

GENERAL NOTES:

- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- 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	1-800-246-8464
BLACK HILLS ENERGY	1-800-694-8989
CITY OF WICHITA WATER & SEWER	1-316-219-8921
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

- 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 THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- 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 WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS. OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WILL REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE CITY ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.
- 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.
- 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.
- THE ENGINEERING 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 FINAL GRADES BY THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY THE CONSULTANT ENGINEER AND TOM MASON WITH THE CITY AT 316-268-4574 WITH THE CITY OF WICHITA WITH THE ANTICIPATED CONSTRUCTION START DATE AND NOTIFY THEM OF PROJECT COMPLETION, STAKING, INSPECTION AND AS-BUILTS FOR THIS PROJECT WILL BE THE RESPONSIBILITY OF THE CITY OF WICHITA ENGINEERING.
- IF TRAFFIC WILL BE IMPACTED BY CONSTRUCTION, A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY TRAFFIC ENGINEER, BRIAN COON AT TRAFFIC@WICHITA.GOV BEFORE CONSTRUCTION CAN BEGIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES TO FACILITATE CONSTRUCTION. ALL CONSTRUCTION ZONE MARKINGS AND SIGNAGE SHALL CONFORM TO THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS PUBLISHED BY THE US DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. ALL COSTS ASSOCIATED WITH CONSTRUCTION MARKINGS AND SIGNAGE SHALL BE THE CONTRACTORS RESPONSIBILITY.

- ALL ELEVATIONS SHOWN ARE NAVD 88.
- ALL AREAS DISTURBED DURING CONSTRUCTION THAT WILL NOT BE UNDER PROPOSED PAVEMENT SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.

- ANY SIDEWALK, DRIVE APPROACH, OR STREET PAVEMENT REMOVED TO CONSTRUCT PROJECT MUST HAVE A PAVEMENT CUT PERMIT AND BE REPLACED BY THE CITY CONTRACTOR. PERMITS CAN BE OBTAINED BY CALLING 316-268-4501 OR 316-268-4480.
- CITY MAINTENANCE OF STORM SEWER ENDS AT THE LAST STRUCTURE IN THE EASEMENT OR RIGHT-OF-WAY.
- A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUNDED AROUND MANHOLES WHICH EXTEND MORE THAN ONE (1) FOOT ABOVE THE EXISTING GROUND. SUCH MOUND SHALL BE CONSTRUCTED WITH NEW DEVELOPMENT A SIX (6) FOOT DIAMETER FLAT TOP WITH 4 TO 1 SIDE SLOPES DOWN TO THE ORIGINAL GROUND. THE ELEVATION OF THE FLAT TOP OF THE MOUND SHALL BE 0.4 FOOT BELOW THE TOP TO THE MANHOLE.
- CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH OPENINGS OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
- THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTORS EXPENSE.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.
- THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMP'S) TO PREVENT ERODED SOIL FROM ENTERING DITCHES, CULVERTS AND DRAINAGE AREAS. THE CONTRACTOR SHALL FOLLOW THE INTENT OF THE BMP'S WHICH ACT AS A GUIDELINE.
- EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING A PROPOSAL IN ORDER TO BECOME BETTER INFORMED OF THE EXISTING FIELD CONDITIONS AND OBSTACLES WHICH MIGHT BE ENCOUNTERED DURING CONSTRUCTION. EACH BIDDER SHOULD UNDERSTAND THAT NO ADDITIONAL COMPENSATION WILL BE AWARDED FOR EXTRA WORK THAT SHOULD HAVE BEEN EVALUATED PRIOR TO BIDDING.
- THE PRECAST MANUFACTURER SHALL PROVIDE A SEALED DESIGN DETAIL FOR ALL PRECAST ITEMS USED ON THE PROJECT TO INSURE THE INTENT OF THE PLANS ARE MET.
- ALL TRENCHING IN PAVEMENT OR DRIVEWAYS, WHICH WILL BE REQUIRED TO CARRY TRAFFIC UNTIL PERMANENT PAVING REPLACEMENT, SHALL BE TOPPED WITH A MINIMUM OF 6" CRUSHED ROCK (COMPACTED) TO BE INCIDENTAL TO THE PROJECT. CONTRACTOR SHALL BE REQUIRED TO MAINTAIN TEMPORARY CRUSHED ROCK UNTIL PERMANENT PAVEMENT IS INSTALLED.
- BACKFILL SAND FLUSH & VIBRATE ALL UTILITIES UNDER PAVEMENT. ALL TRENCHING AND PIPE EMBEDMENT TO BE PER CITY OF WICHITA STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

WARRANTY / DISCLAIMER

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION - NOTICE TO CONTRACTOR

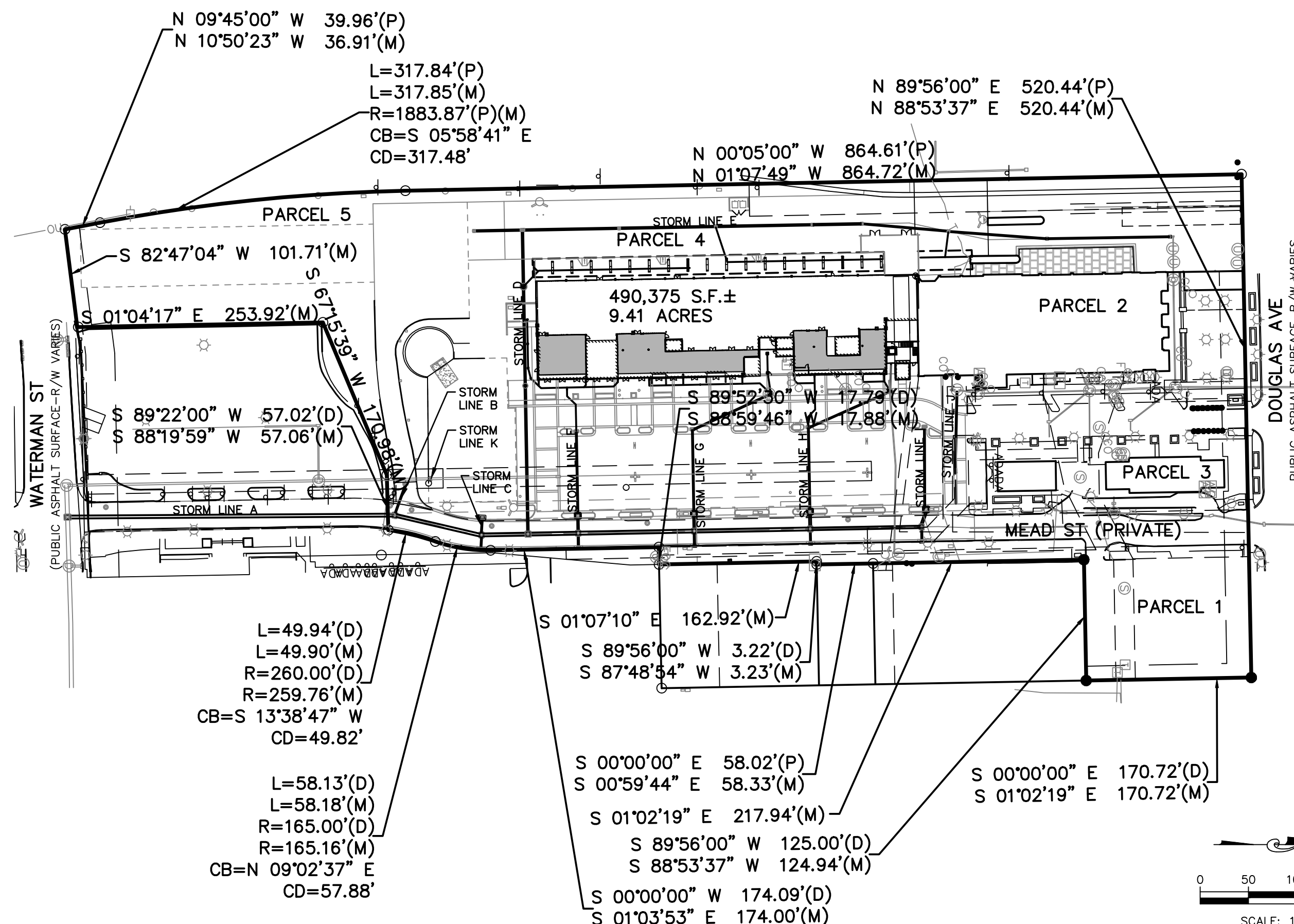
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

THE COORDINATES PROVIDED IN THESE PLANS ARE FOR INFORMATION AND CHECKING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALCULATE CONSTRUCTION STAKING COORDINATES ACCORDING TO THE DIMENSIONS SHOWN ON THESE PLANS. CONTRACTOR SHALL VERIFY THE ACCURACY OF THE COORDINATES SHOWN IN THE TABLE HEREON BEFORE CONSTRUCTION.

STORM SEWER IMPROVEMENTS to serve LOTS 1, 2 & 3 UNION STATION ADDITION 701 E DOUGLAS AVE CITY OF WICHITA, KANSAS

GARY JANZEN, P.E. CITY ENGINEER
PROJECT NO. 468-85324; OCA 660823



LEGAL DESCRIPTION

PART OF LOT 1, LOT 2 AND THE NORTH 170.72 FEET OF LOT 3, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS.



TIMOTHY R. AUSTIN
PROFESSIONAL ENGINEER

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BENCHMARKS

DATUM BENCHMARK:

U.S. SURVEY FEET AND REFER TO NAVD 88 DATUM BASED ON THE WICHITA RTCM 3.0 GNSS NETWORK. ORTHOMETRIC HEIGHT WAS CALCULATED USING THE GEOID 12B MODEL.

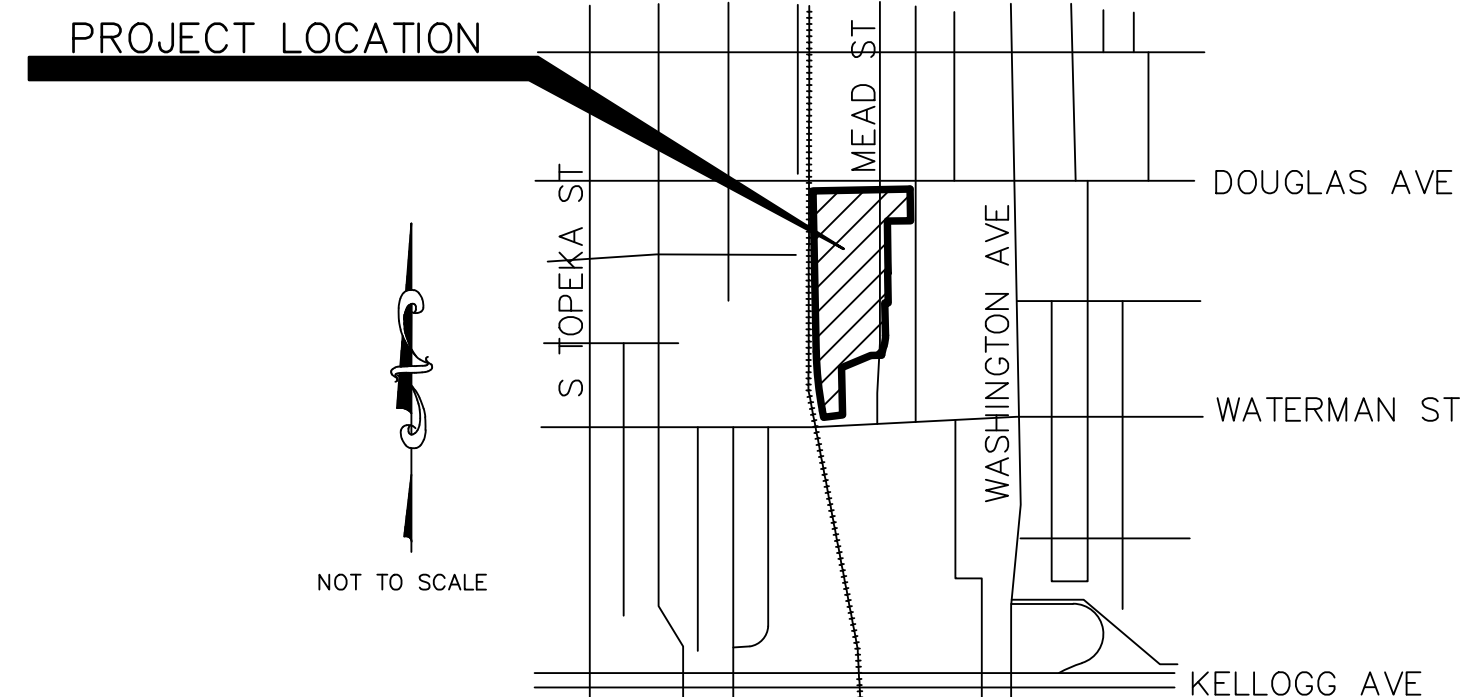
BENCHMARKS:

BM #1: CHISELED "X" ON NE CORNER OF CONCRETE PAD WITH ACCESS GATE ARM.

ELEV=1314.65 (NAVD 88)

BM #2: NGS DISK A 237, HF0487, LOCATED ON SIDE OF BUILDING, 10.4 FEET SOUTH OF THE NORTHWEST CORNER OF THE UNION STATION, 28 FEET EAST OF THE EAST RAIL OF THE TRACK, 2.3 FEET ABOVE THE GROUND, 3.5 RAILS SOUTH OF THE CENTER LINE OF THE DOUGLAS AVENUE VIADUCT, SET VERTICALLY IN THE WEST WALL OF THE RAILROAD STATION.

ELEV=1317.08 (NAVD 88)



VICINITY MAP SHEET INDEX

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02	STORM BUBBLE MAP
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15-19	STANDARD DETAILS
20-26	TRAFFIC CONTROL PHASING
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Stormwater Certification: New Development

These construction plans were prepared in accordance with the current Stormwater Management Regulations as set forth in the City of Wichita's Stormwater Management Ordinance 16.32 and the policies/guidelines presented in the Wichita/Sedgwick County Stormwater Manual.

Disturbed Area = 490,375 SF (9.41 ACRES ±)
Water Quality Treatment: Addressed by a reduction in impervious area
Downstream Channel Protection: N/A
Detention: N/A
The BMP used for this development is: PERMANENT REDUCTION IN IMPERVIOUS AREA. TEMPORARY ONSITE BMP: SILT FENCE & INLET FILTER PROTECTION.

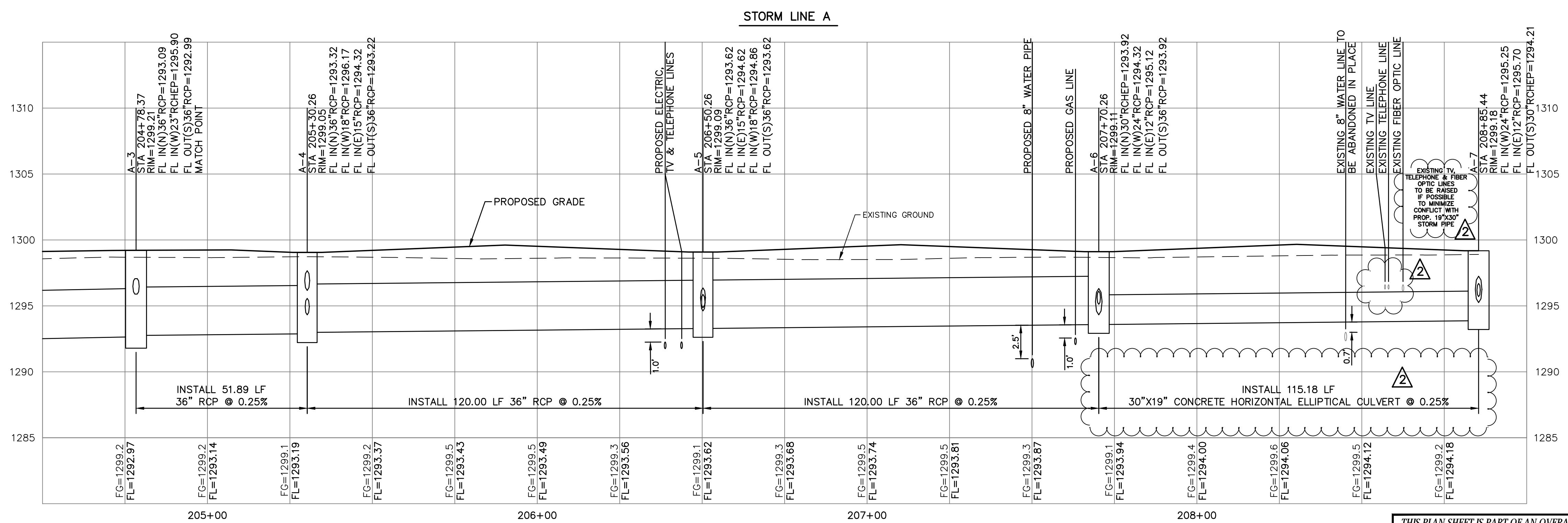
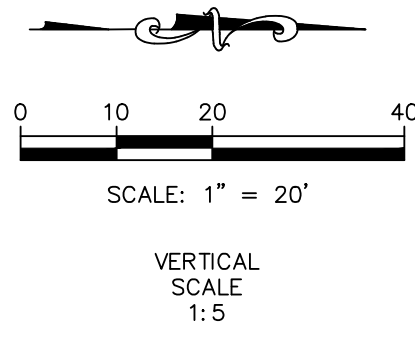
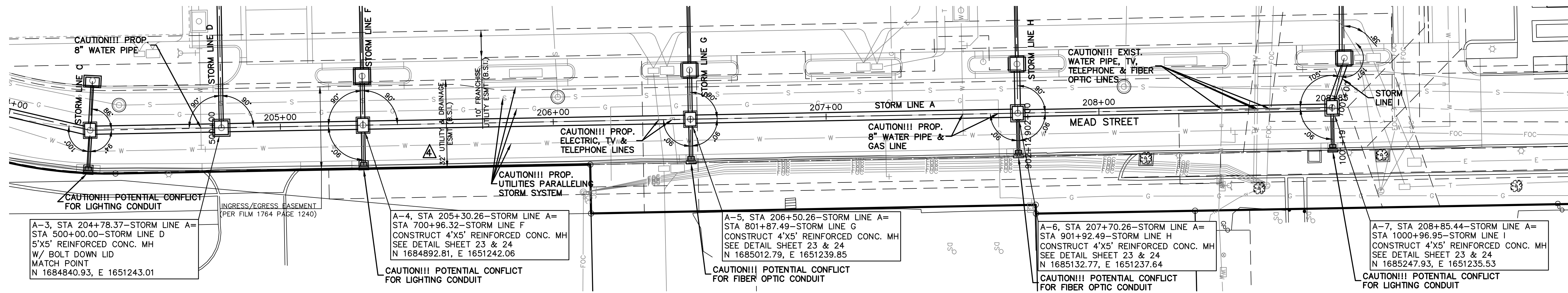
JUNE 2018

PROJ. NO. G17_0597-1 DSN: TRA
CFN: 0597PPD-1 DWN: EAM

200 N. EMPORIA, SUITE 100
WICHITA, KANSAS 67202
PH. (316) 440-4304 | FAX (316) 440-4309
wh@kveeng.com | www.kveeng.com

KAW VALLEY ENGINEERING

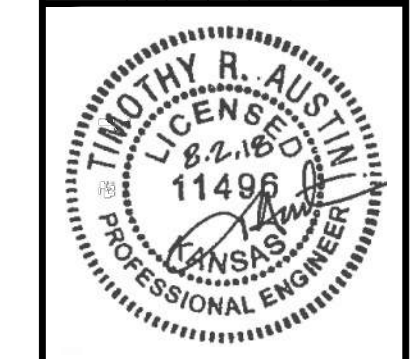
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18



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4	8-2-18	STORM MH/ESMT REV.	TRA	EAM	MLT
3	6-18-18	ESMTS REVISION/ LIMIT OF IMPROVEMENTS	TRA	EAM	TRA
2	6-13-18	REVISION 2 PER C.O.W. COMMENTS	TRA	EAM	MLT
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS	TRA	EAM	MLT
0	5-17-18	FOR C.O.W. SUBMITTAL	TRA	EAM	MLT



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 ENGINEER
 KS # 11496

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 www.kawvalley.com | www.kveing.com

