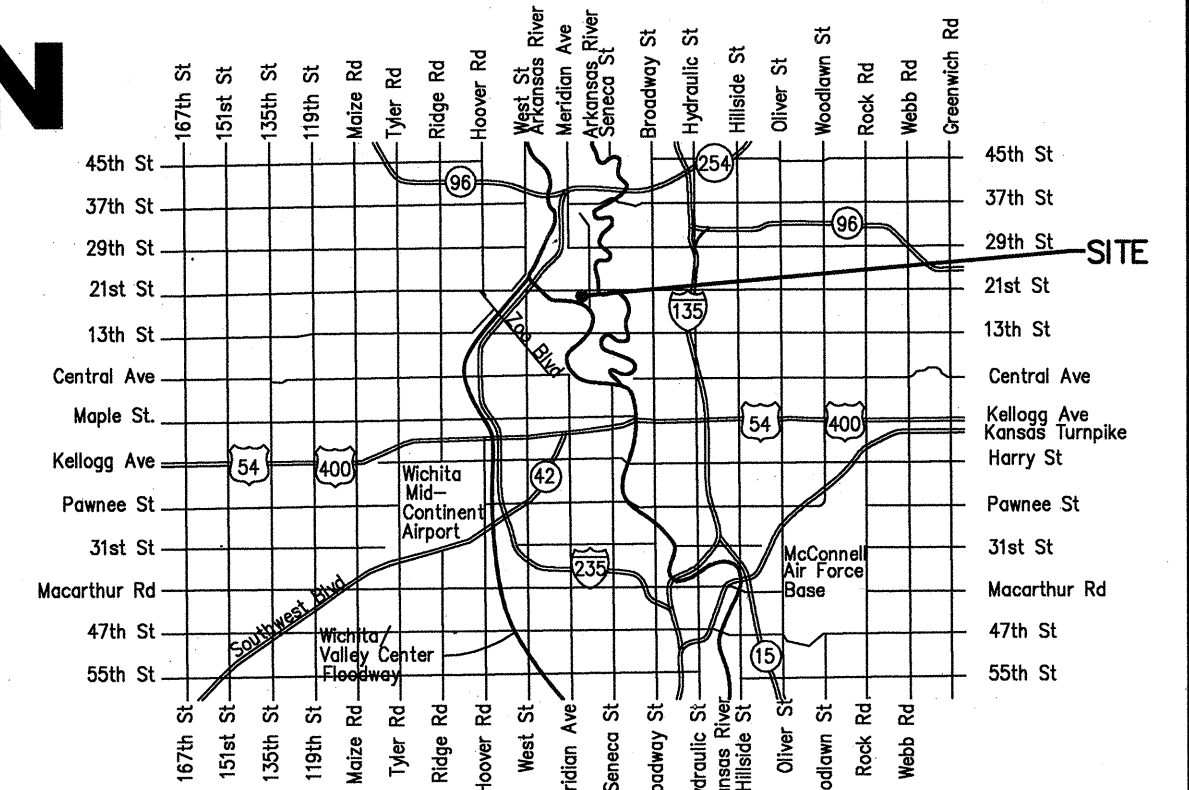


# WATER DISTRIBUTION SYSTEM IMPROVEMENTS

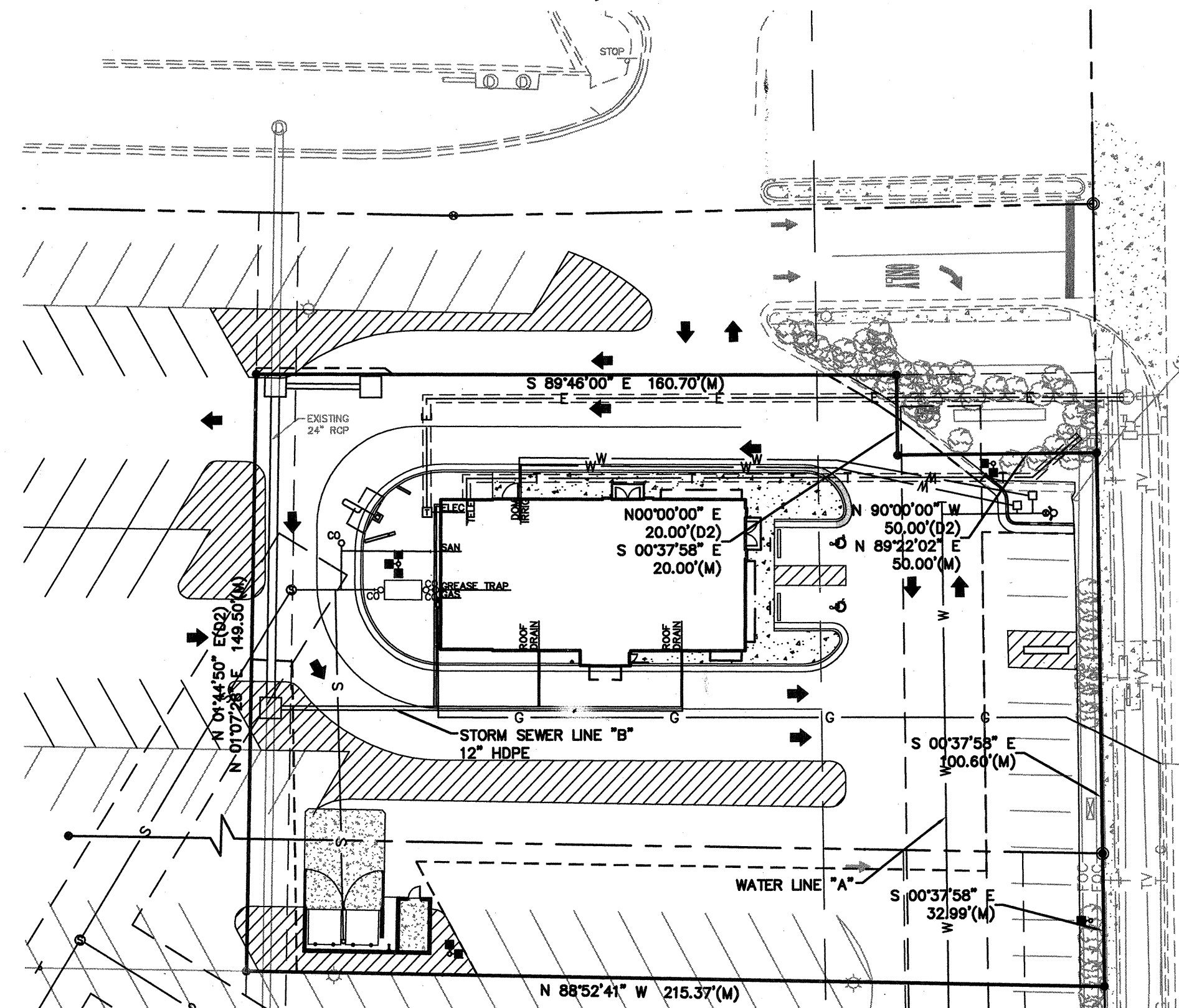
## GENERAL NOTES:

- 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 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
- 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 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 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.
- The Contractor shall notify the consultant engineer and Tom Mason with the City at 316-268-4574 with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.
- 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](mailto: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.
- 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.
- 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.
- 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.
- Requests for short term water interruptions shall be made to the City Water Distribution Division and will be subject to their approval. The Contractor shall give written notice to any property owner, business, and/or tenants that will have water service interrupted at least 5 days in advance. Such notifications should indicate the time and date that the water will be turned off and when the service will be restored. No business, property owner, and/or tenants shall be without water service for more than 8 hours. Proposed tie in locations which will affect water service to property owners shall be preformed during non-peak hours.
- The Contractor must schedule the connections to the existing main with the City such that there is a minimum disruption of service. Connections shall be made during periods of low water usage. The Contractor shall submit his proposed schedule for completing work for City approval at least 10 days prior to beginning construction.
- Deflections at pipe joint or couplings shall not exceed the pipe manufactures recommended maximum. Where deflections are greater than the maximum allowed, the contractor shall utilize CI MJ Long Sleeve or Multiple Joints.
- Any extension greater than one length of pipe shall require testing.
- Any existing joint exposed during excavation shall be replaced if within four feet of proposed joint.
- City maintenance of water mains ends at right-of-way or easement line.
- Valves 12 inch and larger are to be operated by the City Water Distribution Division, 48 hours of advance notice is required.
- All wet taps shall be installed by the City of Wichita. The Contractor will reimburse the City for tapping fees.
- The Contractor shall protect from damage and support existing utilities through constructions as approved by the utility owner and the Engineer at the contractors expense.
- Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.
- Any sidewalk, drive approach, curb, 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.
- Site restoration and preparation shall be subsidiary to the project.
- The contractor shall use best management practices (bmp's) to prevent eroded soil from entering ditches, culverts, and drainage areas. Standard details for erosion bmp's are available from the engineer. The contractor shall follow the intent of the bmp's which act as a guideline.
- Each bidder shall visit the site of the project throughout its entire extent 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.
- All water pipe 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.
- Contractor to field verify location and depth of all utilities prior to construction and report findings to project engineer. Location information has been obtained from various companies and is either from company utility drawings or company provided field locations. The plan locations shown are not guaranteed. Additional exiting utilities may be encountered.

## TO SERVE A PORTION OF LOT 1, MARINA LAKE FOURTH ADDITION AND A PORTION OF LOT 1, MARINA LAKE SIXTH ADDITION PRIVATE PROJECT NO. 1903 PPW (607853) CITY OF WICHITA, KANSAS GARY JANZEN, P.E. - CITY ENGINEER



VICINITY MAP



JUNE 2015

**DATUM BENCHMARK:**  
VERTICAL DATUM IS NAVD 88 ESTABLISHED USING OPUS PROJECTS ON PROJECT CONTROL.

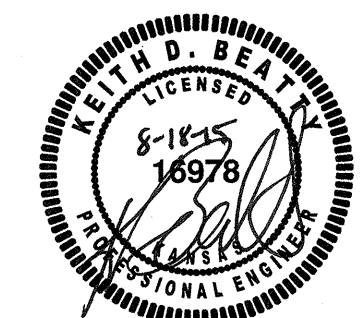
**PROJECT BENCHMARK:**  
BM #1: CHISELED "SQUARE" ON THE NORTHEAST CORNER OF SOUTHERN AT&T CONCRETE PAD WITH BOLLARDS AT THE SOUTHEAST CORNER OF LOT 1, MARINA LAKE SIXTH ADDITION. ELEV=1309.33

BM #2: CHISELED "SQUARE" ON TOP OF CURB AT THE EAST NOSE OF CURB ISLAND ON NORTH SIDE OF ACCESS DRIVE, NORTH OF PAYLESS NORTHEAST CORNER. ELEV=1315.76

BM #3: CHISELED "SQUARE" ON THE SOUTHEAST CORNER CURB INLET AT NORTHWEST CORNER OF PARCEL 2, A PORTION OF LOT 1, MARINA LAKE FOURTH ADDITION. ELEV=1310.35

BM #4: CHISELED "SQUARE" ON THE SOUTHEAST CORNER OF CONCRETE PAD FOR BENCH AND BIKE RACKS, 37'± NORTH NORTHEAST OF THE NORTHEAST CORNER, MARINA LAKE SIXTH ADDITION. ELEV=1310.60

**AS BUILT PLANS**  
Contractor: CK Contracting  
Inspector: Dakota Zimmerman  
Ruggles & Bohm, P.A.  
PDF By: 10/05/15



**INDEX OF SHEETS**

1	TITLE SHEET
2-3	STANDARD DETAILS
4	WATER PLAN AND PROFILE
5	EROSION CONTROL PLAN
6-10	EROSION CONTROL DETAILS
11-12	PLAT

**LEGAL DESCRIPTION**  
A PORTION OF LOT 1, MARINA FOURTH ADDITION AND A PORTION OF LOT 1, MARINA SIXTH ADDITION, WICHITA, SEDGWICK COUNTY, KANSAS.

**CONTACT PERSON:**  
KEITH D. BEATTY, P.E., KAW VALLEY ENGINEERING, INC. (620) 208-5240

PROJ. NO. F15-0119 DSN: KDB KEITH D. BEATTY  
CFN: 0119WTS DWN: BKR ENGINEER KS # 16978  
1104 E. 12TH AVENUE  
EMPORIA, KANSAS 66801  
PH. (620) 208-5240 | FAX (785) 762-7744  
emp@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 12/31/16

APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA  
& BY WICHITA FIRE DEPARTMENT

Water Mains (Engineering) Rebecca Guil 9/9/2015  
Water Mains (Water) Jim Jolly 9-14-15  
Fire Prot. Line DJP 9/14/15

**NOTE TO CONTRACTORS**  
**PUBLIC PROPERTY:**  
Inspection and testing for the waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer licensed in the State of Kansas. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

**PRIVATE PROPERTY:**  
Installation and testing for the fire protection line is to be performed by a City of Wichita licensed fire protection contractor in accordance with the fire codes as adopted by the City of Wichita. All materials and construction practices for the fire protection line shall comply with the fire codes as adopted by the City of Wichita (available from the City of Wichita Fire Department). The Contractor shall not commence work without notification and approval of the Wichita Fire Department. Inspection of the fire protection line is to be provided by the City of Wichita Fire Department and by a licensed Consulting Engineering Firm under contract with the Owner/Developer. The contractor shall not start work until the project inspector is assigned to the project and present on the site. Any work done without inspection will be required to be uncovered for inspection.

An approved copy of these plans signed by City staff are required on-site.

