LBS/FT. POSTS SHALL BE POSITIONED SO THAT THE BOTTOM BLADE IS 7 FEET ABOVE GRADE.

4. POSTS FOR END OF ROADWAY SIGN TO BE 8' LONG AND INSTALLED A MINIMUM OF 4' FROM ROADWAY TO BOTTOM OF SIGN.

5. SIGN BLANKS FOR TRAFFIC CONTROL SIGNS: SIGN BLANKS SHALL BE FABRICATED FROM 0.080" ALUMINUM ALLOY 6063-T6 CONFORMING TO THE REQUIREMENTS OF SUBSECTION 1626 OF THE STANDARD SPECIFICATIONS.

6. SIGN BLADES FOR STREET NAME SIGNS: EXTRUDED ALUMINUM BLADES SHALL BE ALUMINUM ALLOY CONFORMING TO 6063-T6 OR 5052-H38 (ASTM SPECIFICATION B221, LATEST ISSUE). BLADES SHALL HAVE AN ALODINE OR PHOSPHATE ETCHED FINISH. BLADES SHALL HAVE SQUARE CORNERS AND NO HOLES.

   MINIMUM BLADE LENGTH SHALL BE 24". MAXIMUM BLADE LENGTH SHALL BE 48". LENGTH VARIES BY INCREMENTS OF 6".

   BLADES BEARING THE STREET NAMES SHALL BE FIRMLY ATTACHED TO THE MOUNTING BRACKETS USING ALLEN-TYPE CONICAL SET SCREWS. THE BLADES SHALL BE ORIENTED PARALLEL TO THE STREET.

7. MOUNTING BRACKETS FOR SIGNS: DIE-CAST ALUMINUM BRACKETS SHALL BE ALUMINUM ALLOY 360 HAVING A TENSILE STRENGTH OF 44,000 PSI. THE BRACKETS SHALL BE SMOOTHLY FINISHED FREE OF PITS, BURRS, AND FLAWS. EACH BRACKET SHALL BE TAPPED AND DRILLED FOR 5/16" ZINC-PLATED ALLEN-TYPE SET SCREWS HAVING SELF-LOCKING SAW-TOOTH ENDS.

8. FASTENERS: ALL STEEL FASTENERS FOR TRAFFIC CONTROL SIGNS SHALL BE GALVANIZED AND SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 1614 OF THE STANDARD SPECIFICATIONS.

9. REFLECTIVE SHEETING: REFLECTIVE SHEETING SHALL BE A MINIMUM OF HIGH INTENSITY PRISMATIC.

10. PROCESS INK: ALL PROCESS INK SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 2202 OF THE STANDARD SPECIFICATIONS.

11. DETAILS - SNS: THE REFLECTIVE SHEETING FOR THE 9" STANDARD SIZE SNS IS TO BE THE HIGHWAY GREEN BACKGROUND WITH SILVER-WHITE #2 COPY WITH 6" UPPER CASE AND 4 1/2" LOWER CASE PRIMARY COPY AND SUFFIX COPY. BOTH SERIES "C". FACES TO TRIM TO A 8 1/2". (SEE DETAIL A.)

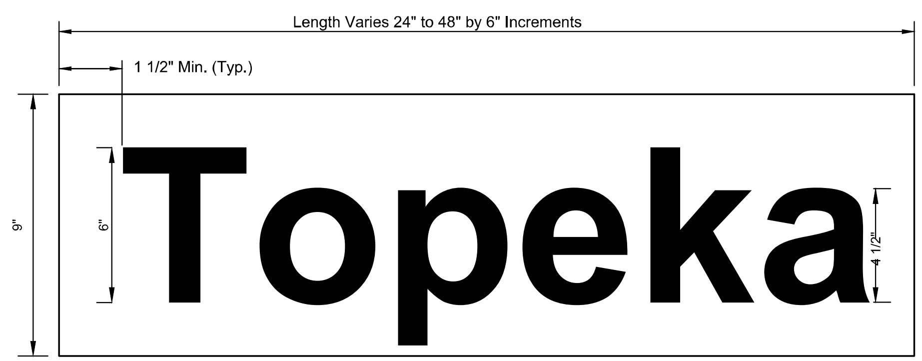
    THE REFLECTIVE SHEETING FOR THE 9" METRO SIZE SNS IS TO BE THE HIGHWAY GREEN BACKGROUND WITH SILVERWHITE #2 COPY WITH 6" UPPER CASE AND 4 1/2" LOWER CASE PRIMARY COPY AND SUFFIX COPY, BOTH SERIES "C". THE CARDINAL DIRECTION CENTERED DIRECTLY BELOW THE BLOCK NUMBER SHALL BE AN UPPER CASE, 3" SERIES "C" LETTER. FACES TO TRIM TO A 8 1/2" WIDTH. (SEE DETAIL B.)

    FOR CUL-DE-SAC STREETS, A 9" METRO SIZE BLADE SHALL BE USED WITH THE BLOCK NUMBERS DISPLAYED BENEATH THE STREET NAME.

    IF BLOCK NUMBERS ARE NOT SHOWN ON THE PLANS THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEER AT 268-4501 PRIOR TO MANUFACTURING THE SIGN.

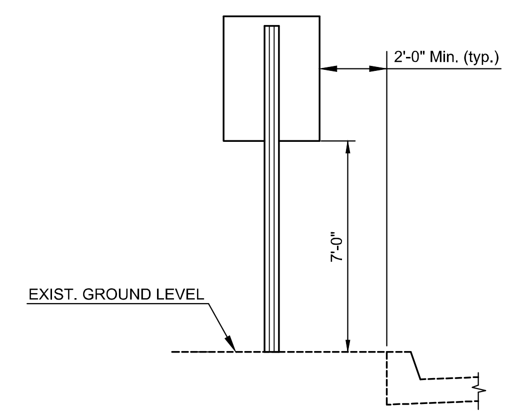
    SHOP DRAWINGS OF LAYOUT FOR SNS SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING DIVISION OF THE CITY OF WICHITA FOR APPROVAL PRIOR TO FABRICATION. THE FINISHED SIGNS AS SUPPLIED SHALL BE OF GOOD APPEARANCE, FREE FROM RAGGED EDGES, CRACKS SCALES OR BLISTERS AND SHALL BE CLEAN-CUT. SIGNS SHALL BE PACKED IN SUCH MANNER AS TO PREVENT DAMAGE OR DEFACEMENT DURING SHIPMENT OR STORAGE.

12. PERMANENT TRAFFIC CONTROL AND SNS: PERMANENT TRAFFIC CONTROL AND SNS SHALL BE MEASURED AND PAID FOR AT THE LUMP SUM PRICE FOR SIGNING. THE PAYMENT AS SET FORTH ABOVE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL EXCAVATION, BACKFILLING. POSTS, ANCHORS, FASTENERS, MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.



