

# GENERAL NOTES

- ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF ANDOVER AND CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS FOR WATER MAIN INSTALLATIONS.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF SEVENTY-TWO (72) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:  
 KANSAS ONE-CALL 1-800-344-7233  
 OR LOCAL (WICHITA) 687-2470  
 THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:  
 AT&T (TELEPHONE) 800-870-8390  
 BLACK HILLS ENERGY (GAS) 800-303-0357  
 BUTLER RURAL ELECTRIC (AFTER HOURS) 800-464-0600  
 OR LOCAL (WICHITA) 220-2608  
 CITY OF ANDOVER 733-2621  
 COX COMMUNICATIONS (CABLE) 262-0661  
 C.O.W. PUBLIC WORKS & UTILITIES (WATER) 262-6000  
 KANSAS GAS SERVICE (GAS) 832-3101  
 WESTAR (ELECTRIC) 383-8600
- WATER MAINS SHALL BE CONSTRUCTED ON THE ALIGNMENTS SHOWN ON THE PLANS. 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, AND SHALL BE INCLUDED IN THE PRICE BID FOR THE INSTALLED WATER PIPE. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.
- OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.
- CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.
- UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING 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. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SITE RESTORATION.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.
- NO SERVICES WILL BE INSTALLED AS PART OF THIS PROJECT.
- INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA, AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED AND TREE TRIMMINGS SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- ALL DISTURBED AREAS TO BE SEEDED WITH RYE GRASS AT A RATE OF 200 LBS. PER ACRE WITHIN 10 DAYS OF CONSTRUCTION. CONTRACTOR TO PREPARE GROUND PER CITY SPECIFICATIONS. COST IS SUBSIDIARY TO SITE PREPARATION AND RESTORATION.
- THE CONTRACTOR SHALL LAY A TRACER WIRE & SET TEST STATIONS ALONG ALL WATER LINE PIPE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA SPECIFICATIONS & TRACER WIRE DETAIL ON DETAIL SHEET. COST IS SUBSIDIARY TO PIPE INSTALLATION.
- CONTRACTOR TO COORDINATE CONSTRUCTION OF WATERLINES WITH OTHER CONSTRUCTION ACTIVITIES ON SITE. THIS INCLUDES SANITARY SEWER AND MASS GRADING PROJECTS.
- EXCESS MATERIAL TO BE PLACED & COMPACTED ON ADJOINING LOTS. SPECIFIC LOCATION DETERMINED BY ENGINEER/OWNER'S DIRECTION
- DEVELOPER FOR THIS PROJECT IS:  
 VANTAGE POINT PROPERTIES, INC.  
 1625 WATERFRONT PARKWAY, SUITE 220  
 WICHITA, KANSAS, 67206  
 PAUL JACKSON  
 (316) 634-8600
- CONTRACTOR ON LOT 1, BLOCK 2:  
 THE LAW COMPANY  
 ROB DAVIS  
 CELL: (316) 393-0216  
 OFFICE: (316) 268-0200

# WATER DISTRIBUTION SYSTEM IMPROVEMENTS

TO SERVE

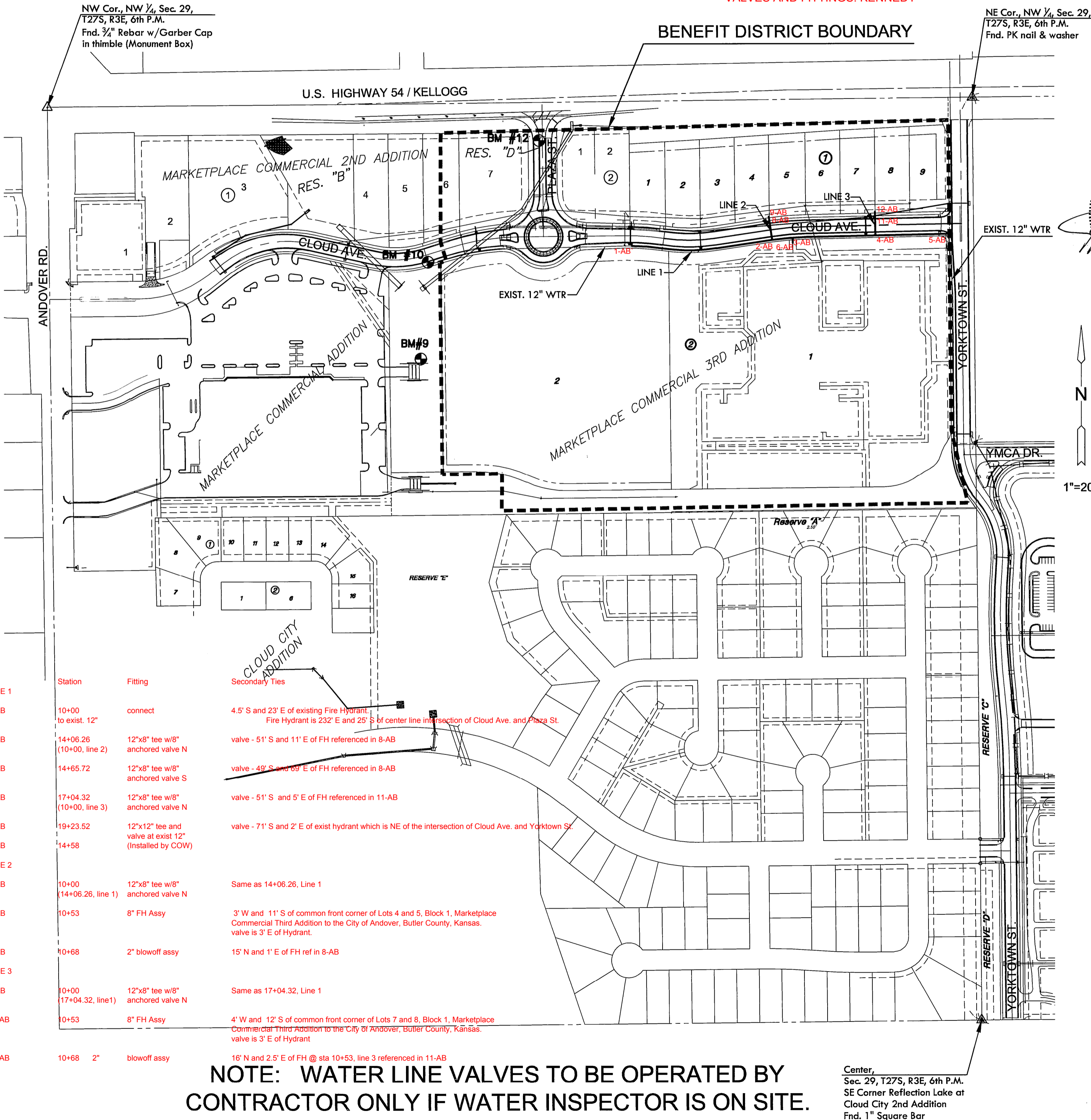
# MARKETPLACE COMMERCIAL THIRD ADDITION

1741 PPW  
 THE CITY OF WICHITA, KANSAS  
 GARY JANZEN, P.E. - CITY ENGINEER

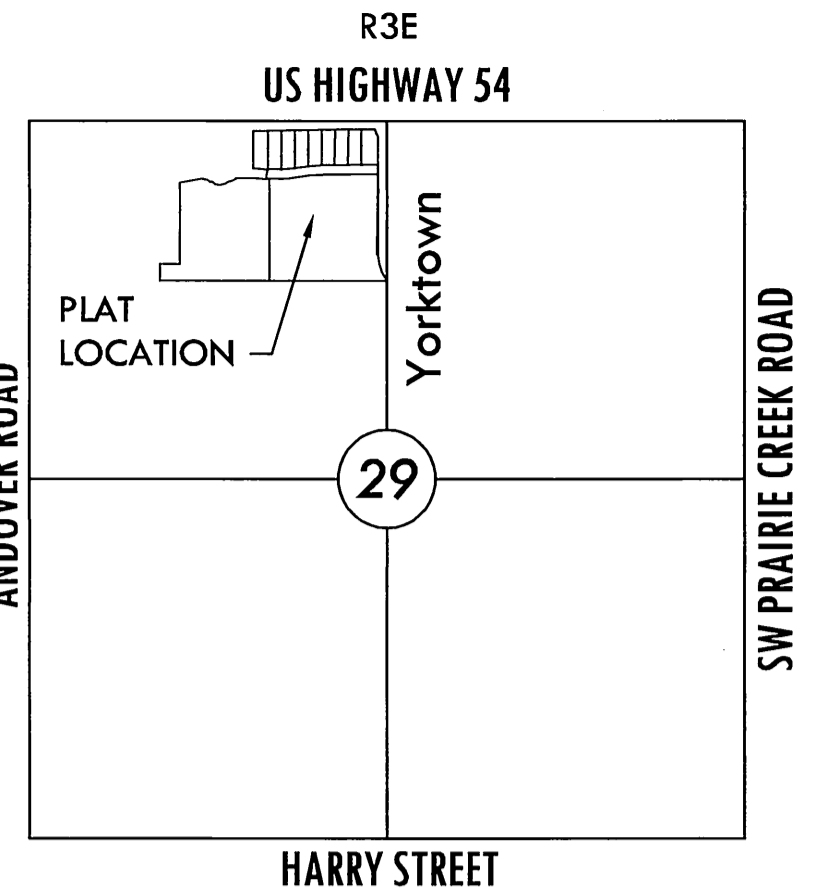
OCA 607853

**AS-BUILT PLANS - OCTOBER 2013**

INSPECTED: Tony DeCicco  
 CONSTRUCTED BY: Nowak  
 SUPERINTENDENT/FOREMAN: Jim Heiman  
 SUPPLIER: NORTHERN PIPE PRODUCTS  
 PIPE: 923.52' -12" Pipe/136' -8" Pipe - DR-18  
 FIRE HYDRANT LINE 2: AMERICAN DARLING  
 FIRE HYDRANT LINE 3: US PIPE CO.  
 VALVES AND FITTINGS: KENNEDY



**NOTE: WATER LINE VALVES TO BE OPERATED BY CONTRACTOR ONLY IF WATER INSPECTOR IS ON SITE.**



## VICINITY MAP

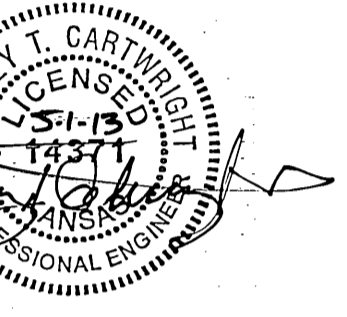
No Scale

## INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DETAILS
3	LINES 1, 2, & 3
4-9	BMP SHEETS
10	FINAL PLAT

## BENCHMARKS

- BM #9 "C" AT NE COR. OF NE PILLAR ON BRIDGE, 275' S OF NE COR. RES. "C", MARKETPLACE COMMERCIAL ADDITION. ELEV.=1310.03 NGVD 29
- BM #10 CHISELED SQUARE ON TOP OF SOUTH CURB OF CLOUD AVE., 40' +/- WEST OF THE NORTHWEST CORNER OF LOT 2, BLOCK 2, MARKETPLACE COMMERCIAL 3RD ADDITION. ELEV. = 1314.25 NGVD 29
- BM #12 CHISELED SQUARE ON TOP OF WEST CURB OF PLAZA STREET, 10' SOUTH OF THE END RETURN OFF KELLOGG. ELEV. = 1320.85 NGVD 29



**APPROVED AS NOTED BY CITY ENGINEER OF WICHITA, BY WICHITA WATER & SEWER DEPARTMENT, & BY WICHITA FIRE DEPARTMENT**

Water Mains (Public Works) *Julianne Kallman 5-2-13*  
 Water Mains (Water & Sewer Dept.) *Dreg Jolley 5-7-13*  
 Fire Prot. Line (Fire Dept.) *N/A*

## 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 Professional Engineer licensed in the state of Kansas. No work shall be performed in dedicated easements or public rights-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 to and approval of the Wichita Fire Department. Inspection of the fire protection line is to be provided by a licensed engineering firm under contract with the Owner/Developer and the Fire Department. 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.

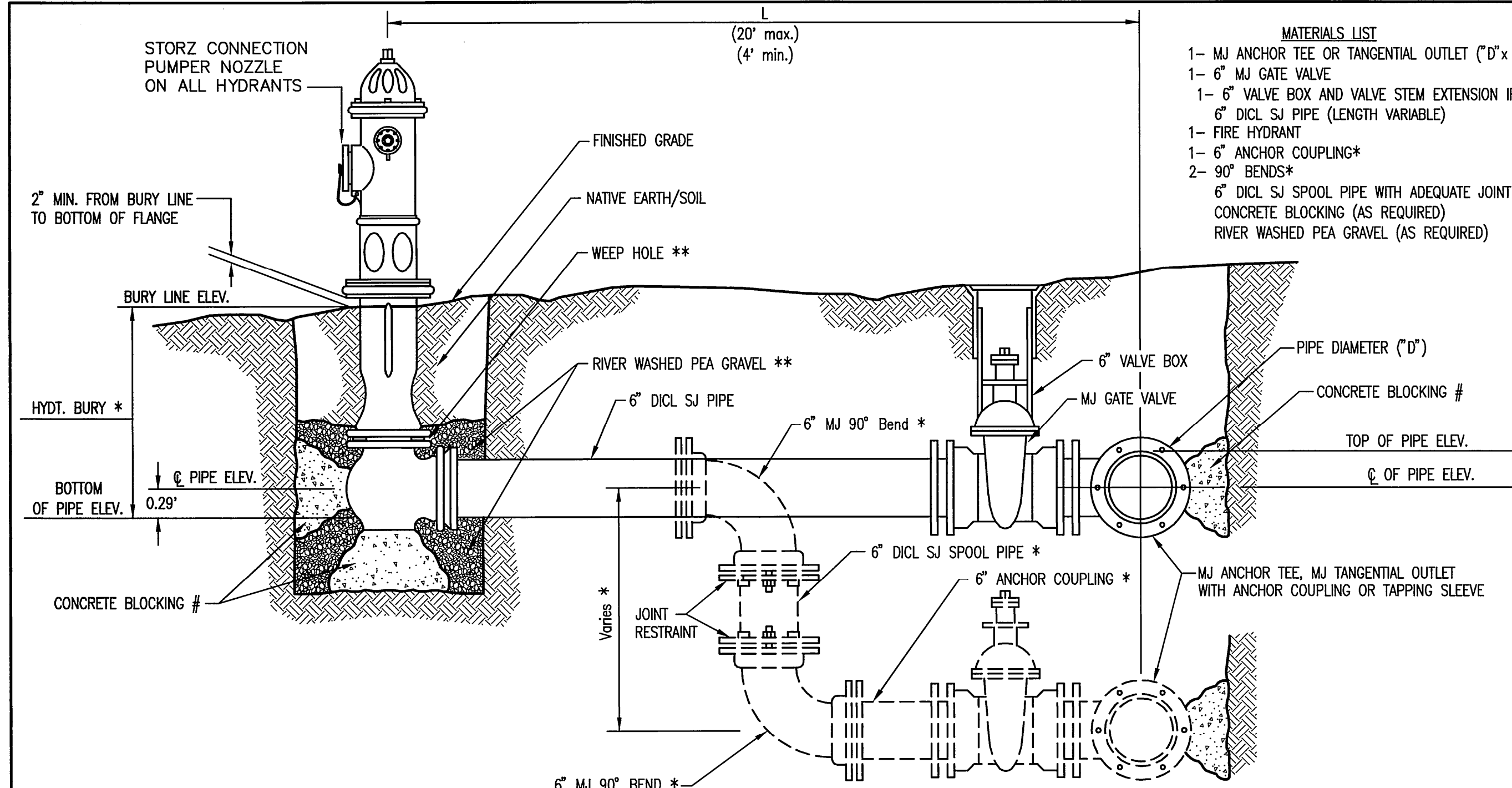


WATER DISTRIBUTION PLANS FOR  
**MARKETPLACE COMMERCIAL THIRD ADDITION**  
 ANDOVER, KANSAS

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## TITLE SHEET

PROJECT NO.	1201010612
DATE	MAY 3, 2013
SCALE	#"=#
DESIGNED	JTC
DRAWN	LES
CHECKED	JAG
<b>AS BUILT</b>	
#	###/###
NO.	REVISION DATE
SHEET NO.	
01 OF 10	