**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.

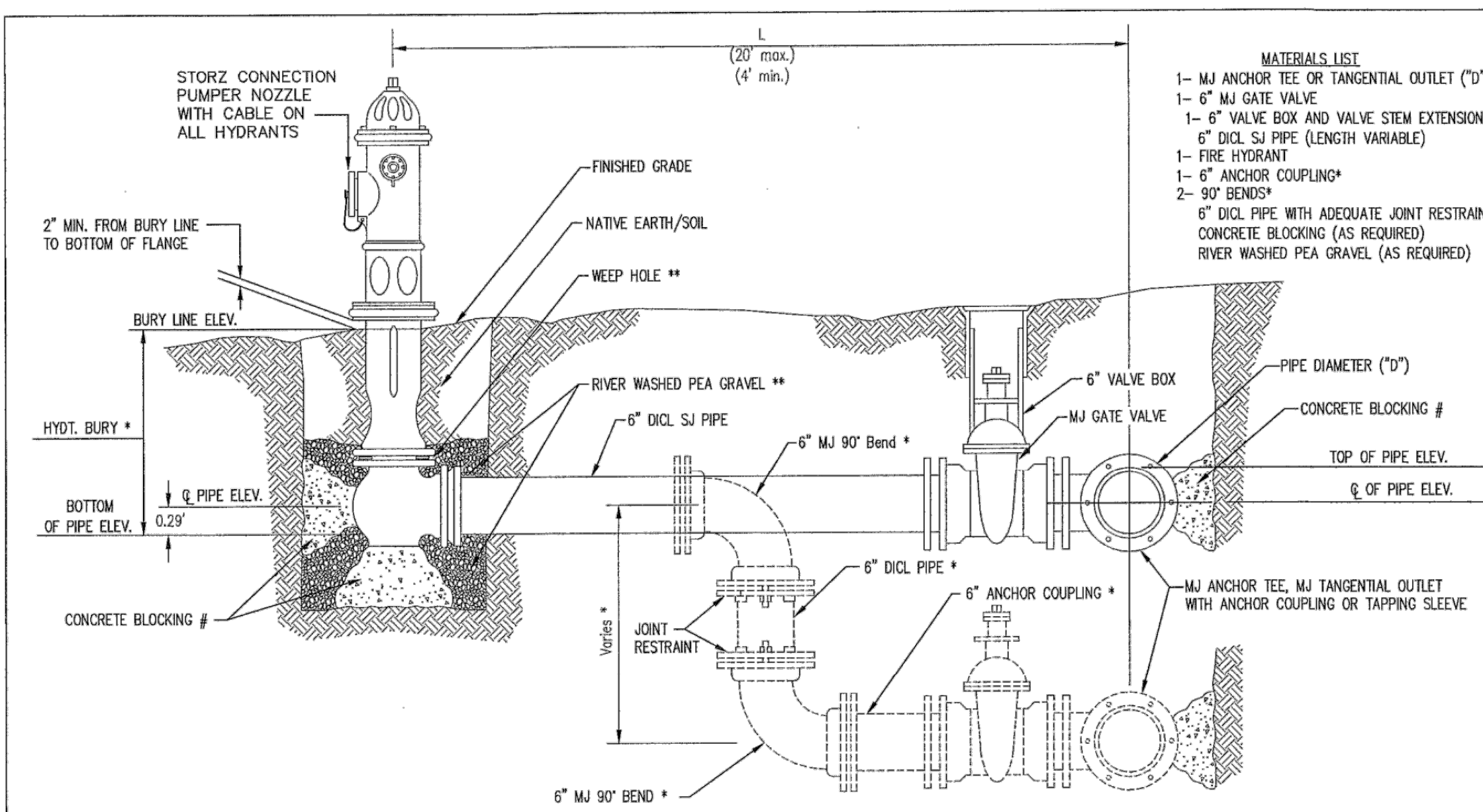
**WARRANTY / DISCLAIMER**  
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR 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.

AS BUILT PLANS  
 Contractor: CK Contracting  
 Inspector: Dakota Zimmerman  
 Ruggles & Bohm, P.A.  
 PDF By: 10/05/15

UPDATED SHEET

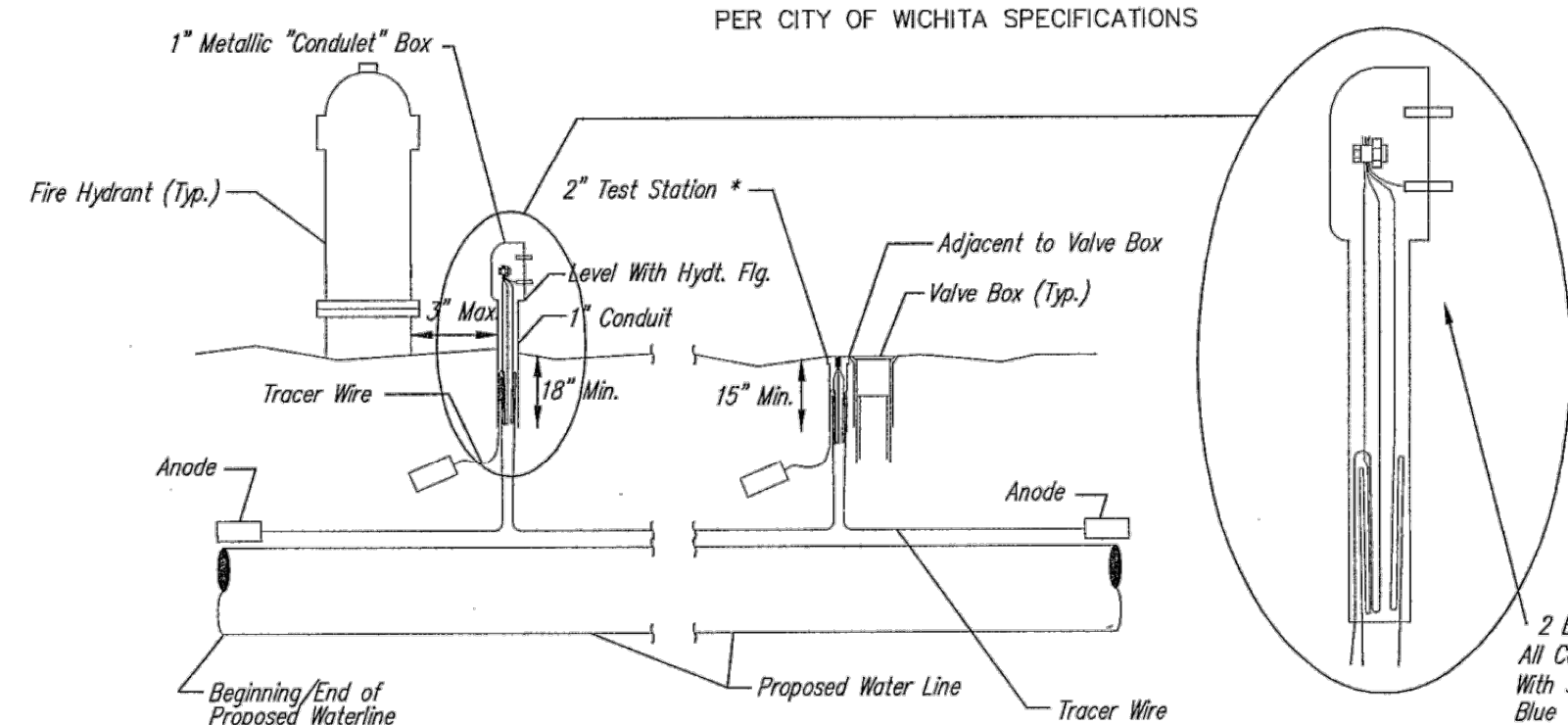
KDB	CHK
BKR	DWN
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BKR	
BKR	
BKR	



- 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 MEAGALUGS, 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 installed 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. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of waterlines. Any exception to the location shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 3 lb. Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed waterline. A typical layout of the tracer wire and test station is provided in the above figure.

**WIRE**  
 The tracer wire shall be Blue No. 12 AWG CCS with 3045 mil HDPE insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. 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. The insulation sheathing shall be removed such that 1" bare copper wire at all points of connection. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

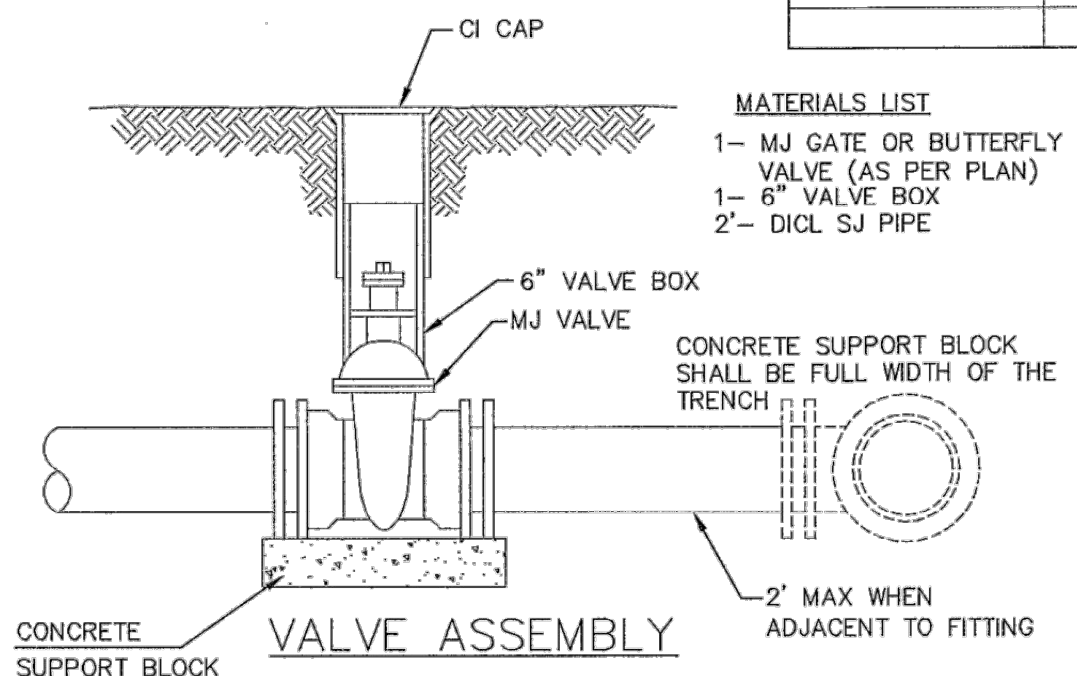
**TEST STATIONS**  
 A complete list of approved Tracer Wire can be found on City of Wichita's website at www.wichita.gov  
 The test station for fire hydrant applications shall be a 1 inch galvanized "condulet" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PS3B as manufactured by HANDLEY Industries or approved equal. The "conduit" style test station shall be attached to a 1 inch 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. 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 installed to allow 10 inches of wire within the test station. In concrete environments such as sidewalks or in the downtown area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

**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.

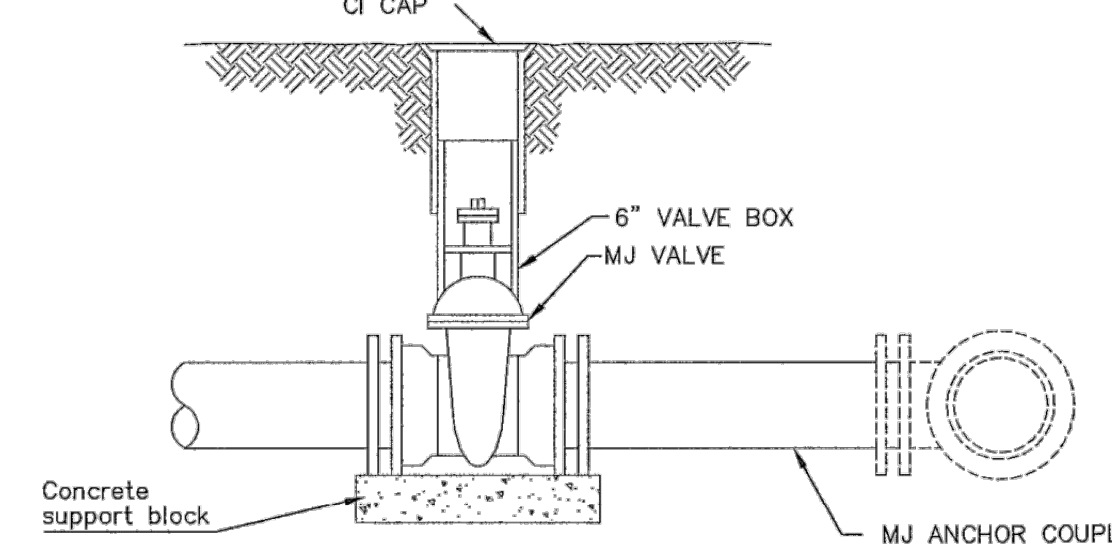
**TRACER WIRE DETAIL**  
 COST IS SUBSIDIARY TO PIPE INSTALLATION

**FIRE HYDRANTS REQUIRED**

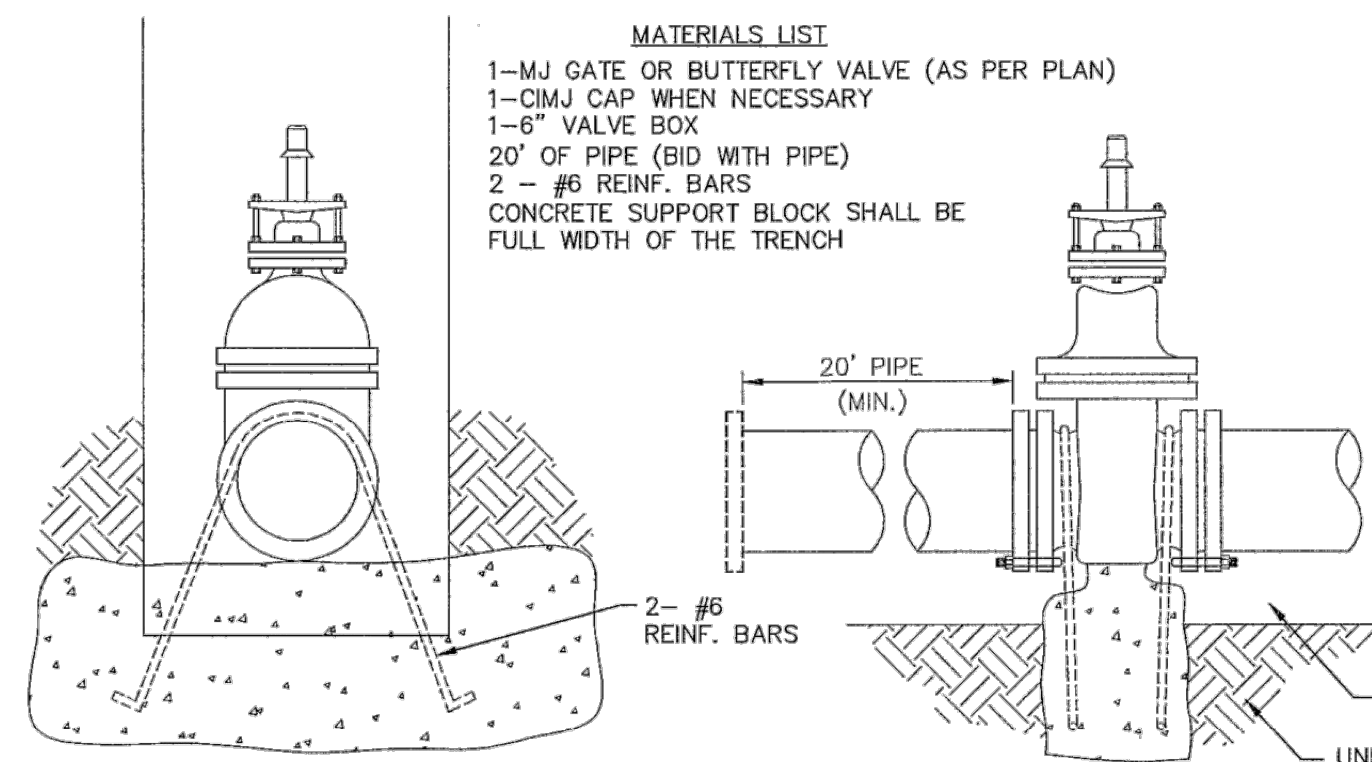
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
STA 302+07.93	1303.35	1304.09	6.5'	N/A