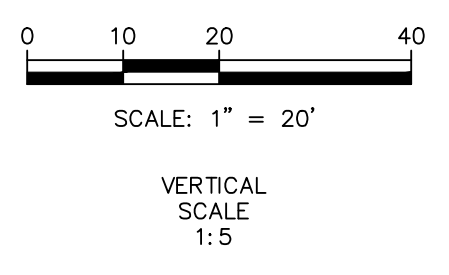
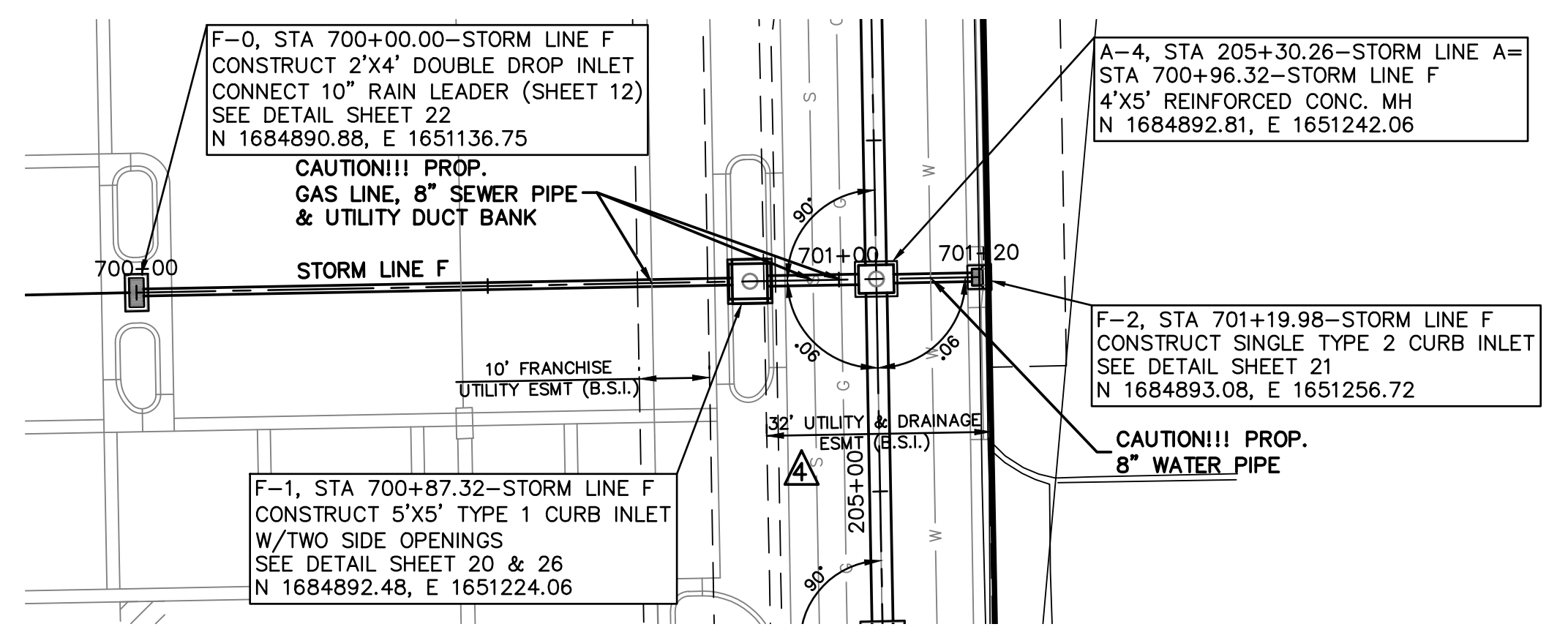
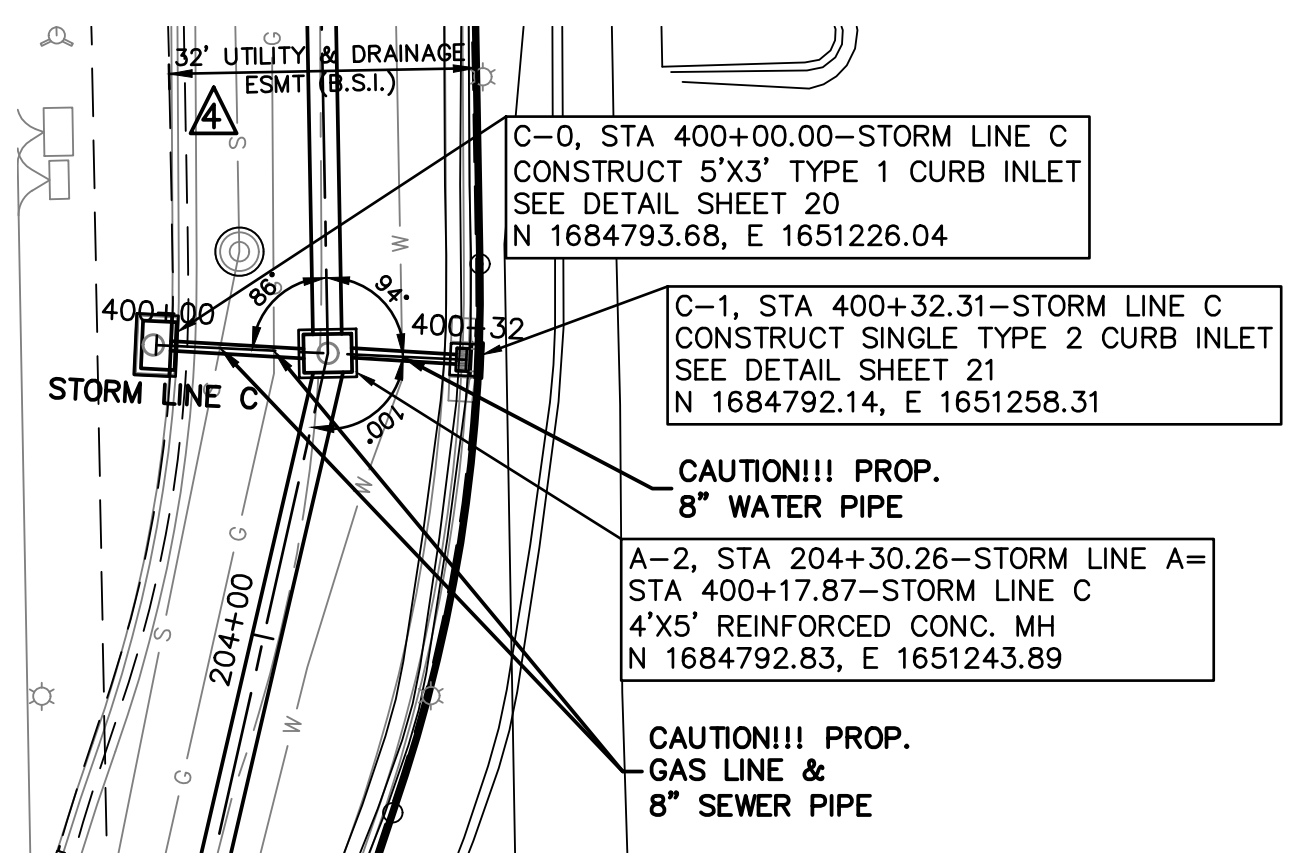
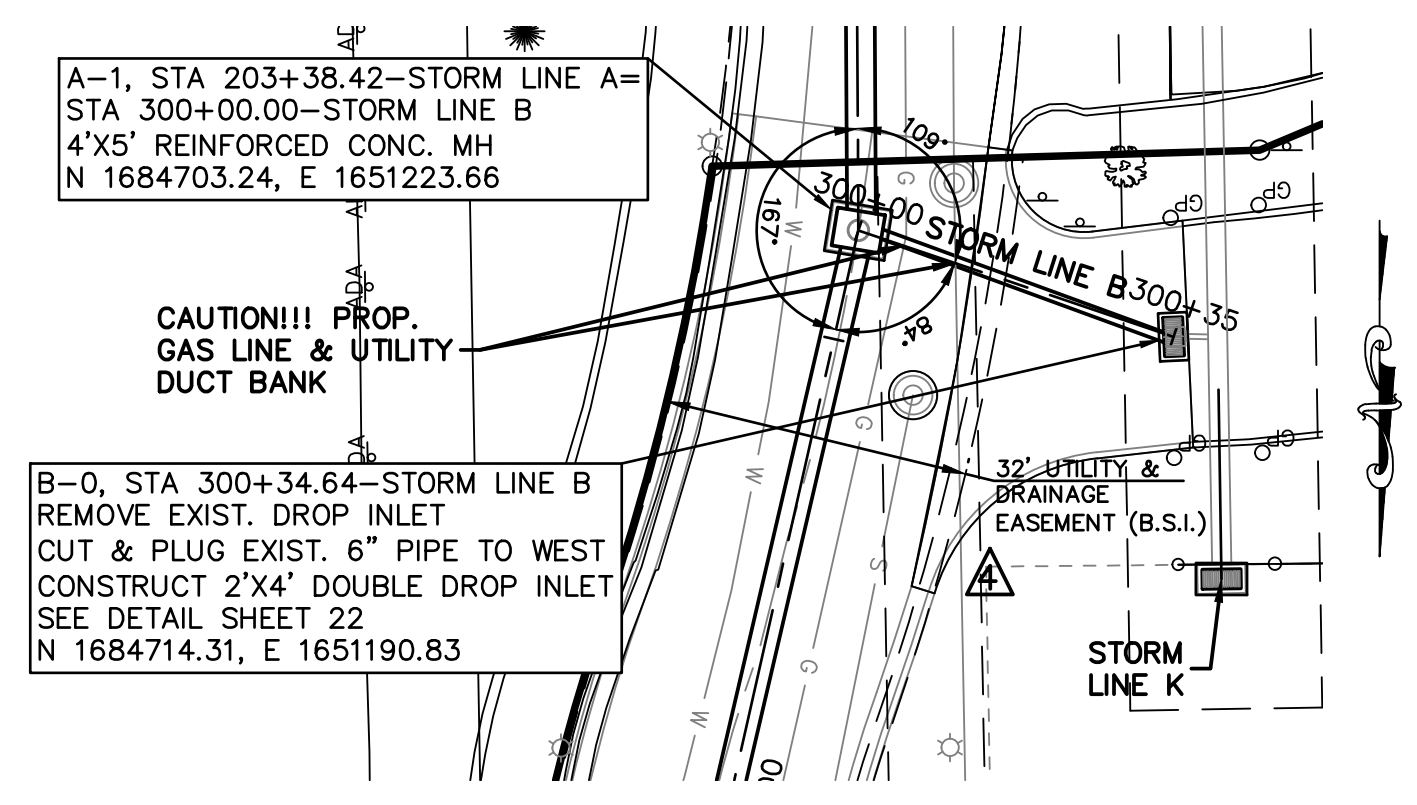
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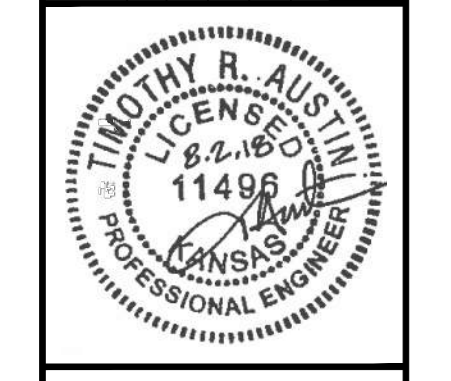
UNION STATION MEAD ST
 107 E DOUGLAS AVE
 WICHITA, KS

STORM LINE A
 STORM SEWER PLAN & PROFILE

PROJ. NO. 0597-1
 DESIGNER TRA DRAWN BY EAM
 CFN
 SHEET 0597-1PPD REV
 04 4



REV	DATE	DESCRIPTION
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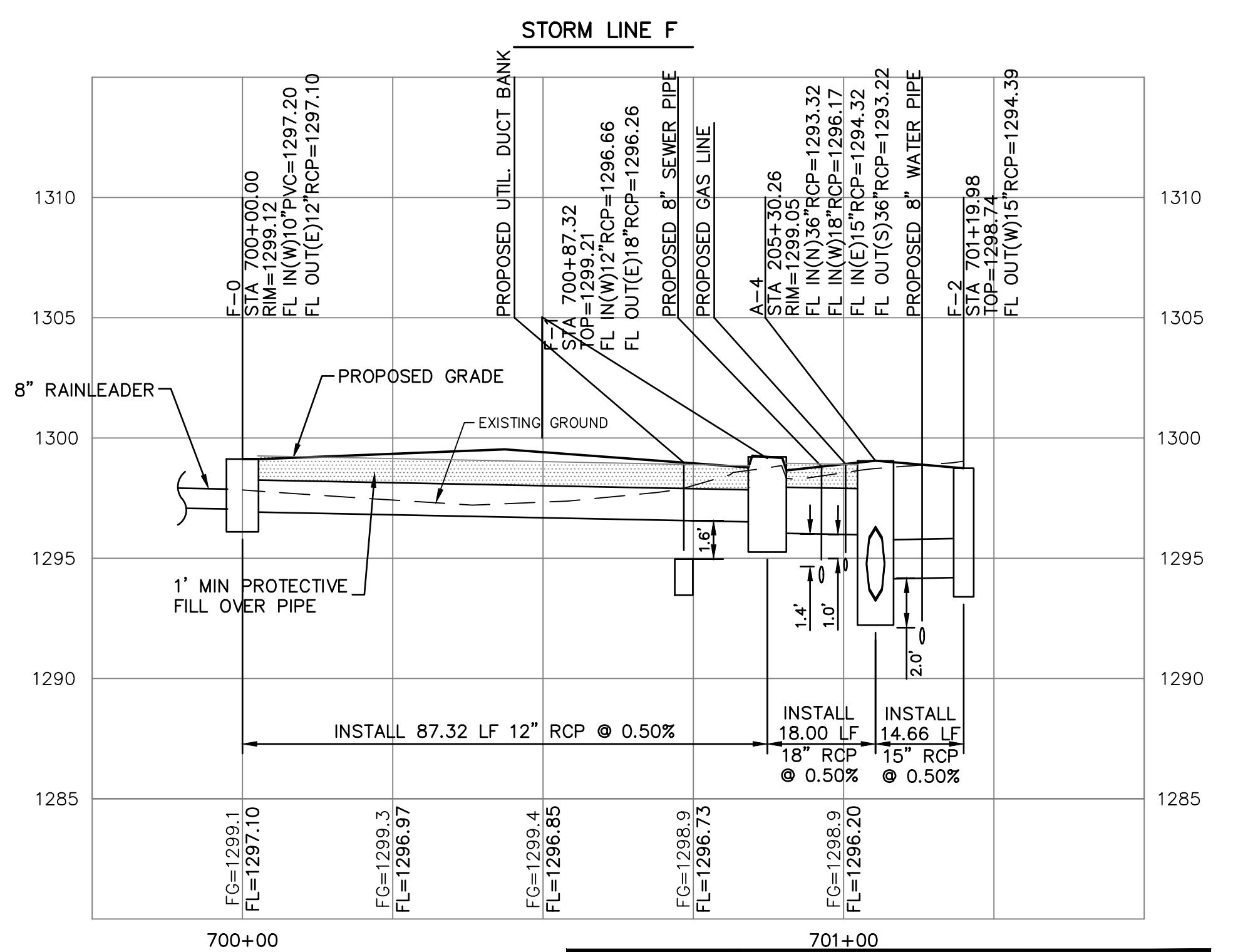
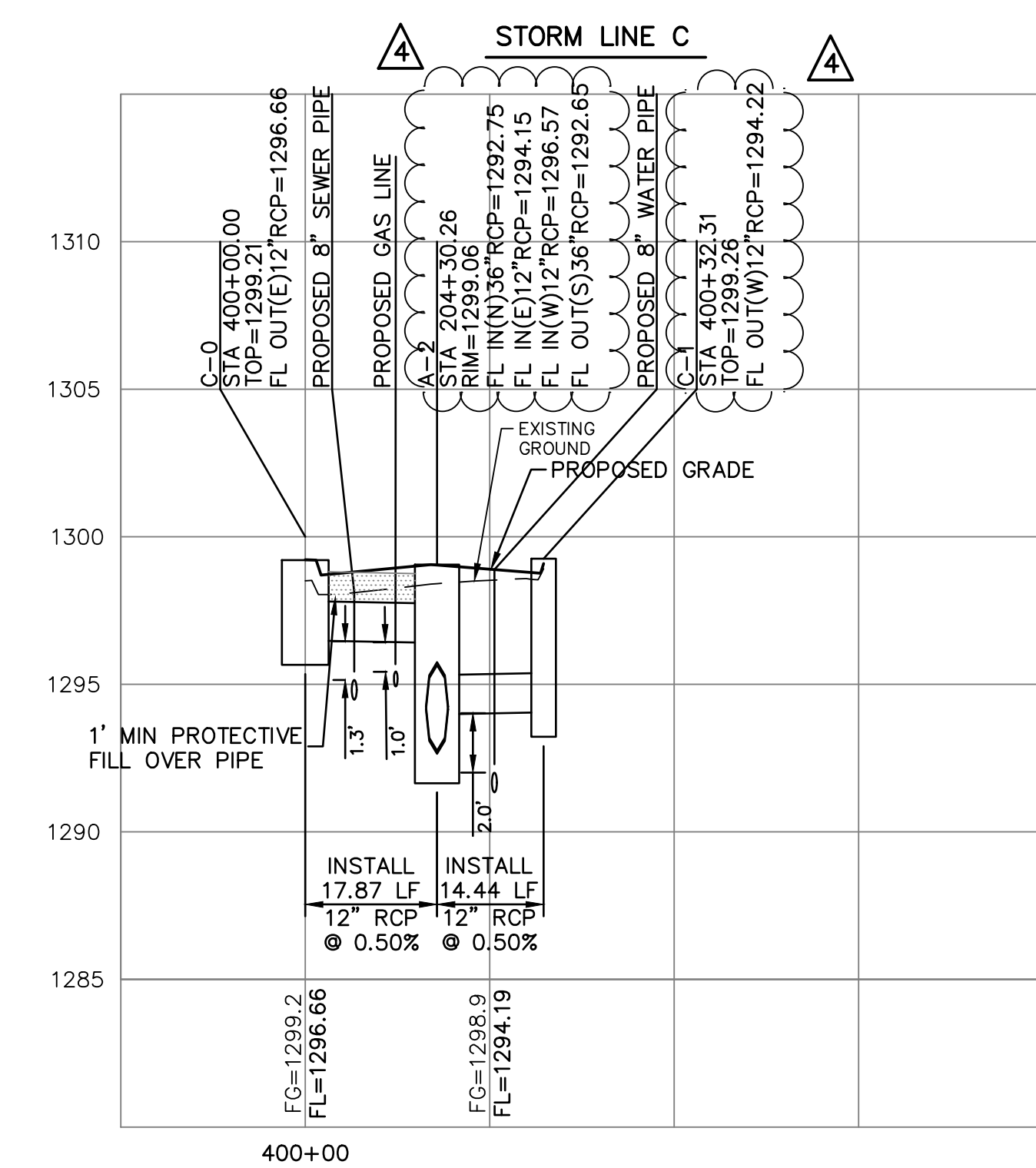
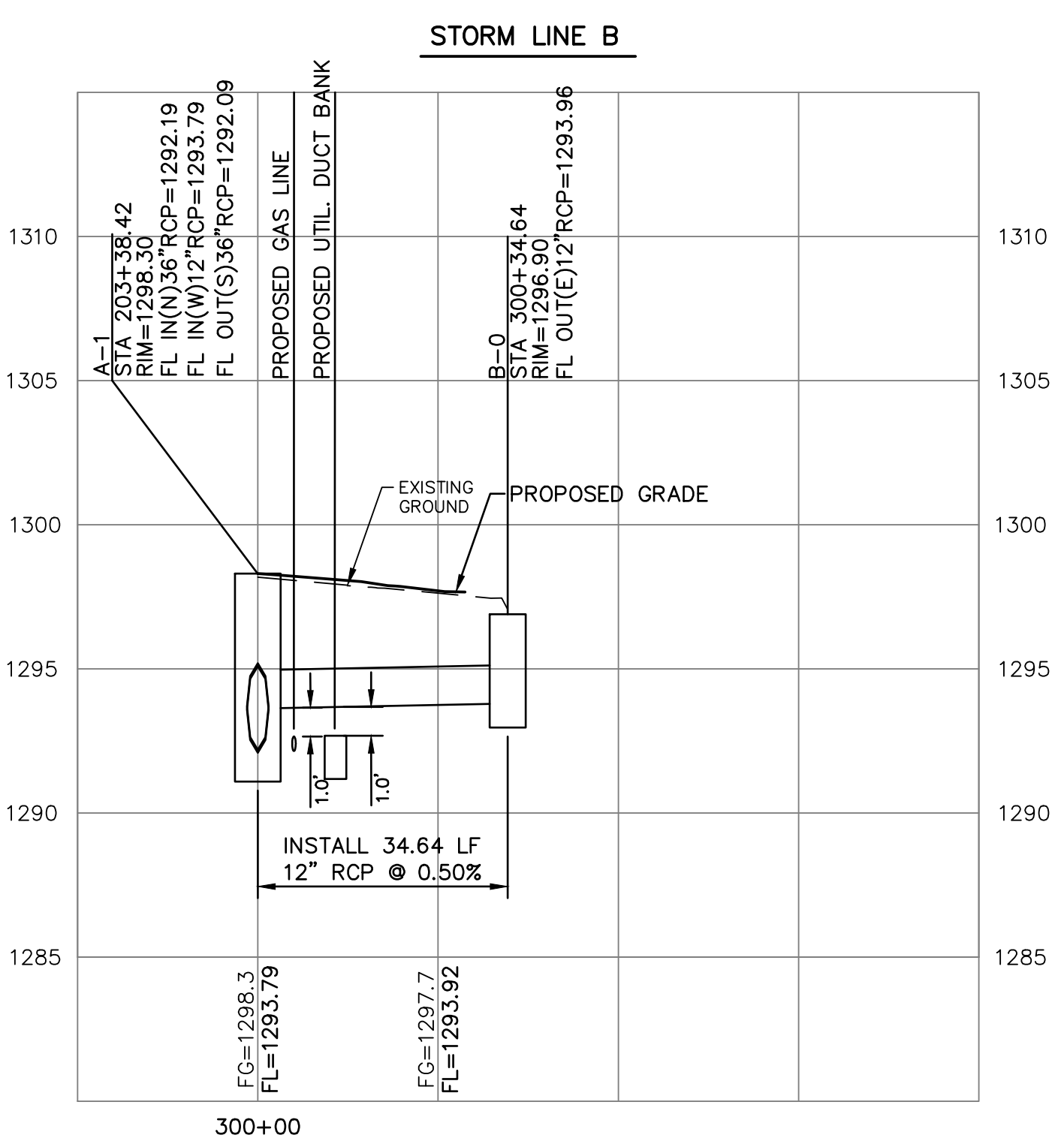


KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF KANSAS UNDER CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18

UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

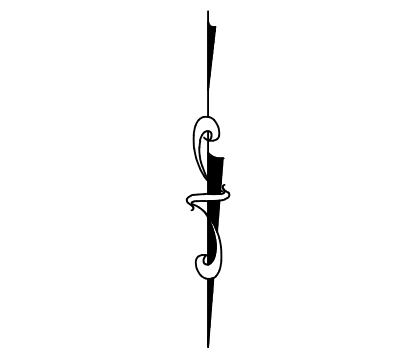
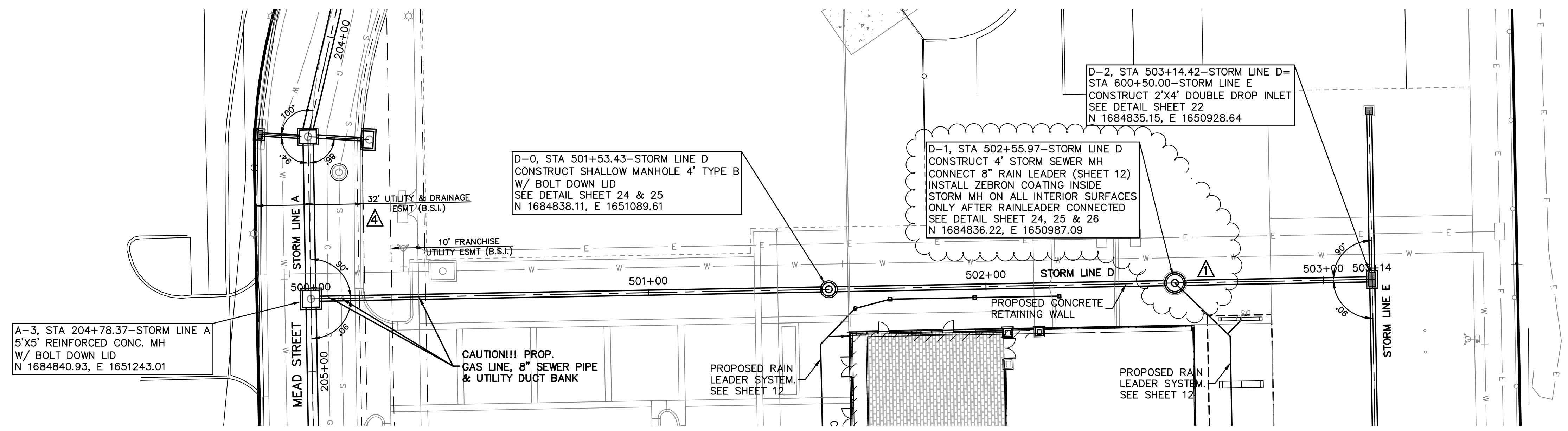
STORM LINES B, C & F
STORM SEWER PLAN & PROFILE