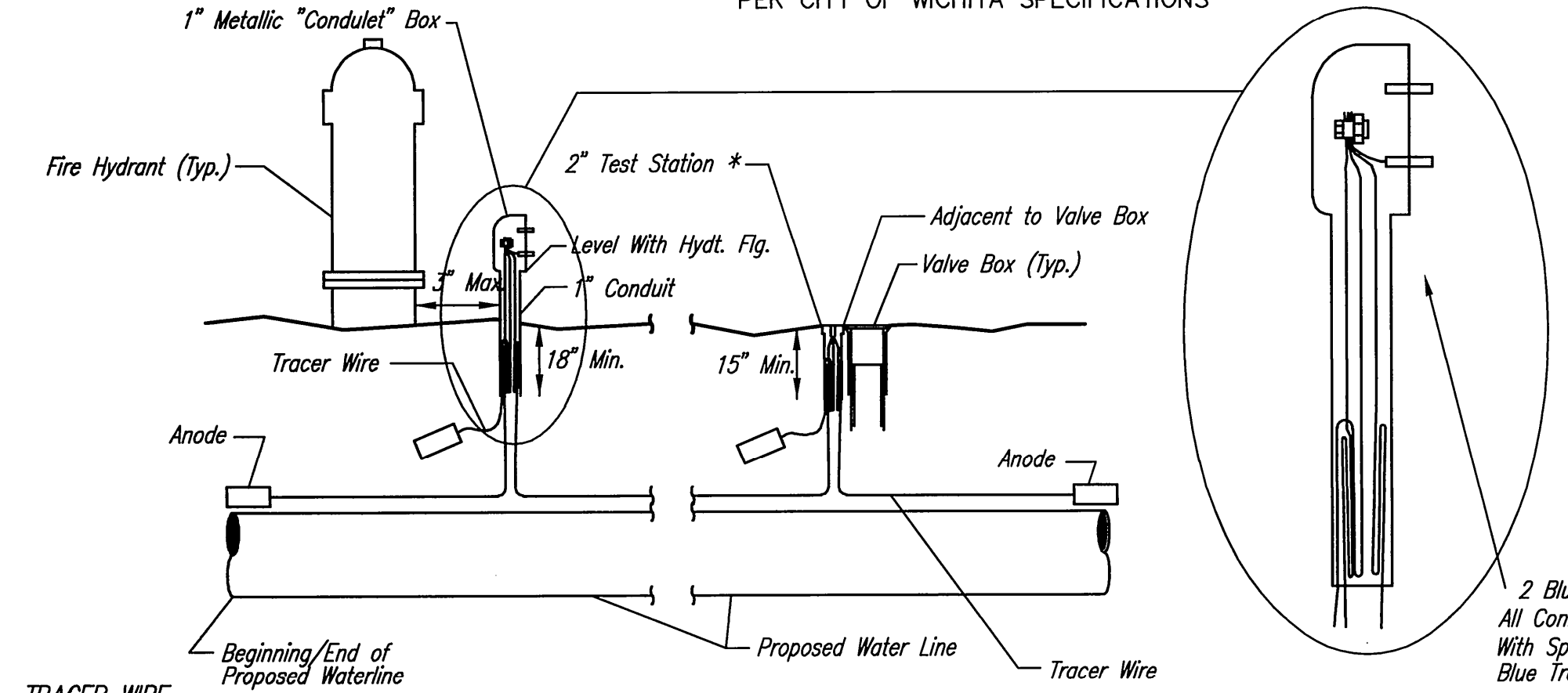
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET (6" x 6")
  - 1- 6" MJ GATE VALVE
  - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED \*
  - 6" DICL SJ PIPE (LENGTH VARIABLE)
  - 1- FIRE HYDRANT
  - 1- 6" ANCHOR COUPLING\*
  - 2- 90° BENDS\*
  - 6" DICL SJ SPOOL PIPE WITH ADEQUATE JOINT 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 SPOOL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGLUGS, ROD AND LUG 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. Split-bolt connectors shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of the waterlines. Any exceptions to the location of test stations 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 THHN annealed soft copper wire with thermal plastic insulation or Blue No. 12 AWG CCS with 30 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.

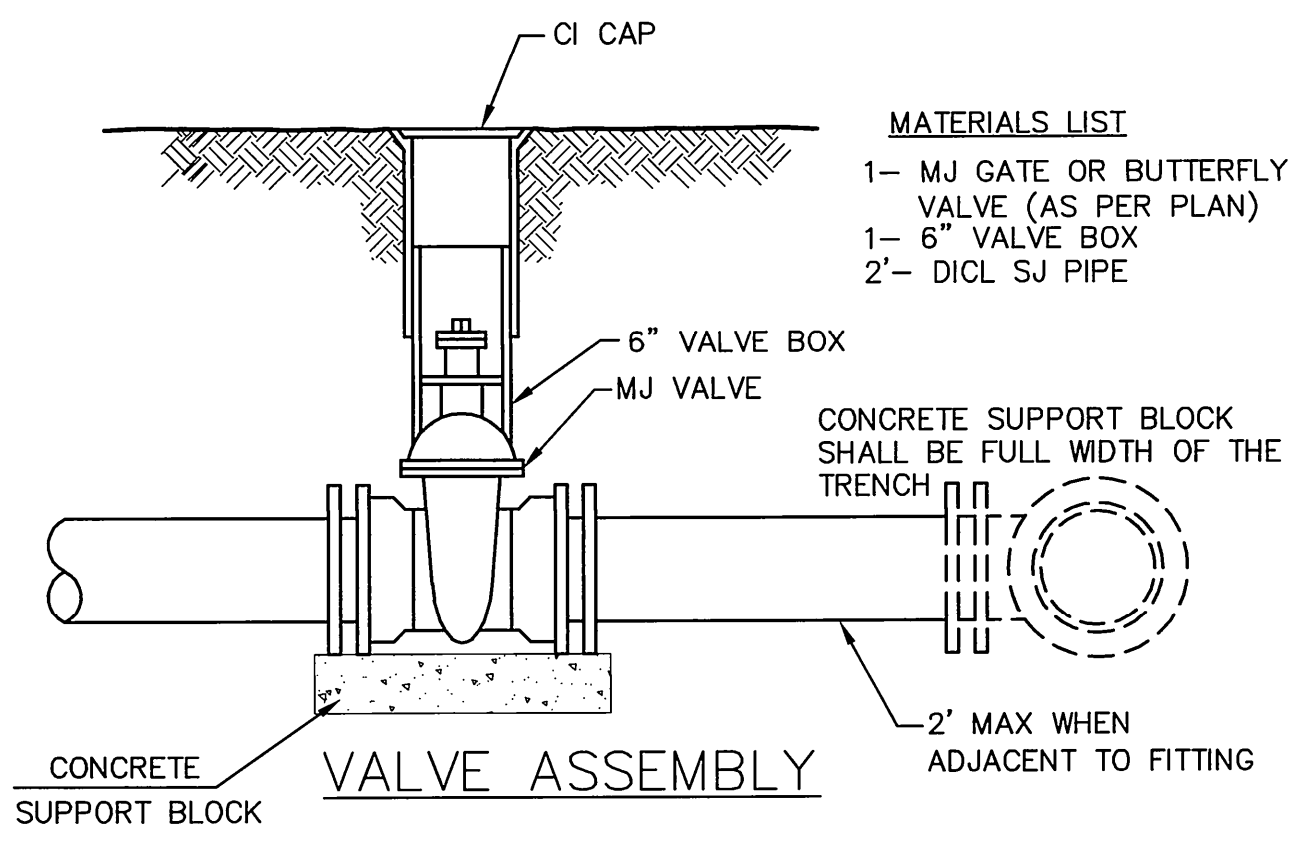
**TEST STATIONS**  
The test station for fire hydrant applications shall be a 1 inch galvanized "condulet" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PS3B as manufactured by HANDLEY Industries or approved equal. The "condulet" 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 Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

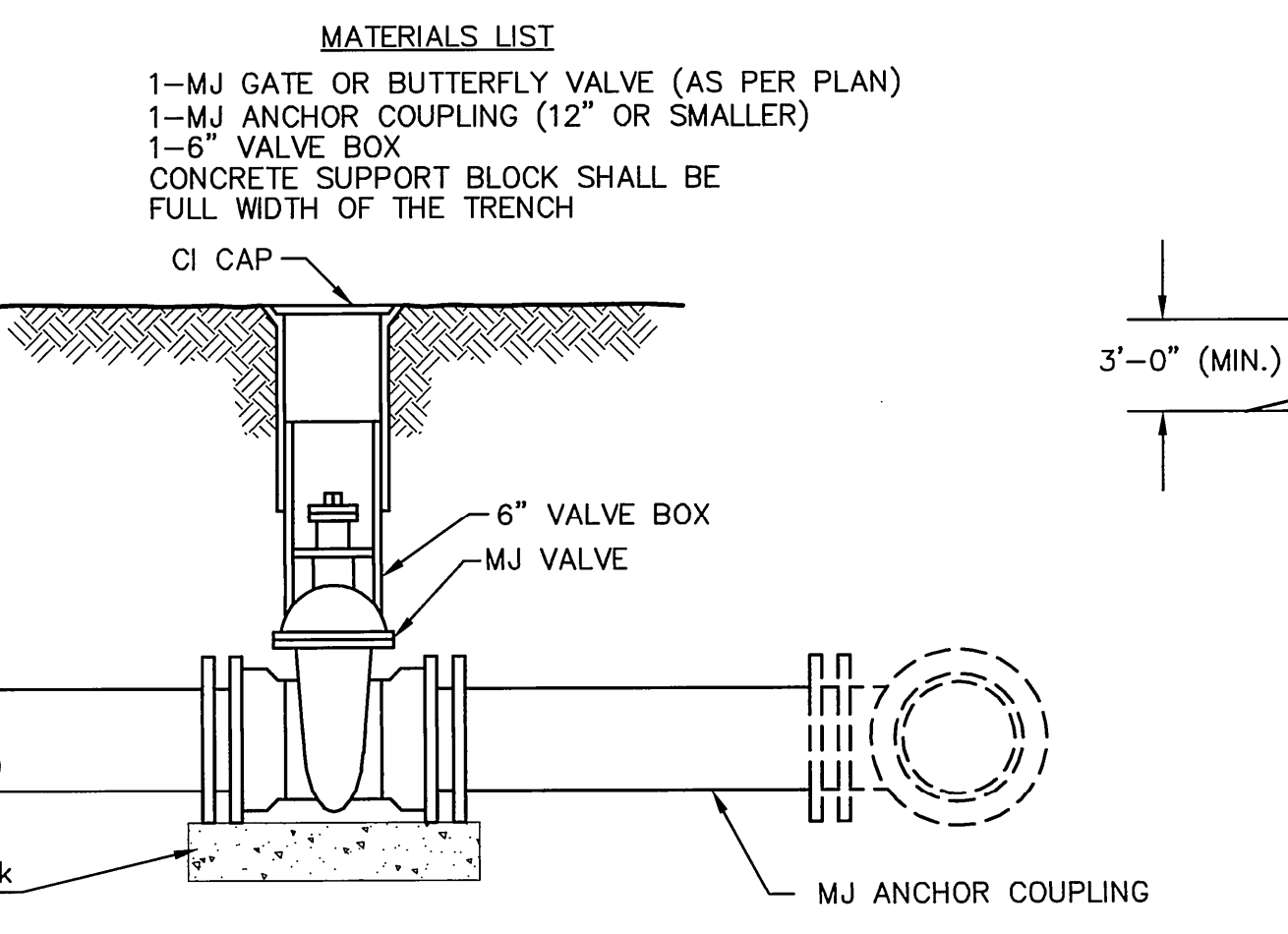
**TRACER WIRE DETAIL**  
COST IS SUBSIDIARY TO PIPE INSTALLATION

**FIRE HYDRANTS REQUIRED**

STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
10+53.00, LINE 2	1322.66	1317.33	6.0	N/A
10+53.00, LINE 3	1329.16	1322.83	7.0	N/A

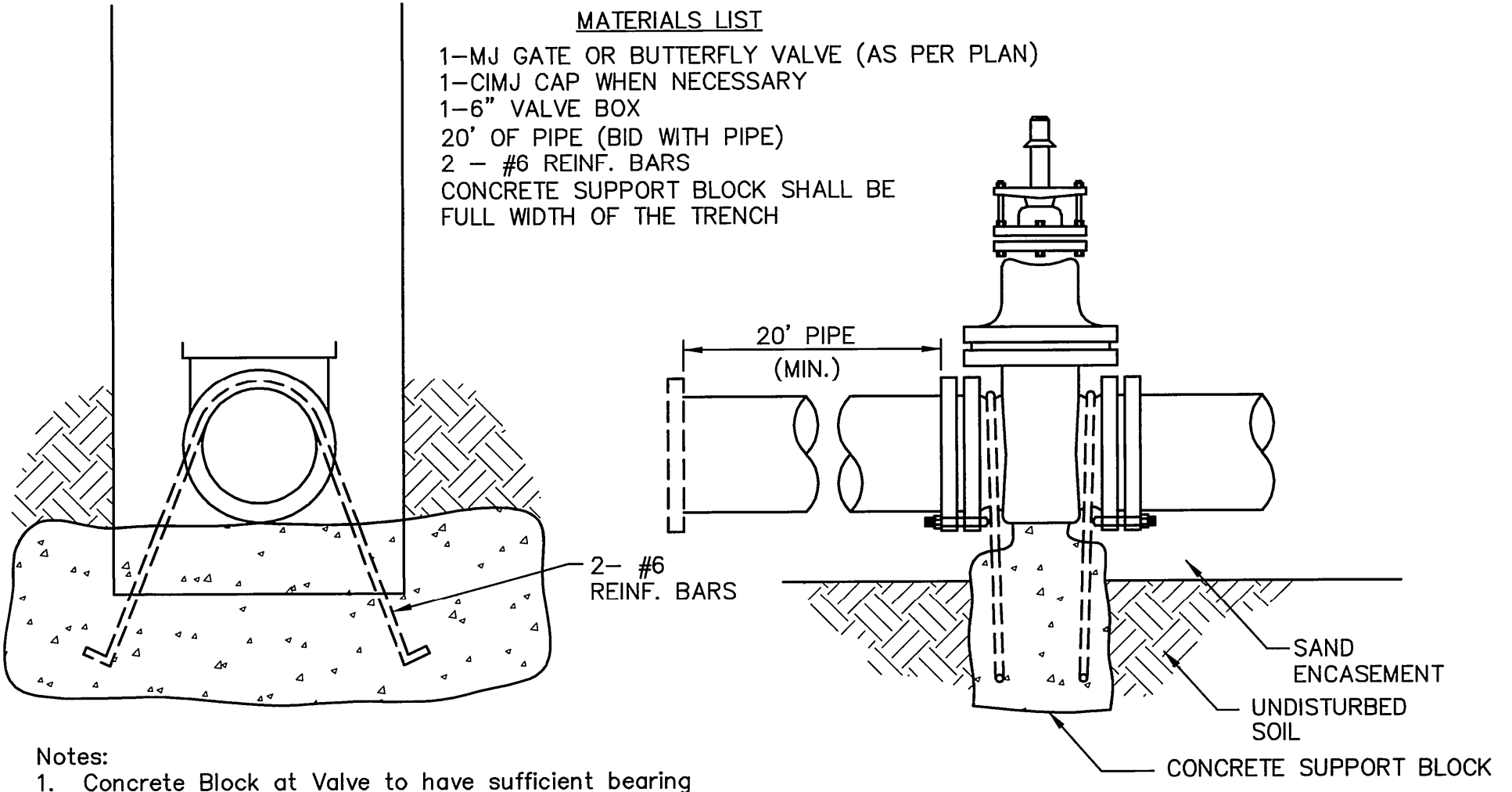


- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- 6" VALVE BOX
  - 2- DICL SJ PIPE