- 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



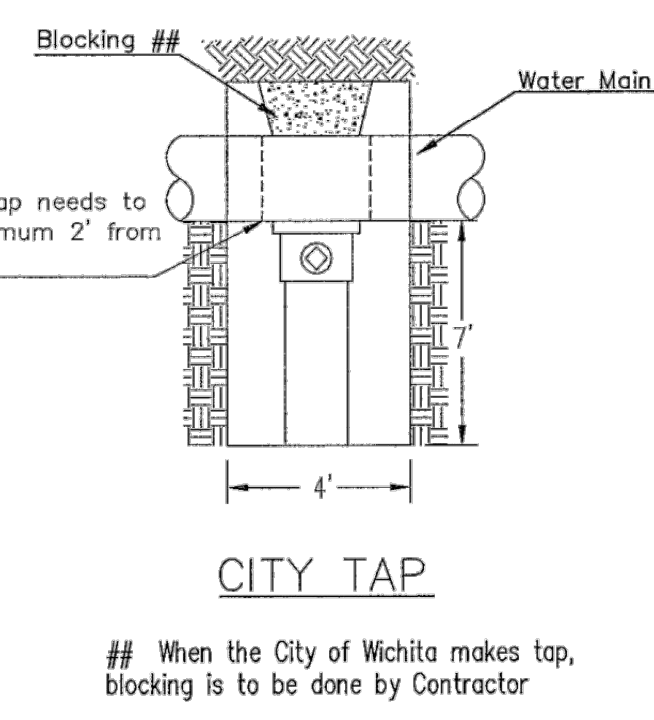
**ANCHORED VALVE ASSEMBLY**



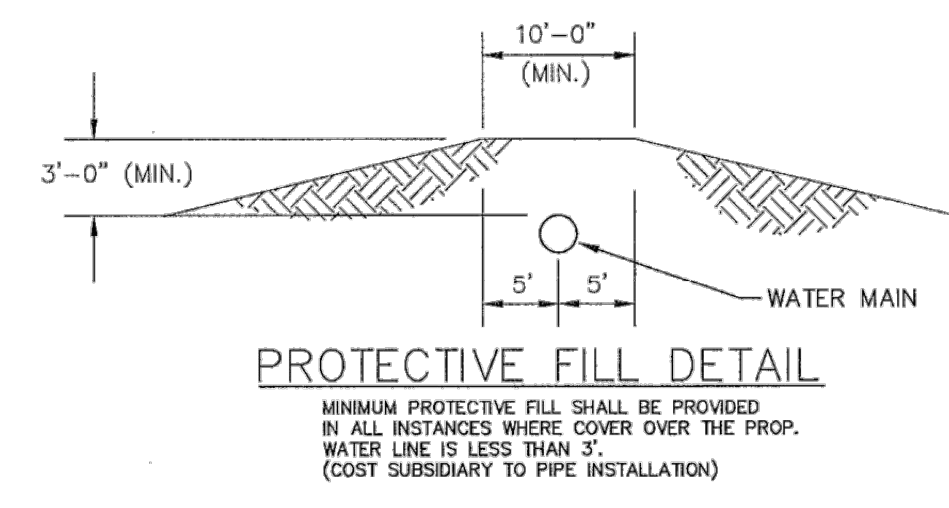
- Notes:**
- Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
  - The thrust block shall be constructed such that bolts, nuts, and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

**THRUST AT VALVES**

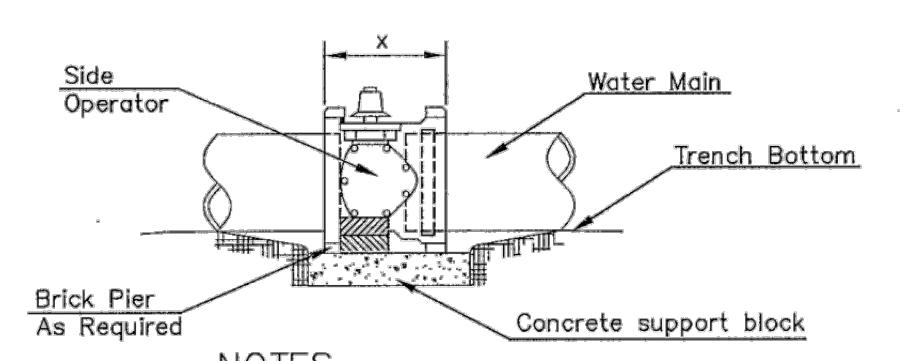
VALVE	THRUST AT 150 #/sq
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.



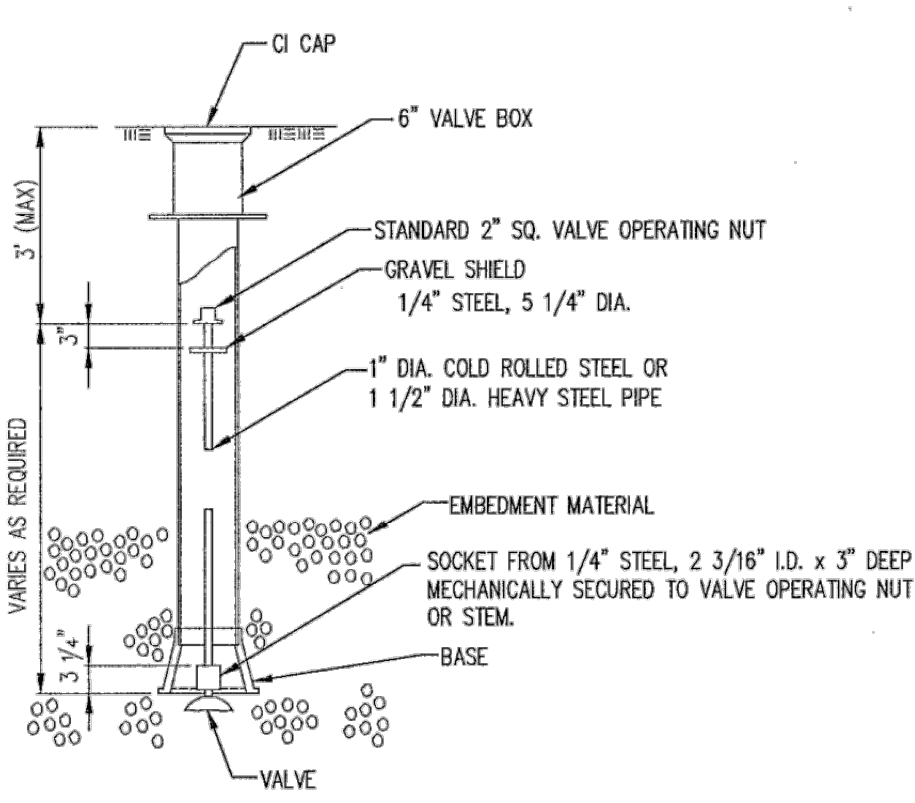
**CITY TAP**



**PROTECTIVE FILL DETAIL**

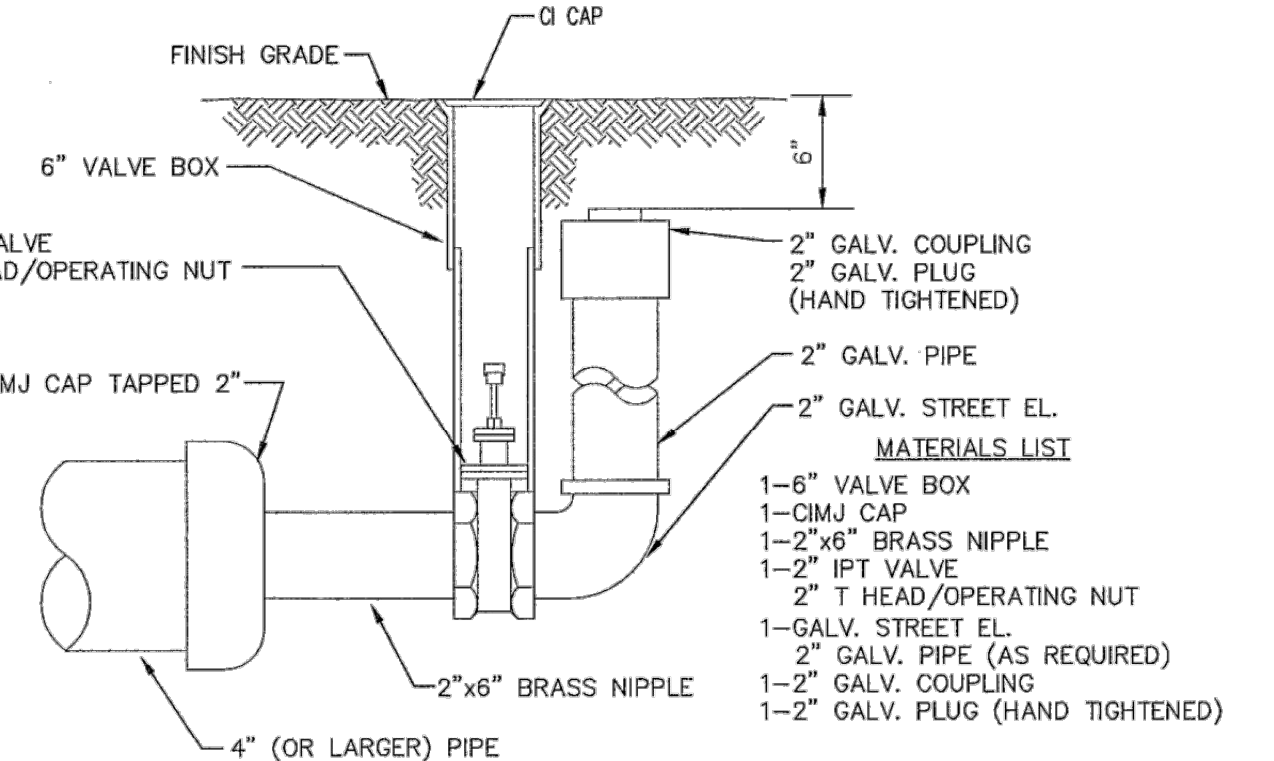


- NOTES**
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
  - 6" Valve Box and Cover required per City of Wichita Std. Specifications.
  - Conc. Support Block to be full width of trench.
- CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION**



**VALVE STEM EXTENSION DETAIL**

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



**2" BLOWOFF ASSEMBLY**



**STANDARD WATER ASSEMBLY DETAIL**

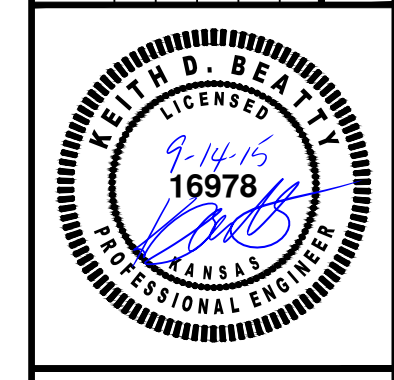
CITY ENGINEER  
**GARY JANZEN, P.E.**

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

9-1-15	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	INITIAL ISSUE	DESCRIPTION
8-18-15	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS		
8-11-15	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS		
7-10-15	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS		
6-4-15	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS		



KEITH D. BEATTY  
 ENGINEER  
 KS # 16978

1104 E. 12TH AVENUE  
 EMPORIA, KANSAS 66801  
 PH. (620) 208-5240 | FAX. (785) 762-7744  
 empkeng.com | www.kawvalley.com