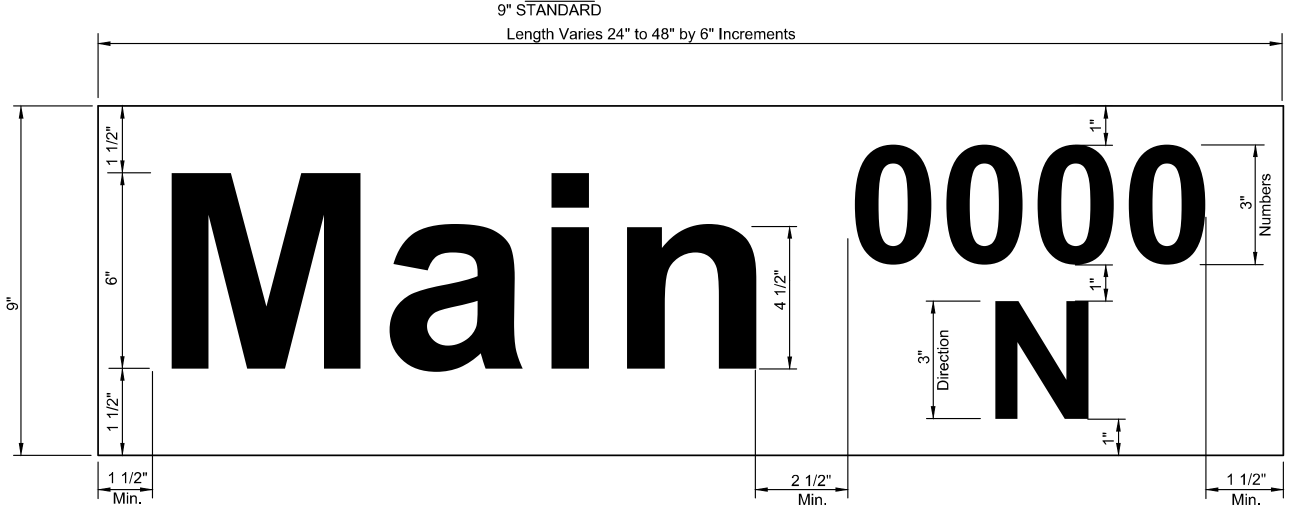
DETAIL A
9" STANDARD

STREET NAME	NO. BLADES REQ'D	
	9" STD.	9" METRO

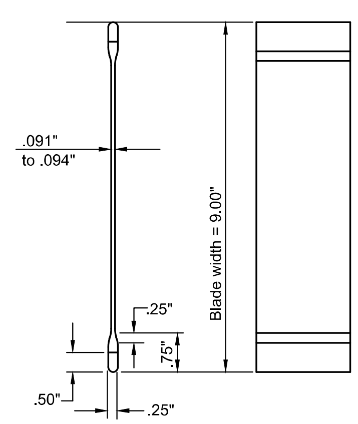


SIGN INSTALLATION - CURBED STREET

Note: If sign is to be installed adjacent to a non-curb street, adjustments may need to be made to sign height and location as directed by the engineer.



DETAIL B
9" METRO



STREET NAME SIGN
BLADE DETAILS

REVISED NOVEMBER 2014

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SIGN DETAILS

TRAFFIC ENGINEER
Brian A. Coon P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85215	707088	11/2014

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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TR-106

PHASING	HANDLING OF TRAFFIC	MAJOR CONSTRUCTION ITEMS	REMARKS
1	Close the outside lane of eastbound traffic on 17th Street. Maintain two-lanes of westbound and one lane of eastbound traffic on 17th Street.	Construct water line improvements. Remove and replace concrete pavement above water line as shown in the construction drawings.	Refer to the one lane closure typical traffic control plan sheet. Phases 1, 2 and 3 may be constructed in different order or combined as desired by the contractor if approved by the engineer.
2	Close the outside lane of westbound traffic on 17th Street. Maintain two-lanes of eastbound and one lane of westbound traffic on 17th Street.	Construct storm sewer improvements. Remove and replace concrete pavement above storm sewer line as shown in the construction drawings.	Refer to the one lane closure typical traffic control plan sheet. Phases 1, 2 and 3 may be constructed in different order or combined as desired by the contractor if approved by the engineer.
3	Close one side of the roadway on 17th Street and maintain one lane of traffic in each direction in the other two remaining lanes of 17th Street. Multiple set-ups will be required. The work zone length for each traffic control set-up shall be field determined and approved by the engineer.	Construct the various pavement repairs as shown in the construction drawings.	Refer to the pavement rehab traffic control plan sheet. Phases 1, 2 and 3 may be constructed in different order or combined as desired by the contractor if approved by the engineer.
4	Allow full-use of 17th Street between Hillside and Oliver. Provide temporary lane closures as necessary to complete the construction items to occur this phase.	Construct edge grinding, asphalt overlay and pavement marking. Perform all site restoration activities and all other remaining work items that have yet to be constructed.	Temporary lane closures and other traffic control operations used in this phase shall follow appropriate standard traffic control standards.

All signs and pavement markings conflicting with construction traffic control shall be covered or removed as directed by the Engineer.

As the various construction activities progress, certain situations may arise that will preclude adhering to the original construction sequence or which, in the opinion of the Contractor, would readily adapt themselves to a more efficient phasing operation. Should this occur, the Contractor may submit to the Engineer an alternative plan for approval.

All traffic control signs and devices shall be in conformance with the latest edition of the Manual on Uniform Traffic Control Devices.

Contractor shall provide temporary asphalt pavement where necessary to bridge grade differentials where 17th Street pavement has been removed in front of a property requiring access. Cost of Temporary Surfacing shall be paid for as "AC Pavement 6" Temporary". The plan quantity shown is an arbitrary amount. The actual quantity will be determined in the field during construction as approved by the Engineer.

NOTES:
BARRICADE PLACEMENT:

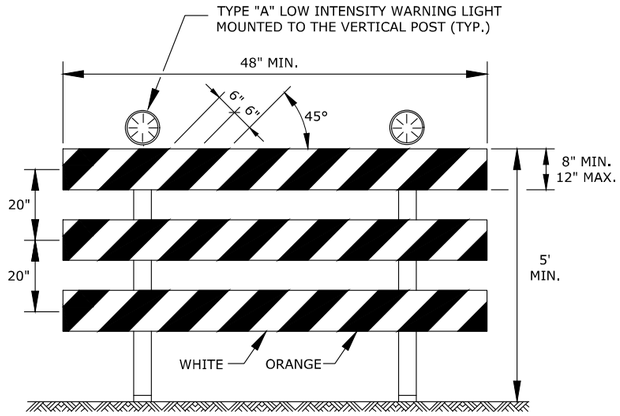
A) COMPLETE ROAD CLOSURE

WHEN A ROADWAY IS CLOSED, TYPE III BARRICADES SHALL BE PLACED END-TO-END TO COMPLETELY COVER THE ROADWAY AND SHOULDERS. WHEN ACCESS MUST BE ALLOWED FOR CONSTRUCTION OR OTHER OFFICIAL/GOVERNMENT VEHICLES, TYPE III BARRICADES SHALL BE LONGITUDINALLY STAGGERED FAR ENOUGH APART FROM ONE ANOTHER TO ALLOW SAFE PASSAGE OF VEHICLES AND MAINTAIN THE APPEARANCE OF A CLOSED ROADWAY. TYPE III BARRICADES SHALL BE REALIGNED AND PLACED END-TO-END TO DENY ANY ACCESS WHEN THE CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY.

B) ROAD CLOSED - LOCAL TRAFFIC

AS SHOWN IN FIGURE 4, WHEN LOCAL TRAFFIC MUST BE ALLOWED ACCESS INTO THE WORK ZONE, TYPE III BARRICADES SHALL BE LONGITUDINALLY STAGGERED TO MAINTAIN THE APPEARANCE OF A CLOSED ROADWAY. A SECOND LINE OF END-TO-END TYPE III BARRICADES SHALL BE PLACED JUST BEYOND THE LAST ACCESS POINT IN THE WORK ZONE, TO COMPLETELY CLOSE THE ROADWAY AS DESCRIBED IN NOTE 2-A.

AS SHOWN IN FIGURE 1 AND FIGURE 3, AT THE POINT WHERE THRU TRAFFIC MUST DETOUR AND LOCAL TRAFFIC CAN PROCEED TO THE LOCATION WHERE THE ROADWAY IS COMPLETELY CLOSED, THE R11-3A (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) OR R11-4 (ROAD CLOSED LOCAL TRAFFIC ONLY OR ROAD CLOSED TO THRU TRAFFIC) SIGN SHALL BE USED WITH TYPE III BARRICADES (WINGED POSITION), PLACED ON THE SHOULDERS OF ROADWAY.



TYPE III BARRICADE WITH LIGHTS

THE ENTIRE AREA OF BARRICADE RAILS, BOTH FRONT AND BACK, SHALL HAVE ASTM TYPE III SHEETING.