- 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**



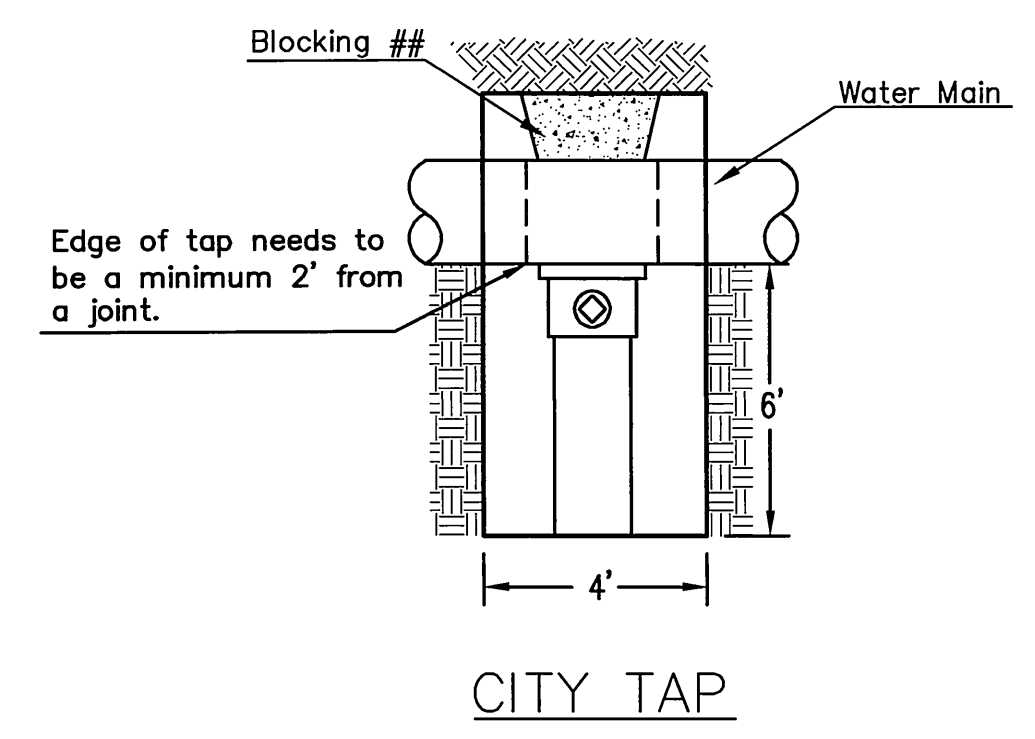
**Notes:**

- 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.

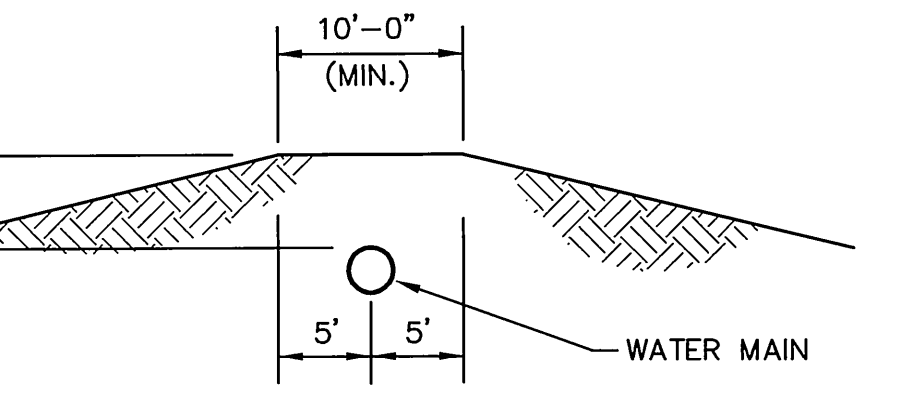
**THRUST AT VALVES**

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

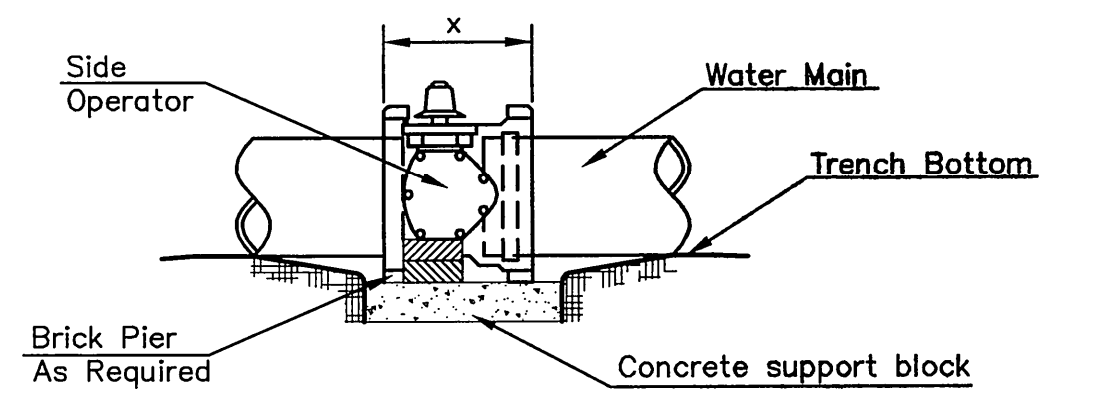
**ANCHORED VALVE ASSEMBLY, SPECIAL**



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



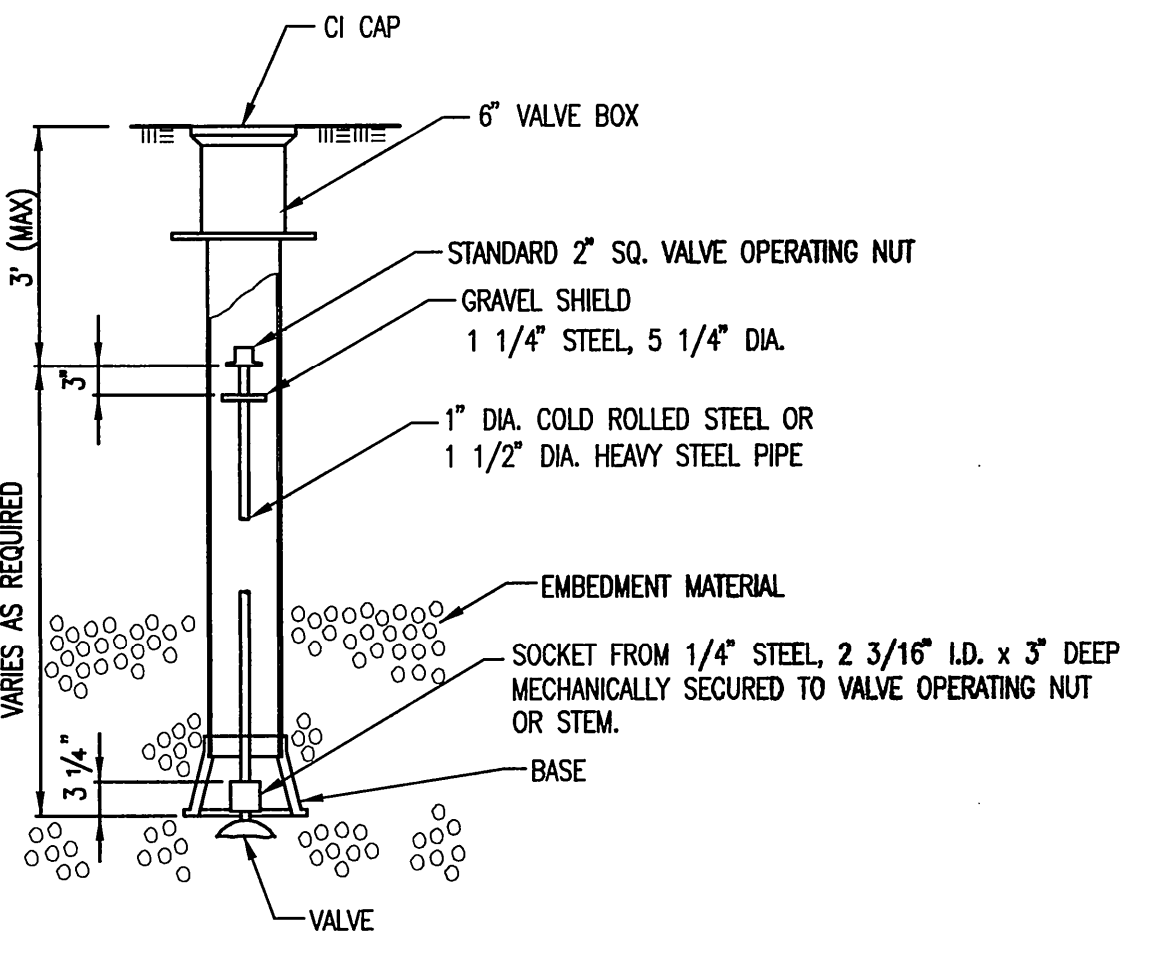
**PROTECTIVE FILL DETAIL**  
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



**NOTES**

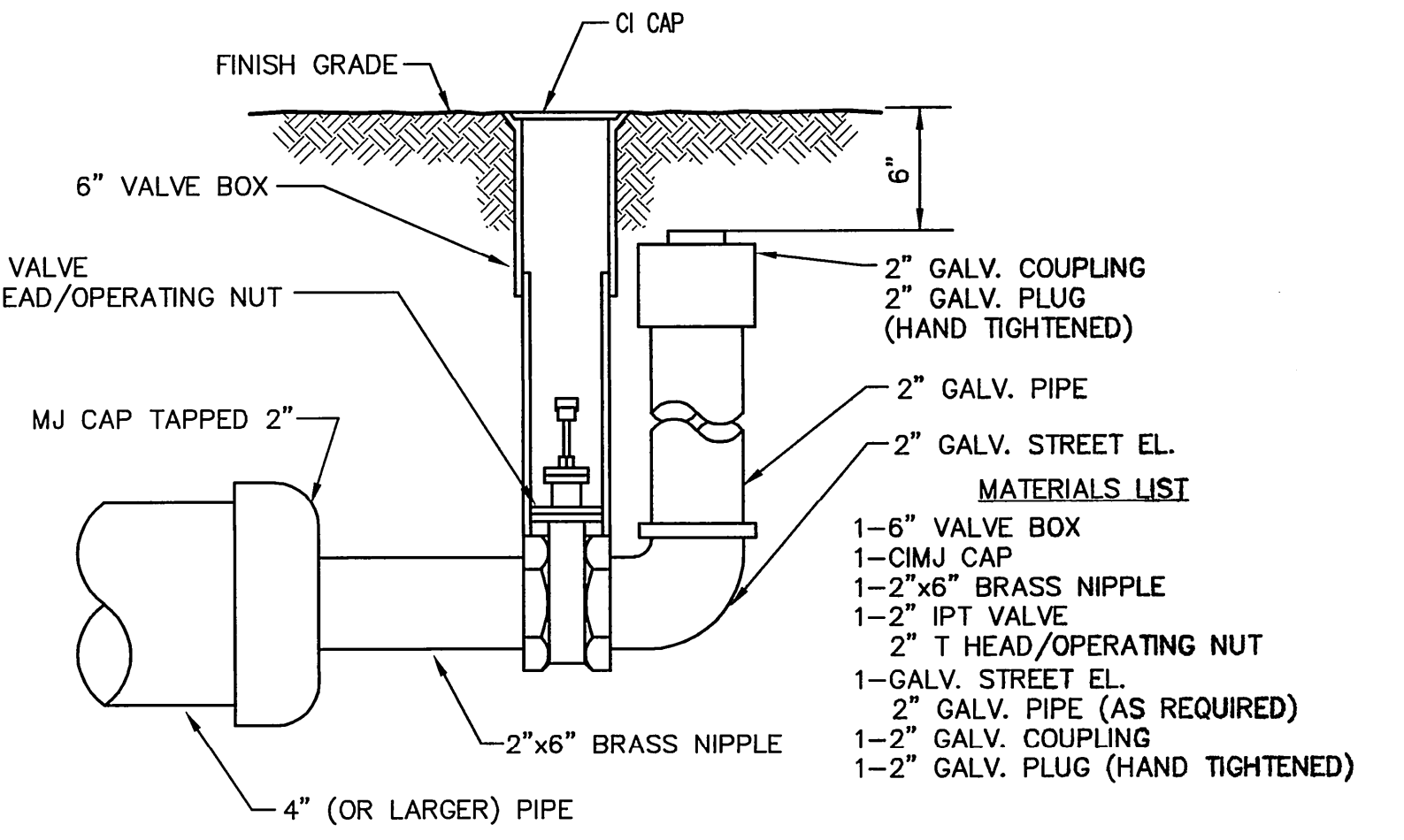
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
- 6" Valve Box and Cover required per City of Wichita Std. Specifications.
- Conc. Support Block to be full width of trench.

**CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION**



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

**VALVE STEM EXTENSION DETAIL**



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

**2" BLOWOFF ASSEMBLY**

**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

**STANDARD WATER ASSEMBLY DETAIL**

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

PROJECT NUMBER	OCA NUMBER	DATE
1741 PPW	607853	08/2012

DESIGN	DRAWN

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

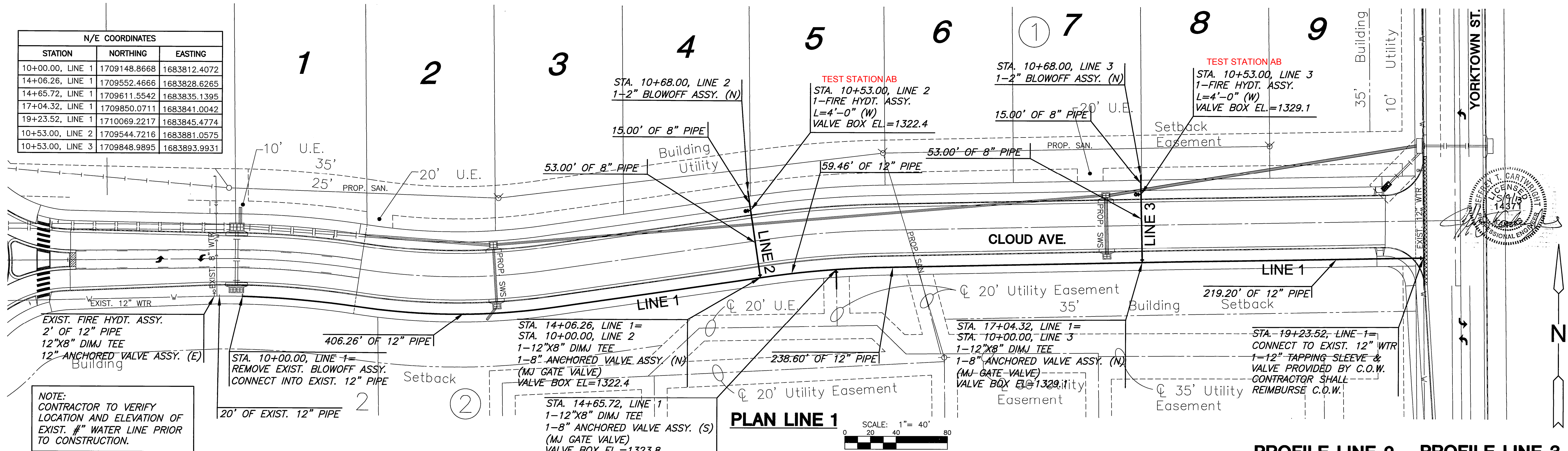
SHEET  
**02 OF 10**

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PLOTTED: Thursday, May 09, 2013 @ 01:05PM

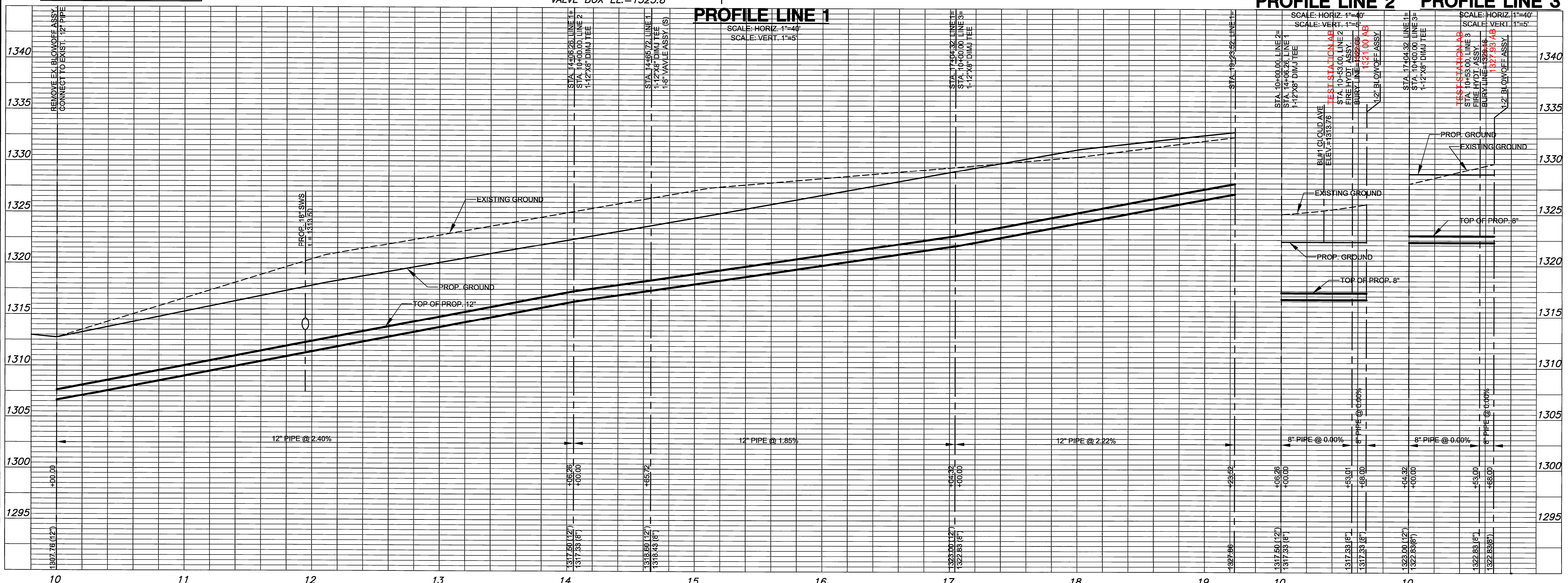
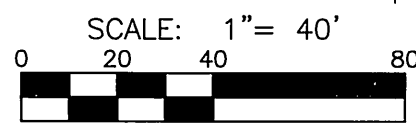
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N/E COORDINATES		
STATION	NORTHING	EASTING
10+00.00, LINE 1	1709148.8668	1683812.4072
14+06.26, LINE 1	1709552.4666	1683828.6265
14+65.72, LINE 1	1709611.5542	1683835.1395
17+04.32, LINE 1	1709850.0711	1683841.0042
19+23.52, LINE 1	1710069.2217	1683845.4774
10+53.00, LINE 2	1709544.7216	1683881.0575
10+53.00, LINE 3	1709848.9895	1683893.9931



NOTE:  
CONTRACTOR TO VERIFY  
LOCATION AND ELEVATION OF  
EXIST. #\"/>

**PLAN LINE 1**



**PROFILE LINE 1**

**PROFILE LINE 2**

**PROFILE LINE 3**



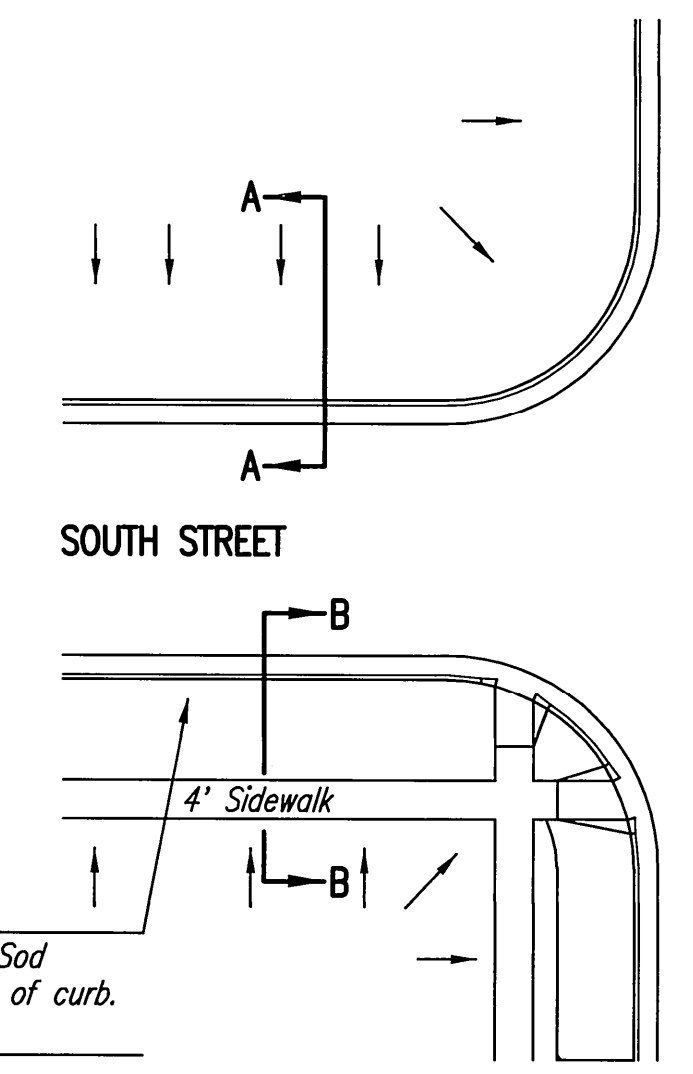
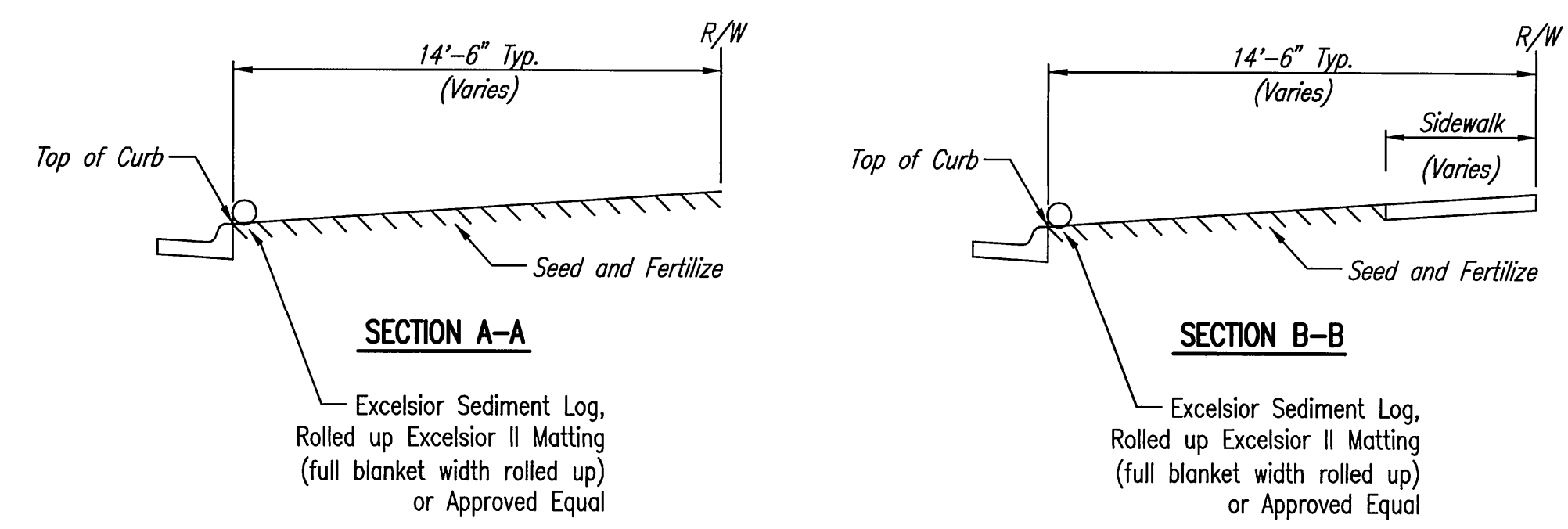
WATER DISTRIBUTION PLANS FOR  
**MARKETPLACE COMMERCIAL THIRD ADDITION**  
ANDOVER, KANSAS

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**WATER PLAN &  
PROFILE LINES  
1, 2, & 3**

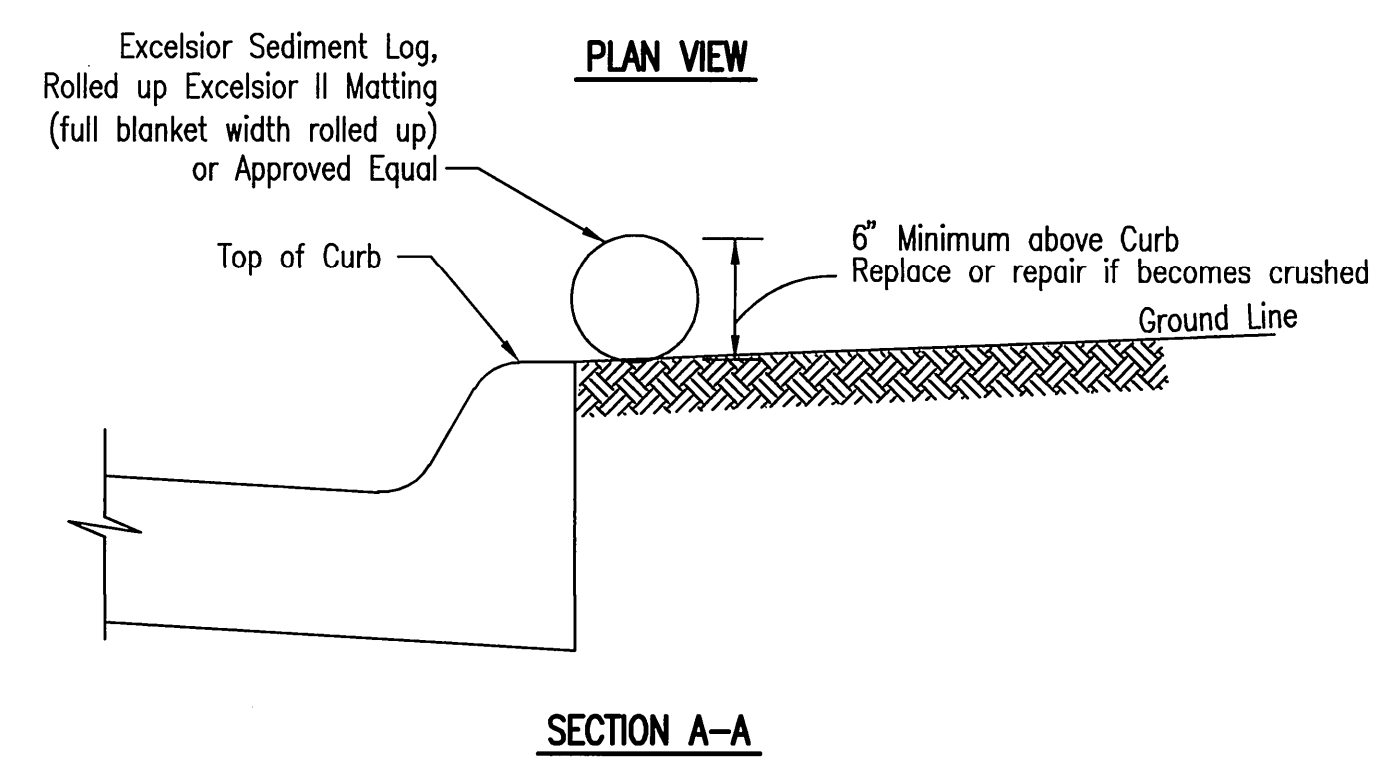
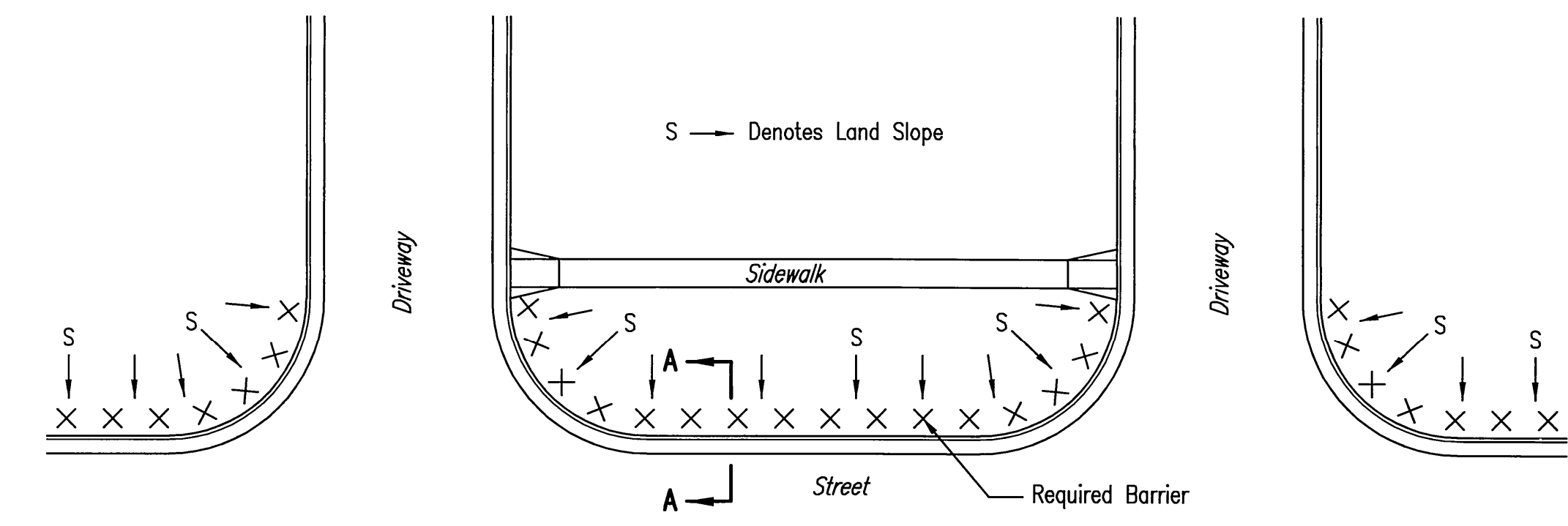
PROJECT NO.	120110612	
DATE	MAY 3, 2013	
SCALE		
DESIGNED	DRAWN	CHECKED
JTC	LES	JAG
<b>AS BUILT</b>		
#	REVISION	DATE
SHEET NO.		
03 OF 10		