PROJ. NO.	0597-1
DESIGNER	TRA
DRAWN BY	EAM
SHEET	0597-1PPD
REV	05
CHK	4



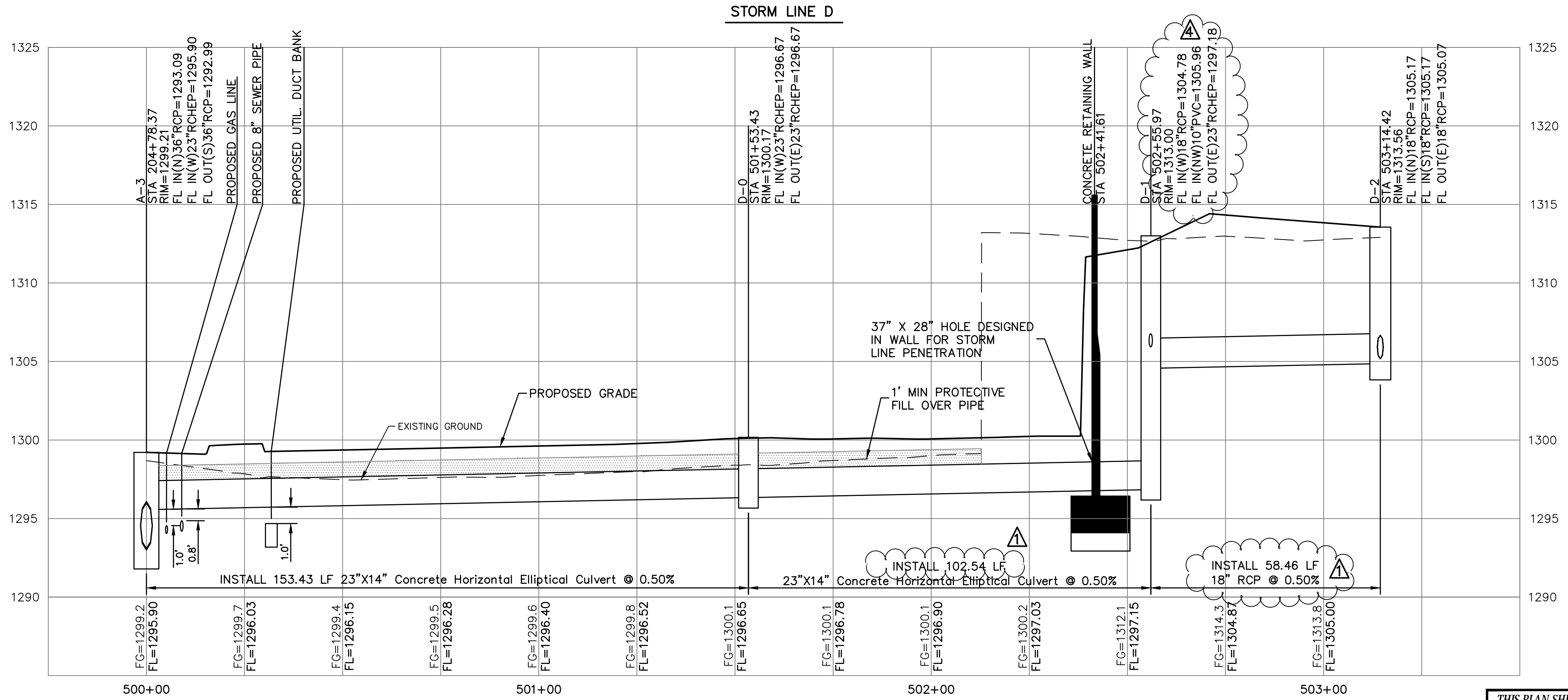
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BENCHMARKS:
BM #1: CHISELED "X" ON NE CORNER OF CONCRETE PAD WITH ACCESS GATE ARM. ELEV=1314.65 (NAVD 88)
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0 10 20 40
SCALE: 1" = 20'

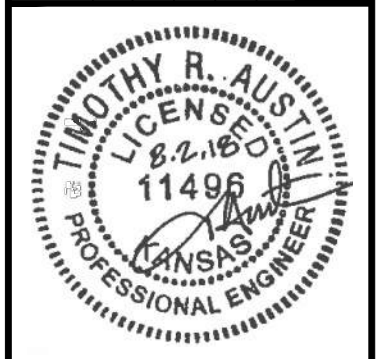
VERTICAL
SCALE
1:5



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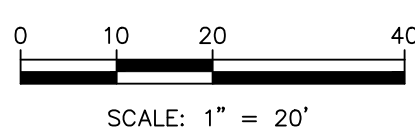
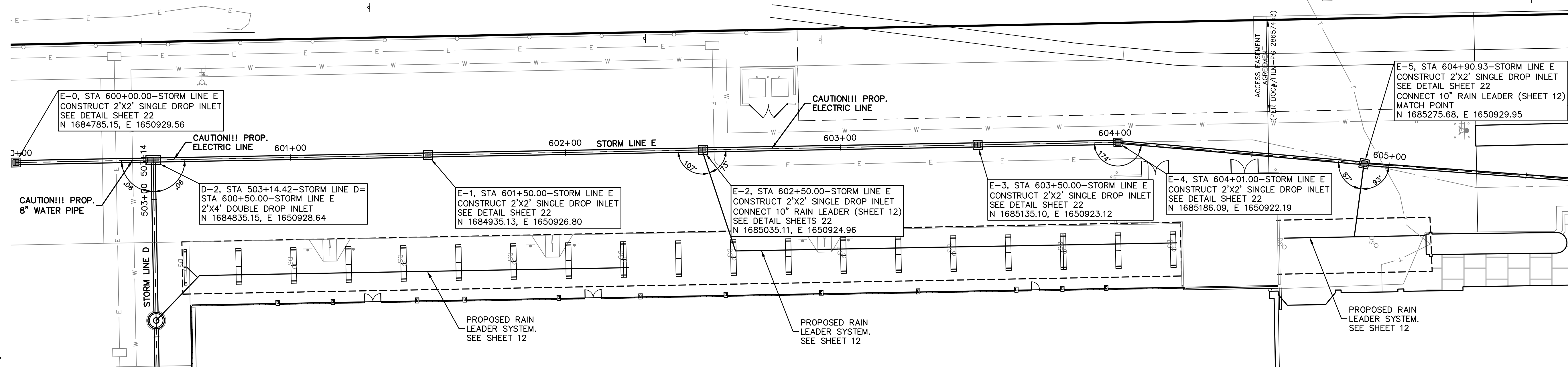
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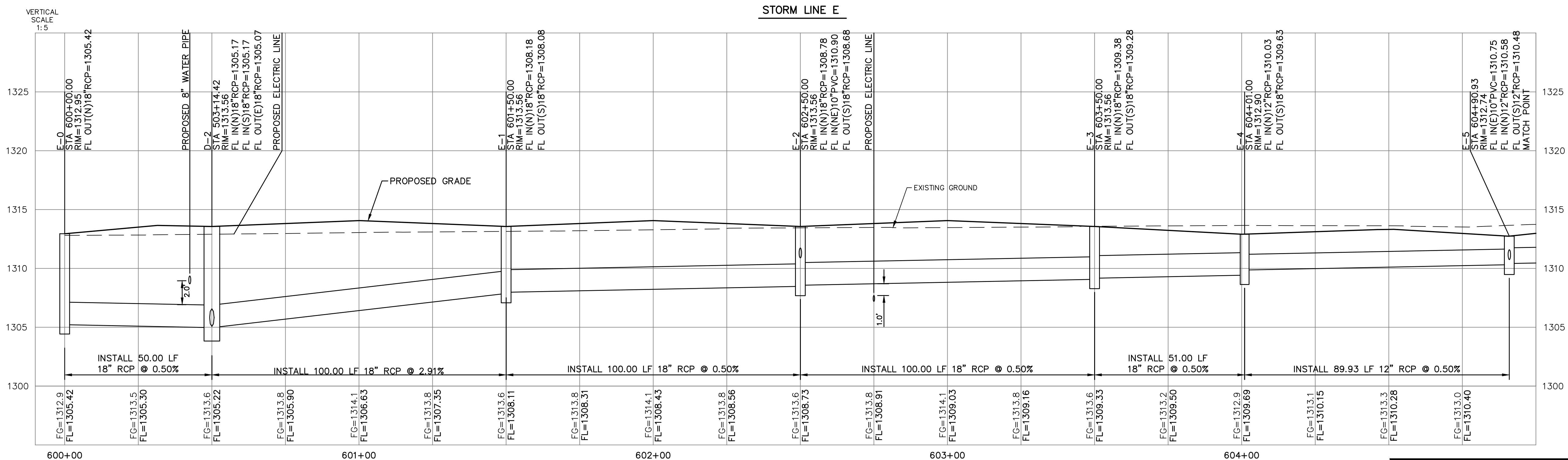
KAW VALLEY ENGINEERING

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STORM LINE D	
STORM SEWER PLAN & PROFILE	
PROJ. NO.	0597-1
DESIGNER	TRA
DRAWN BY	EAM
CFN	
SHEET	0597-1PPD
REV	
06	4



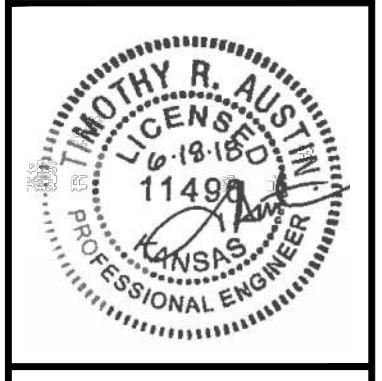
VERTICAL SCALE 1:5



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 www.kawvalley.com | www.kveing.com

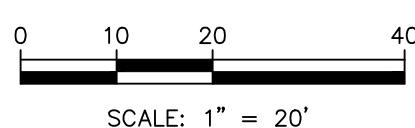
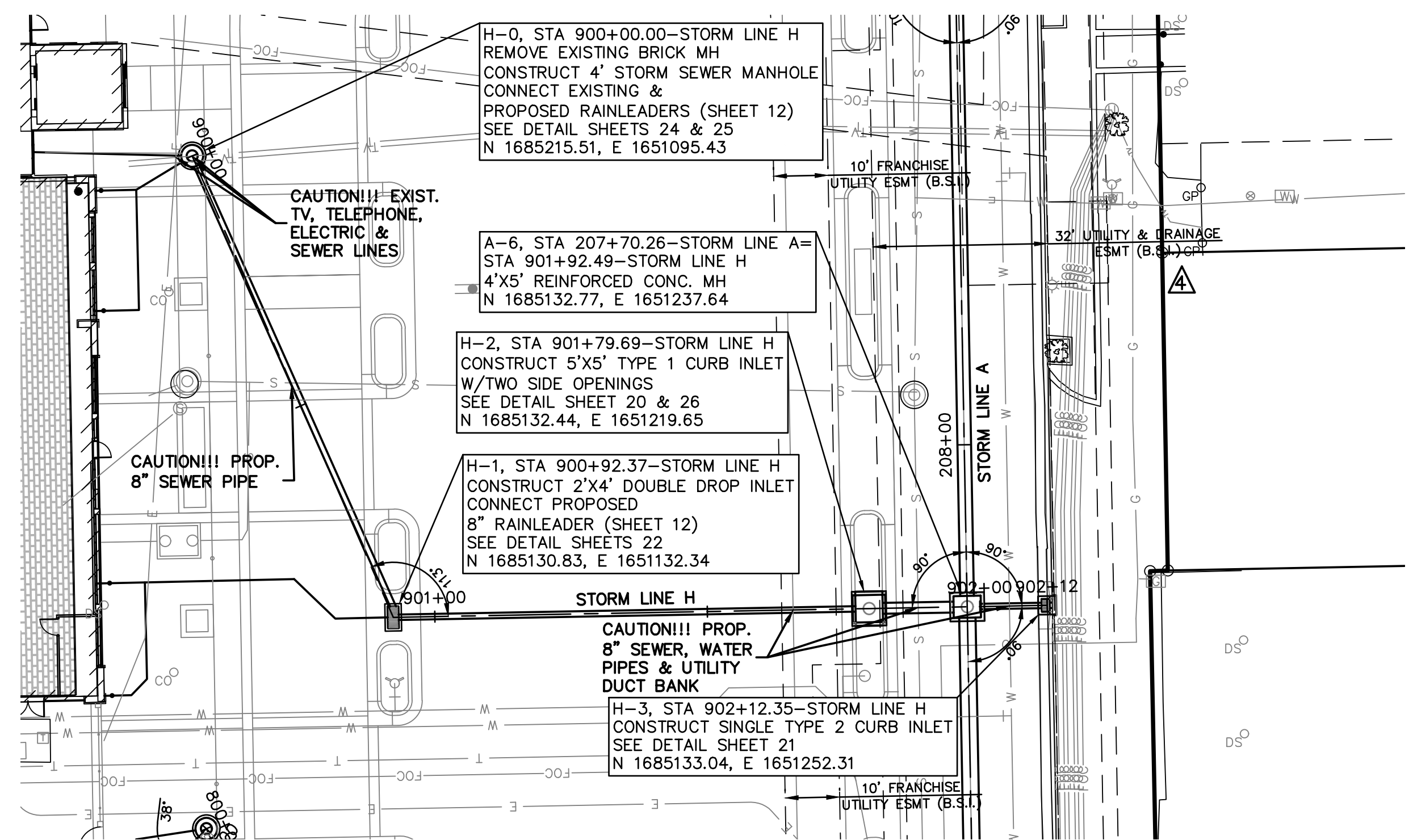
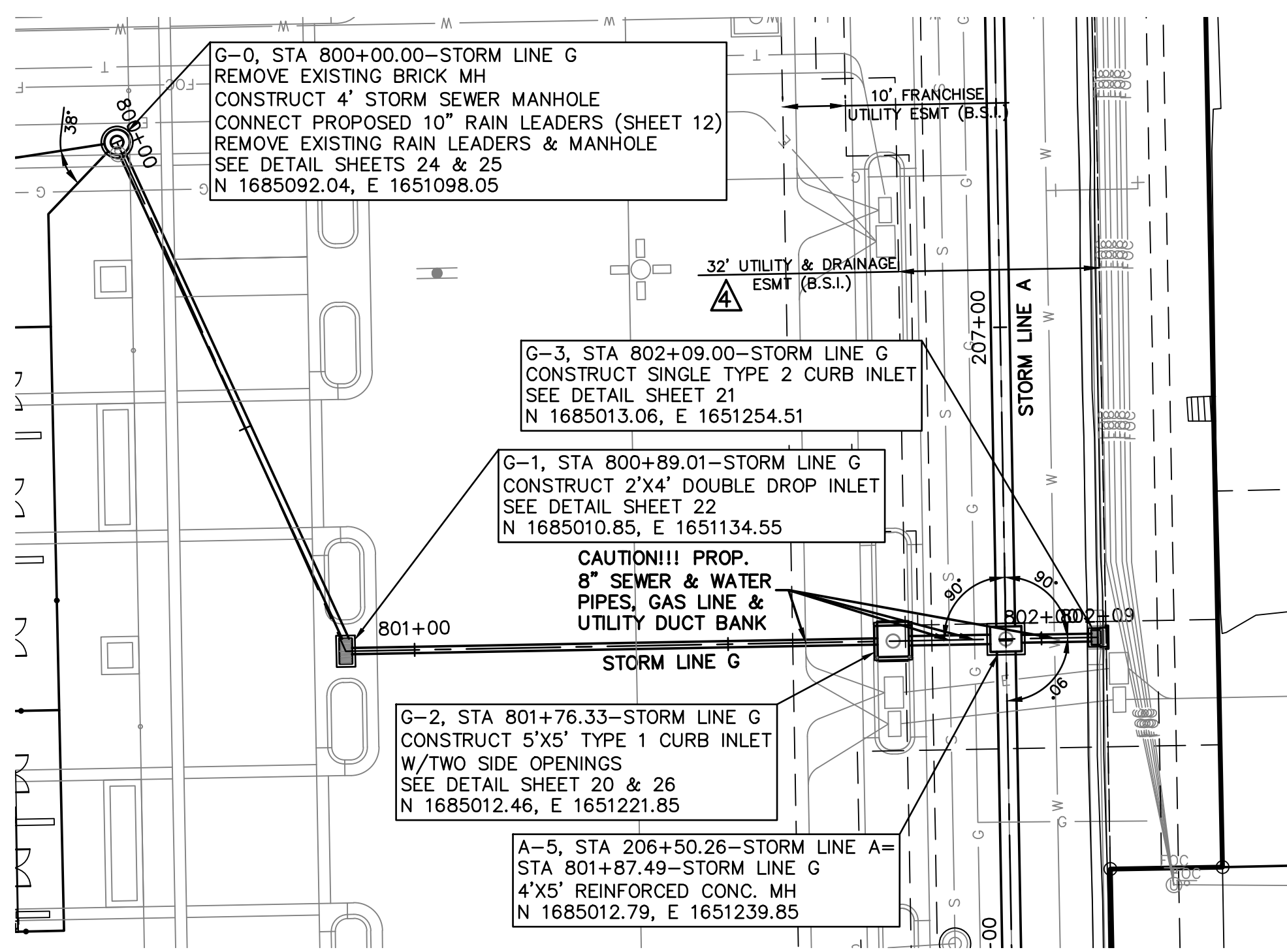
KAW VALLEY ENGINEERING

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF KANSAS UNDER CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18

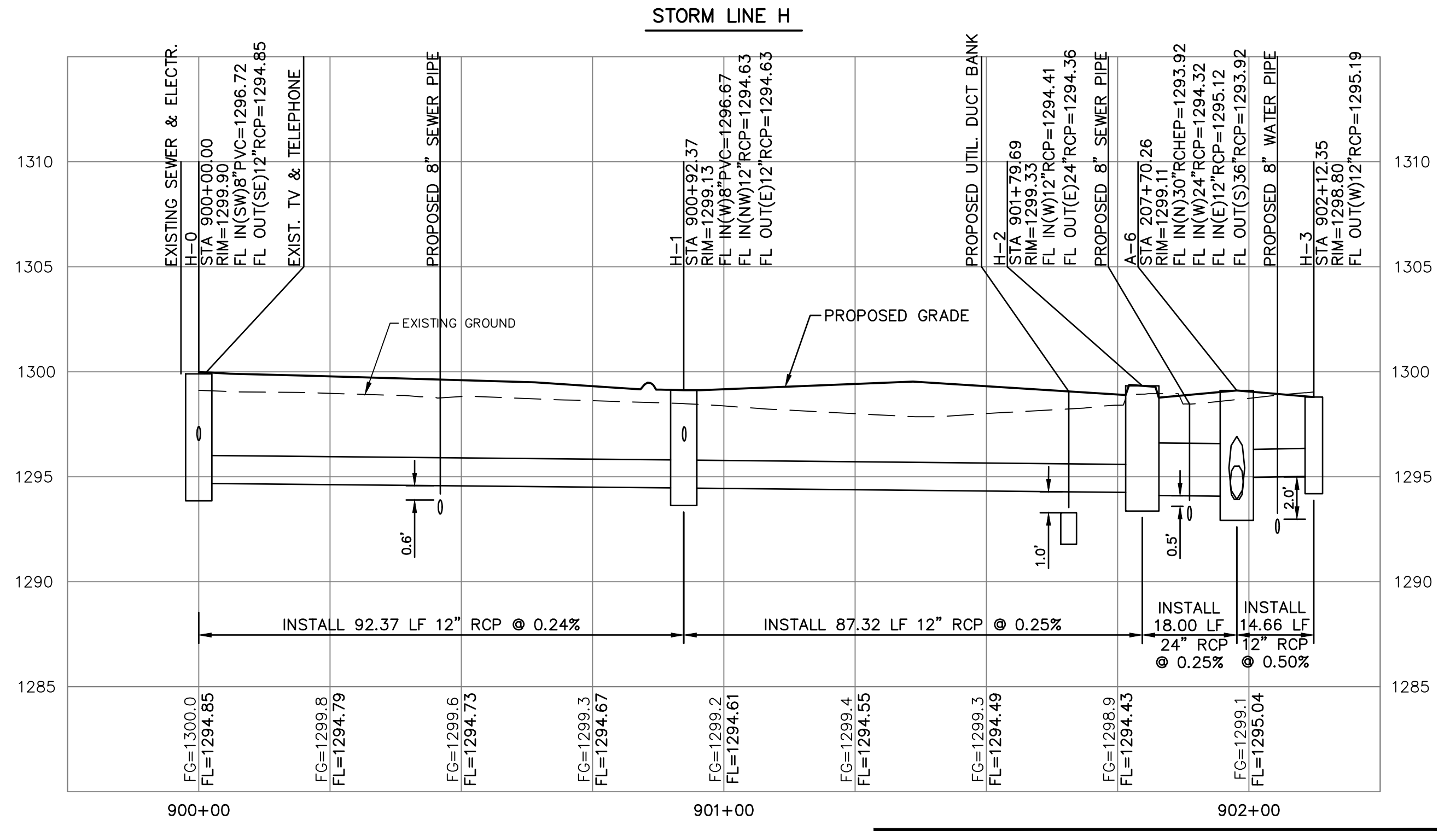
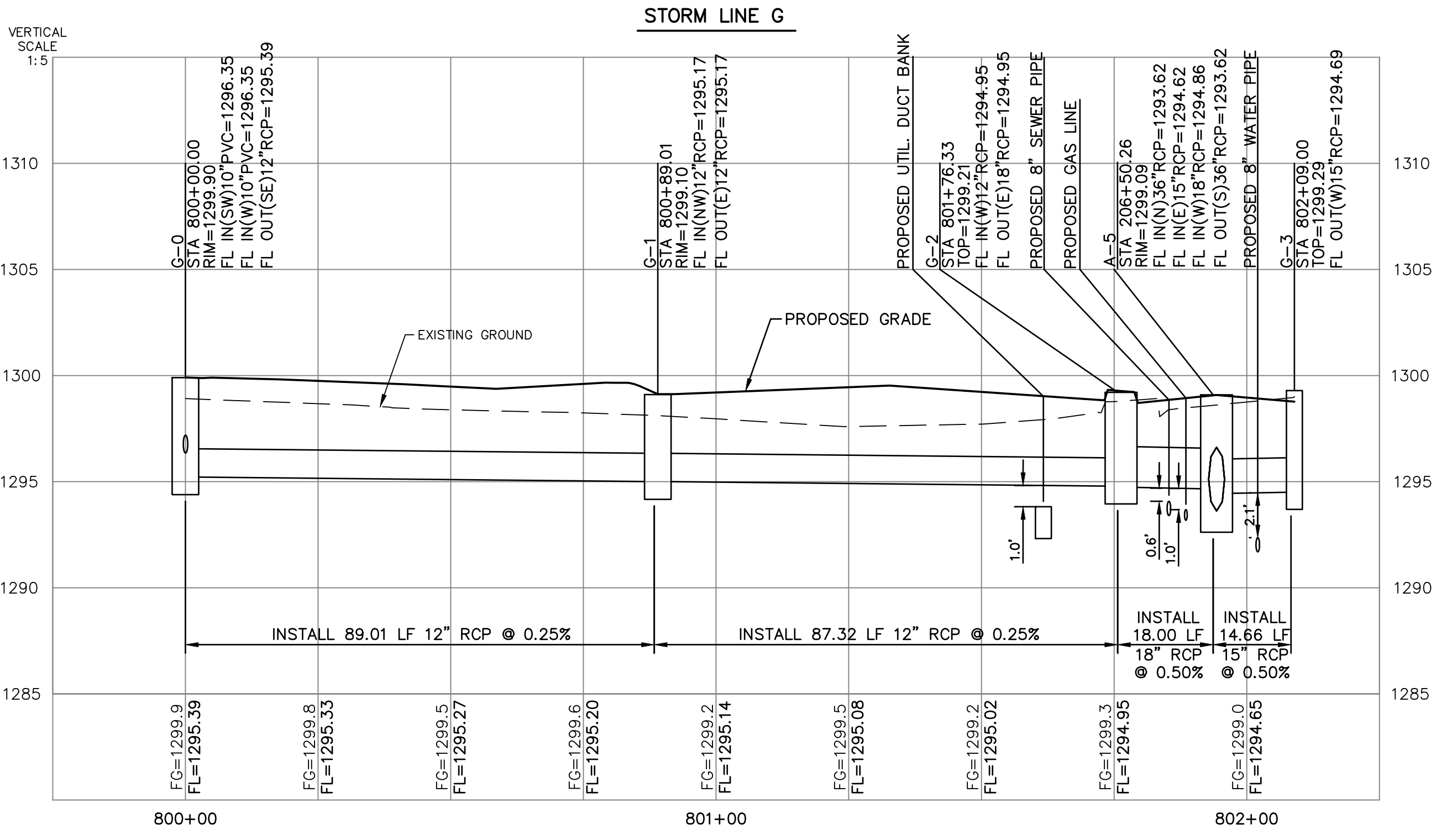
UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