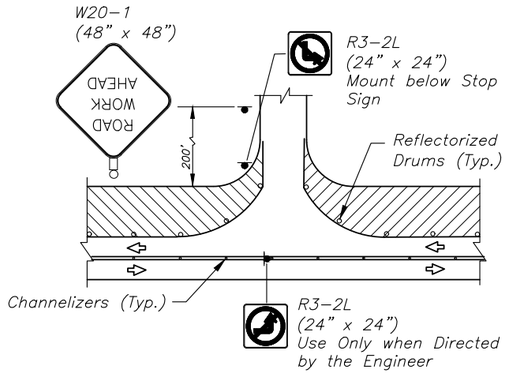
THE STRIPES SHALL SLOPE DOWNWARD TO THE SIDE TRAFFIC IS TO PROCEED OR TOWARD THE CENTER OF THE ROADWAY AT ROAD CLOSURES.

APPROVED SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

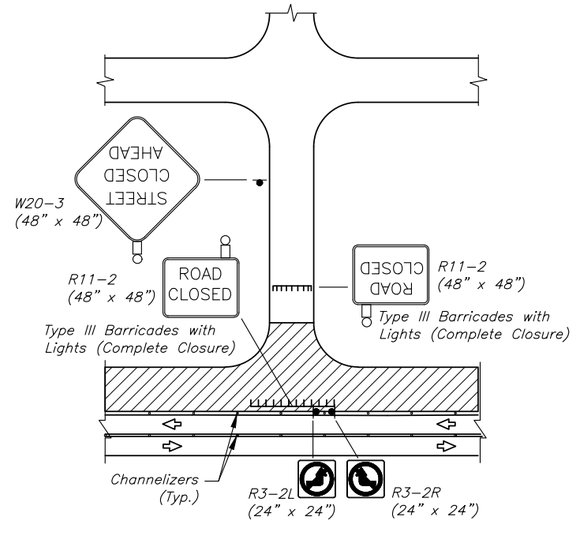
WHEN BARRICADES ARE PLACED END-TO-END OR STAGGERED, A TYPE "A" LOW INTENSITY WARNING LIGHT SHALL BE MOUNTED TO THE VERTICAL POST NEAR EACH OUTSIDE CORNER OF THE END BARRICADES.

LEGEND

- Type III Barricades with lights
- Mount On Type III Barricade
- Type B Warning Light
- One Post Sign
- Two Post Sign
- Traffic Flow
- Work Area
- Reflectorized Drum
- Channelizer
- Mount Overhead on Signal Cross-arm



TYPICAL ENTRANCE AND SIDE STREET
(TWO-WAY TRAFFIC ON MAIN ROAD)



TYPICAL CLOSED SIDE STREET

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

CONSTRUCTION SEQUENCE SUMMARY

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	NONE

DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

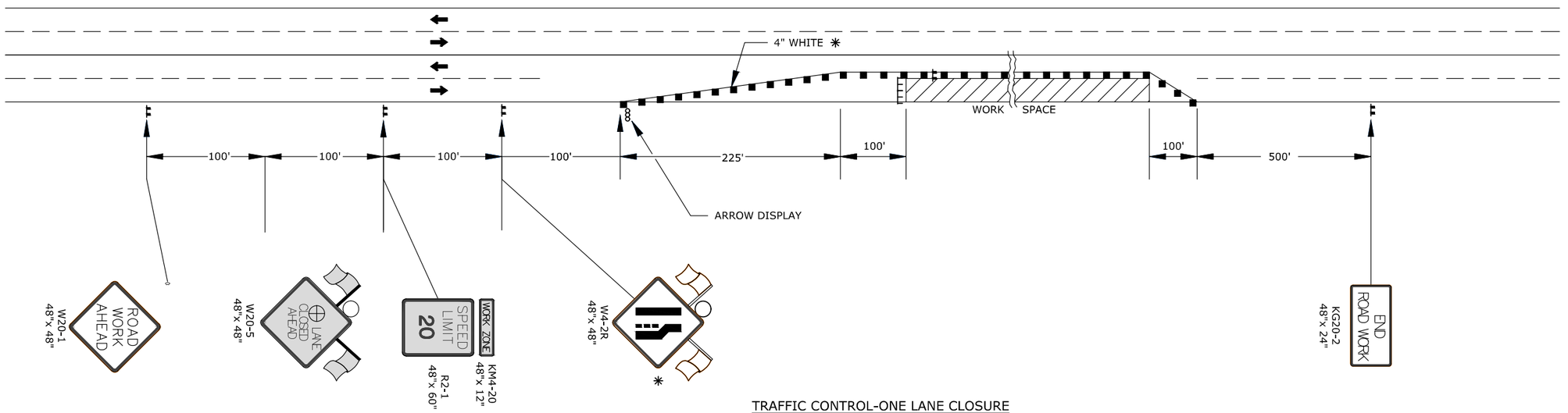
NO.	REVISION	DATE

SHEET NO.

47 OF 54

PLOTTED: Friday, Nov 05, 2017 @ 02:24PM

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	448-90762	2016	48	54



TRAFFIC CONTROL-ONE LANE CLOSURE

TYPE III BARRICADES
X LENGTH TO THE NEAREST WHOLE MILE
■ CHANNELIZING DEVICE
AHEAD, 1500 FT, OR 1 MILE
AHEAD, 1000 FT, 1500 FT, OR ½ MILE
RIGHT OR LEFT
SPEED TO BE DETERMINED BY THE ENGINEER
TYPE "A" LOW INTENSITY WARNING LIGHT

* FOR LEFT LANE CLOSURES USE W4-2L AND YELLOW EDGE LINE ALONG CHANNELIZING DEVICES.

TRAFFIC CONTROL NOTES:

THIS STANDARD TRAFFIC CONTROL SET-UP SHALL BE UTILIZED DURING WATER LINE AND STORM SEWER CONSTRUCTION UNDER AND ADJACENT TO 17TH STREET.

THE LENGTH OF THE WORK ZONE SHALL NOT BE EXCESSIVELY LONG. A WORK ZONE COVERING THE ENTIRE LENGTH OF UTILITY LINE BEING CONSTRUCTED IS NOT PERMITTED UNLESS APPROVED BY THE ENGINEER. ADJUST THE LENGTH TO MINIMIZE DRIVEWAY AND SIDE STREET CLOSURES.

THE CONTRACTOR SHALL UTILIZE SIDEWALK CLOSURE SIGNS TO PREVENT PEDESTRIANS FROM USING THE CROSS-WALK SIGNAL WHEN STREET OR UTILITY CONSTRUCTION EXTENDS THROUGH THE CROSSWALK.

THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL IF AN ALTERNATE TRAFFIC CONTROL PLAN IS DESIRED BY THE CONTRACTOR.

ONE FLAGGER SHOULD BE STATIONED WITHIN EACH MULTI-LANE ROADWAY ACTIVITY AREA WHERE WORK IS IN A CLOSED LANE ADJACENT TO TRAFFIC AND NOT SEPERATED BY A CONCRETE SAFETY BARRIER SYSTEM.