**KAW VALLEY ENGINEERING**

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/16

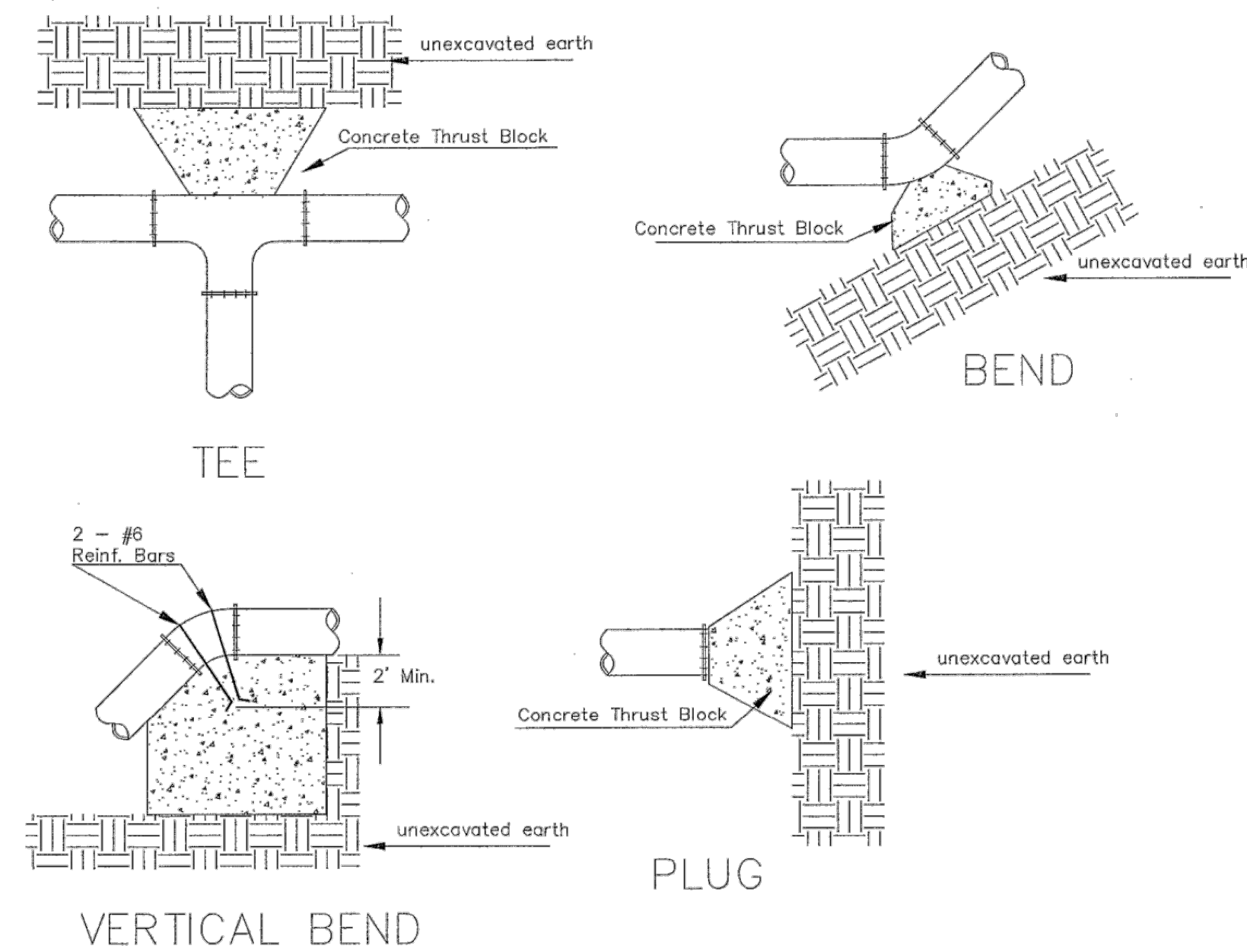
**HARDEE'S**  
 N AMIDON AVE & W 21ST STREET N  
 WICHITA, KANSAS

**WATER IMPROVEMENT PLANS**  
 STANDARD DETAILS

PROJ. NO. F15\_0119  
 DESIGNER: KDB DRAWN BY: BKR  
 CFN: 0119WDET  
 SHEET: 2 OF 12

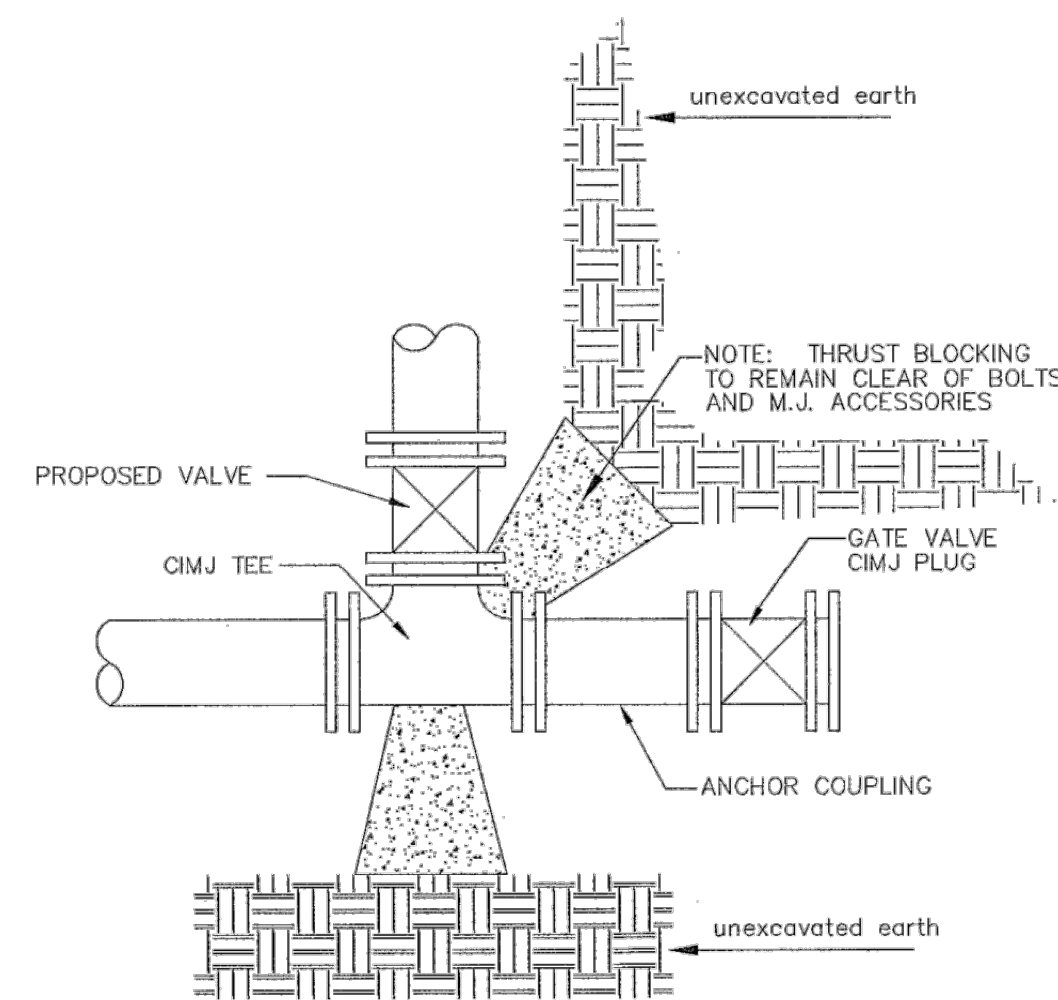
AS BUILT PLANS  
 Contractor: CK Contracting  
 Inspector: Dakota Zimmerman  
 Ruggles & Bohm, P.A.  
 PDF By: 10/05/15

UPDATED SHEET <sup>4</sup>

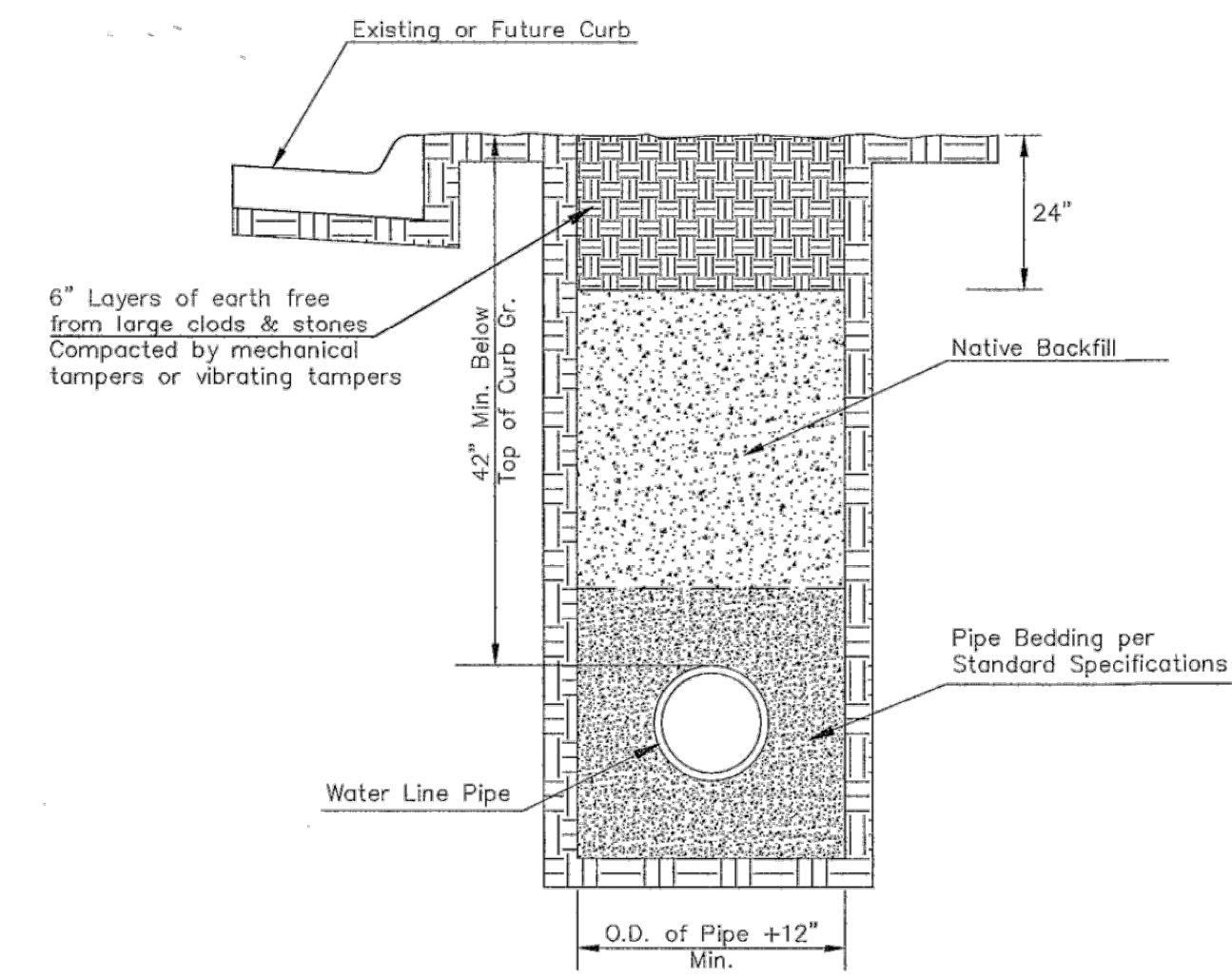


PIPE SIZE	THRUST AT FITTINGS IN TONS--AT 150#/IN <sup>2</sup> P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75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