STORM LINE E
STORM SEWER PLAN & PROFILE

PROJ. NO. 0597-1
 DESIGNER TRA DRAWN BY EAM
 CFN
 SHEET 0597-1PPD REV
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VERTICAL SCALE 1:5

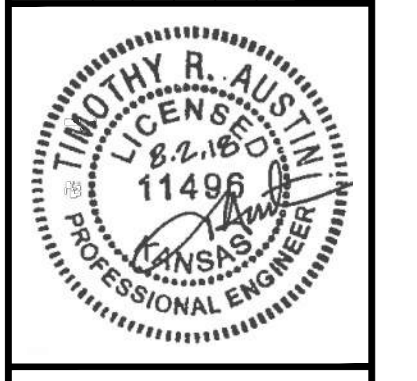


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BENCHMARKS:
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REV	DATE	DESCRIPTION
4	8-2-18	STORM MH/ ESMT REV.
3	6-18-18	ESMTS REVISION/ LIMIT OF IMPROVEMENTS
2	6-13-18	REVISION 2 PER C.O.W. COMMENTS
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS
0	5-17-18	FOR C.O.W. SUBMITTAL



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KAW VALLEY ENGINEERING

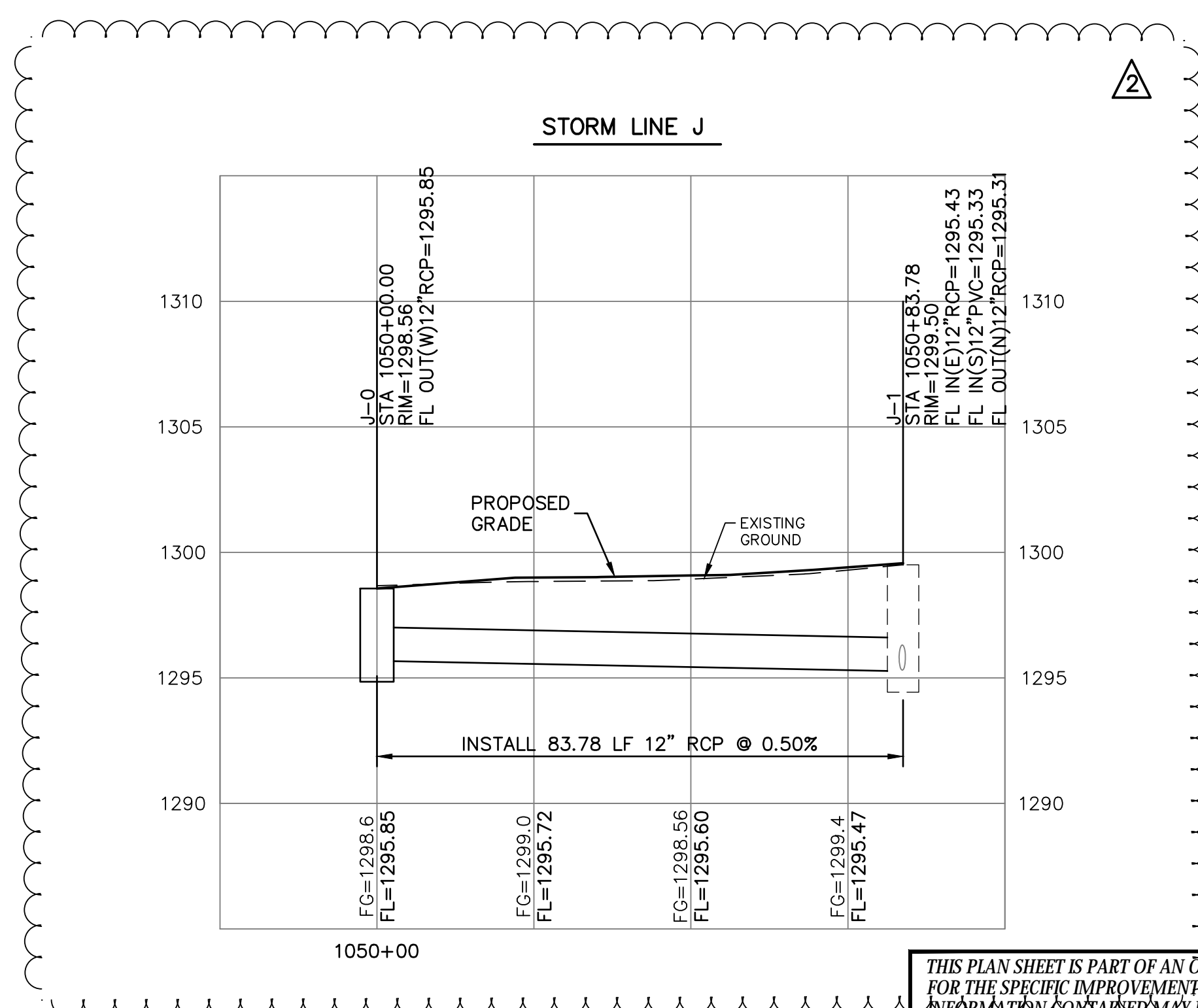
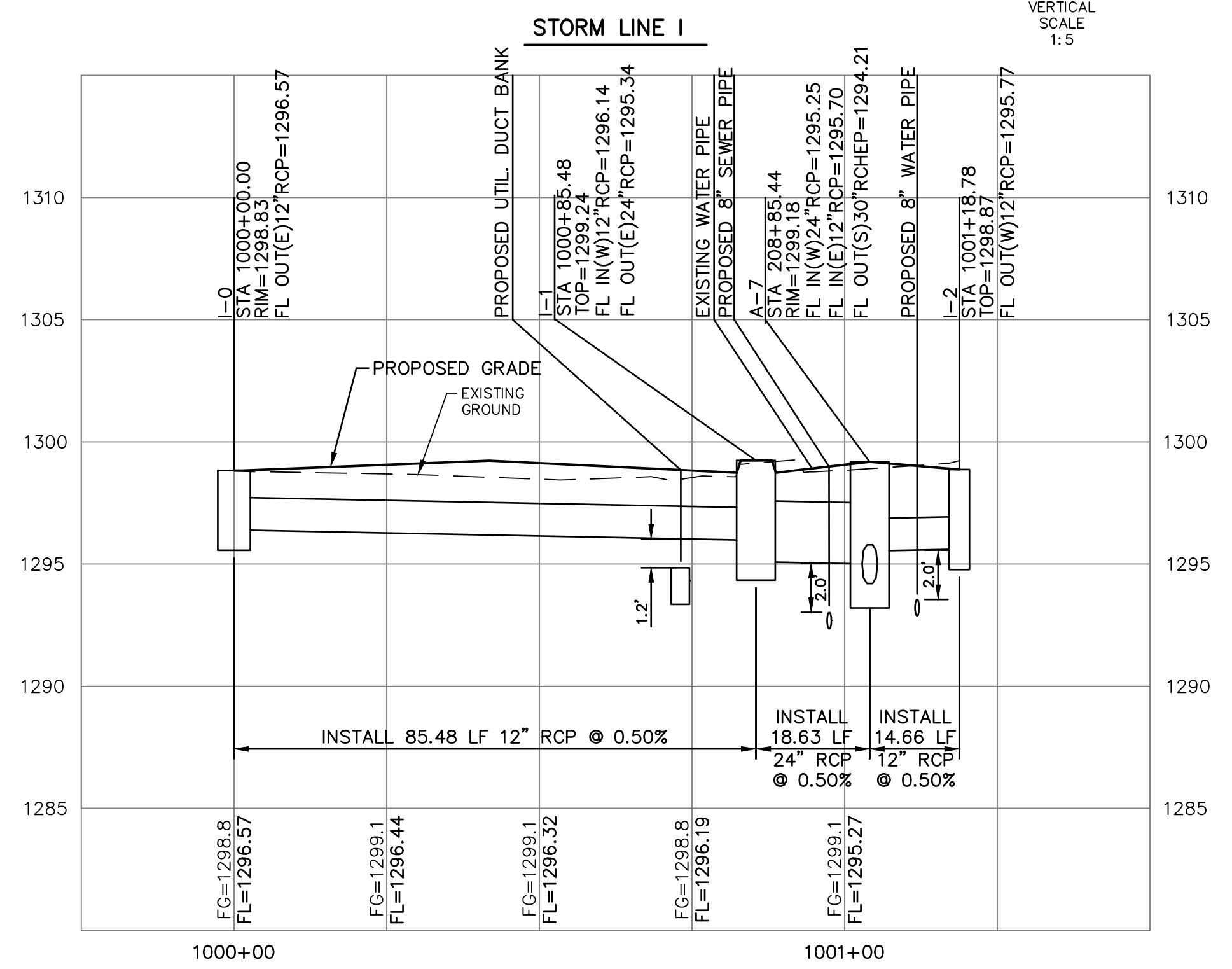
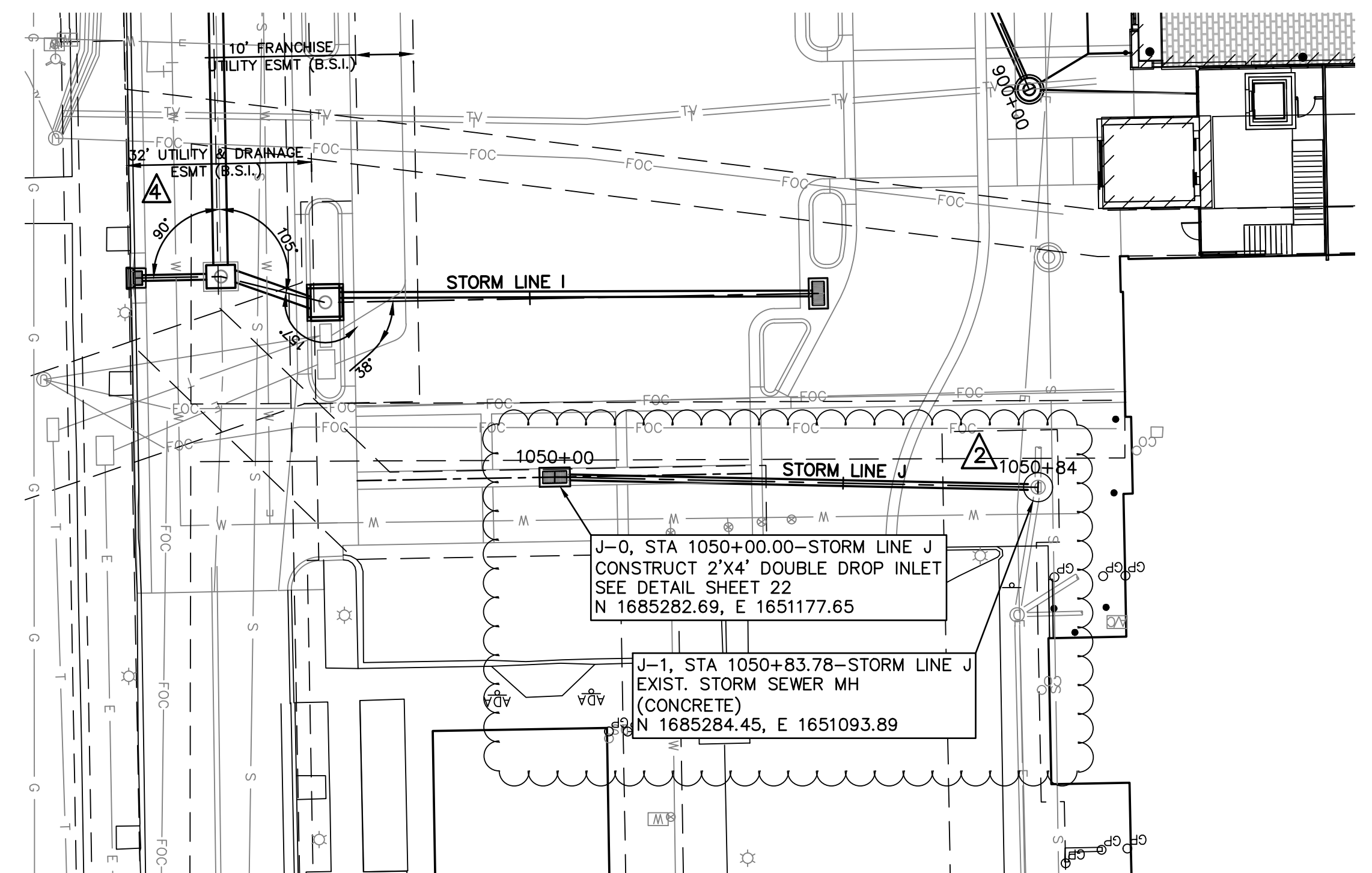
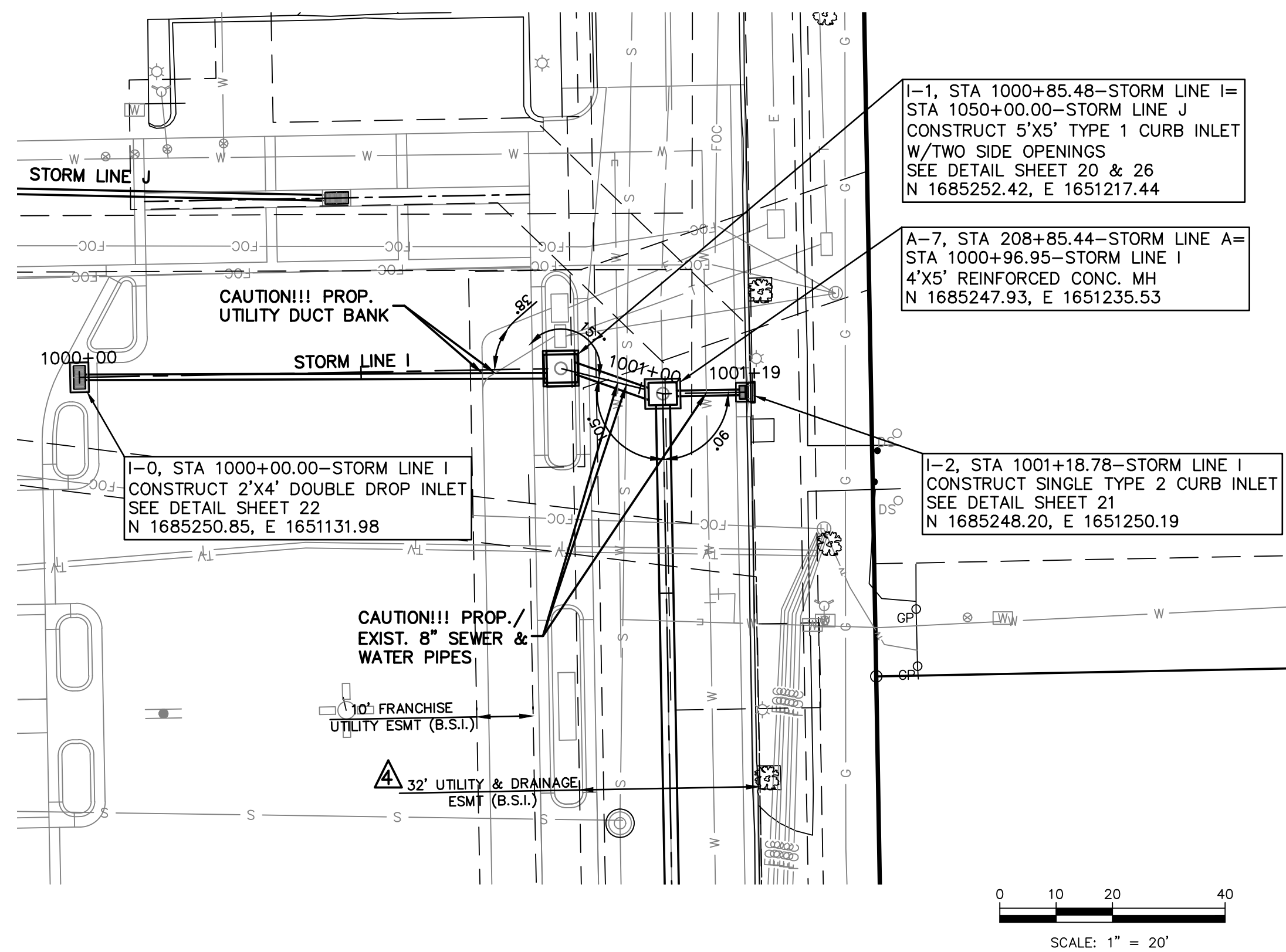
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UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

STORM LINES G & H
STORM SEWER PLAN & PROFILE

PROJ. NO. 0597-1
DESIGNER TRA
DRAWN BY EAM
CFN
SHEET 0597-1PPD
REV 09

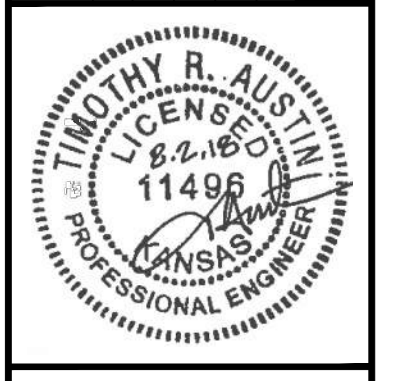
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DSN DWN CHK



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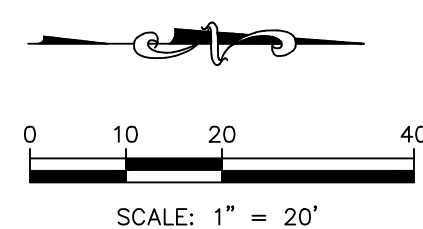
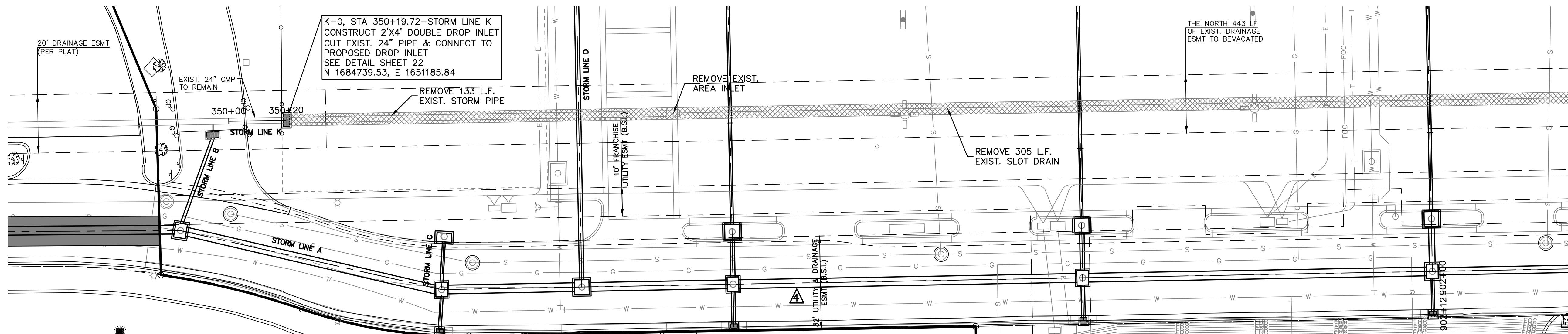
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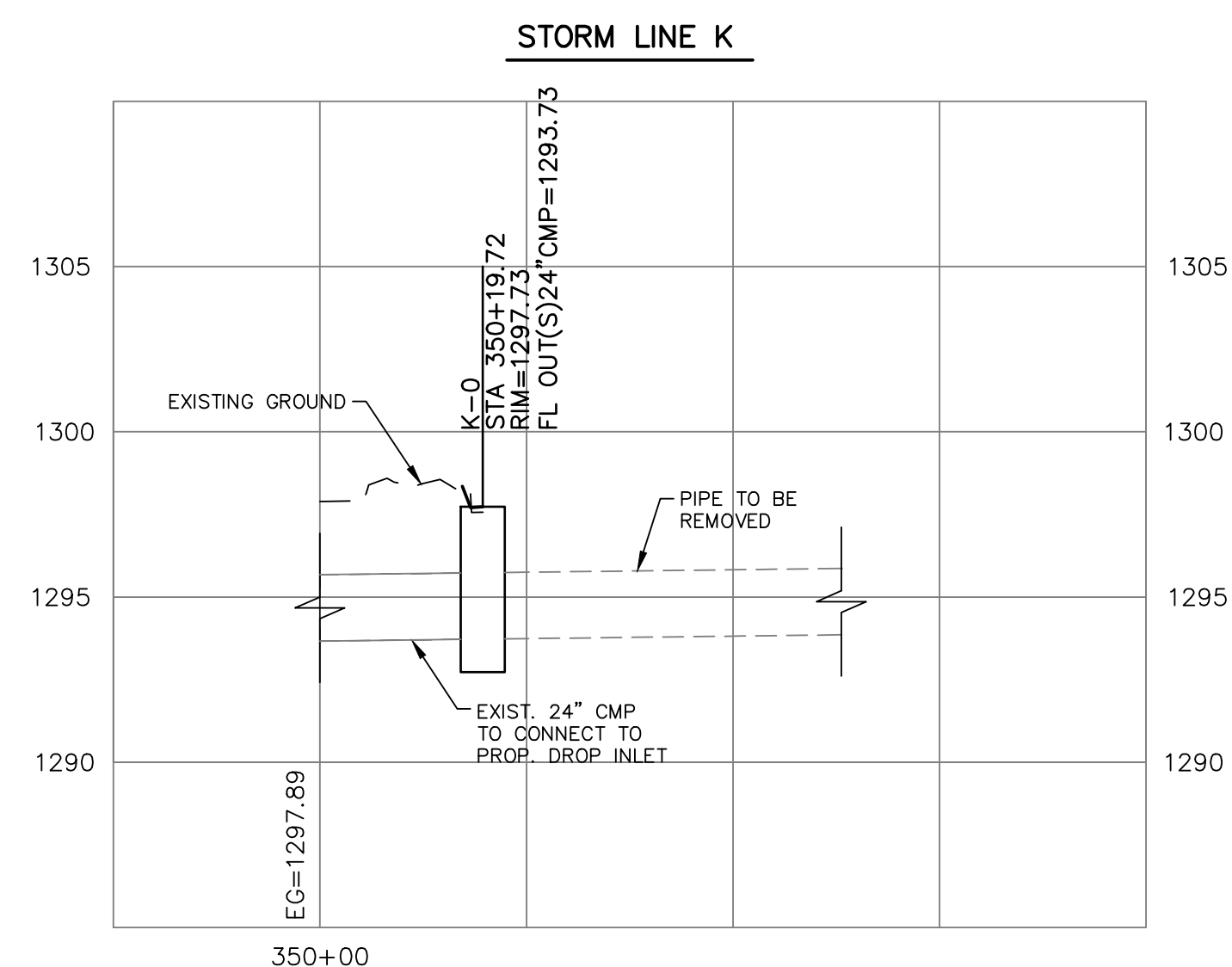
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UNION STATION MEAD ST	
107 E DOUGLAS AVE	
WICHITA, KS	
STORM LINES I & J	
STORM SEWER PLAN & PROFILE	
PROJ. NO.	0597-1
DESIGNER	TRA
DRAWN BY	EAM
CFN	
SHEET	0597-1PPD
REV	
10	4