**WATER DISTRIBUTION PLANS FOR**  
**MARKETPLACE COMMERCIAL THIRD ADDITION**  
**ANDOVER, KANSAS**



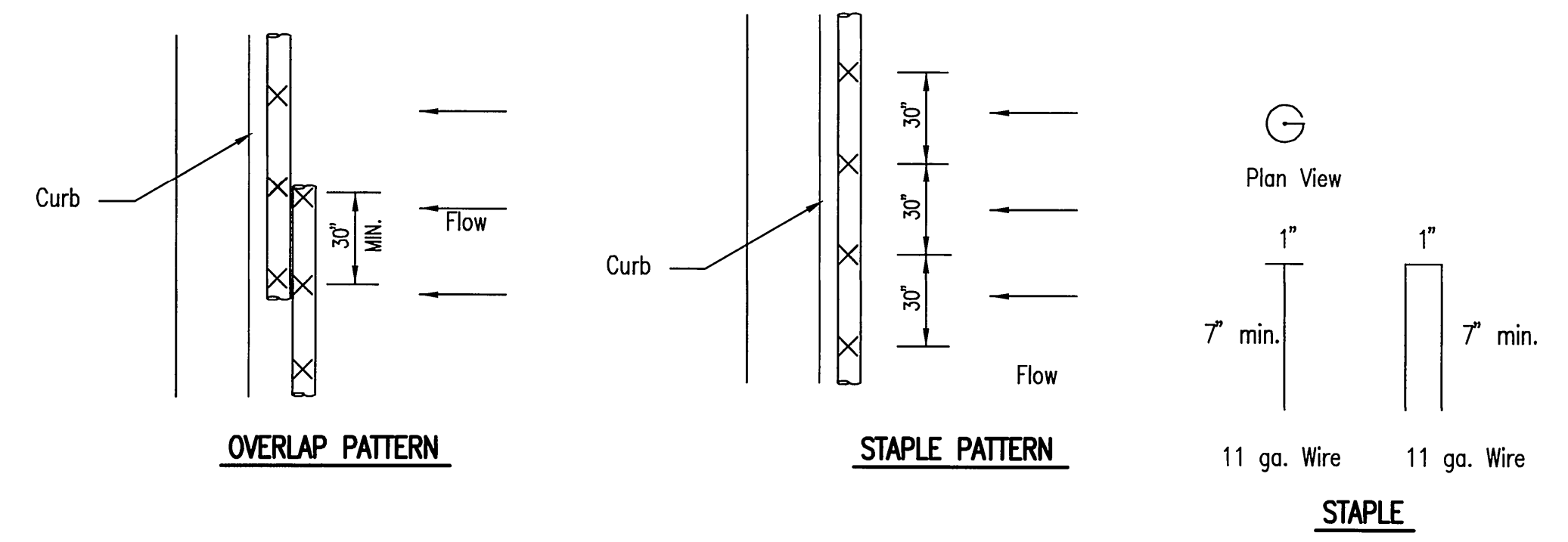
Install Sediment Log/Roll or Sod on prepared surface at back of curb. (See details)

- NOTES:
- EXCELSIOR LOG/ROLL TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
  - AFTER INSTALLATION OF LOG/ROLL, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.



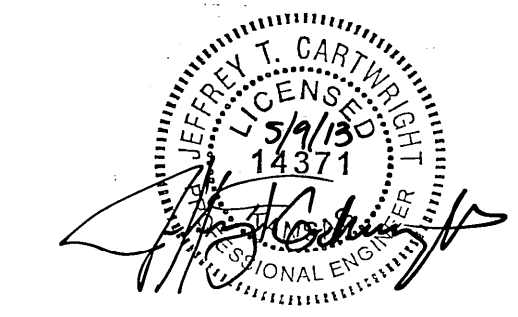
- NOTES:
- Barriers must be placed back of curb along street and up the driveway sufficiently to catch all sediment from the yard.
  - Anchor to ground every 30" with a 7" min. long staple.
  - Remove accumulated sediment when within 2 inches of top of device.
  - Replace/repair all broken/damaged sediment logs/rolls to maintain effectiveness of device.
  - Sediment logs/rolls can be driven over for access to the site. They need to be picked up and put back down after they have been compacted by any traffic to maintain effectiveness of BMP. Replace as needed per original design.

**BACK OF CURB PROTECTION DETAIL**



**SEDIMENT LOG BARRIERS**

NOTES:  
FOLDED Excelsior matting will not be accepted.

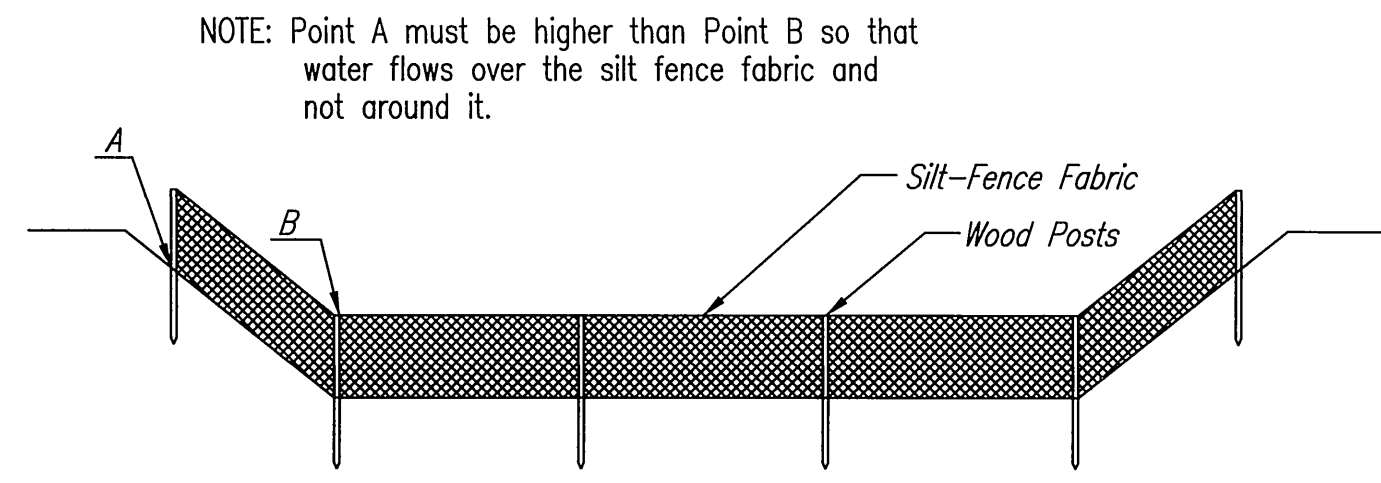


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PROJECT NO.		1201010612	
DATE		MAY 3, 2013	
SCALE		NO SCALE	
DESIGNED	DRAWN	CHECKED	
JTC	LES	JAG	
#	REVISION	DATE	

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**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.

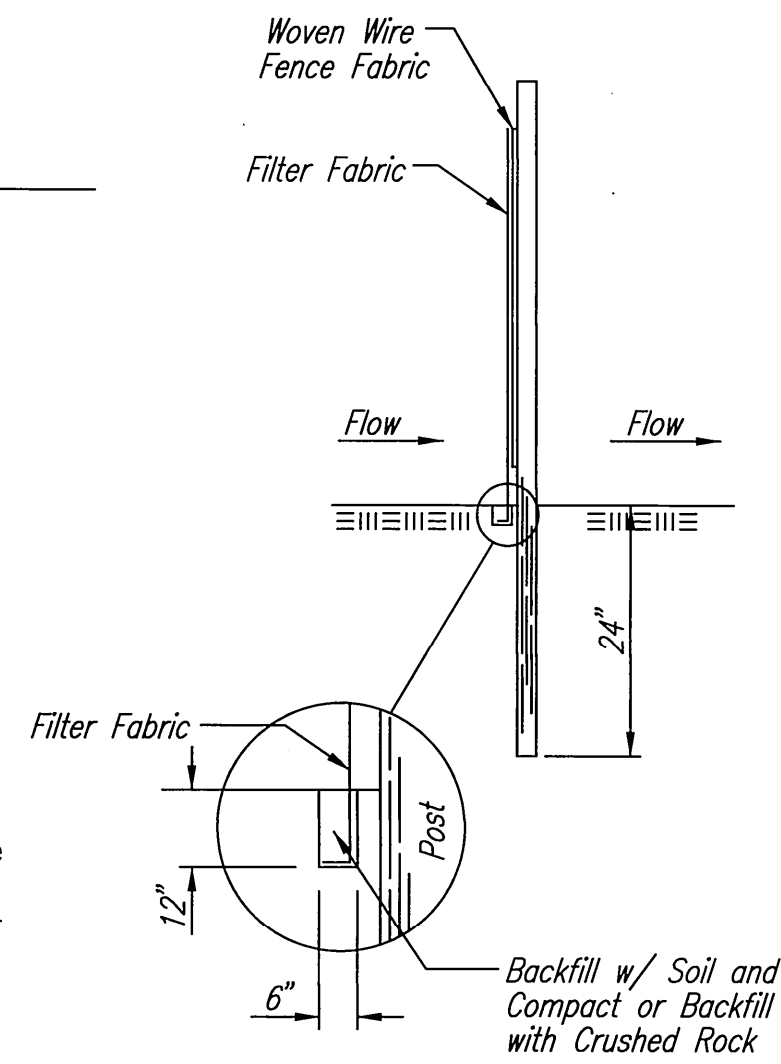
**List of common placement/installation mistakes to avoid:**

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.

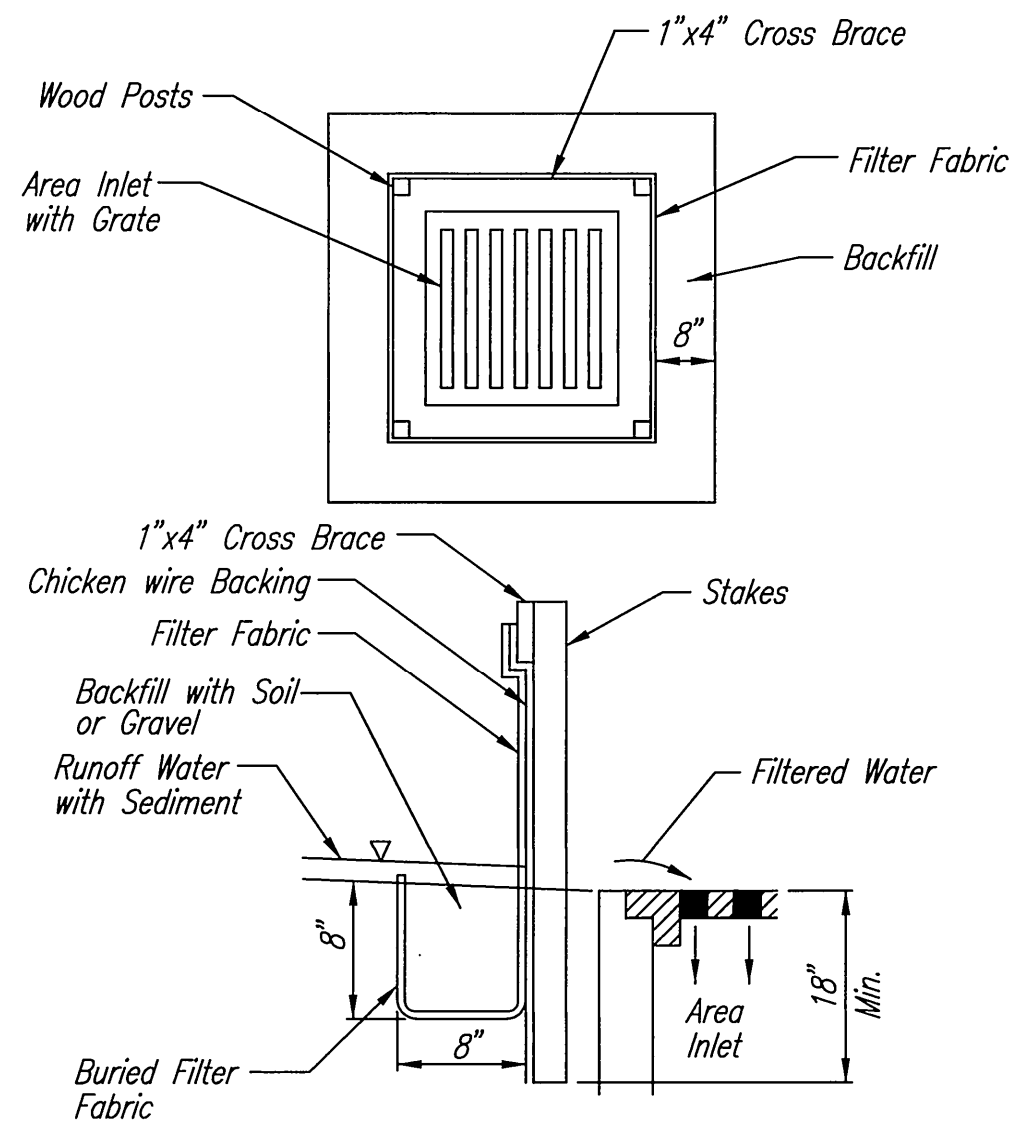
**Inspection and Maintenance:**

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.