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STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

TRAFFIC CONTROL - TYPICAL PAVEMENT REHAB PLAN

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	1"=60'

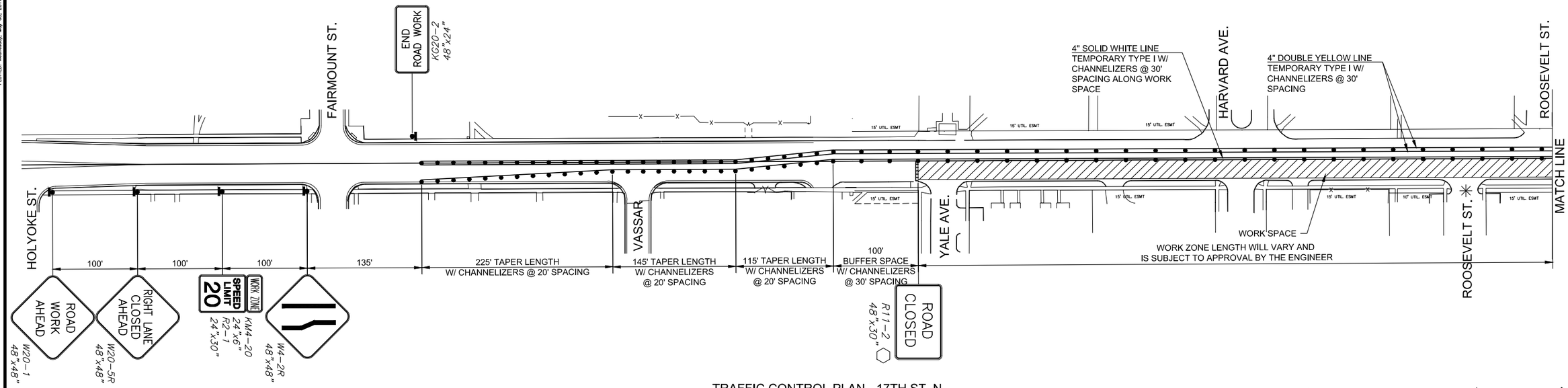
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE

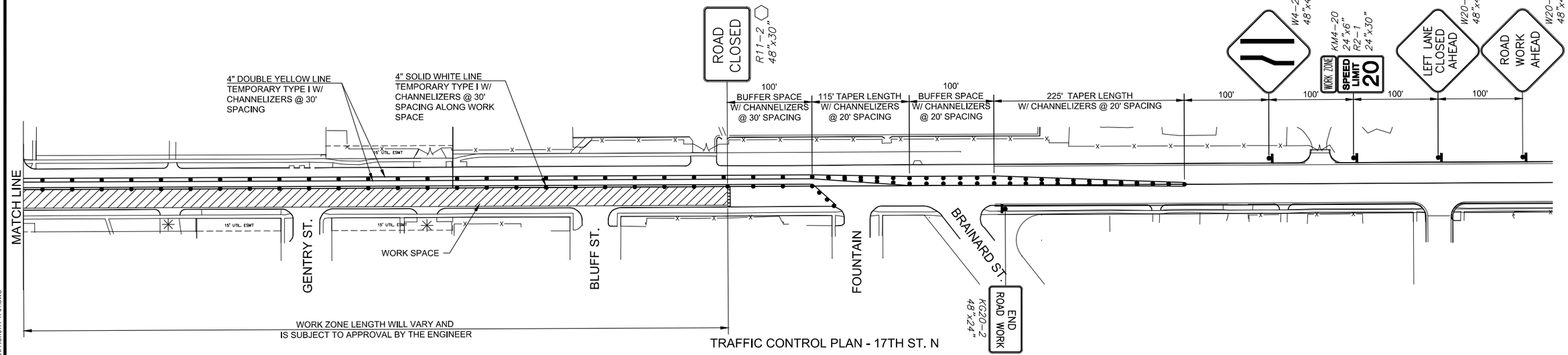
SHEET NO.

48 OF 54

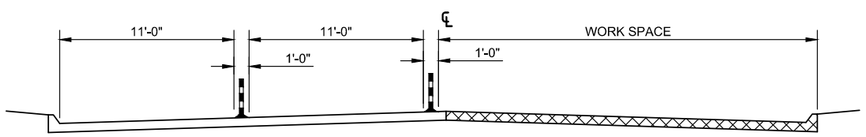
J:\PROJECTS\2015\15010140177_COW_17TH STREET REHAB_150177 CAD\SHTS\05 CIVIL\TRAFFIC\15177 TE744.DWG



TRAFFIC CONTROL PLAN - 17TH ST. N



TRAFFIC CONTROL PLAN - 17TH ST. N



TRAFFIC CONTROL - 17TH ST. N

TRAFFIC CONTROL NOTES:

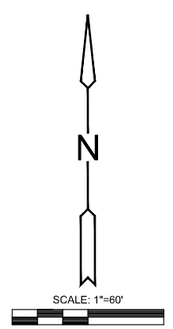
THIS PLAN IS A TYPICAL TRAFFIC CONTROL PLAN TO BE UTILIZED DURING PAVEMENT PATCHING OPERATIONS. THE PLAN ALLOWS PATCHING TO OCCUR IN TWO ADJACENT LANES. THE LENGTH OF THE WORK ZONE SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL IF AN ALTERNATE TRAFFIC CONTROL PLAN IS DESIRED BY THE CONTRACTOR.

THE CONTRACTOR SHALL PROVIDE ACCESS TO SIDE STREETS AND ENTRANCES THAT FALL WITHIN THE WORK ZONE WHEN POSSIBLE. COORDINATE OPENING LOCATIONS AND ADJUSTMENTS TO THE TRAFFIC CONTROL WITH THE ENGINEER.

MINIMIZE THE DURATION OF DRIVEWAY CLOSURES. COORDINATE CLOSURES WITH THE PROPERTY OWNERS PRIOR TO CLOSING. ROOSEVELT STREET NORTH AND SOUTH OF 17TH STREET SHALL NOT BE CLOSED AT ANY TIME DURING CONSTRUCTION.

NO TWO CONSECUTIVE SIDE STREETS CAN BE CLOSED AT THE SAME TIME (EXCEPTION IS FOUNTAIN & BRAINARD ST.)



LEGEND

- Type III Barricade
- Channelizer
- Work Space
- Traffic Flow
- Single Access Point

MKEC
Wichita, KS • 316-684-6600

STREET REHABILITATION FOR

17TH STREET BETWEEN HILLSIDE & OLIVER

WICHITA, KS

GENERAL TRAFFIC CONTROL

PROJECT NO.	472-85215
DATE	5/3/2017
SCALE	AS SHOWN

DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE

SHEET NO.

49 OF 54

J:\PROJECTS\2015\15010\40177_CON_17TH STREET REHAB_150177 CAD\SHTS\05 CIVIL\TRAFFIC\15177-TP01.DWG

1) Design Speed: Those items delegated to temporary traffic control should be designed and installed using the posted/legal speed of the roadway prior to work starting.

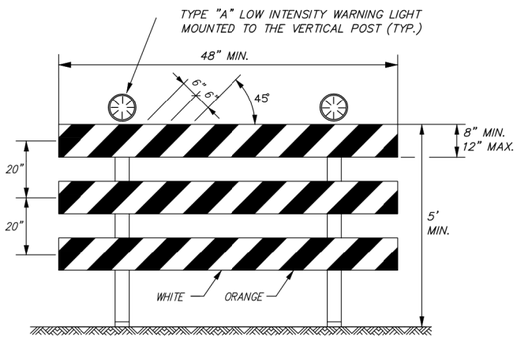
2) Minimum lane width: Lane widths shall be a minimum of 11' (measured between centerlines of pavement markings) or as shown on the plans, or as directed by the engineer. A lane width less than 11' may require restricted roadway width signing.

3) Consideration should be made to seperate pedestrian and, if needed, bicycle movements from both work site activity and vehicular traffic. Unless a reasonable safe route that does not involve crossing the roadway can be provided, pedestrians should be appropriately directed with advance signing that encourages them to cross to the opposite side of the roadway. In urban and suburban areas with high vehicular traffic volumes, these signs should be placed at intersections (rather than midblock locations) so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing.

4) When existing pedestrian facilities are disrupted, closed, or relocated, the temporary facilities shall be detectable and include accessiblity features consistent with the features present in the existing pedestrian facility.

5) When the driving surface open to traffic is milled, is a temporary surface made of loose material, or when directed by the engineer use the W8-15 (Grooved Pavement) or W8-7(Loose Gravel) a "C" distance after the W20-1 (Road Work Ahead) on mainline approaches. Signs may be used with the W8-15p motorcycle plaque as directed by the engineer. Display signs in advance of the condition as long as the condition is present.

6) Alternative temporary rumble strip options may be available. Please contact the Temporary Traffic Control Unit for more information at 785-296-0355 or 785-296-1183.



TYPE III BARRICADE WITH LIGHTS

The entire area of barricade rails, both front and back, shall have ASTM Type III sheeting.

The stripes shall slope downward to the side traffic is to proceed or toward the center of the roadway at road closures.