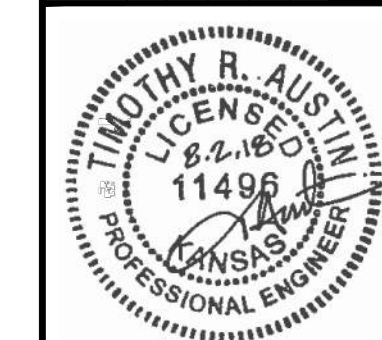
VERTICAL SCALE
1:5



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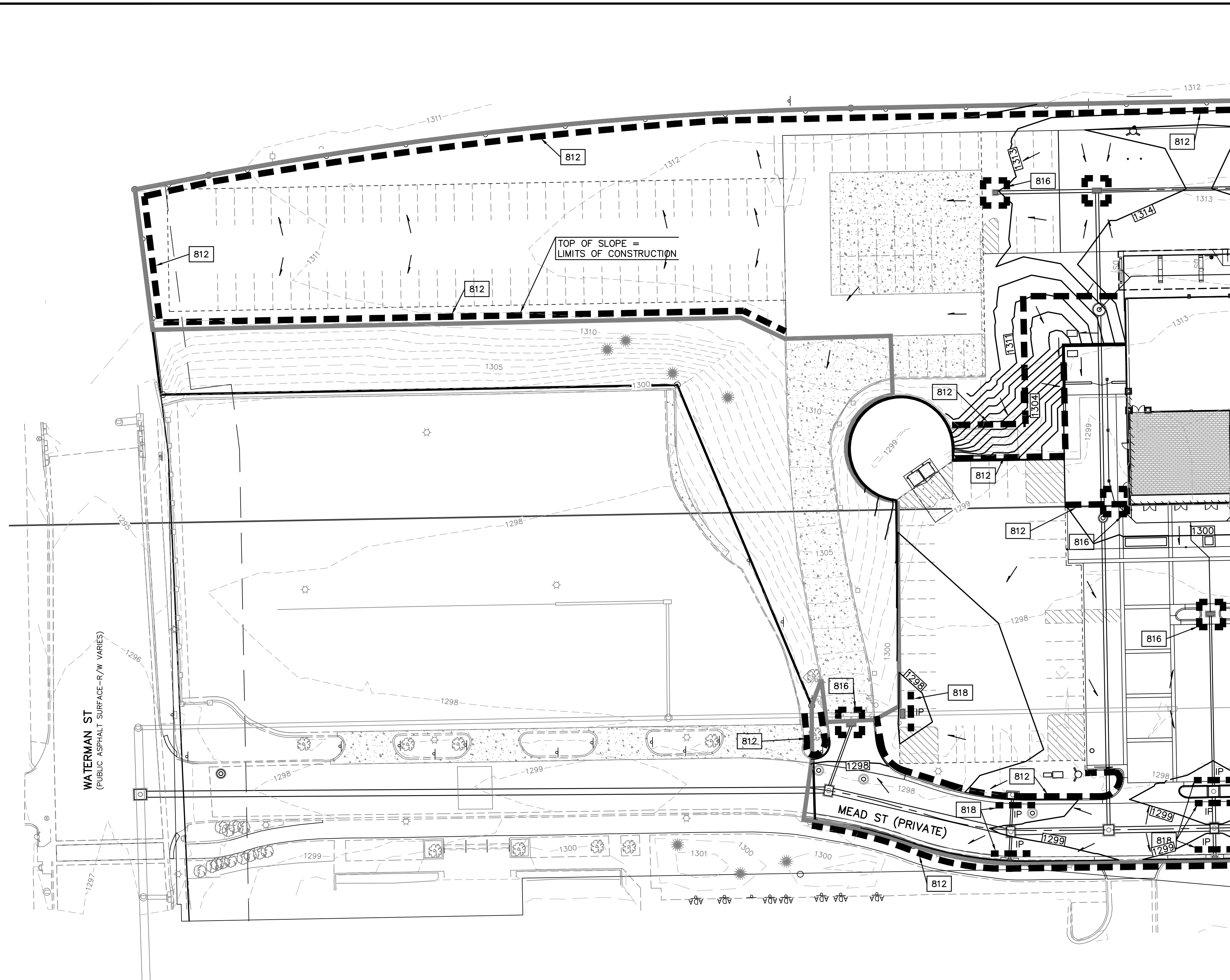
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UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

STORM LINE K
STORM SEWER PLAN & PROFILE

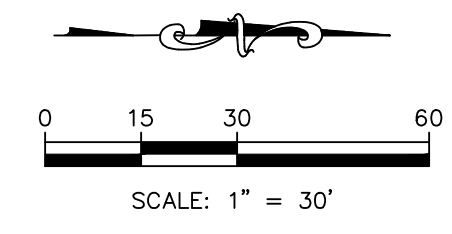
PROJ. NO.	0597-1
DESIGNER	SRS
DRAWN BY	EAM
CFN	
SHEET	0597-1PPD
REV	
11	4



MATCH LINE-SEE SHEET C-15

GENERAL NOTES:

- PROPERTY LINE IS LIMITS OF CONSTRUCTION EXCEPT AS SHOWN.
- THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING EARTHWORK OPERATIONS.
- THE CONTRACTOR SHALL MAINTAIN ALL SILT CONTROL MEASURES DURING CONSTRUCTION.
- ALL SILT SHALL REMAIN ON SITE AND SURROUNDING STREETS SHALL BE KEPT CLEAR OF ALL MUD AND DEBRIS.
- A SEDIMENTATION BARRIER IS TO BE INSTALLED AS SHOWN.
- ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE SEDIMENTATION BARRIERS MAINTAINED AS NEEDED TO PREVENT SEDIMENTATION BYPASS OF THE BARRIER.
- SLOPES ARE TO BE LEFT IN A ROUGH CONDITION DURING GRADING.
- CURB INLET SEDIMENTATION BARRIERS ARE TO BE INSTALLED AROUND INLETS AND WEIRS WHERE SEDIMENTATION IS A CONCERN. INLET BARRIERS SHALL BE EITHER BLOCK AND GRAVEL, OR SECURED STRAW BALES, OR SILT FENCE.
- SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS.
- RIPRAP IS TO BE INSTALLED AT AREAS OF CONCENTRATED FLOW (I.E. CULVERT OUTLETS).
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL AS HE/SHE DEEMS NECESSARY.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR AS NECESSARY TO INSTALL AND MAINTAIN ADEQUATE EROSION AND SILTATION CONTROLS REQUIRED TO PREVENT SOIL EROSION FROM LEAVING THE PROJECT SITE. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT METHODS UTILIZED ARE ADEQUATE AND COMPLY WITH REQUIREMENTS OF THE SPECIFICATIONS AND GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- TEMPORARY SEDIMENT FENCE TO REMAIN UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
- MUD AND DEBRIS SHALL BE CLEANED UP AT THE CONCLUSION OF EACH WORKING DAY, OR AFTER EACH RAINFALL IF SILT IS PRESENT.
- INSPECTION, MAINTENANCE AND REPAIR OF EROSION CONTROL DEVICES SHALL BE ON GOING THROUGHOUT THE LIFE OF BUILDING CONSTRUCTION TO KEEP THE DEVICES IN OPERABLE CONDITION AT ALL TIMES. ADDITIONAL MEASURES SHALL BE INSTALLED AS REQUIRED BY ACTUAL FIELD CONDITIONS AND/OR GOVERNING INSPECTION AGENCIES.
- INSTALL CONSTRUCTION ENTRANCE AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING THE SITE AND AS SHOWN ON PLANS.
- AT COMPLETION OF SITE GRADING AND OTHER RELATED CONSTRUCTION ACTIVITIES, ALL DISTURBED AREAS WITHIN THE PROJECT SITE SHALL BE SEEDED, SODDED, OR LANDSCAPED AS SHOWN ON THE LANDSCAPE PLAN WITHIN 14 DAYS.
- TOPSOIL IS TO BE PLACED IN AREAS UNSUITABLE FOR VEGETATIVE GROWTH.
- STRIP TOPSOIL PRIOR TO EXCAVATION, STOCKPILE AND SPREAD ONTO DISKED SUBGRADE (4" MIN) A THICKNESS OF 4 INCHES.
- ROCK LINING (RIPRAP) SHALL BE DURABLE STONE CONTAINING A COMBINED TOTAL OF NOT MORE THAN 10 PERCENT OF EARTH, SAND, SHALE AND NON-DURABLE ROCK. AT LEAST 60 PERCENT OF THE MASS SHALL BE OF PIECES HAVING A MINIMUM WEIGHT OF 150 POUNDS OR MORE PER CUBIC FOOT.
- THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR RESOLVING COMPLAINTS IN THE EVENT THAT COMPLAINTS OR DAMAGE CLAIMS ARE FILED DUE TO DAMAGES OCCURRING ADJACENT TO OR DOWNSTREAM FROM PROPERTY BY SEDIMENT RESULTING FROM EROSION ON THE PROJECT SITE.
- GOOD HOUSEKEEPING PRACTICES SHALL BE MAINTAINED ON SITE TO KEEP SOLID WASTE FROM ENTRY INTO WATERS.
- ALL FUELING FACILITIES PRESENT ON SITE SHALL ADHERE TO APPLICABLE FEDERAL AND STATE REQUIREMENTS CONCERNING UNDERGROUND STORAGE, ABOVE GROUND STORAGE AND DISPENSERS, INCLUDING SPILL PREVENTION, CONTROL AND COUNTER MEASURES.
- RIGHT OF WAY TO BE STABILIZED PER CITY OF WICHITA STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- EROSION CONTROL IS TO BE PLACED IN PHASING AS CONSTRUCTION PROGRESSES.
- MINIMAL WASHING OF CONCRETE EQUIPMENT ALLOWED, CHUTE ETC. CONCRETE WASHOUT OF THE DRUM IS NOT ALLOWED. ANY PIT/WASHOUT AREA NEEDS TO BE MAINTAINED IN A NON-DISCHARGING MANNER AND ANY WASTE RESIDUE WILL NEED TO BE CLEANED OUT AND REMOVED AT THE END OF PROJECT.
- CONTRACTOR/DEVELOPER IS RESPONSIBLE FOR HAVING LOT BUILDERS FOLLOW THE GUIDELINES OF "CONTROLLING EROSION WHEN BUILDING YOUR HOME" PROVIDED BY KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT.
- EROSION CONTROL SEDIMENT FENCE TO BE INSTALLED 1'-0" BEHIND CURB & GUTTER UPON COMPLETION OF BACKFILL OF CURB IN ALL AREAS WHERE SLOPES FROM LOT DRAIN TOWARDS CURB. UPON COMPLETION OF FINAL GRADING THE TOES OF ALL EMBANKMENTS IN EXCESS OF TWO FEET IN HEIGHT WILL HAVE EROSION CONTROL SEDIMENT FENCE INSTALLED.



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DATUM BENCHMARK:
U.S. SURVEY FEET AND REFER TO NAVD 88 DATUM BASED ON THE WICHITA RTCM 3.0 GNSS NETWORK. ORTHOMETRIC HEIGHT WAS CALCULATED USING THE GEOID 12B MODEL.

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- DETAILS - SEE DETAIL SHEETS NO. C-17 THRU C-21 FOR THE FOLLOWING DETAILS
- 047 CONSTRUCTION ENTRANCE DETAIL
 - 812 SEDIMENTATION FENCE
 - 816 TEMPORARY DROP INLET PROTECTION
 - 818 INLET FILTER PROTECTION

EROSION & PROPOSED IMPROVEMENTS LEGEND:

- 1357 --- EXISTING GROUND CONTOUR (1' INTERVALS)
- PROPOSED FLOW ARROW
- SILT FENCE (APPROX. 2680 LF, INSTALL PER EROSION CONTROL DETAILS)
- CONSTRUCTION LIMITS
- IP INLET PROTECTION
- IP DROP INLET PROTECTION (4 EA., INSTALL PER EROSION CONTROL DETAILS)

TEMPORARY SEEDING
SEEDBED PREPARATION - SEEDBED SHOULD BE WELL-PULVERIZED, LOOSE AND UNIFORM. LIME AND FERTILIZER SHOULD BE APPLIED ACCORDING TO SOIL TEST RECOMMENDATIONS. IF pH IS UNKNOWN, APPLY LIME AT A RATE OF 2 TONS/ACRE. APPLY A 10-10-10 GRADE FERTILIZER AT 700-1,000 LB/ACRE. INCORPORATE BOTH INTO THE TOP 4-6 INCHES OF SOIL.

PLANT SELECTION - ANNUAL RYE GRASS, WHEAT OR OATS FOR TEMPORARY SEEDING

SEEDING - EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. ANNUAL RYE GRASS SHOULD BE APPLIED AT A RATE OF 120 LBS/ACRE. WHEAT OR OATS SHOULD BE APPLIED AT A RATE OF 100 LBS/ACRE. BROADCAST SEEDING AND HYDROSEEDING ARE APPROPRIATE FOR STEEP SLOPES WHERE EQUIPMENT CANNOT BE DRIVEN. HAND BROADCASTING IS NOT RECOMMENDED BECAUSE OF THE DIFFICULTY IN ACHIEVING A UNIFORM DISTRIBUTION. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN 1 INCH DEEP, AND GRASSES AND LEGUMES NO MORE THAN 1/2 INCH. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING, AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPACKER. HYDROSEEDED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.

MULCHING - THE USE OF MULCH WILL HELP ENSURE ESTABLISHMENT UNDER NORMAL CONDITIONS AND IS ESSENTIAL TO SEEDING SUCCESS UNDER HARSH CONDITIONS SUCH AS SEEDING IN FALL OR WINTER COVER (WOOD FIBER MULCHES ARE NOT CONSIDERED ADEQUATE FOR THIS USE), SLOPES STEEPER THAN 3:1, EXCESSIVELY HOT OR DRY WEATHER, ADVERSE SOILS (SHALLOW, ROCKY, HIGH IN CLAY OR SAND), AND AREAS RECEIVING CONCENTRATED FLOW. IF AREA TO BE MULCHED IS SUBJECT TO CONCENTRATED WATERFLOW, AS IN CHANNELS, ANCHOR MULCH WITH NETTING.

MAINTENANCE - RESEED, REFERTILIZE AND MULCH AREAS OF INSUFFICIENT GROWTH. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

PERMANENT SEEDING
SEE SECTION 02930 OF THE PROJECT SPECIFICATIONS FOR PERMANENT SEEDING REQUIREMENTS.

REV	DATE	DESCRIPTION	DSN	DWN	CHK
3	6-18-18	ESMITS REVISION/ LIMIT OF IMPROVEMENTS	TRA	EAM	TRA
2	6-13-18	REVISION 2 PER C.O.W. COMMENTS	TRA	EAM	MLT
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS	TRA	EAM	MLT
0	5-17-18	FOR C.O.W. SUBMITTAL	TRA	EAM	MLT



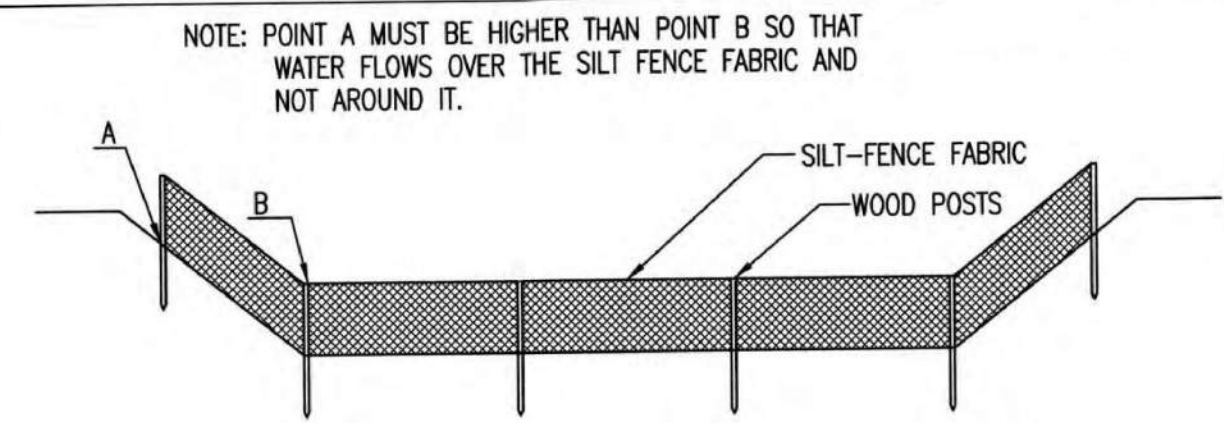
TIMOTHY R. AUSTIN
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KAW VALLEY ENGINEERING

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UNION STATION MEAD ST		EROSION CONTROL PLAN
107 E DOUGLAS AVE WICHITA, KS		
PROJ. NO.	0597-1	
DESIGNER	TRA	DRAWN BY
CFN		MLT
SHEET	0597-10ECP	
REV		
13		3



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4" LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE 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 DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

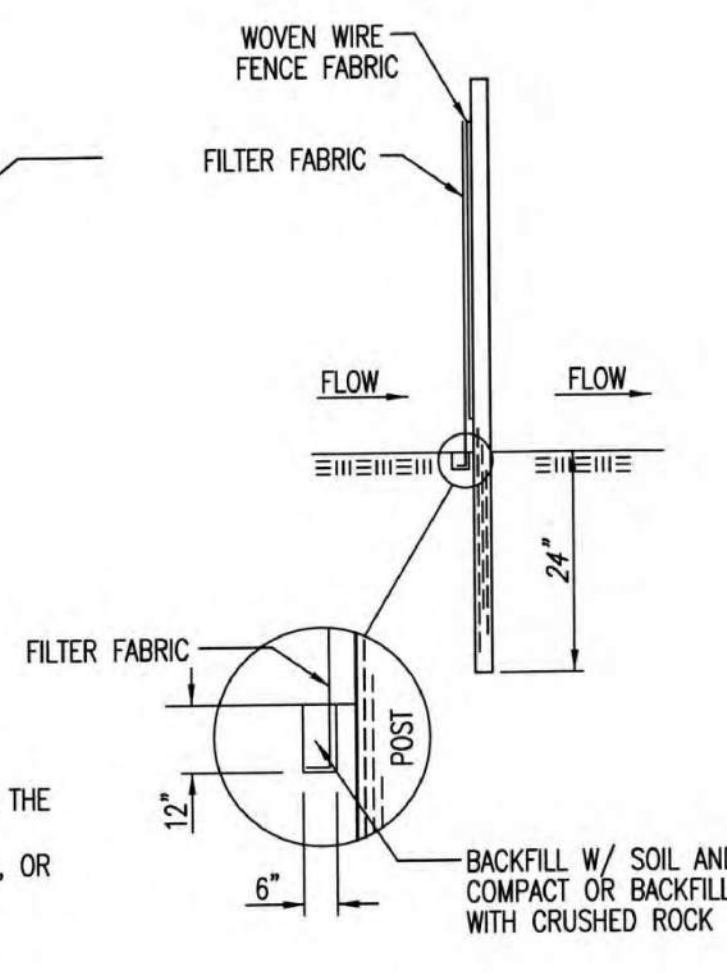
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK—NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM. DO NOT PLACE SILT FENCE POSTS ON THE UPSTREAM SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

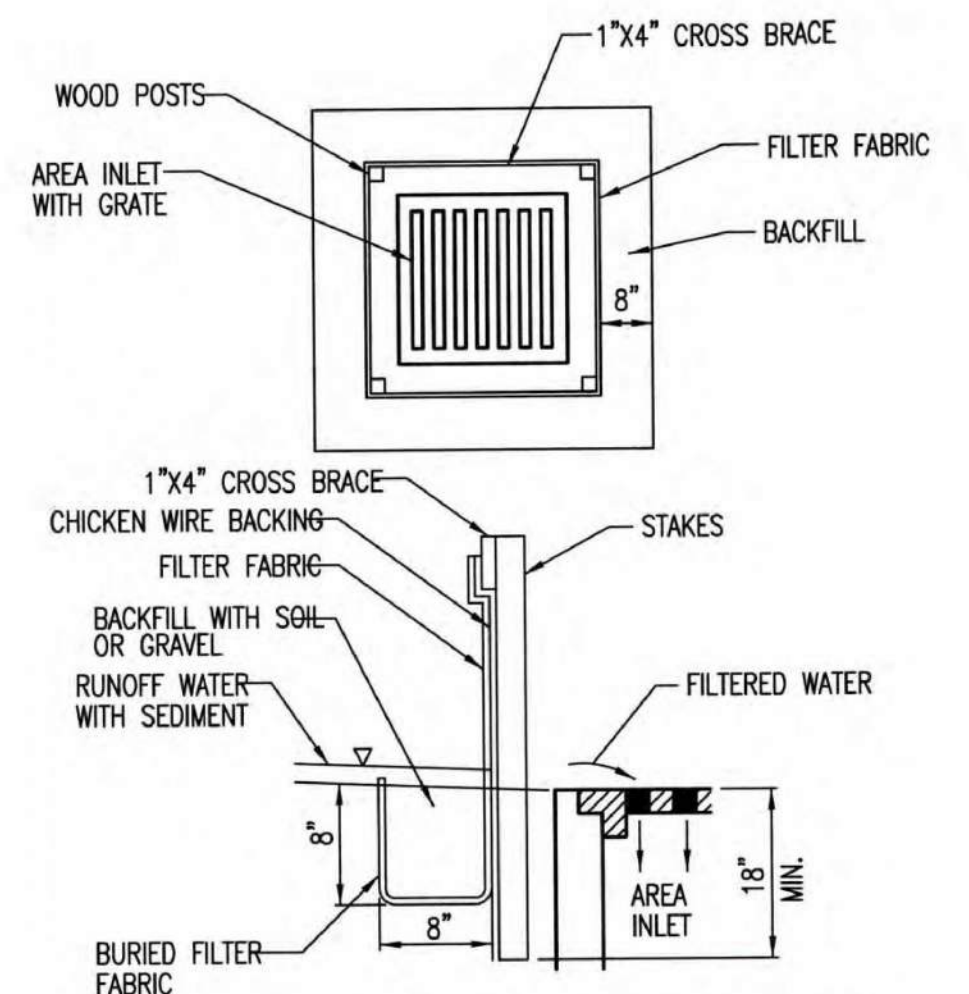
INSPECTION AND MAINTENANCE:

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



ANCHOR TRENCH DETAIL



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.