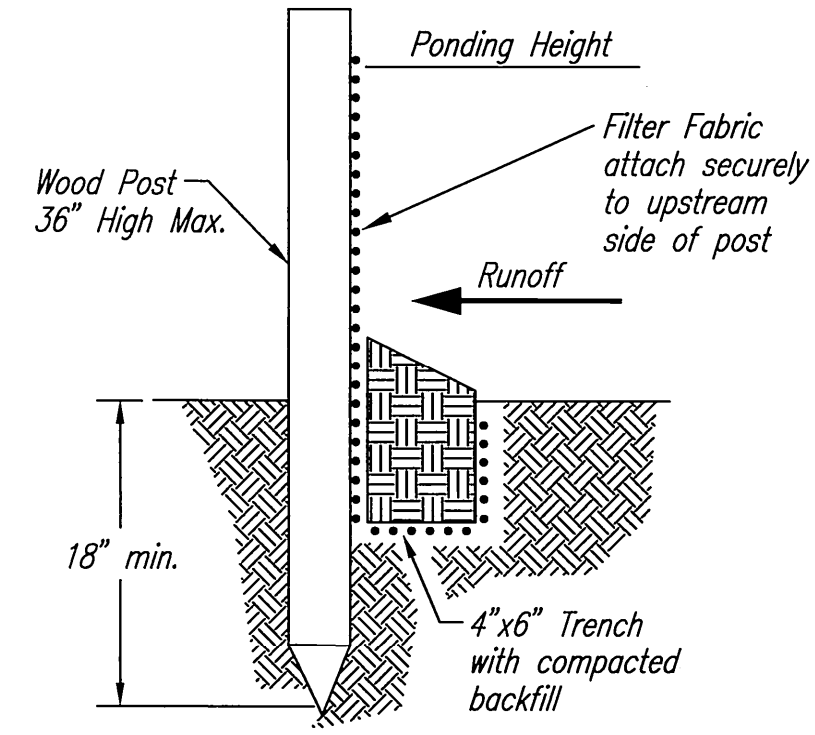
**List of common placement/installation mistakes to avoid:**

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 resisted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail. Do not install silt fence barrier for area inlets without framing the top of the posts. The corner posts around area inlets are stressed in two directions whereas a normal silt fence is only stressed in one direction. This added stress requires more support.

**Inspection and Maintenance:**

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

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



**SILT FENCE BARRIERS**

**Material Specification:**

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

**Placement:**

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

**Proper installation method:**

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

**List of common placement/installation mistakes to avoid:**

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

**Inspection and Maintenance:**

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

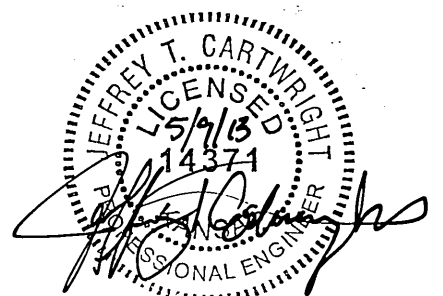
- Are there any points along the slope barrier where water is concentrating?
- Does water flow under the slope barrier?
- Do the silt fences sag excessively?
- Has the silt fence torn or become detached from the posts?
- Does sediment need to be removed from behind the slope barrier?

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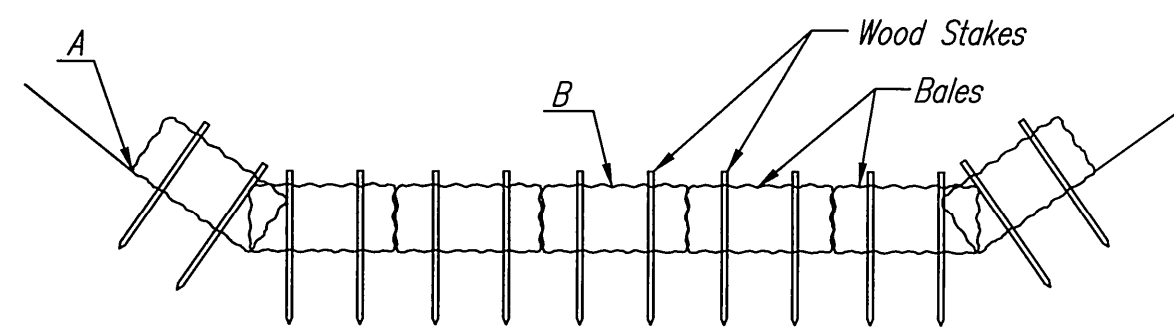
**SILT FENCE DITCH CHECK**

PROJECT NO.	1201010612	
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DESIGNED	DRAWN	CHECKED
JTC	LES	JAG
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SHEET NO.



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



STRAW BALE DITCH CHECKS

**Material Specification:**

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

**Placement:**

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

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

**Proper installation method:**

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

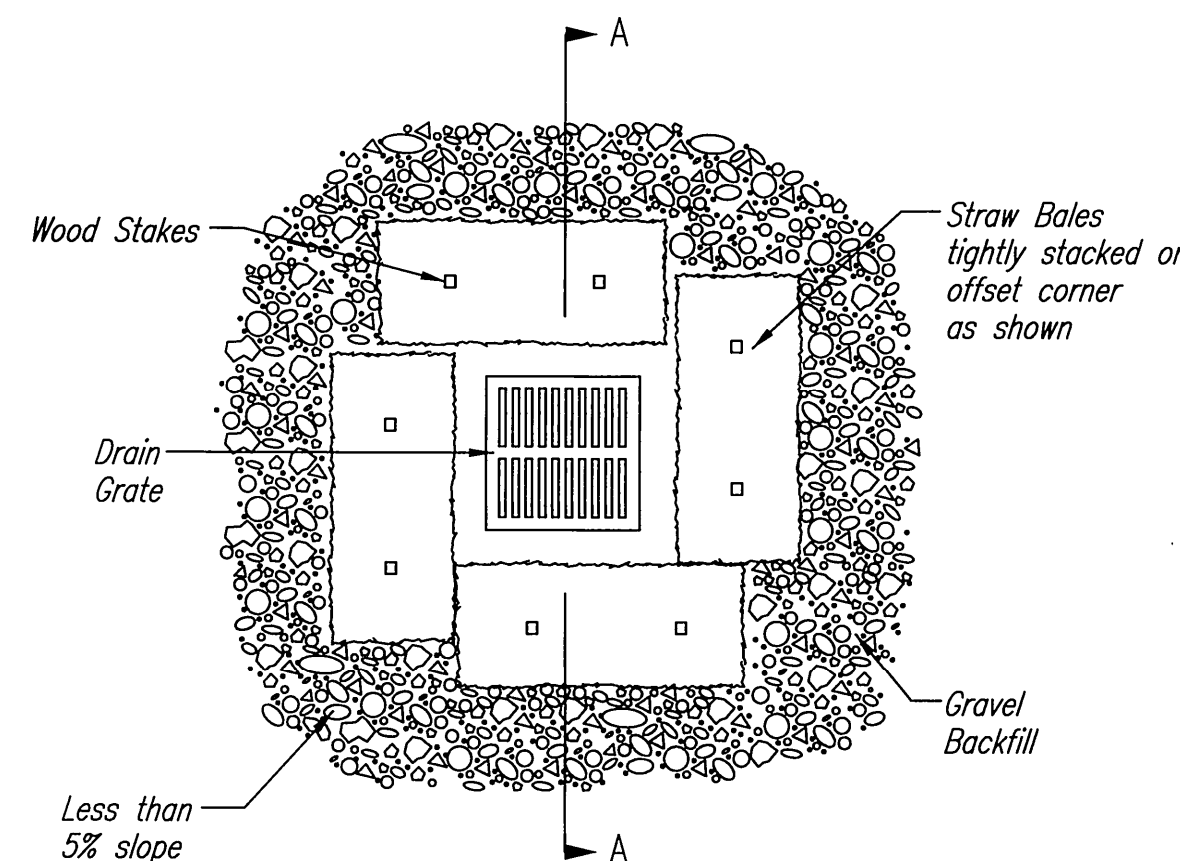
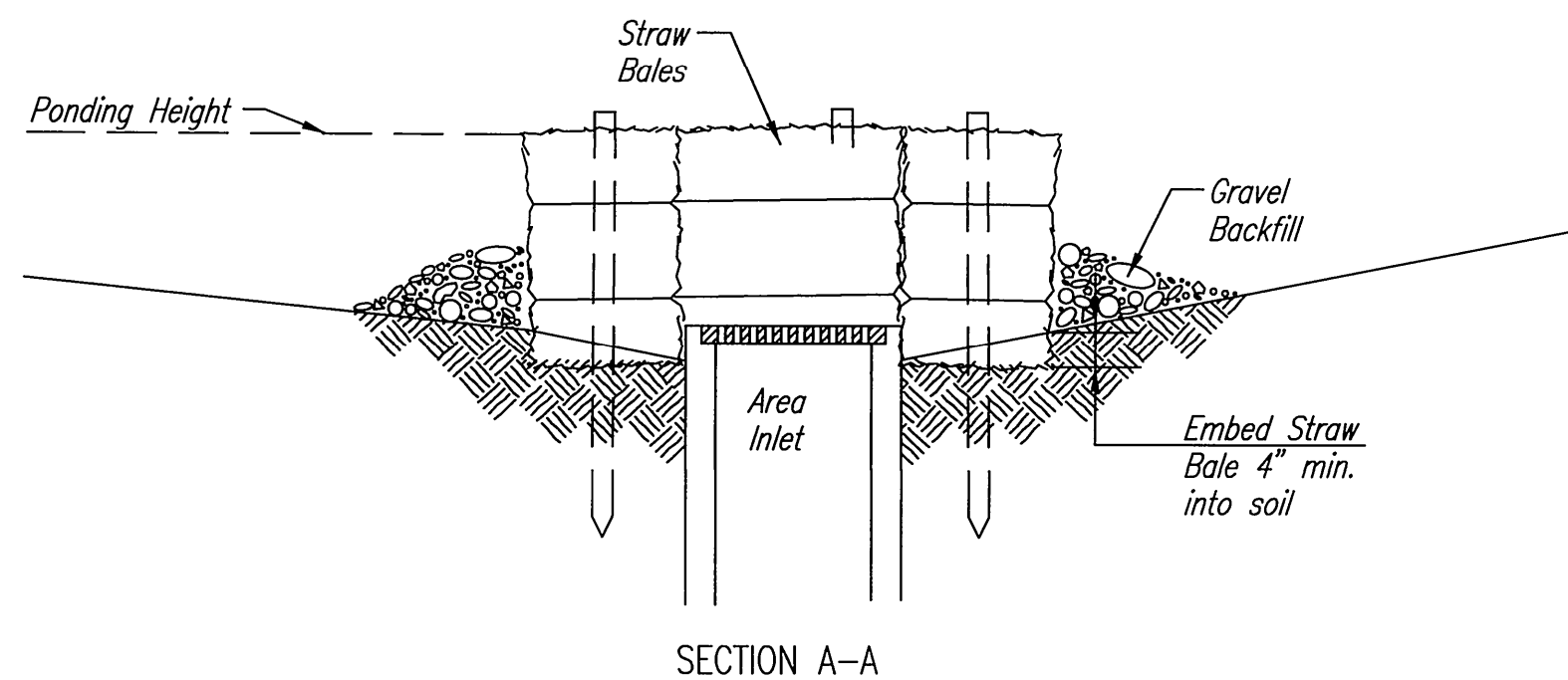
**List of common placement/installation mistakes to avoid:**

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

**Inspection and Maintenance:**

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

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



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.

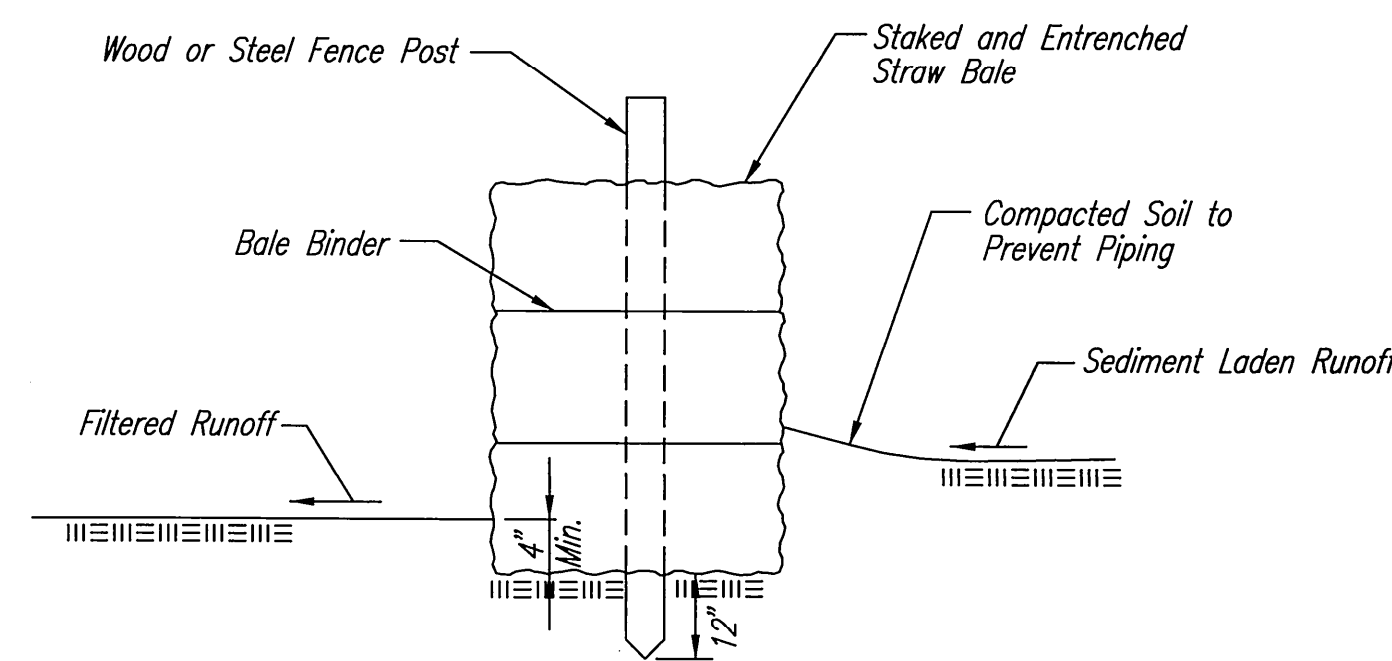
**List of common placement installation mistakes to avoid:**

- 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:**

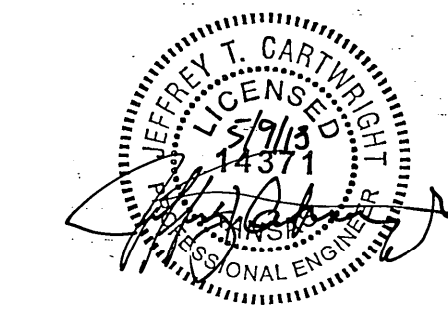
Bale slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

- 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?