Approved signs mounted on Type III barricades should not cover more than 50% of the top two rails or 33% of the total area of the three rails.

When barricades are placed end-to-end or staggered, a Type "A" low intensity warning light shall be mounted to the vertical post near each outside corner of the end barricades.

BARRICADE PLACEMENT:

A) COMPLETE ROAD CLOSURE

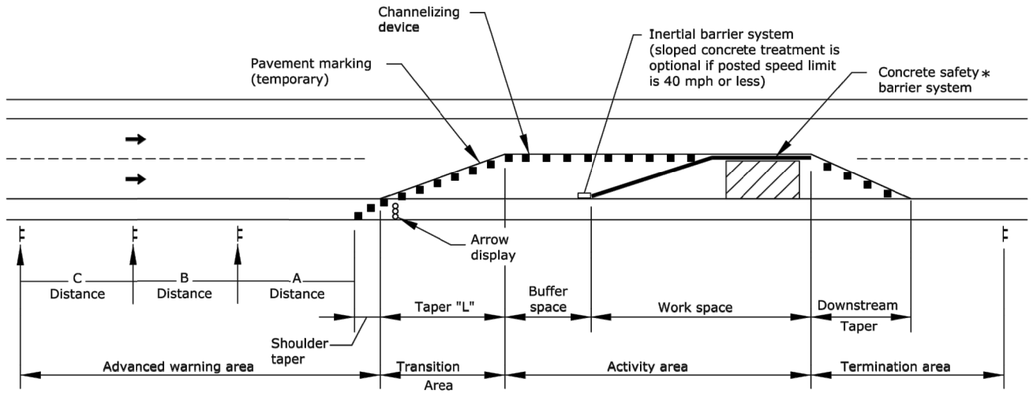
When a roadway is closed, Type III barricades shall be placed end-to-end to completely cover the roadway and shoulders. When access must be allowed for construction or other official/government vehicles, Type III barricades shall be longitudinally staggered far enough apart from one another to allow safe passage of vehicles and maintain the appearance of a closed roadway. Type III barricades shall be realigned and placed end-to-end to deny any access when the construction activity has ceased for the day.

B) ROAD CLOSED - LOCAL TRAFFIC

As shown in figure 4, when local traffic must be allowed access into the work zone, Type III barricades shall be longitudinally staggered to maintain the appearance of a closed roadway. A second line of end-to-end Type III barricades shall be placed just beyond the last access point in the work zone, to completely close the roadway as described in note 2-A.

As shown in figure 1 and figure 3, at the point where thru traffic must detour and local traffic can proceed to the location where the roadway is completely closed, the R11-3a (road closed miles ahead local traffic only) or R11-4(road closed # local traffic only or road closed to thru traffic) sign shall be used with Type III barricades (winged position), placed on the shoulders of roadway.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85215	2016	50	54



TYPICAL WORK ZONE COMPONENTS

* When concrete barrier system is used, portable channelizing devices are not needed along the tangent barrier section.

Minimum advance warning sign spacing (in feet):

SPEED (MPH) ✳	*A*	*B*	*C*
URBAN (40 MPH OR LOWER)	*100*	*100*	*100*
URBAN (45 MPH OR HIGHER)	*350*	*350*	*350*
RURAL (55 MPH OR LOWER)	*500*	*500*	*500*
RURAL (60 MPH OR HIGHER)	*750*	*750*	*750*
EXPRESSWAY/FREEWAY	*1000*	*1500*	*2640*

✳ Posted speed prior to work starting

The minimum spacing between signs shall be no less than 100', unless directed by the engineer.

The spacing between any signs may be increased beyond the minimum values in the table above as approved by the engineer in order to maximize visibility.

Taper Formulas:

L = WS for speeds of 45 MPH or more

$L = WS^2/60$ for speeds of 40 MPH or less

Where: L =Minimum length of taper in feet
S =Numericial value of posted speed prior to work starting in MPH
W =Width in offset feet

Shifting taper=1/2 L
Shoulder taper=1/3 L

Channelizer placement:

(1) The spacing between devices in transition area (taper) should not exceed a distance in feet equal to 1/2 the posted speed limit in mph prior to work starting.

(2) The spacing between devices in the advanced warning area and the activity area should not exceed a distance in feet equal to two times the posted speed limit in mph prior to work starting.

(3) Channelizing devices shall be placed for optimum visibility, normally at right angles to the traffic flow.

(4) Place directional indicator barricades in series to direct traffic onto the new path. The arrow sign should not be visible to opposing traffic.

(5) Alternating diagonal orange and white striping must slope downward in the direction traffic is expected to pass.

Buffer Space

SPEED (MPH) ✳	*20*	*25*	*30*	*35*	*40*	*45*	*50*	*55*	*60*	*65*	*70*	*75*
LENGTH (ft)	*115*	*155*	*200*	*250*	*305*	*360*	*425*	*495*	*570*	*645*	*730*	*820*

✳ Posted speed prior to work starting

Neither work activity nor storage of equipment, vehicles, or material should occur in the buffer space. When a protection vehicle is placed in advance of the work space, only the space upstream of the vehicle constitutes the buffer space.

If temporary concrete safety barrier system is used to seperate approaching traffic from the work space, the barrier system shall be considered part of the activity area. A full lane width should be available throughout the length of the buffer space. See typical work zone components above.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1	08/18/15	Channerlizer spacing info	R.W.B.	K.E.

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL GENERAL NOTES

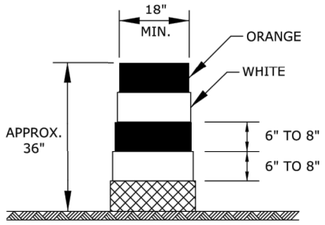
~~TE700~~

FHWA APPROVAL		08/18/15	APP'D	Kristina Eriksen	
DESIGNED	B.A.H.	DETAILED	R.W.B	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

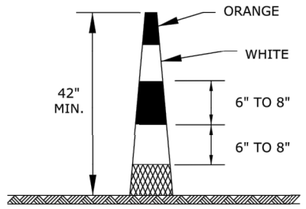
KDOT Graphics Certified 08-18-2015

PLOTTED: Wednesday, May 03, 2017 @ 10:50AM

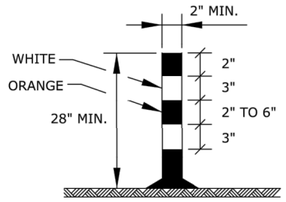
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85215	2016	51	54



DRUM

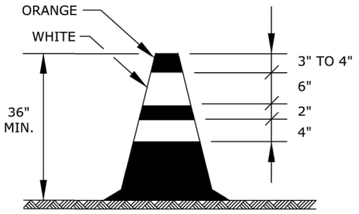


CONICAL DELINEATOR

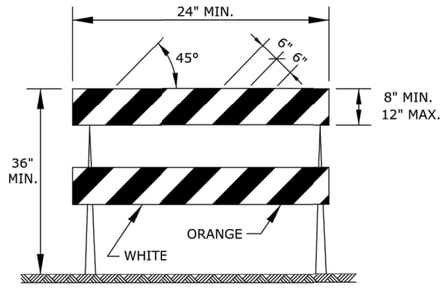


TUBULAR MARKER

Striping as shown for up to 42".

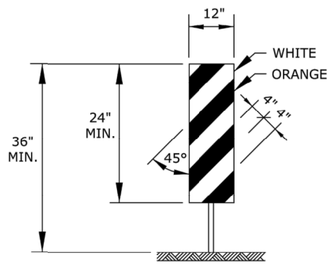


TRAFFIC CONE



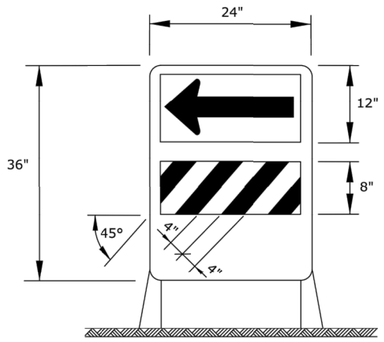
TYPE 2 BARRICADE

For rails less than 36" long, 4" wide stripes may be used.
All stripes shall slope downward to the traffic side for channelization.