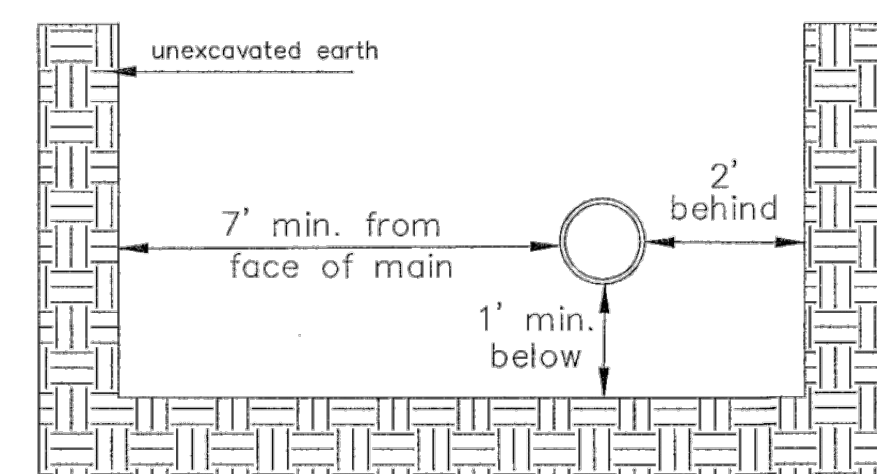
TYPICAL THRUST BLOCKS



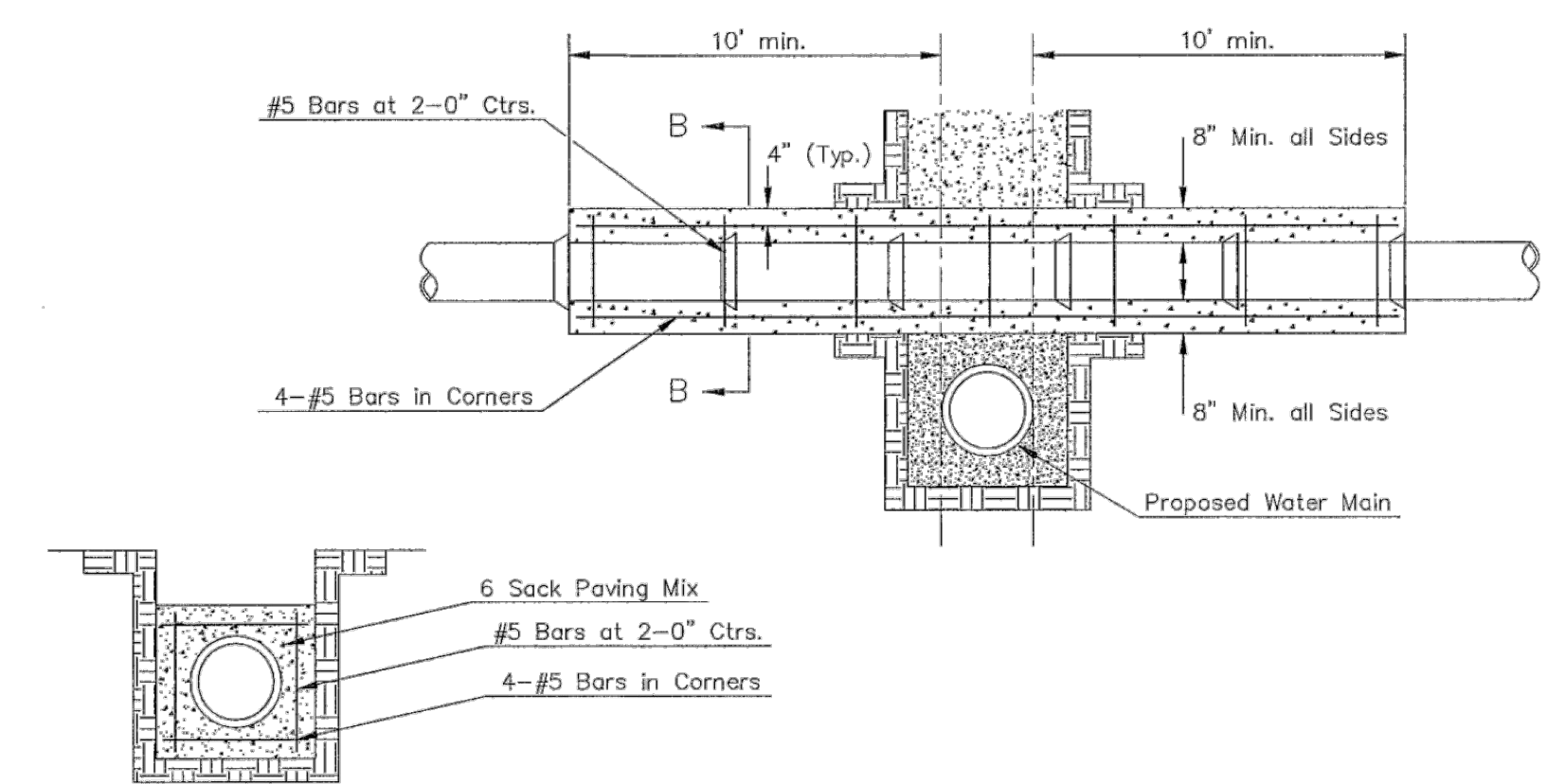
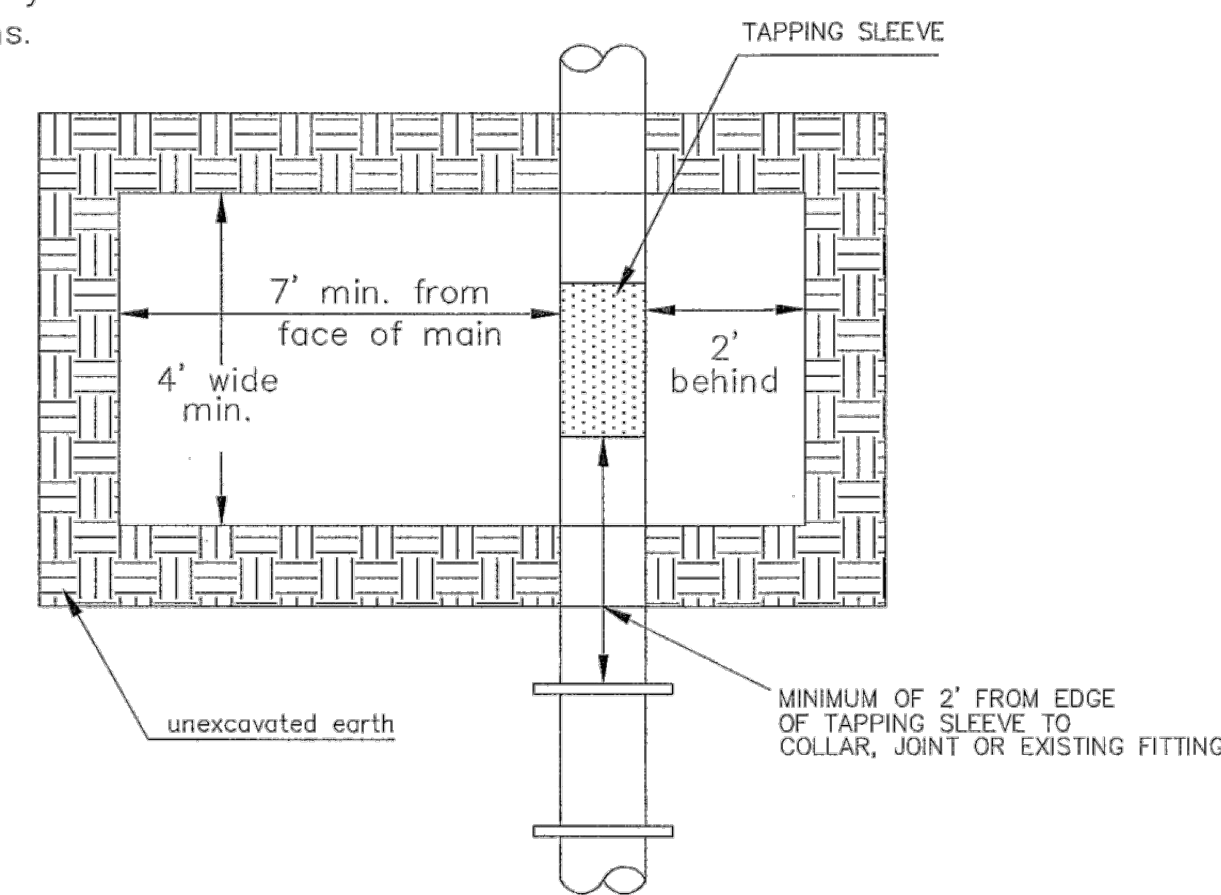
\* PLANS GOVERN  
 UNLESS OTHERWISE NOTED ON PLANS



TRENCH COMPACTION IN ROAD RIGHT-OF-WAY

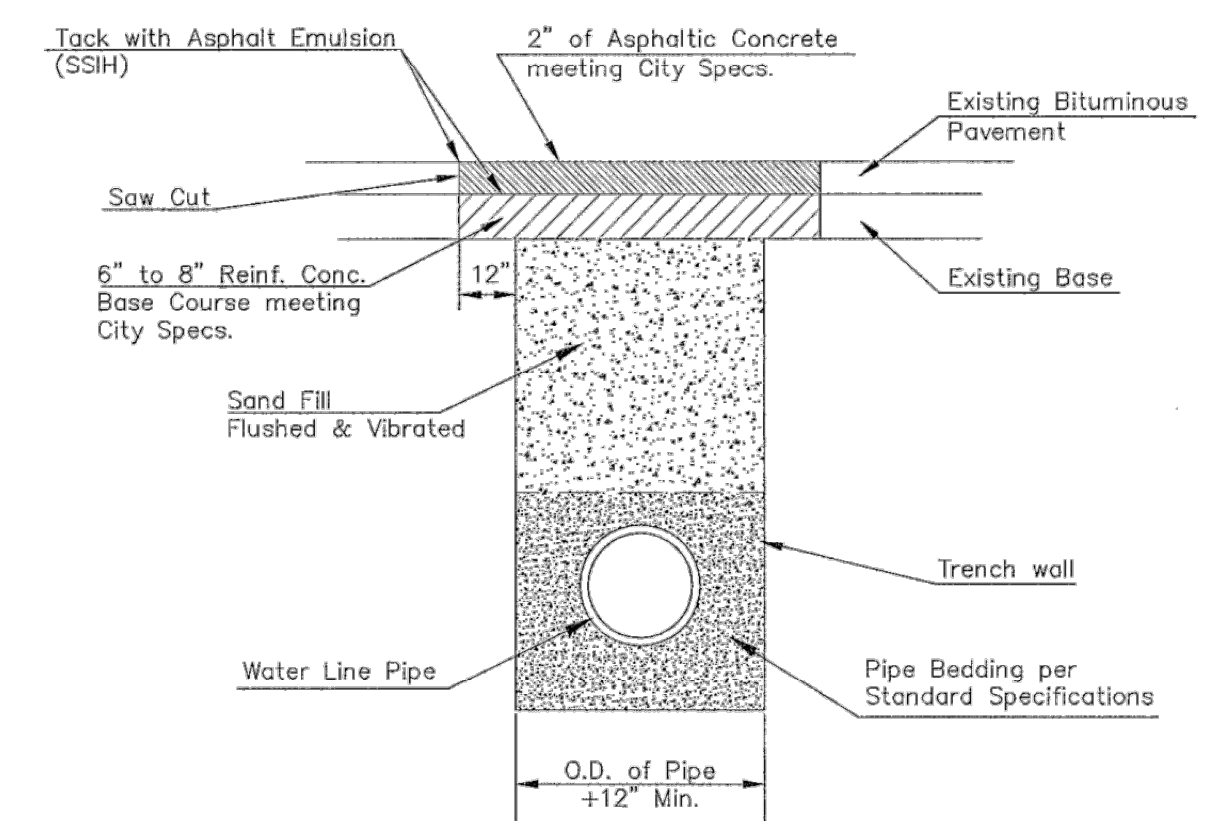


Note: When shoring is required it is to be per The City of Wichita Standard Specifications.

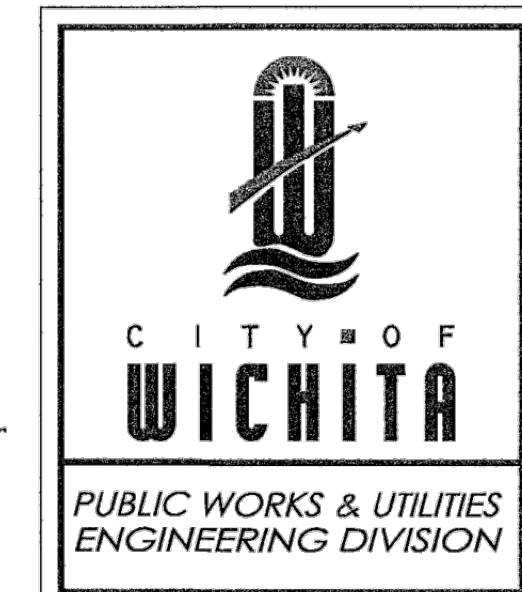
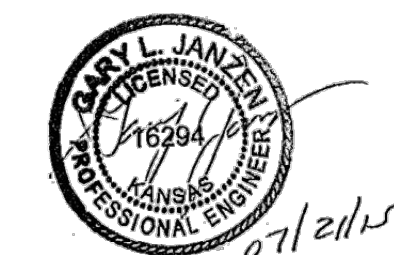


Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS



MISCELLANEOUS WATER 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) 268-4301	
SHEET	

9-1-15	REVISED PER CITY COMMENTS	BKR	KDB
8-18-15	REVISED PER CITY COMMENTS	BKR	KDB
8-11-15	REVISED PER CITY COMMENTS	BKR	KDB
7-10-15	REVISED PER CITY COMMENTS	BKR	KDB
6-4-15	INITIAL ISSUE	BKR	KDB
REV DATE	DESCRIPTION	DSN	DWN
CHK			