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**STRAW BALE DITCH CHECK**

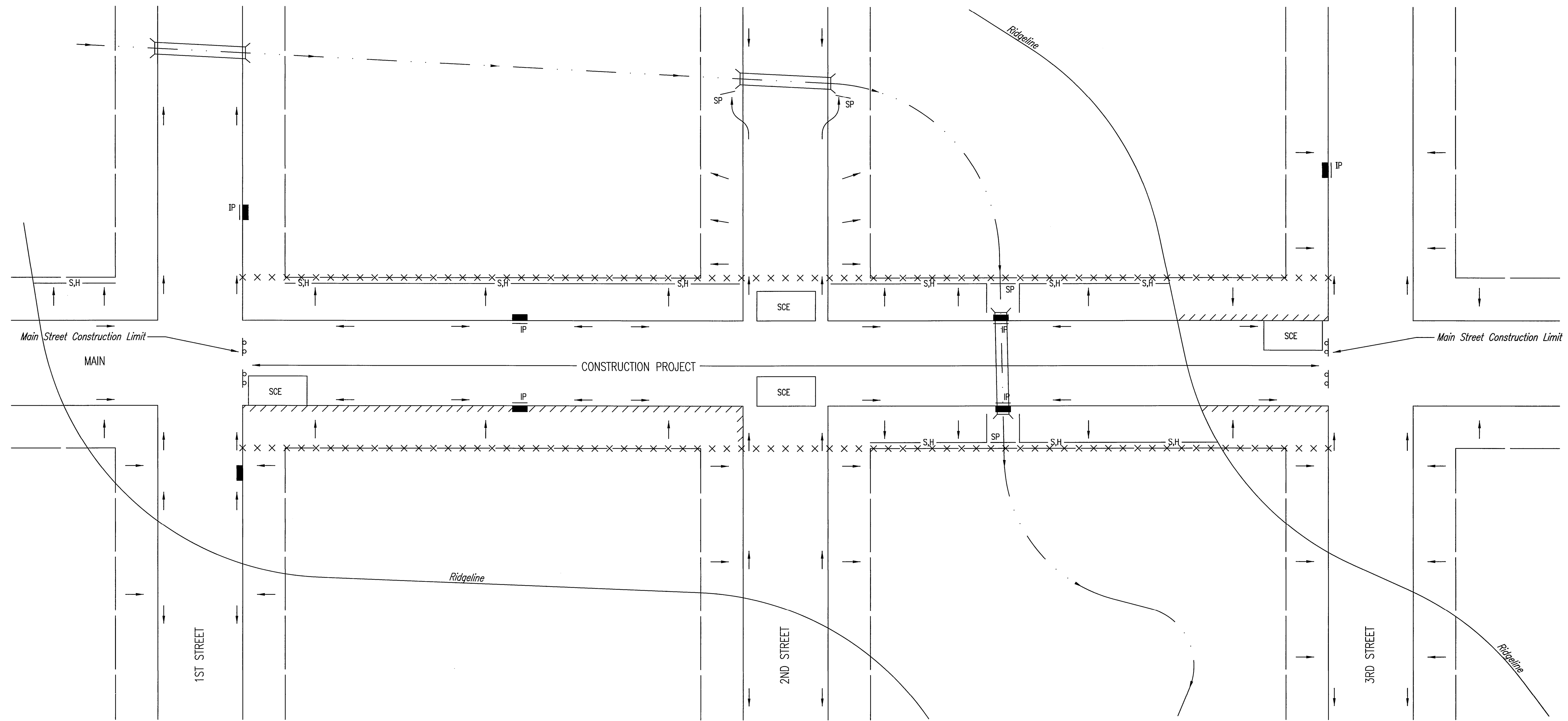
PROJECT NO.	1201010612	
DATE	MAY 3, 2013	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
JTC	LES	JAG
#	REVISION	DATE
NO.		



**WATER DISTRIBUTION PLANS FOR**  
**MARKETPLACE COMMERCIAL THIRD ADDITION**  
**ANDOVER, KANSAS**

**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 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.

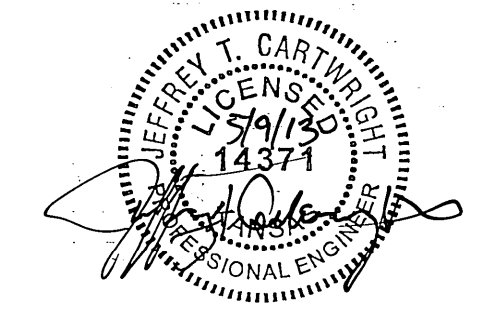


**LEGEND**

—	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

**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 SEDIMENT LOG OR ROLLED BLANKET, OR EQUAL 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 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 SEDIMENT LOG OR ROLLED BLANKET WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL.



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**STREET IMPROVEMENT**

PROJECT NO.	1201010612	
DATE	MAY 3, 2013	
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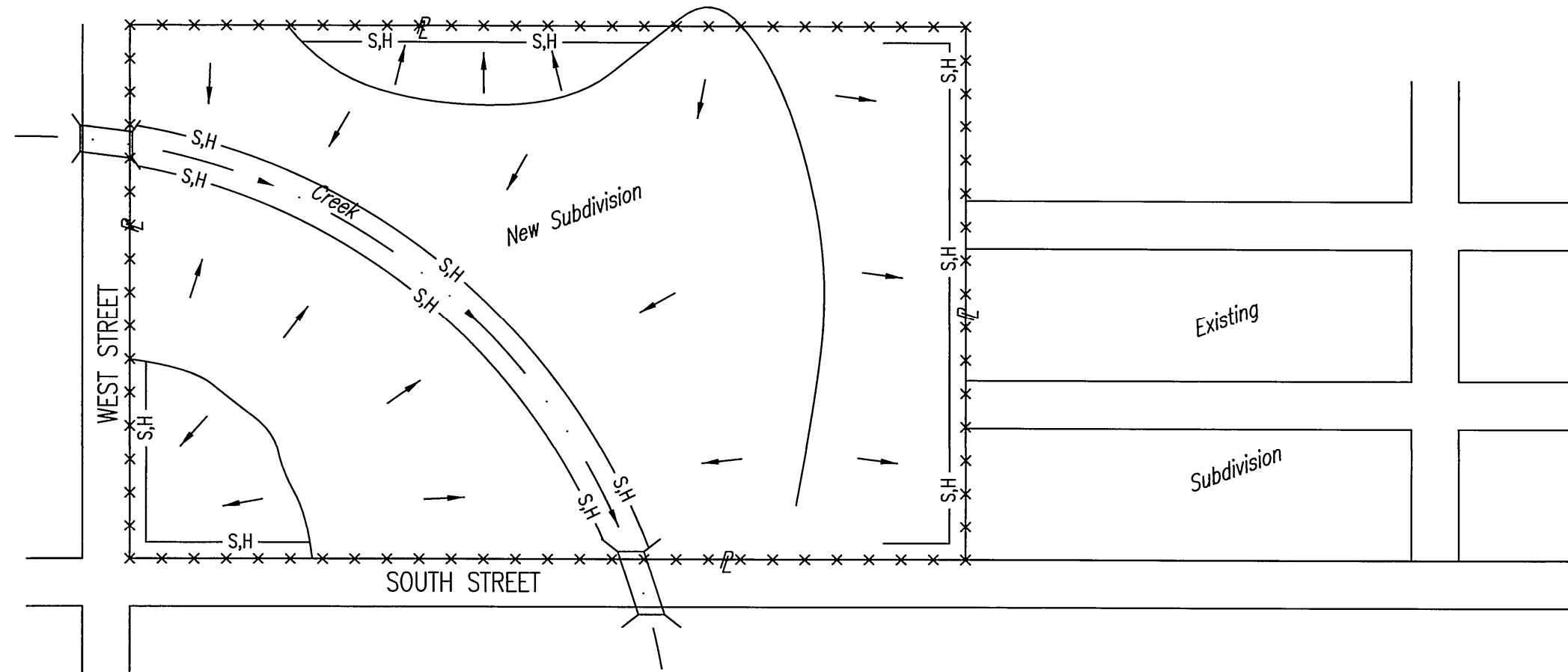
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PLOTTED: Wednesday, May 01, 2013 @ 03:11PM

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

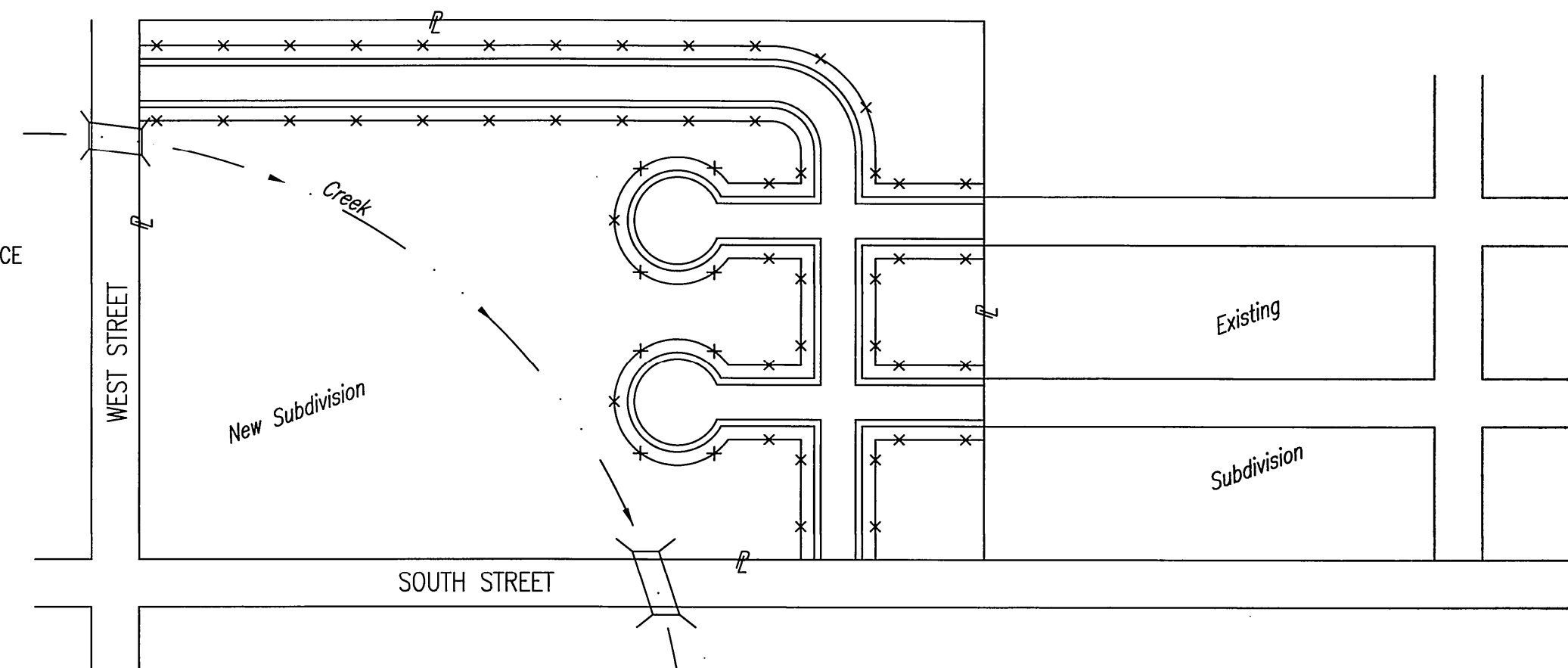
- LEGEND**
- DRAINAGE FLOW PATH
  - RIDGE LINES
  - x POINT OF COMPLIANCE
  - S,H SILT FENCE OR HAY BALE BARRIER
  - DRAINAGEWAY FLOWLINE



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

PHASE 3 - STREET CONSTRUCTION

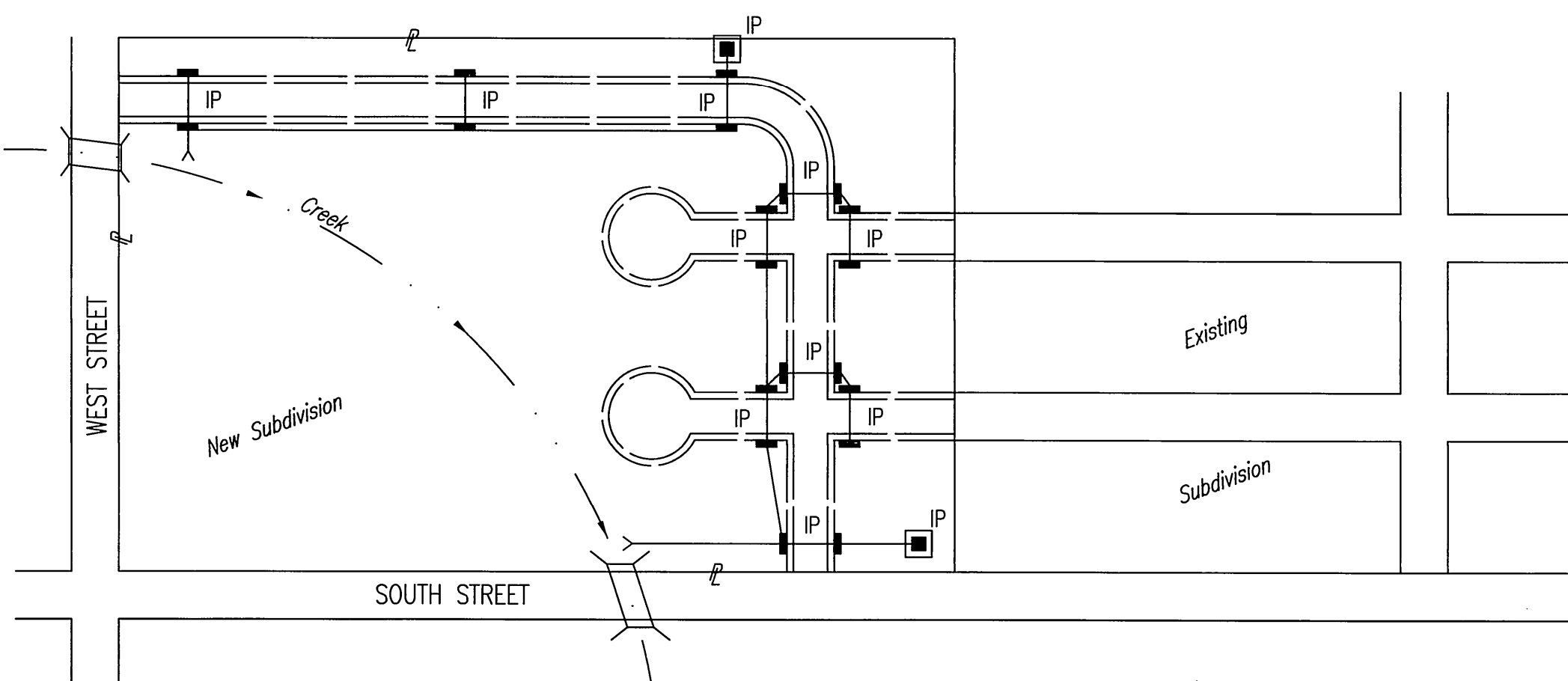
- LEGEND**
- == NEW STREETS
  - ADDITIONAL POINTS OF COMPLIANCE



1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
  - A. SUMP AREAS - INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
  - B. NON-SUMP LOCATIONS - PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED.
4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 - INSTALLATION OF STORM SEWER