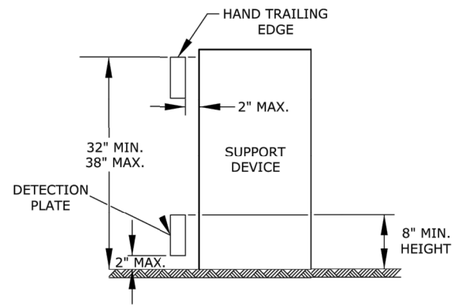
VERTICAL PANEL

The stripes shall slope downward to the traffic side for channelization.



DIRECTION INDICATOR BARRICADE

The stripes shall slope downward in the direction traffic is to pass. The direction indicator barricade shall be used in series to direct the motorist into the intended lane of travel.



PEDESTRIAN CHANNELIZER

1. Support device shall not project beyond the detection plate into the pathway.
2. Hand trailing edges and detection plates are optional for continuous walls.
3. Interconnect pedestrian channelizers to prevent displacement and to provide continuous guidance through or around work.
4. Alternate pathways shall be firm, stable, and slip resistant.
5. Treat height differentials > 1/2" in the surfaces of alternate paths with a firm, stable, and slip resistant temporary ramp having a slope of 12:1 or flatter and having a width equal to the alternate path.
6. Use alternating orange/white on interconnected devices.

ITEM \ LOCATION		Cross-overs	Shoofly Diversions	Tangents	Tapers	Ramps	Head to Head	Object Identifier	Lead-in Devices	Gores
PORTABLE										
	Drums	Yes	Yes	Yes	Yes	Yes	(1)	Yes	Yes	Yes
	Conical Delineators	Yes	Yes	Yes	Yes	Yes	(1)	Yes	Yes	Yes
	Vertical Panels	(2)	(2)	(2)	(2)	(2)	(1,2)	YES	(2)	(2)
	Direction Indicator Barricade	NO	NO	NO	Yes	NO	NO	NO	NO	NO
	Type 2 Barricade	(2)	(2)	(2)	(2)	NO	NO	Yes	NO	NO
	Traffic Cones	NO	NO	(4)	(4)	(4)	NO	(4)	(4)	(4)
FIXED										
	Tubular Markers	(3)	(3)	(3)	NO	(3)	Yes	NO	Yes	Yes
	Vertical Panels	(3)	(3)	(3)	(3)	(3)	(3)	Yes	(2,3)	(2)

(1) Not allowed on centerline delineation along freeways or expressways.
(2) The stripes shall slope downward to the traffic side for channelization.
(3) May be used upon the approval of the engineer.
(4) Daytime operations only.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL CHANNELIZING DEVICES

TE702

FHWA APPROVAL		06/01/15	APP'D	Kristina Eriksen	
DESIGNED	L.E.R.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

KDOT Graphics Certified 06-01-2015

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85215	2016	52	54

SIGN LAYOUT INFORMATION

END ROAD WORK
KG20-2
STD. SIZE EXPWY/FREEWAY
6" C
48"x 24"

WAIT FOR PILOT CAR
KG20-5
STD. SIZE EXPWY/FREEWAY
6" C
48"x 24"

WORK ZONE
KM4-20
STD. SIZE: 3" C, 24"x 6"
EXPWY/FREEWAY: 6" C, 48"x 12"

NEXT X MILES
W7-3a
Mileage to be determined by the engineer.


W8-17
STD. SIZE EXPWY/FREEWAY
48"x 48"

W8-15
STD. SIZE EXPWY/FREEWAY
8" D
48"x 48"

W8-7
STD. SIZE EXPWY/FREEWAY
8" D
48"x 48"


W8-15p
STD. SIZE EXPWY/FREEWAY
30"x 24"

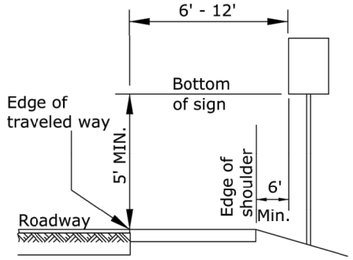
W8-11
STD. SIZE EXPWY/FREEWAY
8" D
48"x 48"

SHOULDER DROP-OFF
W8-17P
(OPTIONAL)
STD. SIZE EXPWY/FREEWAY
30"x 24"

NB US-75 CLOSED
FOLLOW DETOUR
SP-01
(SPECIAL SIGN)
STD. SIZE: 6" C
EXPWY/FREEWAY: 10" D

US-75 CLOSED
NORTH OF Topeka
FOLLOW DETOUR
SP-02
(SPECIAL SIGN)
STD. SIZE: UPPERCASE: 6" C; LOWERCASE: 4.5" C
EXPWY/FREEWAY: UPPERCASE: 10" D; LOWERCASE: 8" D

ALL CITY NAMES AND STREET NAMES ON SPECIAL SIGNS AND DESTINATION SIGNS MUST HAVE UPPER AND LOWER CASE LETTERS.

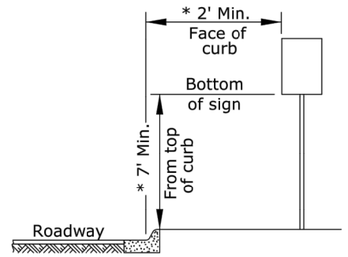


Rural

1) Ground-mounted signs shall be mounted at a minimum height of 5' measured from the bottom of sign to the near edge of the pavement.

2) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.

3) The height of the secondary sign mounted below another sign may be 4' measured from the bottom of the sign to the near edge of the pavement. Signs shall not overlap each other.



Urban

1) Signs shall be mounted at a minimum height of 7' measured from the bottom of sign to the near edge of the pavement.

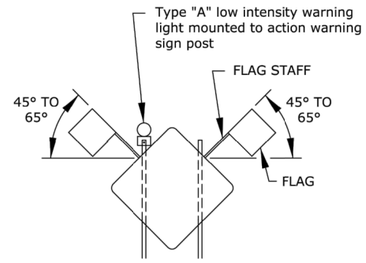
2) Neither portable nor permanent sign supports should be located on sidewalks or areas designated for pedestrian or bicycle traffic.

3) Signs mounted lower than 7' should not project more than 4" into pedestrian facilities.

4) The height from of the secondary sign mounted below another sign may be 6' measured from the bottom of sign to the near edge of the pavement. Signs shall not overlap each other.

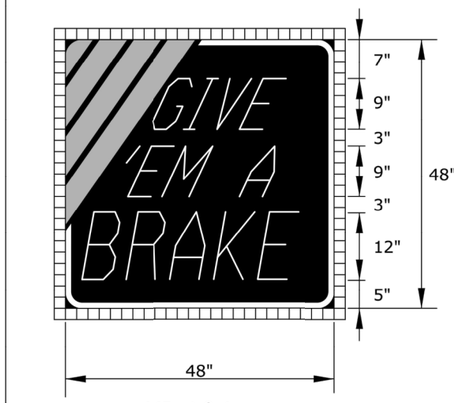
5) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.

* 6) Pedestrian detour signing shall be a minimum of 2' measured from the top of the pedestrian pathway to the bottom of the sign and shall not protrude into the walkway nor shall it project beyond the back of curb.



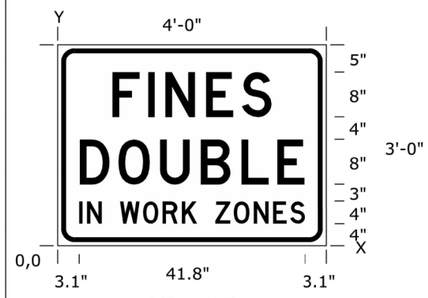
When the sign width is equal to or greater than 9', three or more wood posts may be used with a minimum of 4' between the centerline of each post. All signs less than 9' in width shall use a maximum of two wood posts.