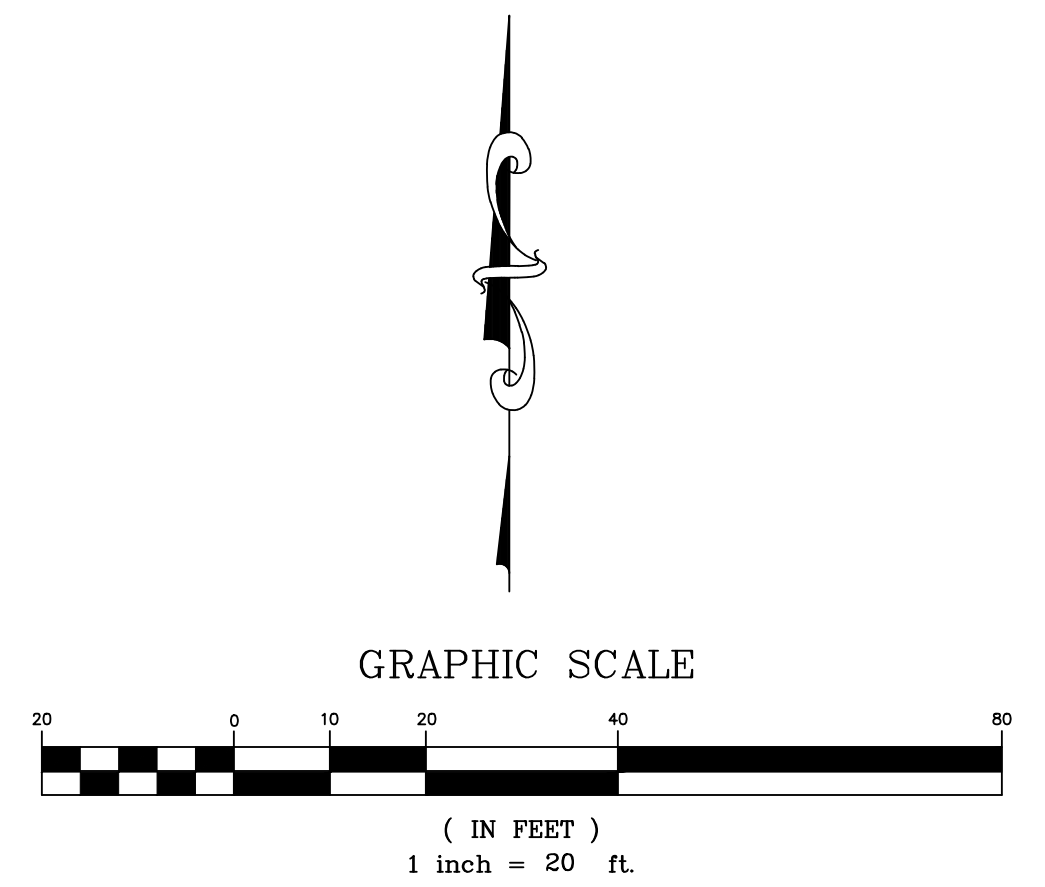
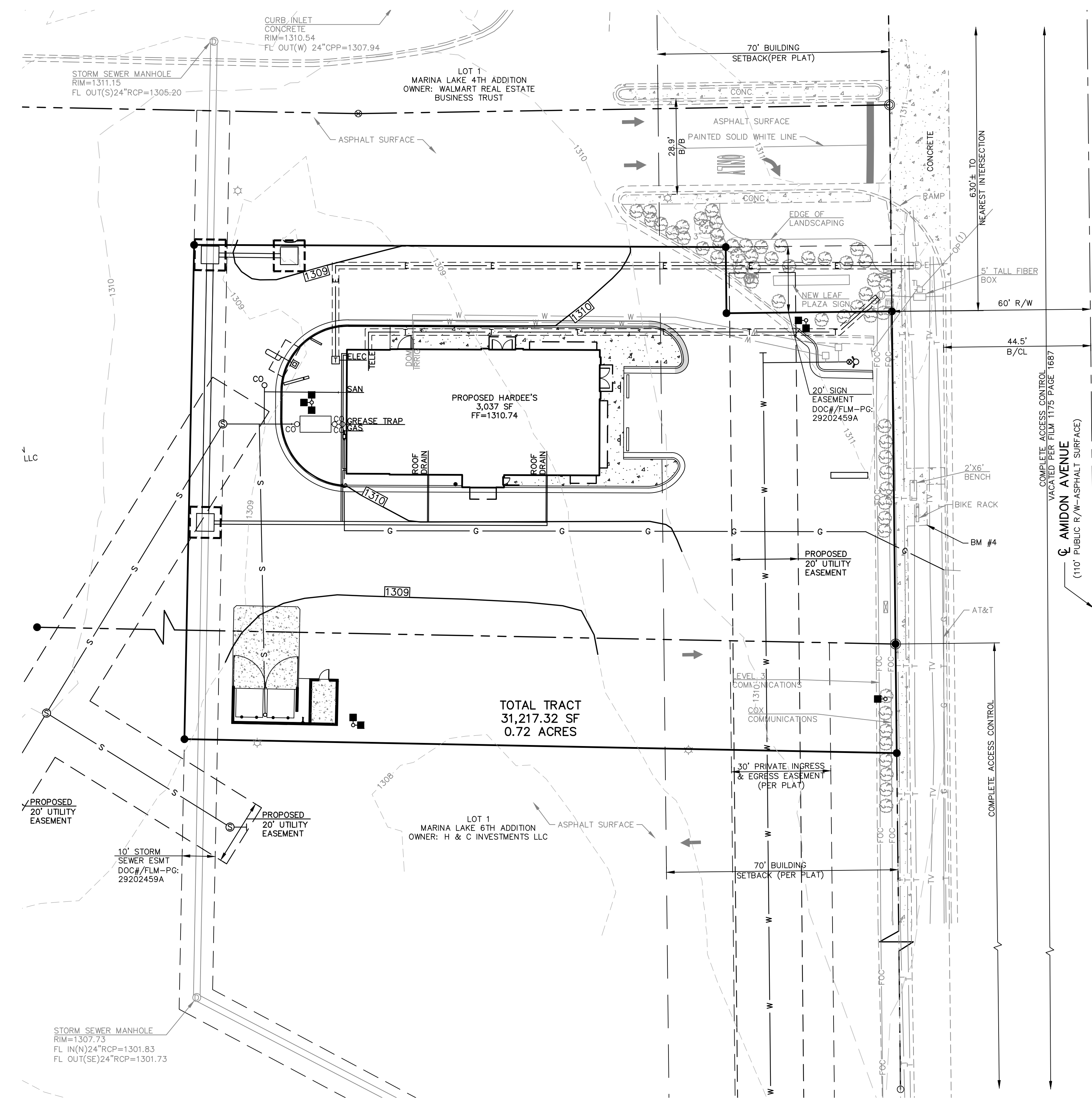
KEITH D. BEATTY  
 ENGINEER  
 KS # 16978

1104 E. 12TH AVENUE  
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**KAW VALLEY ENGINEERING**  
 KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/16

**HARDEE'S**  
 N AMIDON AVE & W 21ST STREET N  
 WICHITA, KANSAS  
 WATER IMPROVEMENT PLANS  
 STANDARD DETAILS

PROJ. NO.	F15_0119
DESIGNER	KDB
DRAWN BY	BKR
CFN	0119WDET
SHEET	REV
3 OF 12	4





**EROSION & PROPOSED IMPROVEMENTS LEGEND:**

- - - 1308 - - - EXISTING GROUND CONTOUR (1' INTERVALS)
- 1309 - - - PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- TEMPORARY DROP INLET PROTECTION

4  
UPDATED SHEET

**NOTE:**

- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.

**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.

- 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.
  - 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.

**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.**

**DATUM BENCHMARK:**  
 VERTICAL DATUM IS NAVD 88 ESTABLISHED USING OPUS PROJECTS ON PROJECT CONTROL.

**PROJECT BENCHMARK:**  
 BM #1: CHISELED "SQUARE" ON THE NORTHEAST CORNER OF SOUTHERN AT&T CONCRETE PAD WITH BOLLARDS AT THE SOUTHEAST CORNER OF LOT 1, MARINA LAKE SIXTH ADDITION. ELEV=1309.33  
 BM #2: CHISELED "SQUARE" ON TOP OF CURB AT THE EAST NOSE OF CURB ISLAND ON NORTH SIDE OF ACCESS DRIVE. NORTH OF PAYLESS NORTHEAST CORNER. ELEV=1315.76  
 BM #3: CHISELED "SQUARE" ON THE SOUTHEAST CORNER CURB INLET AT NORTHWEST CORNER OF PARCEL 2, A PORTION OF LOT 1, MARINA LAKE FOURTH ADDITION. ELEV=1310.35  
 BM #4: CHISELED "SQUARE" ON THE SOUTHEAST CORNER OF CONCRETE PAD FOR BENCH AND BIKE RACKS, 37'± NORTH NORTHEAST OF THE NORTHEAST CORNER, MARINA LAKE SIXTH ADDITION. ELEV=1310.60

**GAS SERVICE**  
 KANSAS GAS SERVICE  
 1021 E. 26TH ST. NORTH  
 WICHITA, KANSAS 67219  
 (316)832-3126  
 JAMES COE

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 AT&T DISTRIBUTION  
 154 N. BROADWAY  
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 (316)268-2245  
 JOHN FAGEN

**WATER & SANITARY SEWER SERVICE**  
 WICHITA WATER DEPARTMENT  
 455 NORTH MAIN, 8TH FLOOR  
 WICHITA, KANSAS 67202  
 (316)268-4555  
 GREG / LADONNA

**ELECTRIC SERVICE**  
 WESTAR ENERGY  
 701 EAST DOUGLAS  
 WICHITA, KANSAS 67202  
 (316)261-6320  
 BECKY THOMPSON

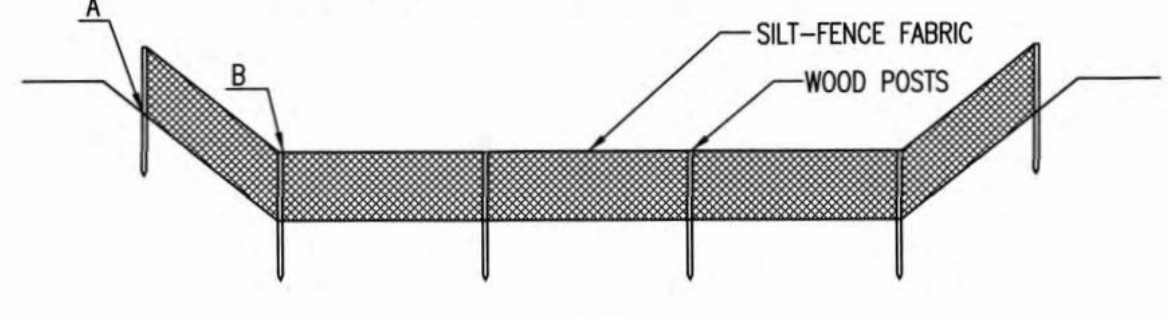
**CABLE TELEVISION SERVICE**  
 COX COMMUNICATIONS  
 701 EAST DOUGLAS  
 WICHITA, KANSAS 67202  
 (316)262-4270/263-2061



KDB	KDB	KDB	KDB	KDB	KDB	KDB	KDB	DSN	CHK
BKR	BKR	BKR	BKR	BKR	BKR	BKR	BKR		
REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	REVISED PER CITY COMMENTS	INITIAL ISSUE	DESCRIPTION
4	3	2	1	0	0	0	0	REV DATE	
KEITH D. BEATTY ENGINEER KS # 16978									
1104 E. 12TH AVENUE EMPORIA, KANSAS 66801 PH. (620) 208-5240   FAX. (785) 762-7744 emp@kveeng.com   www.kveeng.com									
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/16									
<b>HARDEE'S</b> <b>N AMIDON AVE &amp; W 21ST STREET N</b> <b>WICHITA, KANSAS</b>									
<b>WATER IMPROVEMENT PLANS</b> <b>EROSION CONTROL PLAN</b>									
PROJ. NO. F15_0119 DESIGNER KDB DRAWN BY BKR CFN 0119WCEP SHEET 5 OF 12 REV 4									



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)

**MATERIAL SPECIFICATION:**

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

**PLACEMENT:**

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

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

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

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSTREAM SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSTREAM EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSTREAM SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSTREAM OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

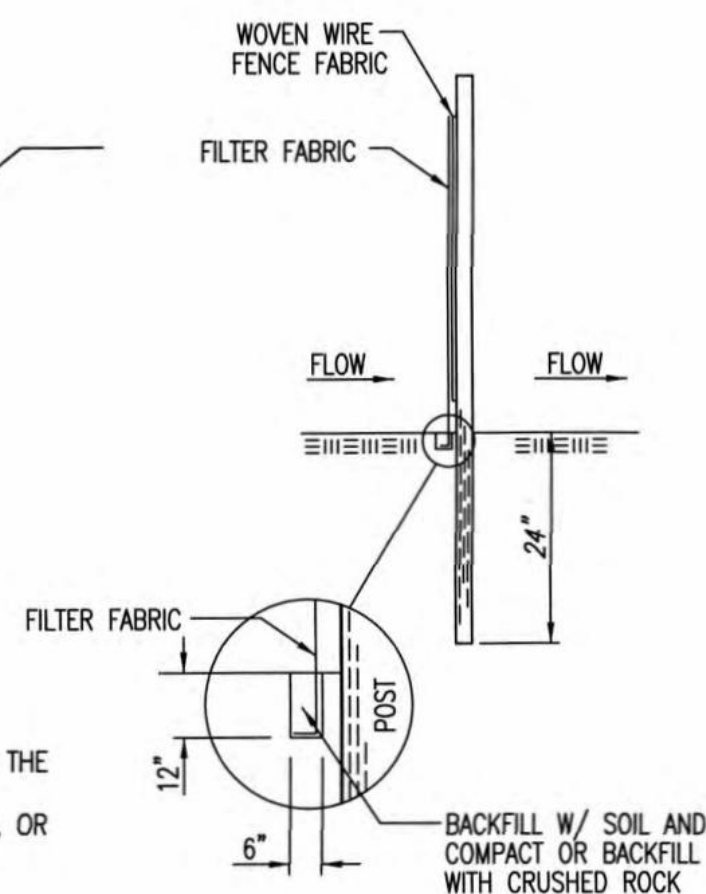
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

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

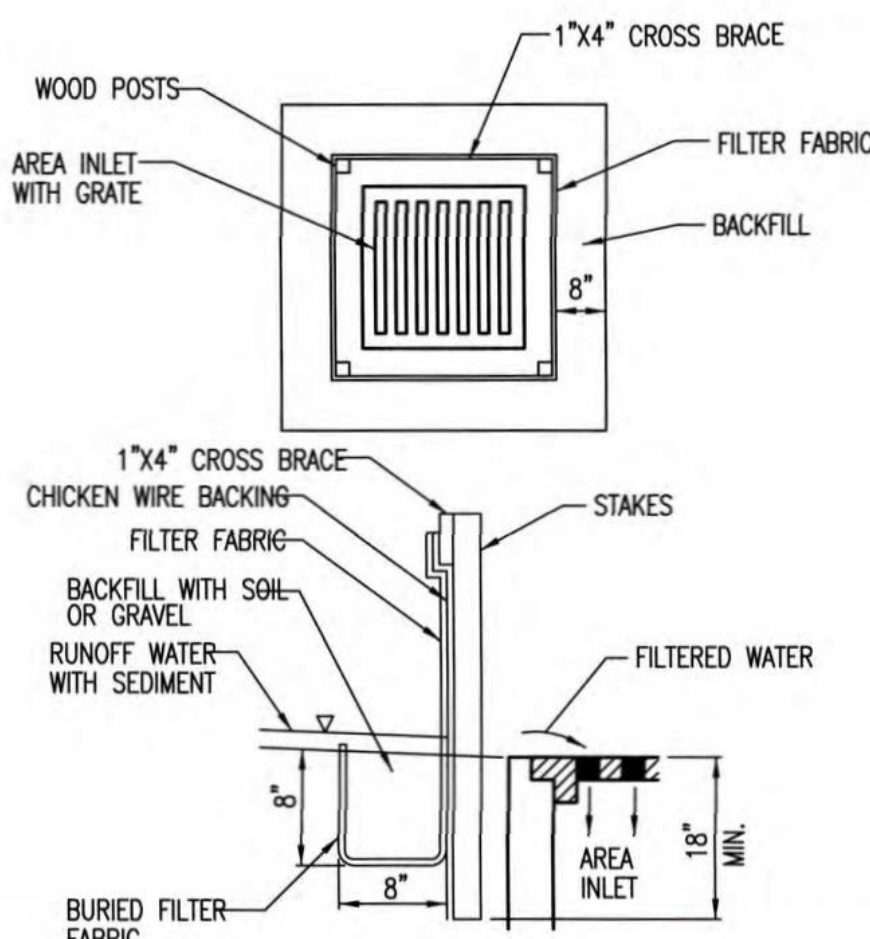
**INSPECTION AND MAINTENANCE:**

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

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



**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.

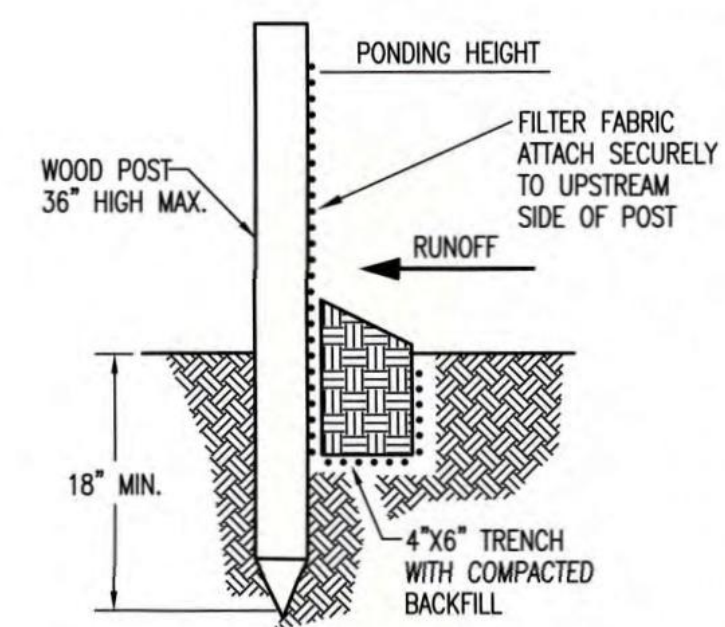
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