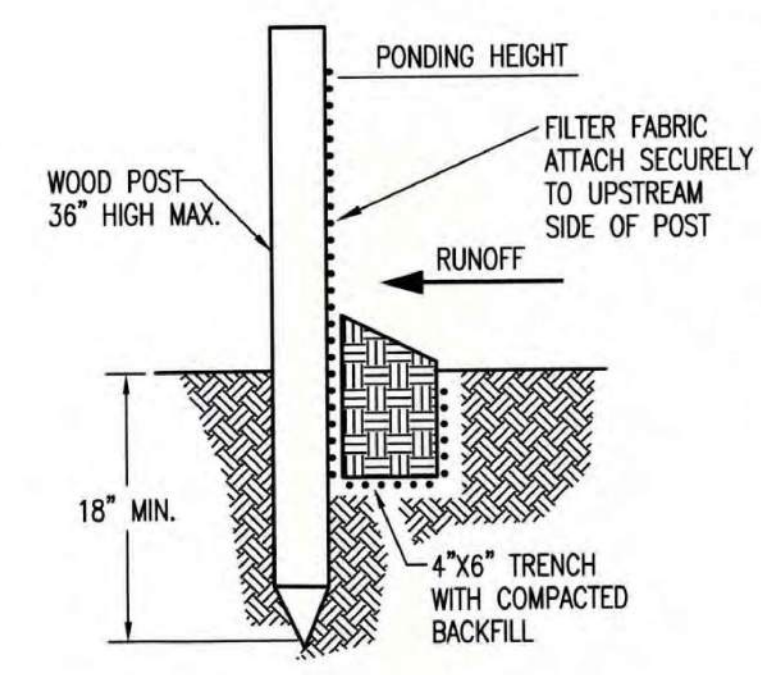
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 RESTRICTED 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

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

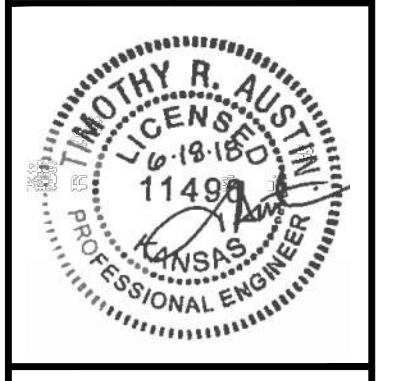
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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



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TIMOTHY R. AUSTIN
ENGINEER
KS # 11496

200 N. EMPORIA, SUITE 100
WICHITA, KANSAS 67203-4400-4309
PH: (316) 268-4400
www.kawvalleyeng.com | info@kawvalleyeng.com

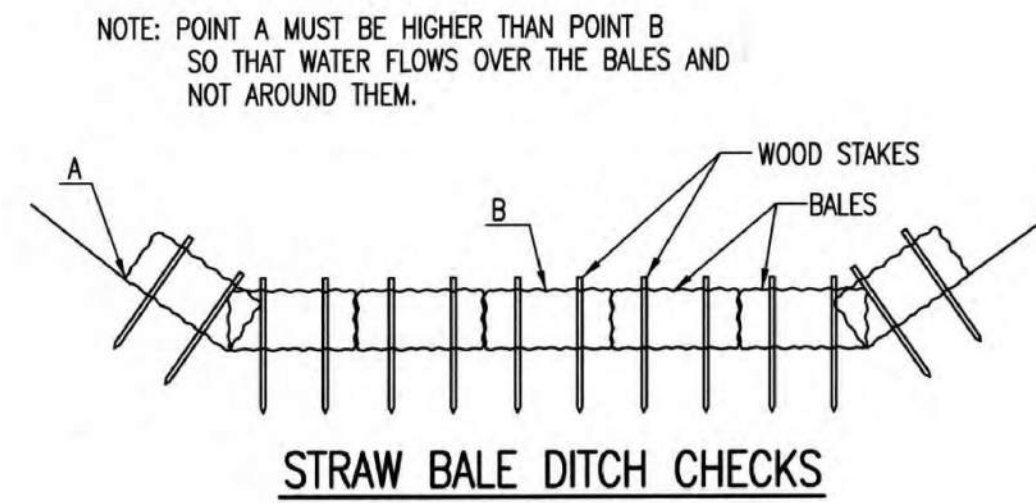
KAW VALLEY ENGINEERING

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF KANSAS UNDER CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18

UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

EROSION CONTROL DETAILS

PROJ. NO.	0597-1
DESIGNER	TRA
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CFN	0597-1DDET
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STRAW BALE DITCH CHECKS

MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6" WIDE. OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED. THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK SPACING (%)	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".

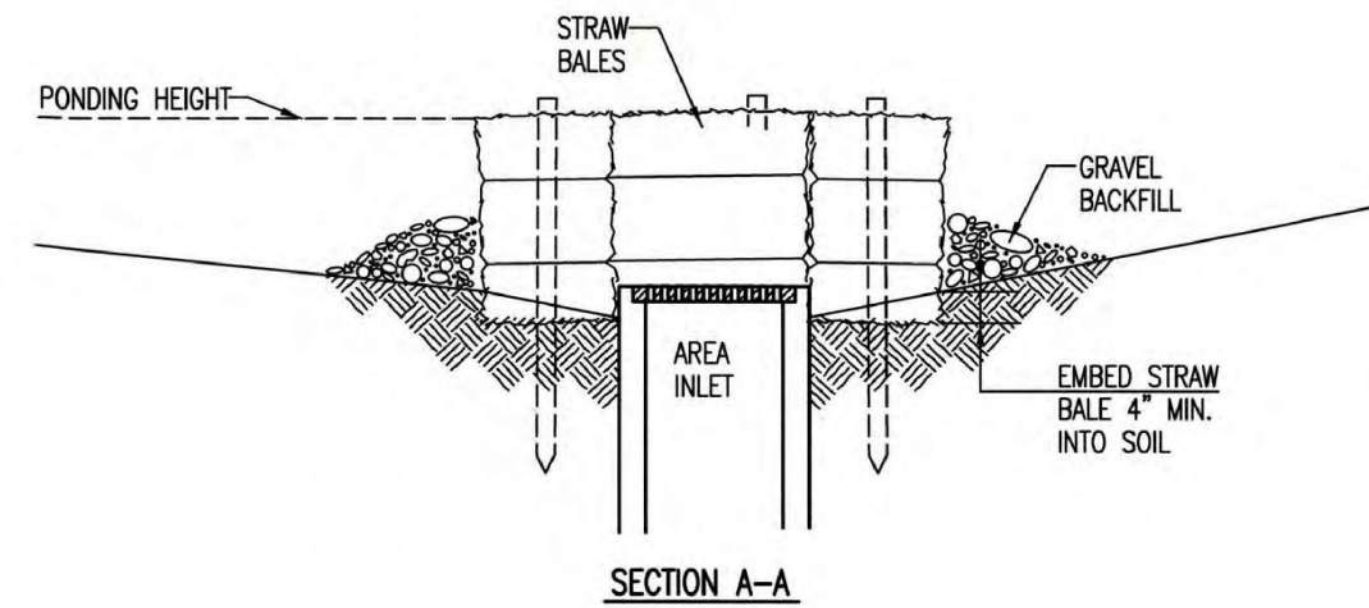
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

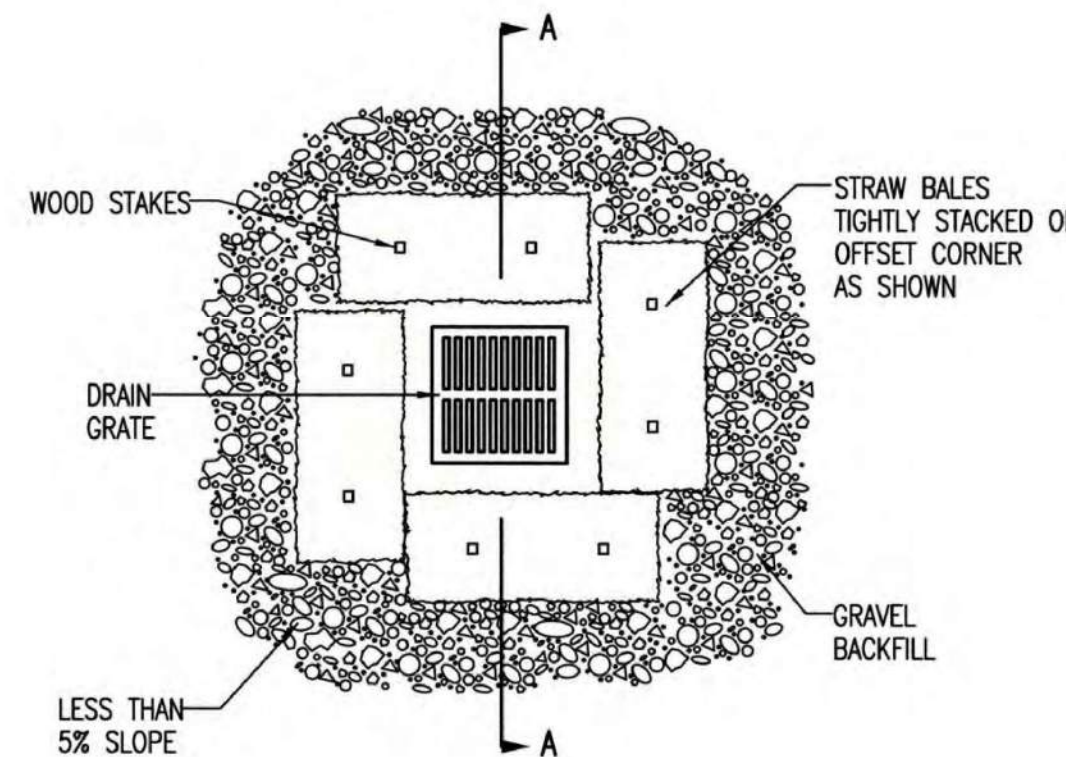
INSPECTION AND MAINTENANCE:

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.

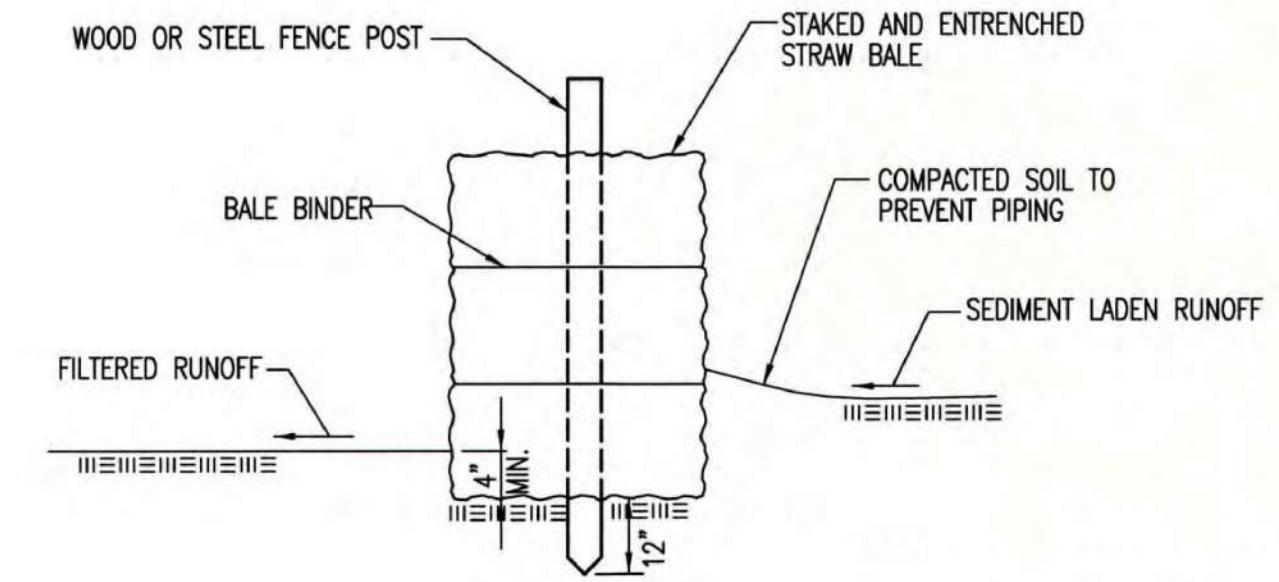
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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



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

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

SHEET



REV	DATE	DESCRIPTION
2	6-18-18	ESMITS REVISION/ LIMIT OF IMPROVEMENTS
1	5-24-18	TRA REVISION 1 PER C.O.W. COMMENTS
0	5-17-18	FOR C.O.W. SUBMITTAL

PROF. ENGINEER
TIMOTHY R. AUSTIN
LICENSED
11498
KANSAS
EXPIRES 12/31/18

TIMOTHY R. AUSTIN
ENGINEER
KS # 11496

200 N. EMPORIA, SUITE 100
WICHITA, KANSAS 67203-4400-4309
PH: (316) 268-4400
www.kawvalley.com | www.kveing.com

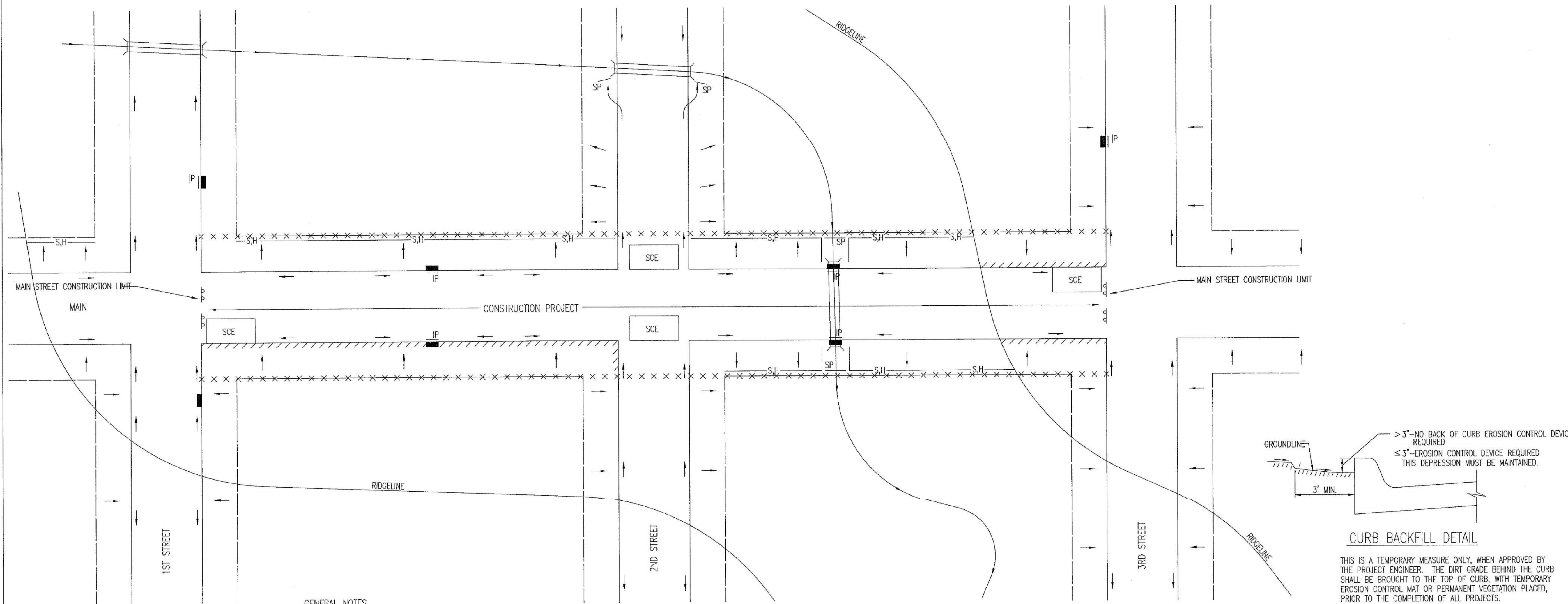
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF KANSAS UNDER CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18

<p>UNION STATION MEAD ST 107 E DOUGLAS AVE WICHITA, KS</p>	<p>EROSION CONTROL DETAILS</p>
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PROJ. NO.	0597-1
DESIGNER	TRA
DRAWN BY	EAM
CFN	0597-1DDET
SHEET	REV
17	2

GENERAL NOTES

- 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.
- EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
- 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.
- 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.
- 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.
- 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 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.

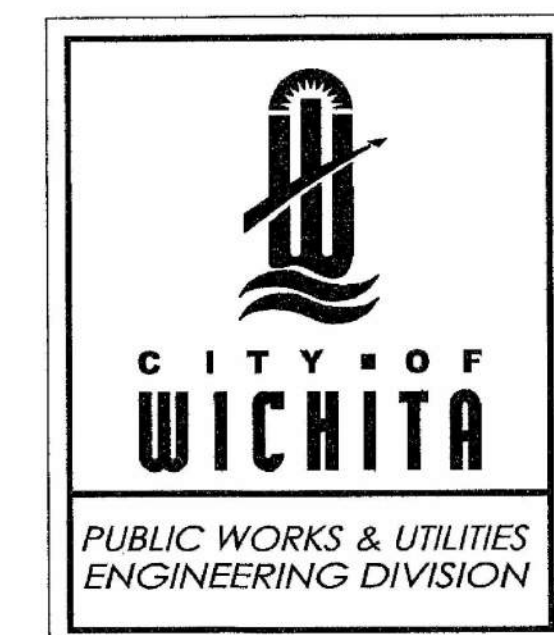


LEGEND

- 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

- 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.
- THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
- EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
- INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
- 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.
- ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
- THE CONTRACTOR 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:
 - 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)
 - 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.
 - ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
 - 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)

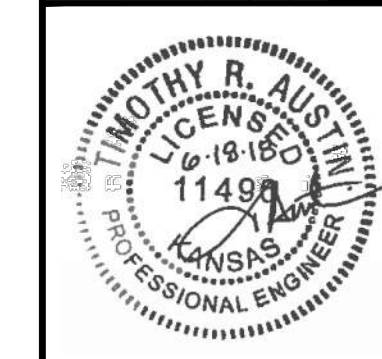


STREET IMPROVEMENT PROJECTS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET

REVISION: JUNE 2015

SW-504

REV	DATE	DESCRIPTION
2	6-18-18	ESMITS REVISION/ LIMIT OF IMPROVEMENTS
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS
0	5-17-18	FOR C.O.W. SUBMITTAL



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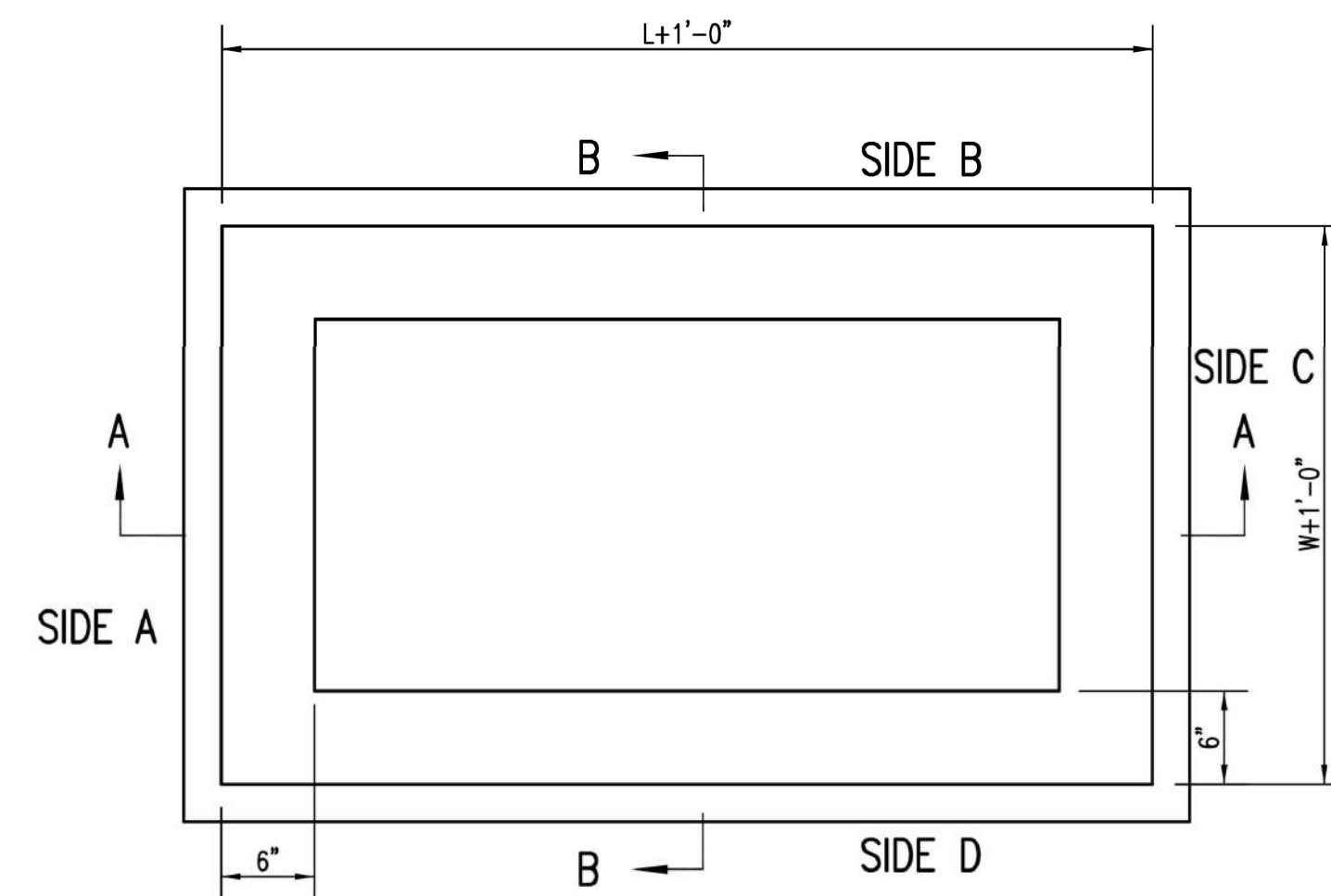
KAW VALLEY ENGINEERING

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES UNDER THE KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18

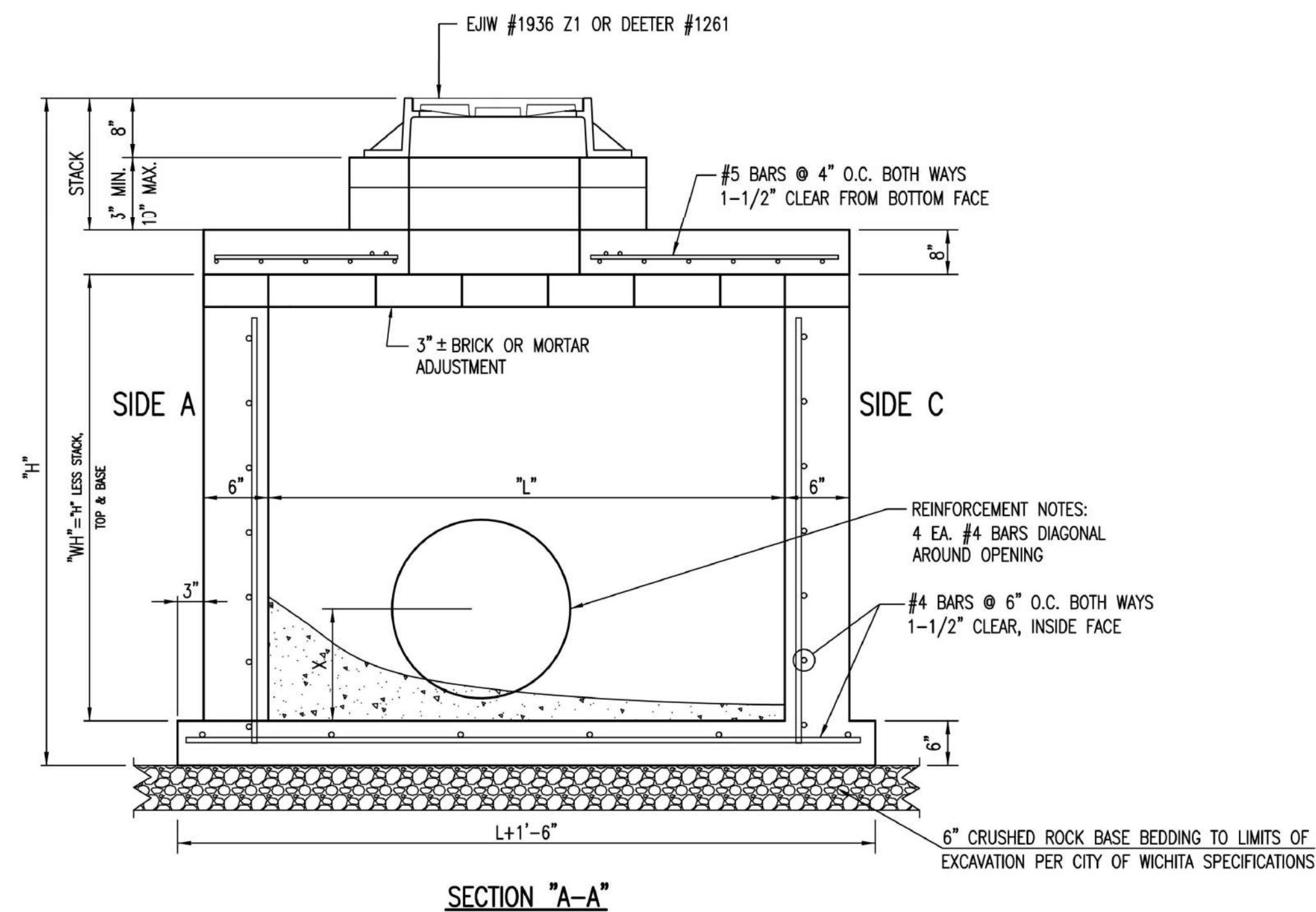
UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