In the case of hitting rock when driving posts
1. Shift the sign location. Do not violate minimum sign spacing.
2. With the engineer's approval, use acceptable alternative sign stands.



KI-104a

SIGN NUMBER	GIVE EM A BRAKE
WIDTH x HEIGHT	4'-0" x 4'-0"
BORDER WIDTH	1.0"
CORNER RADIUS	4.0"
STRIPE WIDTH	3.0"
MOUNTING	GROUND
BACKGROUND	TYPE: NON-REFLECTIVE
	COLOR: BLACK
LEGEND/BORDER	TYPE: REFLECTIVE
	COLOR: WHITE
LEGEND FONT	DUTCH 801 ROMAN SWC 25 DEGREE SLANT
STRIPES	TYPE: REFLECTIVE
	COLOR: ORANGE



KI-105a

SIGN NUMBER	FINES DOUBLE
WIDTH x HEIGHT	4'-0" x 3'-0"
BORDER WIDTH	0.9"
CORNER RADIUS	3.0"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: WHITE
LEGEND/BORDER	TYPE: NON-REFLECTIVE
	COLOR: BLACK

DIMENSIONS IN INCHES — SPACINGS ARE TO START OF NEXT LETTER

Y FONT	LETTER SPACINGS															HT LEN
23.0 D	X	F	I	N	E	S	X									8.0
	9.7	6.4	3.2	7.3	6.4	5.4	9.7									28.6
11.0 D	X	D	O	U	B	L	E	X								8.0
	3.9	6.9	7.5	7.3	7.3	6.4	4.9	3.9								40.3
4.0 D	X	I	N	X	W	O	R	K	X	Z	O	N	E	S	X	4.0
	3.1	1.6	2.7	3.2	4.3	3.8	3.6	2.8	3.2	3.4	3.8	3.6	3.2	2.7	3.1	41.8

Notes:

Typically, there are two sets of informational signs installed per project: one for each direction of traffic.

Install signs a minimum of 500' in advance of the road work ahead sign. The engineer may designate a more appropriate location if conditions dictate.

The informational signs are not to interfere with the traffic control signs for the project.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGN INFORMATION

TE710

FHWA APPROVAL		06/01/15	APP'D	Kristina Pyle	
DESIGNED	R.W.B.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

KDOT Graphics Certified 06-01-2015

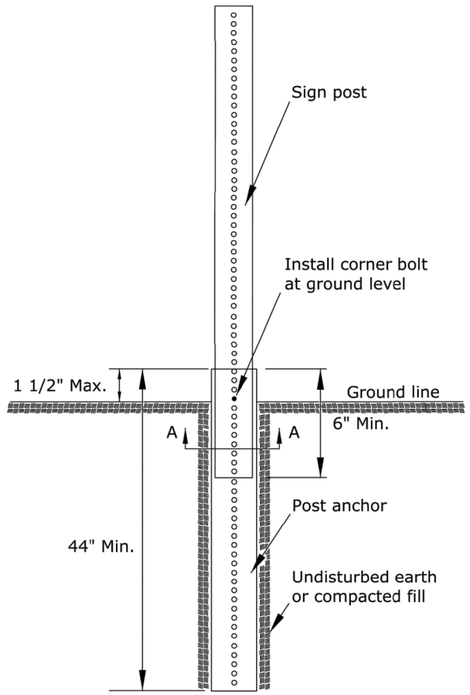
Sh. No. 52

KDOT Graphics Certified

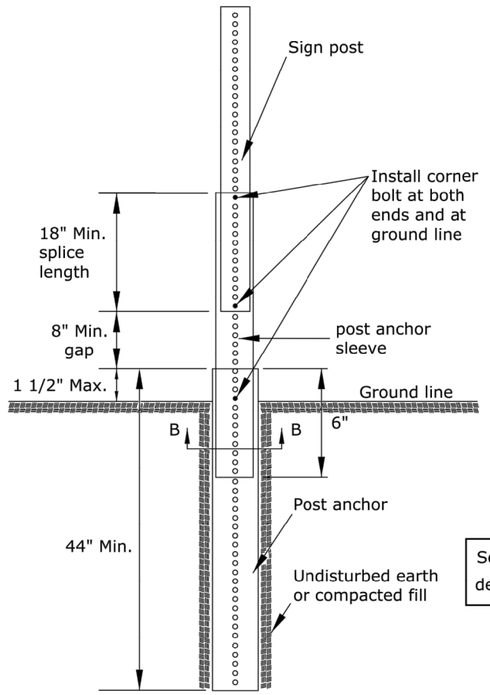
PLOTTED: Wednesday, May 03, 2017 @ 10:52AM

J:\PROJECTS\2015\150177_CON_17TH STREET RE-HAB_150177 CAD\SHTS\05 CIVIL\TRAFFIC\150177TED03.DWG

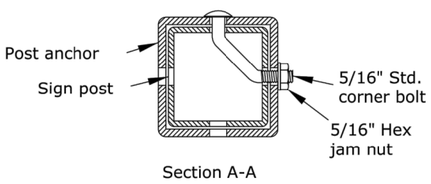
Perforated square steel tube (P.S.S.T.) post setup



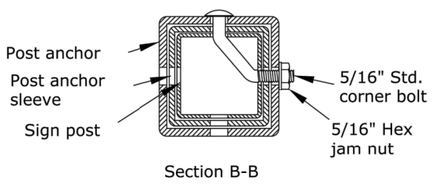
P.S.S.T. detail



Telescoping P.S.S.T. detail



Section A-A

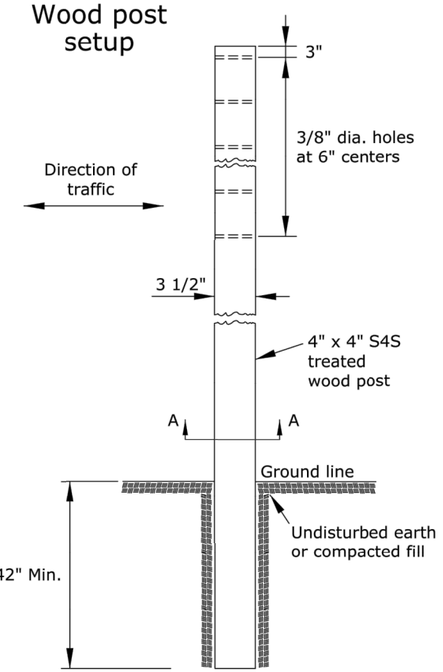


Section B-B

Details for 2", 2 1/4", or 2 1/2" sign posts

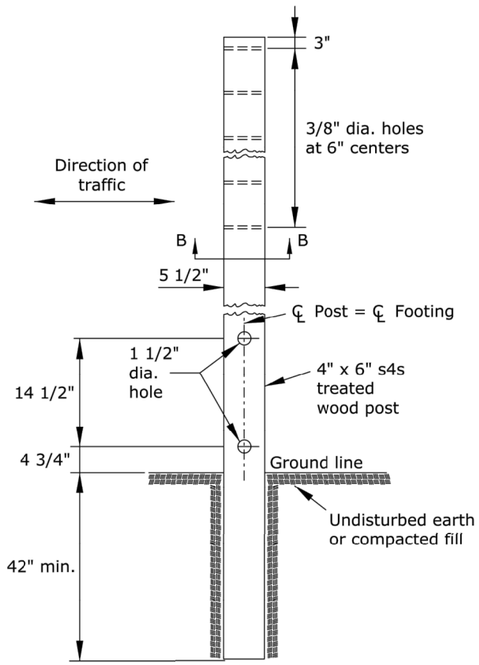
Place bolts in the same corner along each sign post.