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

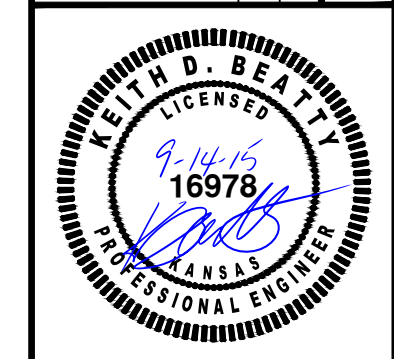
<b>SILT FENCE DITCH CHECK AND BARRIER DETAILS</b>		
CITY ENGINEER <b>GARY JANZEN, P.E.</b>		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET



05/21/13

5W-502

REV	DATE	DESCRIPTION
1	7-10-15	REVISED PER CITY COMMENTS
0	6-4-15	INITIAL ISSUE
		DSN
		CHK
		KDB
		BKR



KEITH D. BEATTY  
ENGINEER  
KS # 16978

1104 E. 12TH AVENUE  
EMPORIA, KANSAS 66801  
PH. (620) 208-5240 | FAX (785) 762-7744  
empvaleng.com | www.kawvaleng.com

**KAW VALLEY ENGINEERING**

KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/16

**HARDEE'S**  
N AMIDON AVE & W 21ST STREET N  
WICHITA, KANSAS

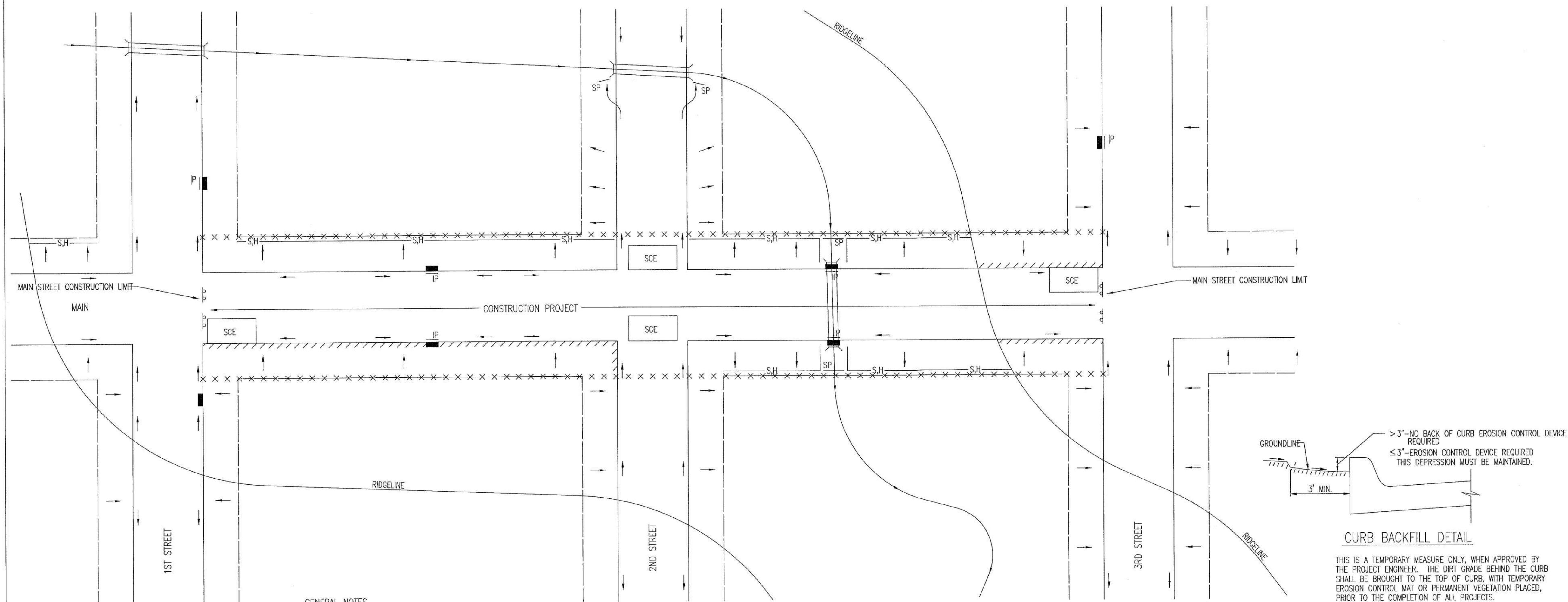
**WATER IMPROVEMENT PLANS**  
**EROSION CONTROL DETAILS**

PROJ. NO.	F15_0119
DESIGNER	KDB
DRAWN BY	BKR
CFN	0119WDET
SHEET	7 OF 12
REV	1



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 SODED, 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 <b>GARY JANZEN, P.E.</b>		
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

51W-504

REV	DATE	DESCRIPTION
1	7-10-15	REVISED PER CITY COMMENTS
0	6-4-15	INITIAL ISSUE

1	7-10-15	REVISED PER CITY COMMENTS
0	6-4-15	INITIAL ISSUE



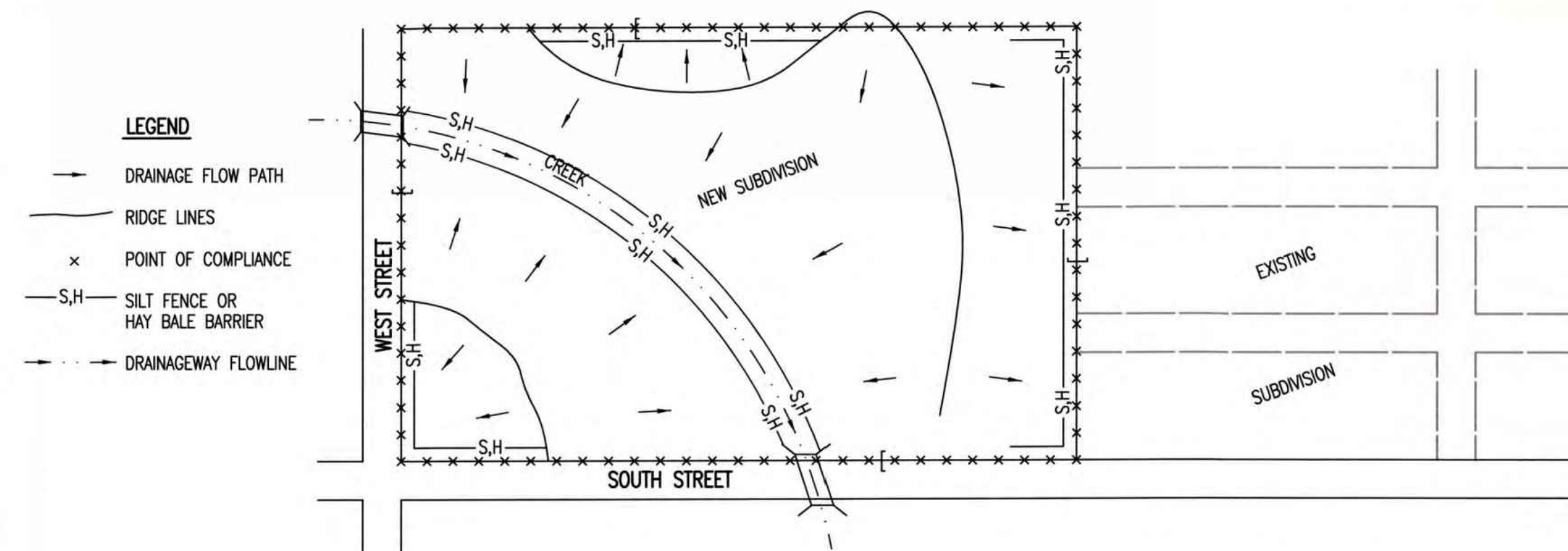
KEITH D. BEATTY  
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**KAW VALLEY ENGINEERING**  
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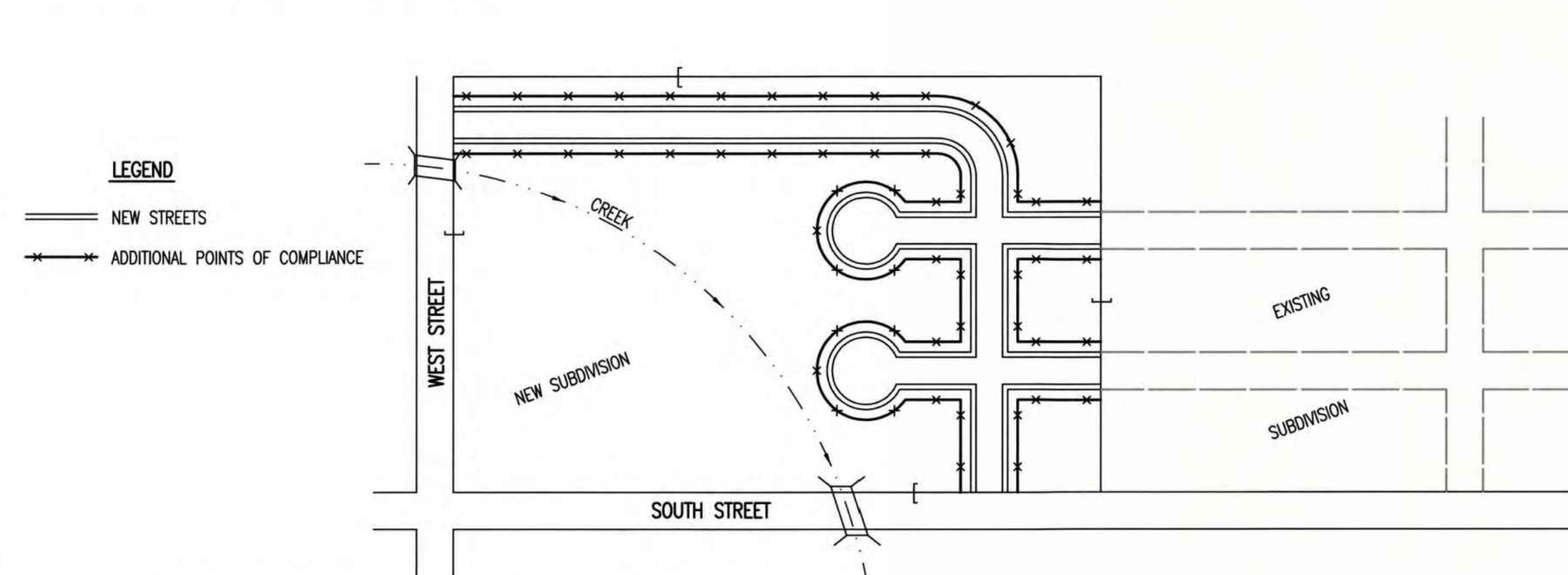
<b>HARDEE'S</b> N AMIDON AVE & W 21ST STREET N WICHITA, KANSAS	WATER IMPROVEMENT PLANS			
	EROSION CONTROL DETAILS			
	PROJ. NO.	F15_0119		
DESIGNER	KDB	DRAWN BY	BKR	
CFN	0119WDET		REV	1
SHEET	9 OF 12			