EROSION CONTROL DETAILS

PROJ. NO.	0597-1
DESIGNER	TRA
DRAWN BY	EAM
CFN	0597-1DDET
SHEET	18
REV	2



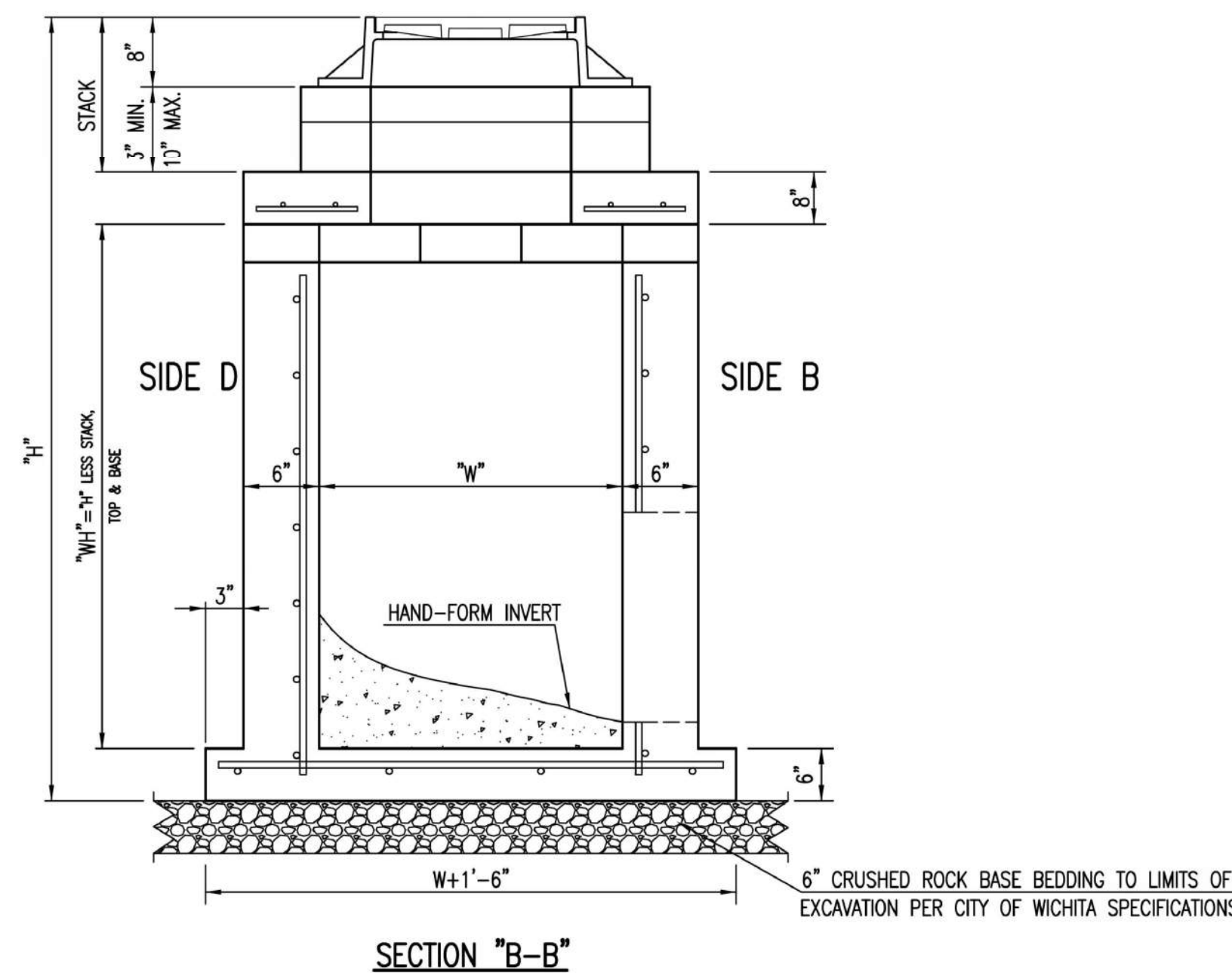
TOP VIEW



SECTION "A-A"

GENERAL NOTES

1. GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. 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.
3. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
4. INLET FRAME AND GRATE TO BE DEETER #1261, EJW #1936-Z1 OR APPROVED EQUAL, SEE SW-303.
5. 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.



SECTION "B-B"



REINFORCED CONCRETE
MANHOLE
(STORM SEWER)

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

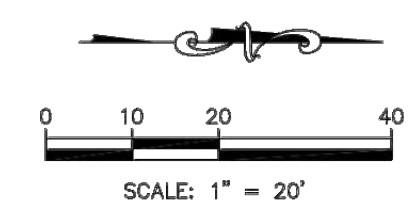
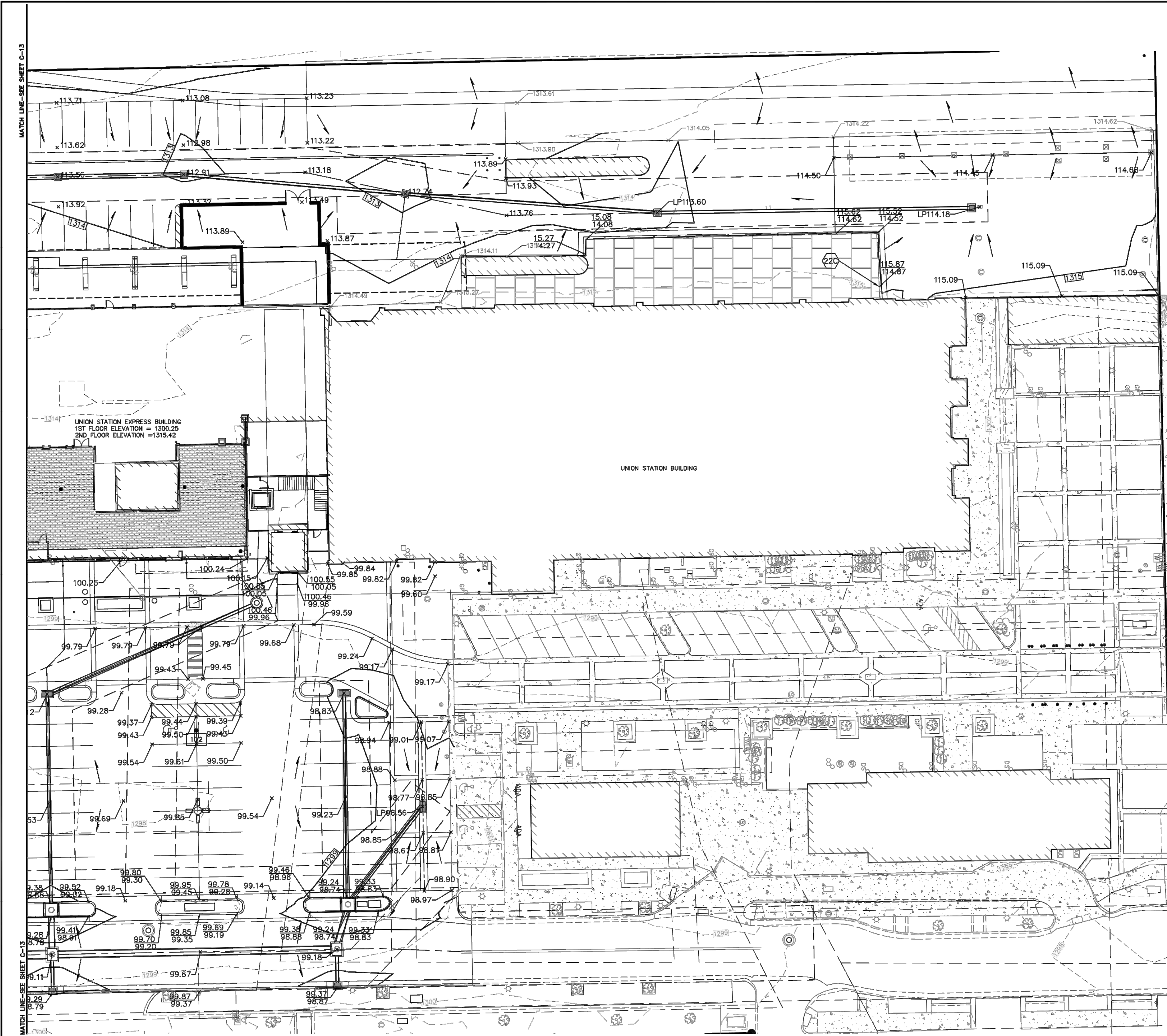
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

REVISED: MARCH 2015

SW-302

UNION STATION MEAD ST 107 E DOUGLAS AVE WICHITA, KS		STANDARD DETAILS	
PROJ. NO.	0597-1	DESIGNER	TRA
CFN	0597-1DDET	DRAWN BY	EAM
SHEET	23	REV	2
TIMOTHY R. AUSTIN ENGINEER KS # 11496		KAW VALLEY ENGINEERING 200 N. EMPORIA, SUITE 100 WICHITA, KANSAS 67202-4400-4309 PH: (316) 268-4501 www.kveng.com info@kveng.com	
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF KANSAS UNDER CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18.		TIMOTHY R. AUSTIN PROFESSIONAL ENGINEER KANSAS LICENSED 11496 6-18-18	
REV	DATE	DESCRIPTION	CHK
2	6-18-18	ESMITS REVISION/ LIMIT OF IMPROVEMENTS	TRA
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS	TRA
0	5-17-18	FOR C.O.W. SUBMITTAL	TRA
			DSN
			DWN
			CHK

FOR INFORMATIONAL PURPOSES ONLY



LEGEND (PROPOSED)

- 98.5 SPOT ELEVATION (ADD 1200), TOP OF PAVEMENT
- 83.60 TOP OF CURB (ADD 1200)
- 83.10 FLOWLINE OF CURB (ADD 1200)
- TW=83.6 TOP OF RETAINING WALL (ADD 1200)
- GR=83.1 GROUND ELEVATION @ WALL (ADD 1200)
- 1299 - - - - - EXISTING GROUND CONTOUR (1' INTERVALS)
- 1299 - - - - - PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- PROPOSED FLOW ARROW
- ↘ RAMP DOWN ARROW
- HP HIGH POINT
- LP LOW POINT

- DETAILS - SEE DETAIL SHEETS NO. C-24 THRU C-27 FOR THE FOLLOWING DETAILS
- 060 SIDEWALK RAMP
- 102 90° ACCESSIBLE & VAN ACCESSIBLE SPACE STRIPING

- NOTES:
- 21C MATCH EXISTING PAVEMENT ELEVATIONS
 - 21E SAW CUT & REMOVE EXISTING SHOULDER & MATCH EXISTING CROSS-SLOPE
 - 22A TAPER CURB FROM 6" TO 0" IN 2'-0"
 - 22B TAPER CURB TO MATCH SIDEWALK
 - 22C TAPER CURB HEIGHT FROM 12" TO 0" IN 5 FEET

THIS PLAN SHEET IS PART OF AN OVERALL KAW VALLEY ENGINEERING PLAN SET FOR THE SPECIFIC IMPROVEMENTS CONTEMPLATED THEREIN. AS SUCH, THE INFORMATION CONTAINED MAY BE LIMITED AND SHOULD ONLY BE INTERPRETED WITHIN THE CONTEXT OF THE COMPLETE PLAN SET.

DATUM BENCHMARK:
U.S. SURVEY FEET AND REFER TO NAVD 88 DATUM BASED ON THE WICHITA RTCM 3.0 GNSS NETWORK. ORTHOMETRIC HEIGHT WAS CALCULATED USING THE GEOD 12B MODEL.

BENCHMARKS:
BM #1: CHISELED "X" ON NE CORNER OF CONCRETE PAD WITH ACCESS GATE ARM. ELEV=1314.65 (NAVD 88)
BM #2: NGS DISK A 237, HF0487, LOCATED ON SIDE OF BUILDING. 10.4 FEET SOUTH OF THE NORTHWEST CORNER OF THE UNION STATION, 28 FEET EAST OF THE EAST RAIL OF THE TRACK, 2.3 FEET ABOVE THE GROUND, 3.5 RAILS SOUTH OF THE CENTER LINE OF THE DOUGLAS AVENUE VIADUCT, SET VERTICALLY IN THE WEST WALL OF THE RAILROAD STATION. ELEV=1317.08 (NAVD 88)

REV	DATE	DESCRIPTION
0	5-11-18	FOR PERMIT REVIEW
1	5-24-18	ESMITS REVISION / LIMIT OF IMPROVEMENTS
2	6-18-18	REVISION 1 PER C.O.W. COMMENTS
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TIMOTHY R. AUSTIN
ENGINEER
KS # 11496

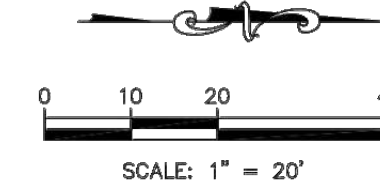
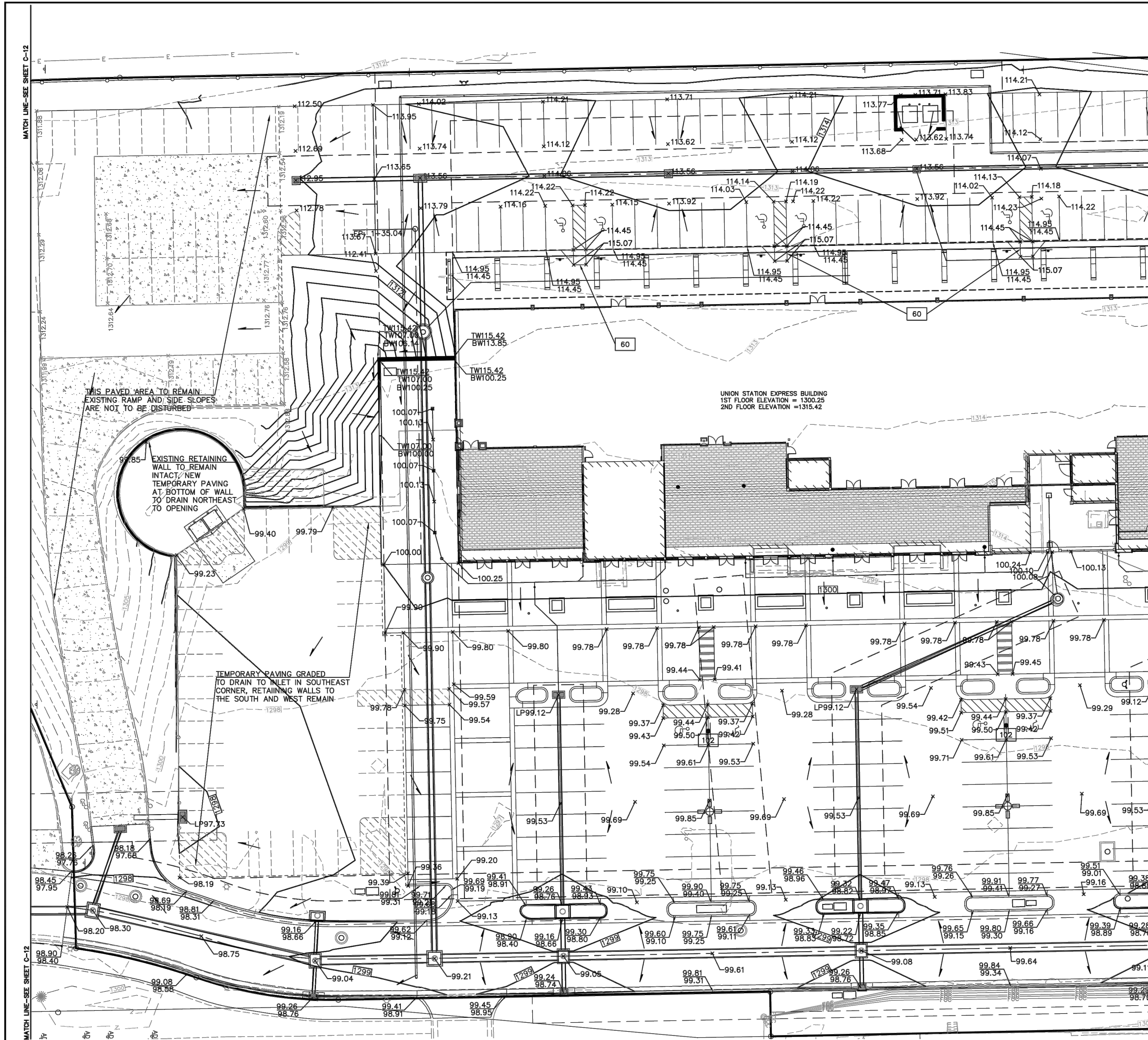
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www.kaveg.com | info@kaveg.com

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UNION STATION PHASE 2 701 E DOUGLAS WICHITA, KS		GRADING PLAN	
PROJ. NO.	G17_0597	DESIGNER	TRA
CFN	0597GP	DRAWN BY	MLT
SHEET	C-16	REV	0

UNION STATION MEAD ST 107 E DOUGLAS AVE WICHITA, KS		GRADING PLAN	
PROJ. NO.	0597-1	DESIGNER	TRA
CFN	0597-1DDET	DRAWN BY	EAM
SHEET	29	REV	2

FOR INFORMATIONAL PURPOSES ONLY



LEGEND (PROPOSED)

- ✕ 98.5 SPOT ELEVATION (ADD 1200), TOP OF PAVEMENT
- ↗ 83.60 TOP OF CURB (ADD 1200)
- ↗ 83.10 FLOWLINE OF CURB (ADD 1200)
- TW=83.6 TOP OF RETAINING WALL (ADD 1200)
- GR=83.1 GROUND ELEVATION @ WALL (ADD 1200)
- - - 1299 - - - EXISTING GROUND CONTOUR (1' INTERVALS)
- 1299 — PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- PROPOSED FLOW ARROW
- ↘ RAMP DOWN ARROW
- HP HIGH POINT
- LP LOW POINT

□ DETAILS - SEE DETAIL SHEETS NO. C-24 THRU C-27 FOR THE FOLLOWING DETAILS

- 102 SIDEWALK RAMP
- 100 90' ACCESSIBLE & VAN ACCESSIBLE SPACE STRIPING

NOTES:

- 21C MATCH EXISTING PAVEMENT ELEVATIONS
- 21E SAW CUT & REMOVE EXISTING SHOULDER & MATCH EXISTING CROSS-SLOPE
- 22A TAPER CURB FROM 6" TO 0" IN 2'-0"
- 22B TAPER CURB TO MATCH SIDEWALK
- 22C TAPER CURB FROM 6" TO 0" AS INDICATED BY SPOT CALLOUTS

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0	5-11-18	FOR PERMIT REVIEW														
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PROJ. NO.	DESIGNER	DRAWN BY	CFN	SHEET	REV
G17_0597	TRA	MLT	0597GP	C-15	0

PROJ. NO.	DESIGNER	DRAWN BY	CFN	SHEET	REV
0597-1	TRA	EAM	0597GP	30	2



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KAW VALLEY ENGINEERING
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UNION STATION PHASE 2
701 E DOUGLAS
WICHITA, KS

GRADING PLAN

PROJ. NO.	DESIGNER	DRAWN BY	CFN	SHEET	REV
0597-1	TRA	EAM	0597GP	30	2

PROJ. NO.	DESIGNER	DRAWN BY	CFN	SHEET	REV
0597-1	TRA	EAM	0597GP	30	2

PROJ. NO.	DESIGNER	DRAWN BY	CFN	SHEET	REV
0597-1	TRA	EAM	0597GP	30	2

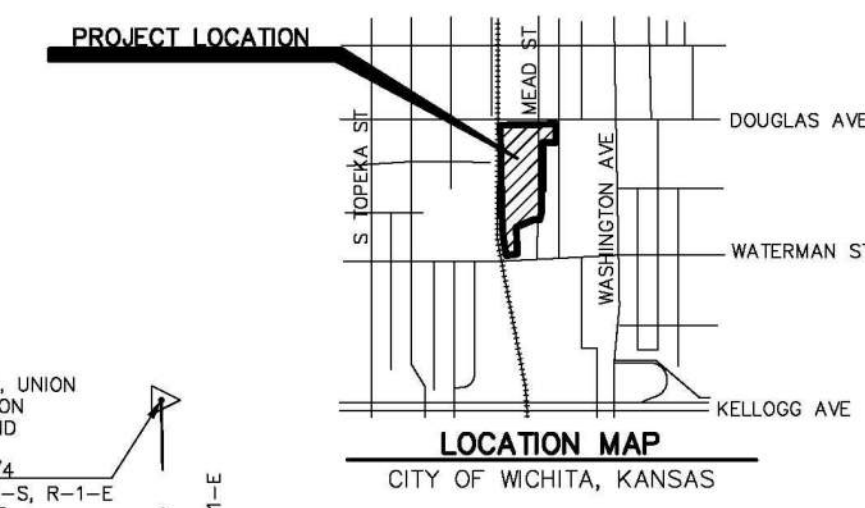
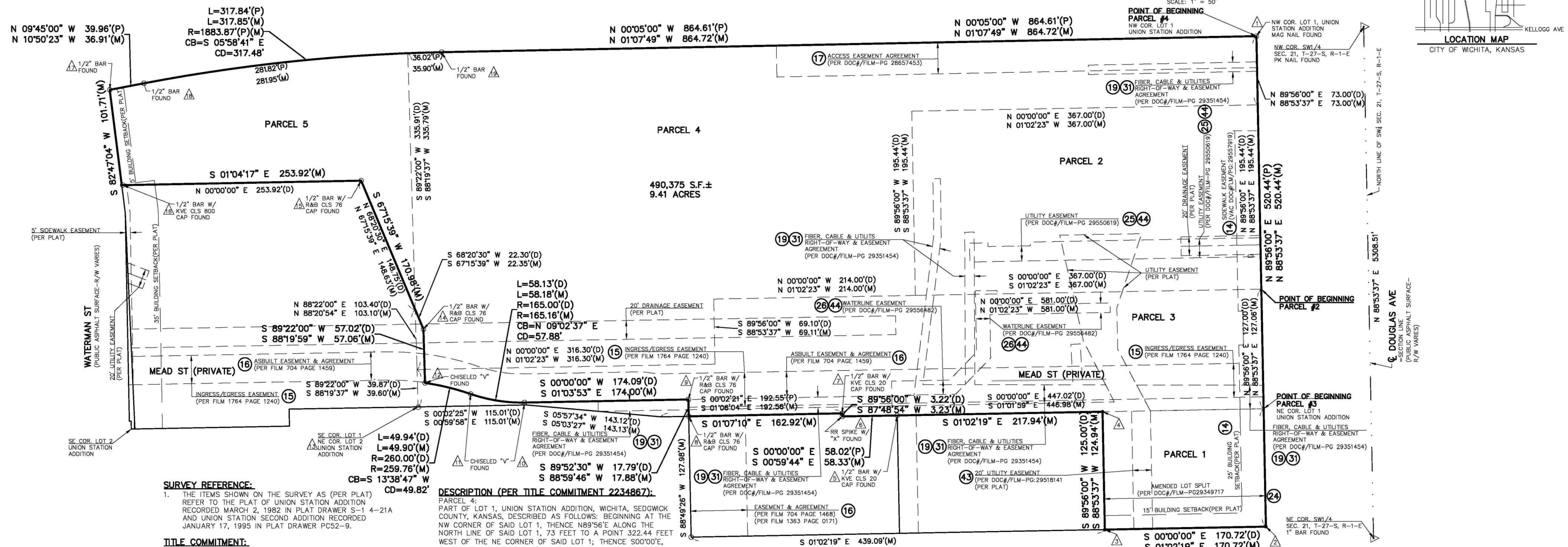
PROJ. NO.	DESIGNER	DRAWN BY	CFN	SHEET	REV
0597-1	TRA	EAM	0597GP	30	2

UNION STATION MEAD ST
107 E DOUGLAS AVE
WICHITA, KS

GRADING PLANS

ALTA/NSPS LAND TITLE SURVEY

SW 1/4 SEC 21, TOWNSHIP 27 SOUTH, RANGE 1 EAST
WICHITA, SEDGWICK COUNTY, KANSAS



SURVEY REFERENCE:
1. THE ITEMS SHOWN ON THE SURVEY AS (PER PLAT) REFER TO THE PLAT OF UNION STATION ADDITION RECORDED MARCH 2, 1992 IN PLAT DRAWER S-1 4-21A AND UNION STATION SECOND ADDITION RECORDED JANUARY 17, 1995 IN PLAT DRAWER PCS2-9.