Wood post setup



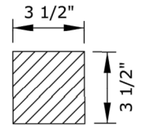
Side elevation

4" x 4" Wood post in soil

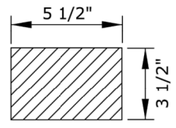


Side elevation

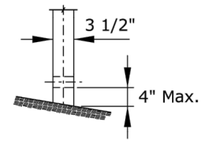
4" x 6" Wood post in soil



Section A-A



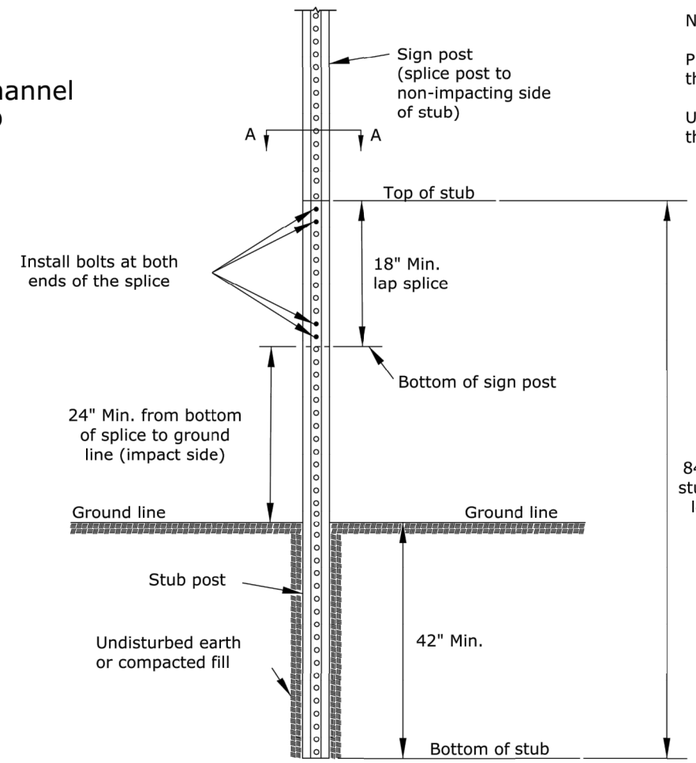
Section B-B



Front elevation

See TE710 for additional details and requirements

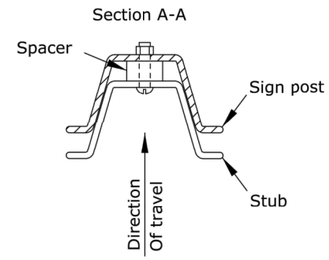
3 lb/f U-Channel setup



Notes:

Place two bolts at both ends of the splice through the holes nearest the ends of the splice.

Use manufacturer recommended spacers over the bolts between the spliced pieces of U-Channel.



STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85215	2016	53	54

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

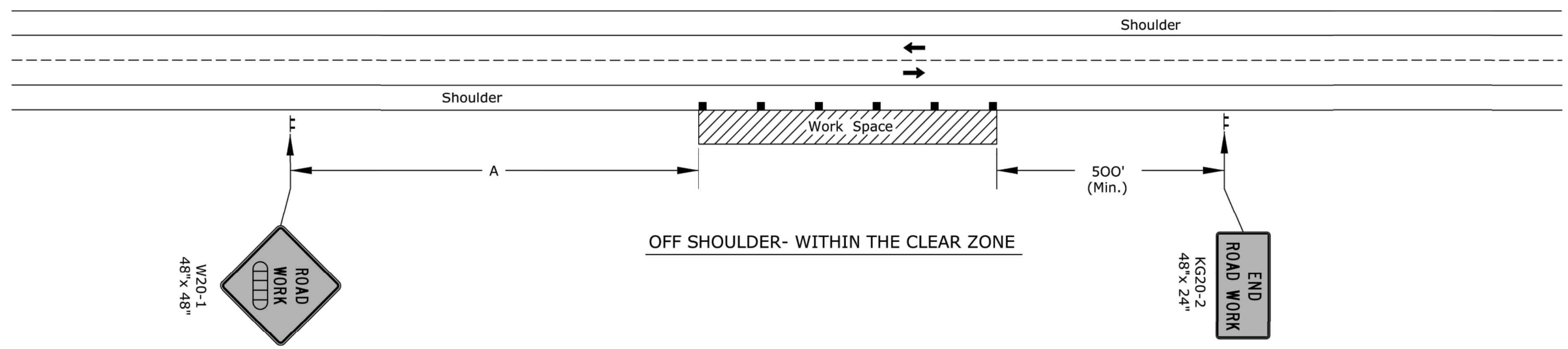
TRAFFIC CONTROL SIGN POSTS

TE712

FHWA APPROVAL				06/01/15	APP'D	Kristina Pyle	
DESIGNED	B.A.H.	DETAILED		R.W.B.	QUANTITIES		TRACED
DESIGN CK.		DETAIL CK.			QUAN. CK.		TRACE CK.

KDOT Graphics Certified 06-01-2015

Sh. No. 53

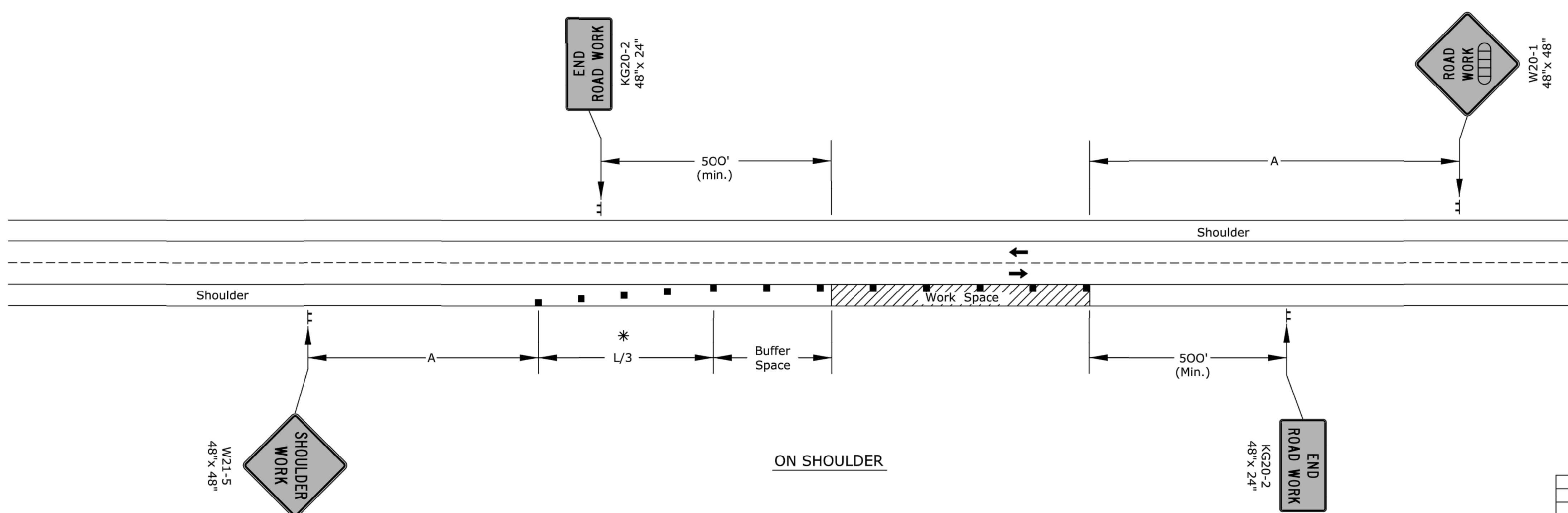


OFF SHOULDER- WITHIN THE CLEAR ZONE

Notes:

No traffic control is required if the work space is located outside of the clear zone.

For operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with high-intensity rotating, flashing, oscillating, or strobe lights is used.



ON SHOULDER

✳ Omit taper if paved shoulder is less than 8' wide.

■ Channelizing device

Ahead, 1500 ft, or 1 mile

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SHOULDER WORK
UNDIVIDED ROADWAY

TE720

FHWA APPROVAL	06/01/15	APP'D	Kristina Ericksen
DESIGNED L.E.R.	DETAILED R.W.B.	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.

KDOT Graphics Certified 06-01-2015