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



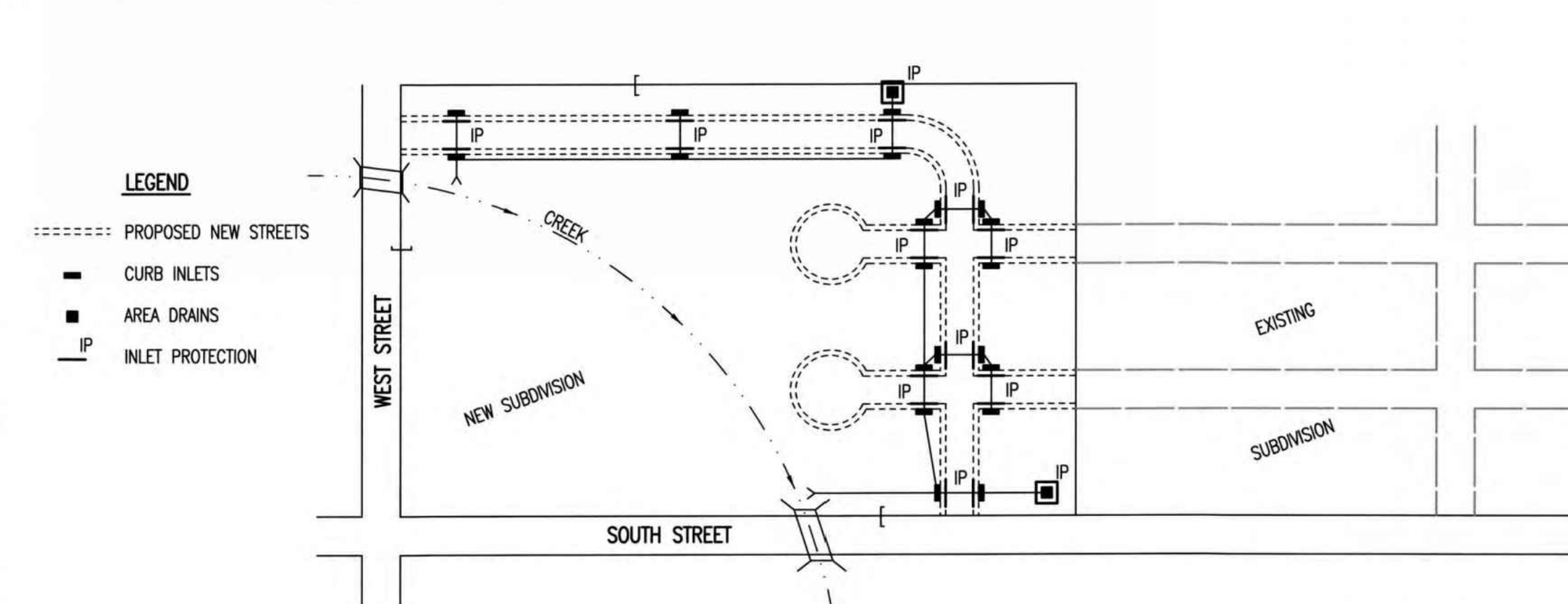
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
- 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.
- 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.
- ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
- 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.
- UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
- 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.
- WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

**PHASE 3 – STREET CONSTRUCTION**



- 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.
- CURB OPENING INLET PROTECTION:
  - SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
  - NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
- 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.
- SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
- 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.
- THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
- 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.

**PHASE 2 – INSTALLATION OF STORM SEWER**

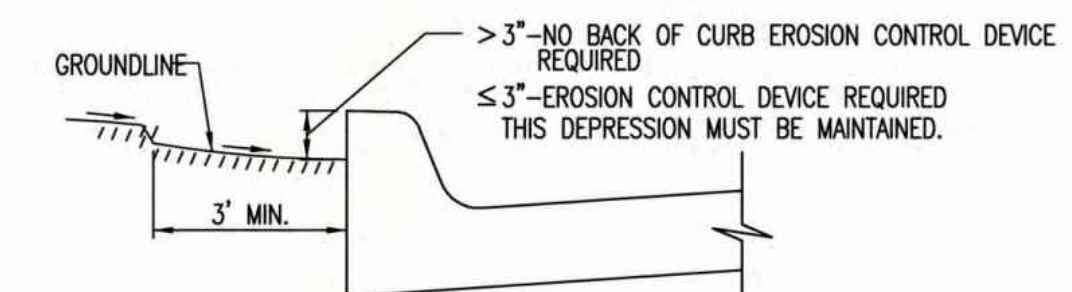


- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
- AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
- AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
- 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.
- THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
- THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
- 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.
- 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.

**GENERAL NOTES**

- 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.
- 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.
- 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.
- PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
- 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.
- 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.
- 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.
- 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.
- 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



**SUBDIVISION DEVELOPMENT PROCESS**

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

1	7-10-15	REVISED PER CITY COMMENTS	KDB
0	6-4-15	INITIAL ISSUE	KDB
			DSN
			DWN
			CHK



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**HARDEE'S**  
N AMIDON AVE & W 21ST STREET N  
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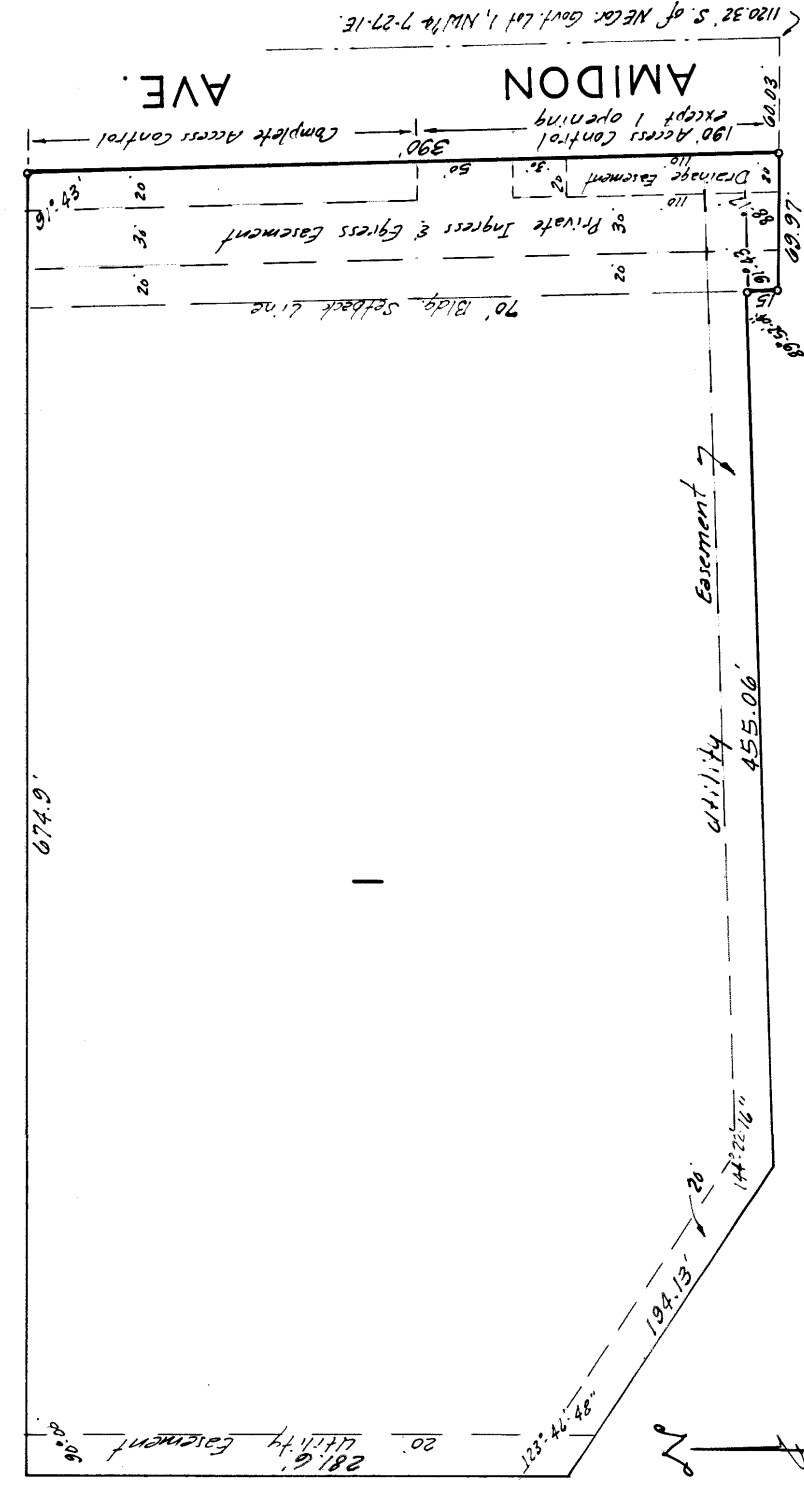
**WATER IMPROVEMENT PLANS**  
**EROSION CONTROL DETAILS**

PROJ. NO.	F15_0119
DESIGNER	KDB
CFN	BKR
SHEET	0119WDET
REV	
10 OF 12	1

# MARINA LAKE SIXTH ADDITION

WICHITA, KANSAS

S-2 2-25



Note: Minimum Bldg. Pad Elev. 1310.5 mean sea level for all dwelling units.

State of Kansas } S.S. We, **Baughman Company, Surveyors** in approved  
Sedgewick County } S.S. do hereby certify that we have surveyed and plotted  
county and state do hereby certify that we have surveyed and plotted  
"MARINA LAKE SIXTH ADDITION" Wichita, Kansas, and that the accom-  
panying plat is a true and correct exhibit of the property surveyed,  
being a replat of Reserve #1, Marina Lake Fourth Addition, Wichita, Kansas,  
and a tract in Govt Lot 1, in the N.W. 1/4 of Sec. 7, Twp. 27-S, R. 1-E of the  
6th P.M., and described as follows: Commencing at the N.E. corner of  
said Govt Lot 1 in said block, thence S 20°-04'-05" W along the east line  
of said Govt Lot 1, 1120.32 feet; thence N 41°-12'-55" W parallel with the  
north line of said Govt Lot 1, a distance of 60.03 feet for a place of  
beginning; thence N 48°-12'-55" W, 23.97 feet; thence N 00°-04'-05" E,  
15 feet; thence S 89°-56'-09" W, 455.06 feet; thence N 54°-22'-07" W,  
194.13 feet; thence north 281.6 feet to the S.W. corner of Lot 1 in said  
Marina Lake Fourth Addition; thence east 674.9 feet to the N.E.  
corner of said Reserve #1; thence south 300 feet to the place of  
beginning

Baughman Company

*William C. Sawyer*  
William C. Sawyer  
Surveyor

Know all men by these presents that we **Clear Lake Inc.** a corporation by **Don Satterthwaite, President** and **Mearle D. Mason, Secretary**, have caused the land described in the foregoing certificate to be platted into a lot to be known as "MARINA LAKE SIXTH ADDITION" Wichita, Kansas. Easements are hereby granted as indicated, the drainage for discharge purposes, the utility for construction and maintenance of all public utilities. The private right and easement as indicated is hereby reserved to and for the benefit of Lot 1 and the property adjacent to the north and south, all subject to rights of access to or from Amidon Avenue over and across the east line of Lot 1, is hereby granted to the City of Wichita, provided however that Lot 1, shall have access to Amidon Avenue at one point over and across the south 100 feet thereof; as shall be determined by the City Engineer of the City of Wichita, Kansas. Lot 1 shall have a minimum building pad elevation of 1310.5 feet mean sea level for dwelling units.

Clear Lake Inc.

*Don Satterthwaite*  
Don Satterthwaite  
President

*Mearle D. Mason*  
Mearle D. Mason  
Secretary

State of Kansas } S.S. Be it remembered that on this 10 day of May 1971, before me a notary public in and for the county and state of May Ken Satterthwaite, President and Mearle D. Mason, Secretary of Clear Lake Inc., to me known to be the same persons who executed the foregoing instrument of writing and duly acknowledged the execution of the same.

*John D. Beatty*  
John D. Beatty  
Notary Public  
My Commission Expires: Nov. 23, 1971 SHEEILL K. BEST

The East Side National Bank, holders of a mortgage on the above described property do hereby consent to the plat of "MARINA LAKE SIXTH ADDITION" Wichita, Kansas.

The East Side National Bank

*James F. Chartraw*  
James F. Chartraw  
Chairman

State of Kansas } S.S. Be it remembered that on this 10 day of May 1971, before me a notary public in and for the county and state of James F. Chartraw and James F. Chartraw of the East Side National Bank, to me known to be the same persons who executed the foregoing instrument of writing and duly acknowledged the execution of the same. In testimony whereof I have hereunto set my hand and affixed my notarial seal the day and year above written.

*Patricia J. Whittier*  
Patricia J. Whittier  
Notary  
My Commission Expires: 3-6-72

This plat of "MARINA LAKE SIXTH ADDITION" Wichita, Kansas, has been submitted to and approved by the Wichita Sedgewick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 22nd day of April, 1971.  
Wichita Sedgewick County Metropolitan Area Planning Commission.  
*Floyd Lowdore*  
Floyd Lowdore  
Chairman

*Robert J. Leckie*  
Robert J. Leckie  
Secretary

This plat approved and all dedications shown hereon accepted by the Board of Commissioners of the City of Wichita, Kansas, this 5 day of April, 1971.

*Jack Stone*  
Jack Stone  
Mayor  
*John C. Eschly*  
John C. Eschly  
City Clerk

This plat approved and all dedications shown hereon accepted by the Board of Commissioners of Sedgewick County, Kansas, this 5 day of April, 1971.

*Robert E. Burch*  
Robert E. Burch  
Chairman  
*Tom Scoat*  
Tom Scoat  
Commissioner  
*Mavis Warden*  
Mavis Warden  
County Clerk

Entered on transfer record this 5 day of April, 1971.  
*Mavis Warden*  
Mavis Warden  
County Clerk

State of Kansas } S.S. This is to certify that this plat was filed for record in the office of the Register of Deeds this 10 day of May, 1971 at 3:15 o'clock P.M., and is duly recorded.

*John D. Beatty*  
John D. Beatty  
Register of Deeds  
*Paul E. Gilbert*  
Paul E. Gilbert  
Deputy



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

*Bill Meek*  
Bill Meek, Register of Deeds  
Digitized reproduction of original signature

HARDEES		PROJ. NO.	
N AMIDON AVE & W 21ST STREET N		F15_0119	
WICHITA, KANSAS		DESIGNER	DRAWN BY
WATER IMPROVEMENT PLANS		KDB	BKR
PLAT		SHEET	REV
11 OF 12		1	
REV	DATE	DESCRIPTION	DSN
1	7-10-15	REVISED PER CITY COMMENTS	BKR
0	6-4-15	INITIAL ISSUE	BKR
			DWN
			CHK

KEITH D. BEATTY  
ENGINEER  
KS # 16978

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**KAW VALLEY ENGINEERING**  
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/16

KEITH D. BEATTY  
LICENSED PROFESSIONAL ENGINEER  
16978