TITLE COMMITMENT:
SECURITY ST, LLC, AN AGENT FOR FIRST AMERICAN TITLE INSURANCE COMPANY
COMMITMENT NO: 2234867
EFFECTIVE DATE: NOVEMBER 2, 2017 @ 7:30 AM

DESCRIPTION (PER TITLE COMMITMENT 2234867):
PARCEL 1:
THE NORTH 170.72 FEET OF LOT 3, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS, ALSO DESCRIBED AS PARCEL A ON AMENDED LOT SPLIT FILED AS DOC#/FILM-PG: 29349717.

PARCEL 2:
PART OF LOT 1, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS, DESCRIBED AS COMMENCING AT THE NE CORNER OF SAID LOT 1, THENCE S89°56'W ALONG THE NORTH LINE OF SAID LOT 1, 127 FEET TO A POINT OF BEGINNING; THENCE S00°00'E, 367 FEET; THENCE S89°56'W, 195.44 FEET; THENCE N00°00'E, 367 FEET TO THE NORTH LINE OF SAID LOT 1, SAID POINT BEING 73 FEET EAST OF THE NW CORNER OF SAID LOT 1; THENCE N89°56'E ALONG THE NORTH LINE OF SAID LOT 1, 195.44 FEET TO THE POINT OF BEGINNING.

PARCEL 3:
PART OF LOT 1, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS, DESCRIBED AS BEGINNING AT THE NE CORNER OF SAID LOT 1, THENCE S00°00'E ALONG THE EAST LINE OF SAID LOT 1, 447.02 FEET; THENCE S89°56'W, 3.22 FEET; THENCE S00°02'21"E, 192.55 FEET; THENCE S05°57'34"W, 143.12 FEET; THENCE S00°02'25"W, 115.01 FEET TO THE SE CORNER OF SAID LOT 1; THENCE S89°22'W ALONG THE SOUTH LINE OF SAID LOT 1, 36.87 FEET; THENCE N00°00'E, 316.30 FEET; THENCE S89°56'W, 69.11 FEET; THENCE N00°00'E, 581 FEET TO THE NORTH LINE OF SAID LOT 1; THENCE N89°56'E ALONG THE NORTH LINE OF SAID LOT 1, 127 FEET TO THE POINT OF BEGINNING; EXCEPT THAT PART DESCRIBED AS BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 1, THENCE N00°02'25"E, ALONG THE EASTERLY LINE OF SAID LOT 1, 115.01 FEET; THENCE N05°57'34"E, ALONG THE EASTERLY LINE OF SAID LOT 1, 143.12 FEET; THENCE N00°02'21"W, ALONG THE EASTERLY LINE OF SAID LOT 1, 29.66 FEET; THENCE S89°52'30"W, 17.79 FEET; THENCE S00°W, 174.09 FEET TO THE P.C. OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 165 FEET AND A CENTRAL ANGLE OF 201°10'3"; THENCE S00°W, 57.02 FEET; THENCE S89°22'W, 22.30 FEET TO A POINT ON THE SOUTHERLY LINE OF SAID LOT 1, SAID POINT BEING 103.40 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT 1; THENCE N89°22'E, ALONG SAID CURVE AND THROUGH A CENTRAL ANGLE OF 11°00'21", 49.94 FEET; THENCE S89°22'W, 57.02 FEET; THENCE S68°20'30"W, 22.30 FEET TO A POINT ON THE SOUTHERLY LINE OF SAID LOT 1, SAID POINT BEING 103.40 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT 1; THENCE N89°22'E, ALONG THE SOUTHERLY LINE OF SAID LOT 1, 103.40 FEET TO THE PLACE OF BEGINNING.

PARCEL 4:
LOT 2, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS, EXCEPT THAT PART DEDICATED TO THE PUBLIC FOR STREET PURPOSES IN DEDICATION RECORDED ON FILM 1764, PAGE 1222 AND DESCRIBED AS BEGINNING AT THE S.E. CORNER OF SAID LOT 2; THENCE S89°58'00"W, 8.84 FEET; THENCE S00°00'00"E, 1.92 FEET; THENCE S89°58'00"W, 221 FEET; THENCE N88°30'01"E, 229.92 FEET TO THE EAST LINE OF SAID LOT 2; THENCE S00°E, 3.83 FEET TO THE POINT OF BEGINNING, AND EXCEPT THAT PART DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 2; THENCE S00°02'25"W, ALONG THE EASTERLY LINE OF SAID LOT 2, 136.68 FEET TO A LOT CORNER OF SAID LOT 2; THENCE S89°57'35"E, ALONG THE LOT LINE OF SAID LOT 2, 18.12 FEET TO A LOT CORNER OF SAID LOT 2; THENCE S00°W, ALONG THE EASTERLY LINE OF SAID LOT 2, 164.04 FEET TO A POINT 3.83 FEET NORTH OF THE EASTERLY MOST SOUTHEAST CORNER OF SAID LOT 2; THENCE S88°30'01"W, 229.92 FEET TO A POINT ON THE SOUTH LINE OF LOT 2, SAID POINT BEING 221 FEET WEST OF THE SOUTHERLY MOST SOUTHEAST CORNER OF SAID LOT 2; THENCE S83°50'48"W, ALONG THE SOUTHERLY LINE OF SAID LOT 2, 30 FEET; THENCE N00°E, 253.92 FEET; THENCE N88°20'30"E, 148.75 FEET TO A POINT ON THE NORTHERLY LINE OF SAID LOT 2; THENCE N89°22'E 103.40 FEET TO THE PLACE OF BEGINNING.

PARCEL 5:
LOT 2, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS, EXCEPT THAT PART DEDICATED TO THE PUBLIC FOR STREET PURPOSES IN DEDICATION RECORDED ON FILM 1764, PAGE 1222 AND DESCRIBED AS BEGINNING AT THE S.E. CORNER OF SAID LOT 2; THENCE S89°58'00"W, 8.84 FEET; THENCE S00°00'00"E, 1.92 FEET; THENCE S89°58'00"W, 221 FEET; THENCE N88°30'01"E, 229.92 FEET TO THE EAST LINE OF SAID LOT 2; THENCE S00°E, 3.83 FEET TO THE POINT OF BEGINNING, AND EXCEPT THAT PART DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 2; THENCE S00°02'25"W, ALONG THE EASTERLY LINE OF SAID LOT 2, 136.68 FEET TO A LOT CORNER OF SAID LOT 2; THENCE S89°57'35"E, ALONG THE LOT LINE OF SAID LOT 2, 18.12 FEET TO A LOT CORNER OF SAID LOT 2; THENCE S00°W, ALONG THE EASTERLY LINE OF SAID LOT 2, 164.04 FEET TO A POINT 3.83 FEET NORTH OF THE EASTERLY MOST SOUTHEAST CORNER OF SAID LOT 2; THENCE S88°30'01"W, 229.92 FEET TO A POINT ON THE SOUTH LINE OF LOT 2, SAID POINT BEING 221 FEET WEST OF THE SOUTHERLY MOST SOUTHEAST CORNER OF SAID LOT 2; THENCE S83°50'48"W, ALONG THE SOUTHERLY LINE OF SAID LOT 2, 30 FEET; THENCE N00°E, 253.92 FEET; THENCE N88°20'30"E, 148.75 FEET TO A POINT ON THE NORTHERLY LINE OF SAID LOT 2; THENCE N89°22'E 103.40 FEET TO THE PLACE OF BEGINNING.

DESCRIPTION (PER TITLE COMMITMENT 2234867):
PARCEL 6:
A NONEXCLUSIVE EASEMENT FOR PEDESTRIAN AND VEHICULAR TRAFFIC PURPOSES, APPURTENANT TO PARCELS 2, 3, 4 AND 5 AS DESCRIBED IN INSTRUMENT RECORDED MARCH 4, 1998 ON FILM 1764, PAGE 1240, OVER THE FOLLOWING LAND: THAT PART OF LOTS 1 AND 2, UNION STATION ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS, DESCRIBED AS COMMENCING AT THE EASTERLY MOST S.E. CORNER OF SAID LOT 2; THENCE N00°E, ALONG THE EAST LINE OF SAID LOT 2, 3.83 FEET; THENCE S88°30'01"W, 47.02 FEET FOR A PLACE OF BEGINNING; THENCE N00°E, 272.78 FEET TO THE P.C. OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 260 FEET AND A CENTRAL ANGLE OF 201°10'3"; THENCE NORTHEASTERLY ALONG SAID CURVE 91.59 FEET TO THE P.R.C. OF A CURVE TO THE LEFT, HAVING A RADIUS OF 165 FEET AND A CENTRAL ANGLE OF 201°10'3"; THENCE NORTHERLY, ALONG SAID CURVE, 58.13 FEET TO THE P.T. OF SAID CURVE; THENCE N00°E, 174.09 FEET; THENCE N89°52'30"E, 8.50 FEET; THENCE N00°E, 609.93 FEET TO THE NORTH LINE OF SAID LOT 1; THENCE S89°56'W, ALONG THE NORTH LINE OF SAID LOT 1, 36 FEET; THENCE S00°W, 641.48 FEET; THENCE S081°3'10"W, 17.49 FEET; THENCE S00°W, 125.20 FEET TO THE P.C. OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 165 FEET AND A CENTRAL ANGLE OF 201°10'3"; THENCE SOUTHWESTERLY, ALONG SAID CURVE, 47.56 FEET TO THE P.R.C. OF A CURVE TO THE LEFT HAVING A RADIUS OF 260 FEET AND A CENTRAL ANGLE OF 201°10'3"; THENCE S00°W, 102.16 FEET TO THE P.T. OF SAID CURVE; THENCE S00°W, 268.99 FEET TO THE SOUTH LINE OF SAID LOT 2; THENCE N89°56'E, ALONG THE SOUTH LINE OF SAID LOT 2, 30.01 FEET TO THE PLACE OF BEGINNING.

CERTIFICATION:
TO UNION STATION, LLC, A KANSAS LIMITED LIABILITY COMPANY:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(a), 7(a), 7(b)(1), 8, 9, 11, 13, 14, 16, 17, 18, 19 AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 22, 2017.
DATE OF PLAT OR MAP: JANUARY 9, 2018



LAND SURVEYOR, JASON R. LOADER
KANSAS PS NO. 1462
LOADERJ@KVENG.COM

FOR INFORMATIONAL PURPOSES ONLY

KAW VALLEY ENGINEERING
200 N. EMPORIA, SUITE 100
WICHITA, KANSAS 67202
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wh@kveng.com | www.kveng.com

PROJECT NO. **G17-0597**
DRAWN BY **JSB**
CHECKED BY **JRL**
CFN **0597ALTA**
SHEET **1 OF 3**

PREPARED FOR: OCCIDENTAL MANAGEMENT, INC.
8111 E. 32ND ST N, SUITE 101
WICHITA, KS 67226

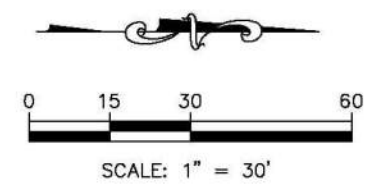
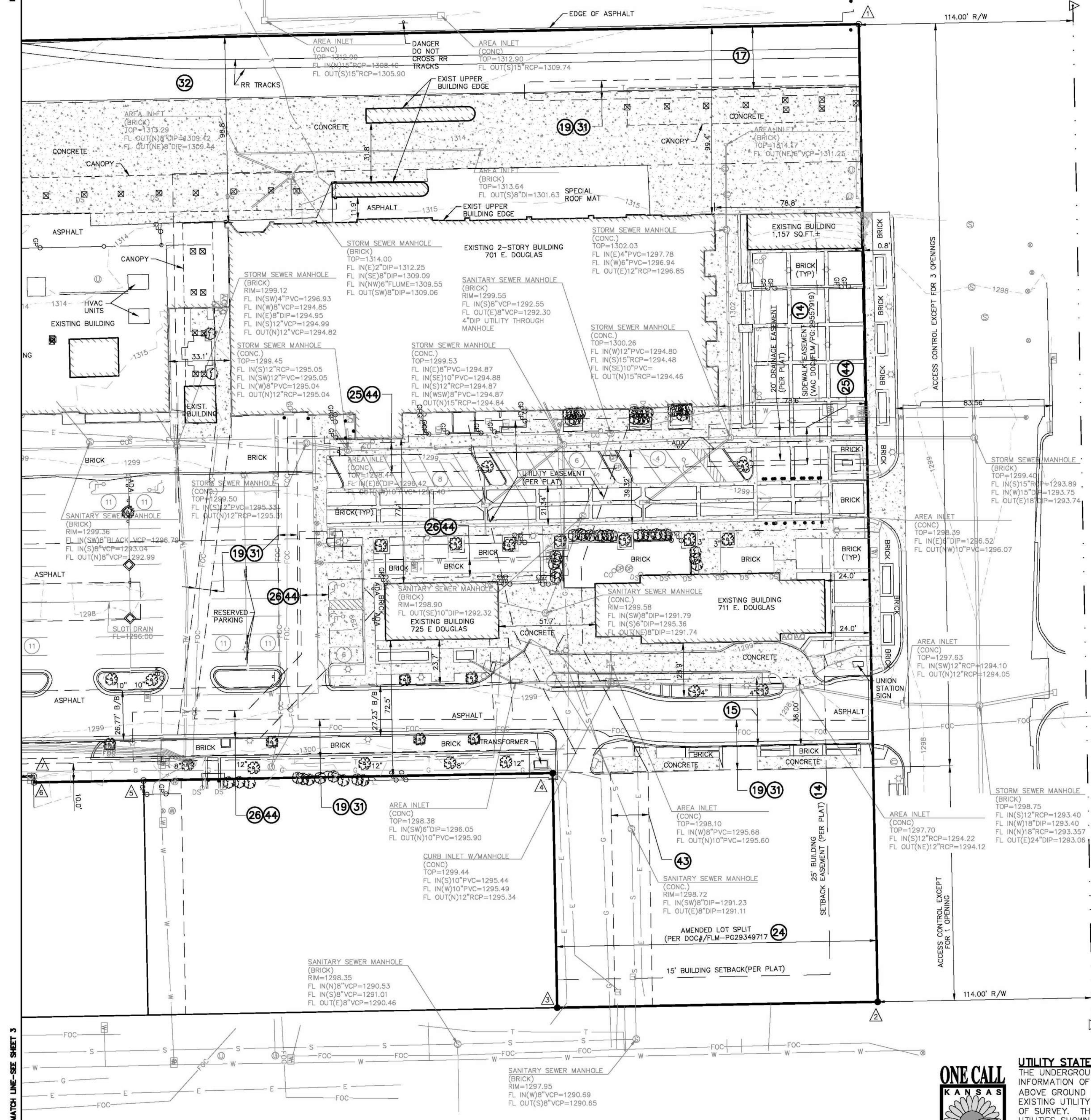
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER SURVEYING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION NO. LS-20. EXPIRES 12/31/18

TIMOTHY R. AUSTIN ENGINEER KS # 11496	TIMOTHY R. AUSTIN LICENSED PROFESSIONAL ENGINEER KANSAS 11496	200 N. EMPORIA, SUITE 100 WICHITA, KANSAS 67202 PH. (316) 440-4304 wh@kveng.com www.kveng.com	KAW VALLEY ENGINEERING	KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-1113. EXPIRES 12/31/18	UNION STATION MEAD ST 107 E DOUGLAS AVE WICHITA, KS	ALTA SURVEY	31
REV	DATE	DESCRIPTION	TRA	EAM	MLT	CHK	DWN
0	5-17-18	FOR C.O.W. SUBMITTAL	TRA	EAM	MLT		2
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS	TRA	EAM	MLT		
2	6-18-18	ESMITS REVISION/ LIMIT OF IMPROVEMENTS	TRA	EAM	MLT		

ALTA/NSPS LAND TITLE SURVEY

SW 1/4 SEC 21. TOWNSHIP 27 SOUTH, RANGE 1 EAST
WICHITA, SEDGWICK COUNTY, KANSAS

MATCH LINE-SEE SHEET 3

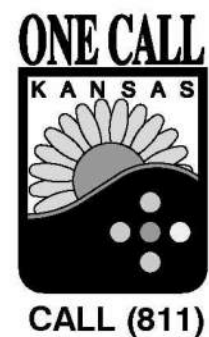


- LEGEND**
- △ SECTION CORNER FOUND, ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED
 - MONUMENT FOUND, ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED
 - 1/2" X 24" REBAR W/KVE CAP SET
 - (P) PLATTED
 - (M) MEASURED
 - (C) CALCULATED
 - STREET SIGN
 - STEEL BOLLARD
 - CANOPY SUPPORT
 - UTILITY POLE
 - UTILITY POLE W/ LIGHT
 - LIGHT POLE
 - ← DEADMAN ANCHOR
 - (S) OVERHEAD UTILITY - # LINES
 - AIR CONDITIONING UNIT
 - ELECTRIC METER
 - UNDERGROUND ELECTRIC LINE
 - ELECTRIC TRANSFORMER
 - UTILITY MANHOLE
 - TV UNDERGROUND CABLE TV
 - △ PROPERTY CORNER IDENTIFIER'S
- LEGEND**
- ⊕ GAS SIGN
 - GAS METER
 - G UNDERGROUND GAS LINE
 - ⊕ GAS VALVE
 - W WATER LINE
 - ⊕ WATER LINE GATE VALVE
 - ⊕ WATER MANHOLE
 - ⊕ WATER METER
 - ⊕ FIRE HYDRANT
 - ⊕ FIRE SPRINKLER VALVE
 - ⊕ DOWNSPOUT
 - ⊕ FLOOR DRAIN
 - ⊕ GREASE PIT MANHOLE
 - ⊕ SANITARY SEWER MANHOLE
 - ⊕ SANITARY SEWER CLEAN-OUT
 - ⊕ SANITARY SEWER LINE
 - ⊕ STORM SEWER MANHOLE
 - ⊕ TELEPHONE PEDESTAL
 - T UNDERGROUND TELEPHONE LINE
 - ⊕ FIBER OPTIC CABLE SIGN
 - ⊕ UNDERGROUND FIBER OPTIC CABLE
 - ⊕ FIBER OPTIC PEDESTAL
 - ⊕ TRAFFIC CONTROL POLE
 - ⊕ HANDICAP SIGN
 - ⊕ HANDICAP PAINTED SYMBOL
 - ⊕ GATE POST
 - ⊕ FENCE POST
 - ⊕ WOOD FENCE
 - ⊕ CHAIN LINK FENCE
 - ⊕ BARB WIRE FENCE
 - ⊕ GUARDRAIL
 - ⊕ DECIDUOUS TREE W/SIZE
 - ⊕ EVERGREEN TREE W/SIZE
 - ⊕ SHRUB
 - ⊕ TREE LINE
 - ⊕ PARKING STALL COUNT
 - ⊕ 1' CONTOUR INTERVAL
 - B/B BACK OF CURB TO BACK OF CURB
 - ⊕ POTENTIAL ENCROACHMENT IDENTIFIER
 - ⊕ SCHEDULE B IDENTIFIER
 - ⊕ LINE NOT DRAWN TO SCALE

FOR INFORMATIONAL PURPOSES ONLY

DATUM BENCHMARK:
U.S. SURVEY FEET AND REFER TO NAVD 88 DATUM BASED ON THE WICHITA RTDM 3.0 GNS NETWORK. ORTHOMETRIC HEIGHT WAS CALCULATED USING THE GEOID 12B MODEL.

BENCHMARKS:
BM #1: CHISELED "X" ON NE CORNER OF CONCRETE PAD WITH ACCESS GATE ARM. ELEV=1314.65 (NAVD 88)
BM #2: NGS DISK A 237, HF0487, LOCATED ON SIDE OF BUILDING, 10.4 FEET SOUTH OF THE NORTHWEST CORNER OF THE UNION STATION, 28 FEET EAST OF THE EAST RAIL OF THE TRACK, 2.3 FEET ABOVE THE GROUND, 3.5 RAILS SOUTH OF THE CENTER LINE OF THE DOUGLAS AVENUE VIADUCT, SET VERTICALLY IN THE WEST WALL OF THE RAILROAD STATION. ELEV=1317.08 (NAVD 88)



UTILITY STATEMENT:
THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION OF ONE-CALL LOCATED UTILITIES, FIELD SURVEY INFORMATION OF ABOVE GROUND OBSERVABLE EVIDENCE, AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY.



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WICHITA, KANSAS 67202
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wh@kveeng.com | www.kveeng.com

PROJECT NO. **G17_0597**
DRAWN BY **JSB**
CHECKED BY **JRL**
CFN **0597ALTA**
SHEET **2 OF 3**

PREPARED FOR:
OCCIDENTAL MANAGEMENT, INC.
8111 E 32ND ST N, SUITE 101
WICHITA, KS 67226

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER SURVEYING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION NO. LS-20. EXPIRES 12/31/18

REV	DATE	DESCRIPTION	DSN	DWN	CHK
2	6-18-18	ESMITS REVISION/ LIMIT OF IMPROVEMENTS	TRA	EAM	MLT
1	5-24-18	REVISION 1 PER C.O.W. COMMENTS	TRA	EAM	MLT
0	5-17-18	FOR C.O.W. SUBMITTAL	TRA	EAM	MLT

TIMOTHY R. AUSTIN ENGINEER KS # 11496									
200 N. EMPORIA, SUITE 100 WICHITA, KANSAS 67202 440-4309 PH. (316) 440-4304 FAX (316) 440-4309 wh@kveeng.com www.kveeng.com									
KAW VALLEY ENGINEERING									
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/18									
<table border="1"> <tr> <td colspan="2">UNION STATION MEAD ST</td> </tr> <tr> <td colspan="2">107 E DOUGLAS AVE</td> </tr> <tr> <td colspan="2">WICHITA, KS</td> </tr> <tr> <td colspan="2">ALTA SURVEY</td> </tr> </table>		UNION STATION MEAD ST		107 E DOUGLAS AVE		WICHITA, KS		ALTA SURVEY	
UNION STATION MEAD ST									
107 E DOUGLAS AVE									
WICHITA, KS									
ALTA SURVEY									
PROJECT NO.	0597-1								
DESIGNER	JSB								
DRAWN BY	JSB								
CFN	0597-10DET								
SHEET	2 OF 3								
32	2								