- LEGEND**
- == PROPOSED NEW STREETS
  - CURB INLETS
  - AREA DRAINS
  - IP INLET PROTECTION



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



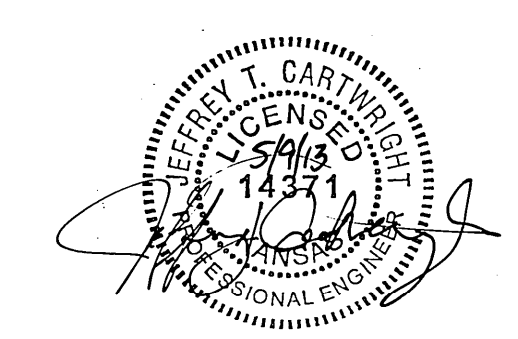
WATER DISTRIBUTION PLANS FOR  
**MARKETPLACE COMMERCIAL THIRD ADDITION**  
 ANDOVER, KANSAS

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**SUBDIVISION DEVELOPMENT**

PROJECT NO.	1201010612	
DATE	MAY 3, 2013	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
JTC	LES	JAG
#	REVISION	DATE

SHEET NO.  
09 OF 10



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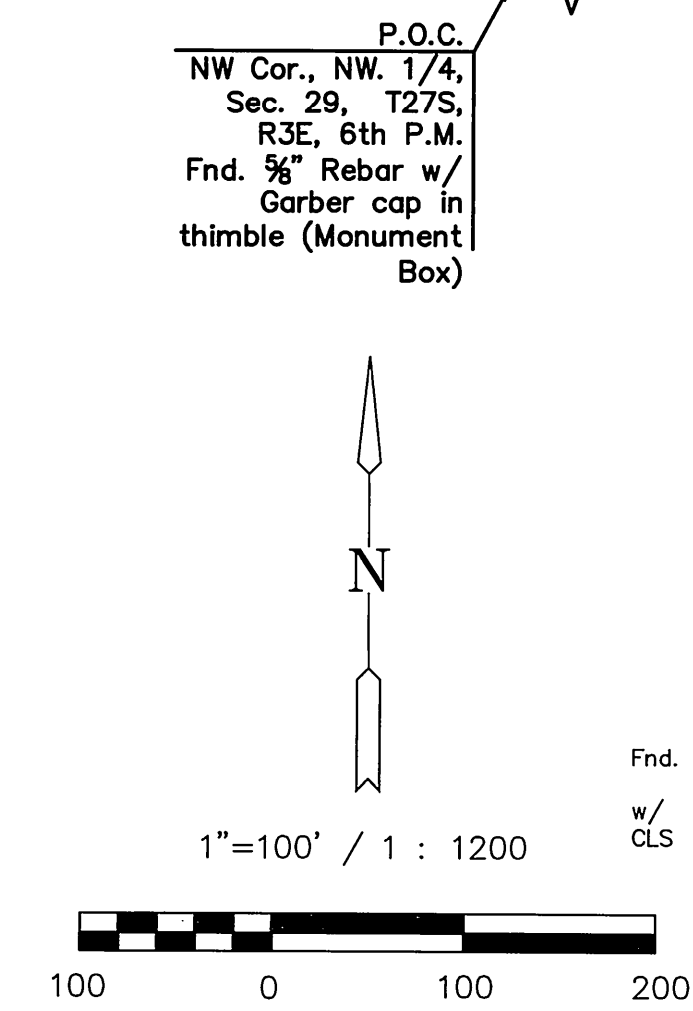
# FINAL PLANNED UNIT DEVELOPMENT PLAN

## MARKETPLACE COMMERCIAL THIRD ADDITION

AN ADDITION TO THE CITY OF ANDOVER,  
BUTLER COUNTY, KANSAS

LYING WITHIN AN UPLATTED PORTION OF THE NORTHWEST QUARTER, SECTION 29, TOWNSHIP 27 SOUTH, RANGE 3 EAST, OF THE SIXTH PRINCIPAL MERIDIAN, and also being a Replat of Lot 1, Block 3, and a portion of Reserve "C" of the Final PUD, Marketplace Commercial Second Addition and being part of the Cloud City Preliminary Planned Unit Development Plan

LINE	LENGTH	BEARING
L1	37.94'	S01°01'58"E
L2	30.99'	S88°58'02"W
L3	31.67'	S46°01'58"E
L4	27.05'	N89°43'04"E
L5	63.73'	S14°58'50"E
L6	122.79'	N89°43'04"E
L7	175.92'	N89°43'04"E
L8	155.80'	S00°33'31"E
L9	192.61'	N00°33'30"W
L10	120.00'	S89°26'29"W
L11	36.23'	S00°33'31"E
L12	74.98'	S89°26'29"W
L13	202.87'	N00°33'31"W
L14	41.98'	N89°43'04"E
L15	21.82'	S45°33'29"E
L16	71.74'	S01°34'06"E
L17	55.30'	S89°26'31"W
L18	49.18'	S01°34'06"E
L19	31.60'	N45°00'00"E
L20	150.82'	N00°33'31"W
L21	175.92'	N89°26'31"E
L22	70.00'	N89°26'31"E
L23	119.87'	S00°33'31"E
L24	125.21'	S89°24'09"W
L25	35.08'	S00°33'31"E
L26	117.70'	N89°26'31"E
L27	22.99'	N00°33'29"W
L28	308.59'	N89°26'31"E
L29	431.30'	N89°56'05"E
L30	107.36'	S00°33'31"E
L31	24.79'	S00°33'29"E
L32	39.97'	N89°26'31"E
L33	39.97'	N89°56'05"E
L34	111.85'	S00°33'31"E
L35	174.40'	S00°33'31"E
L36	63.96'	S89°26'29"W
L37	40.57'	S00°33'29"E
L38	49.85'	S89°26'29"W
L39	44.29'	S44°26'31"W
L40	118.83'	S00°33'29"E
L41	33.02'	S45°33'29"E
L42	118.50'	N89°26'29"E
L43	172.01'	S00°33'31"E
L44	75.00'	S89°26'29"W
L45	34.53'	S00°33'31"E
L46	142.50'	S00°33'31"E
L47	118.60'	S87°00'52"W
L48	54.69'	S46°52'30"W
L49	226.46'	S87°00'52"W
L50	107.48'	S88°58'02"W
L51	28.46'	S00°33'31"E



Basis of Bearing: Kansas coordinate system 1983 south zone bearing of N89°23'19"E along the N. line of NW 1/4, Sec. 29, T27S, R3E, 6th P.M.

### LEGEND

- △ = Section Corner Monument
- = Found Survey Monument (see annotation for type)
- = Set 5/8" Rebar w/ MKEC CLS 39 id. Cap
- (M) = Measured
- (CM) = Calculated from measured
- (P) = Platted
- (D) = Described
- U.E. = Utility Easement
- Floodway per FEMA
- FEMA Zone "AE"
- B-3 = B-3 Central Shopping Zoning District
- R-4 = B-4 Central Business Zoning District
- P.O.C. = Zoning District
- P.O.B. = Point of Commencement
- = Point of Beginning

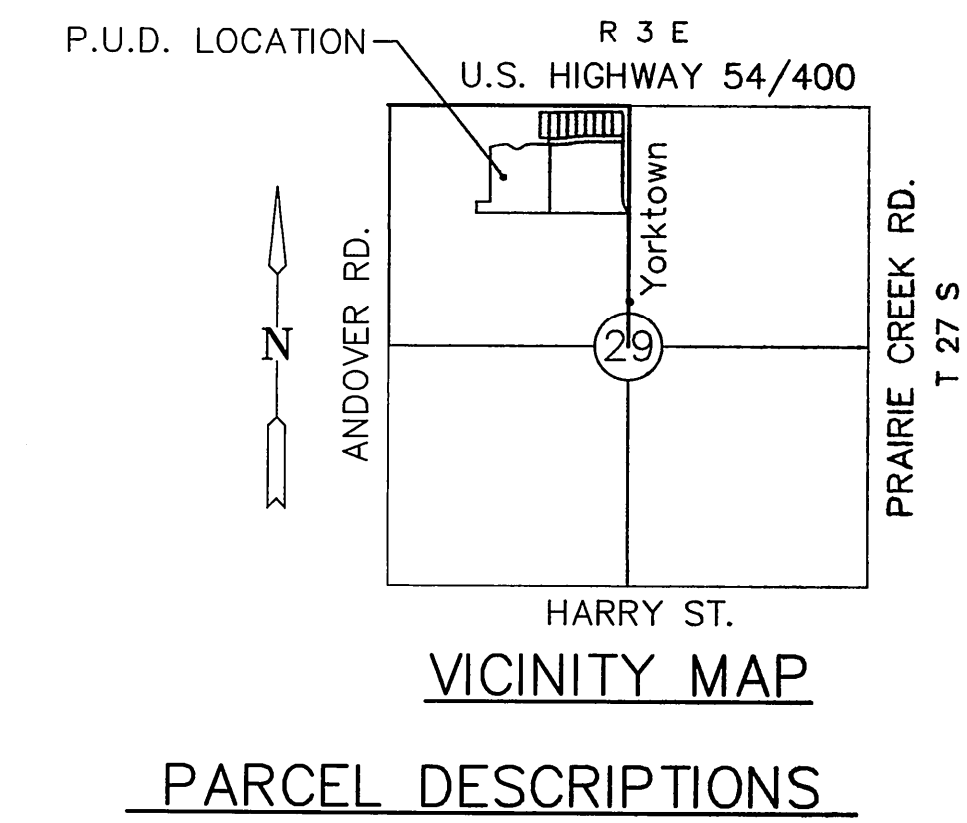
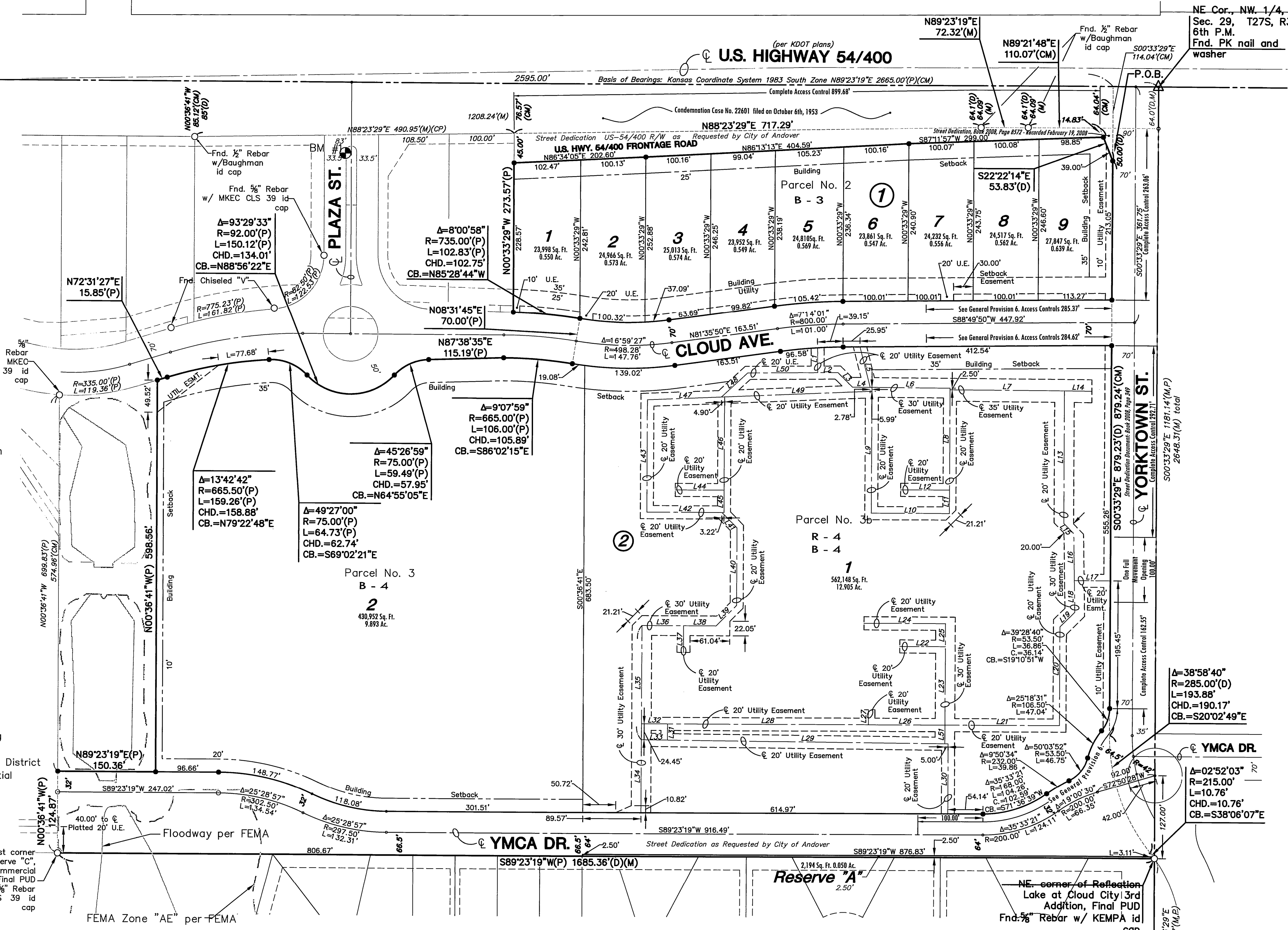
### BENCH MARKS

- Datum BM USGS Standard Tablet, 74' north and 41' east of the southeast corner of Section 24, T27S, R2E, 6th PM at US Hwy 54/400 & 159th St. East. Set in concrete post in 1940 and reset in 1947. "Stamped 4 B 1940" Elev. = 1301.830 (NGVD 29) Elev. = 1302.309 (NAVD 88)
- BM #1 Chiseled square top of west curb of Plaza Street, 10' south end of curb return, near northeast corner of Lot 7, Block 1, Marketplace Commercial 2nd Addition. Elev. = 1321.35 (NAVD 88)

MINIMUM PAD ELEVATIONS LOWEST OPENINGS		
LOT	BLOCK	ELEVATION NAVD 88
2	2	1311.82

### NOTES

- All Section corners shown hereon were verified, found, and/or calculated from section reference reports filed at the Kansas State Historical Society. Highway plans of public record were also used to validate certain locations.
- The floodway and floodplain lines are depicted for reference purposes. Refer to official FEMA maps for effective locations. MKEC does not assume liability for the exact location of the floodway and floodplain lines depicted.



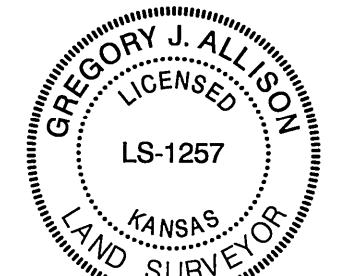
**Parcel No. 2 - (B-3 Central Shopping District)**  
 Permitted Uses: All uses permitted in the B-3 Central Shopping District of the Andover Zoning Regulations.  
 Gross Area - 8.23 Ac.  
 Maximum Building Coverage - 35%  
 Maximum Building Height - 45 feet  
 Setbacks - As shown hereon and/or  
 Front: 25' (US Hwy. 54/400 frontage road)  
 Rear: 35' (Cloud Ave.)  
 Side: 10' (zero if developed as strip center)  
 Parking Ratio - As per zoning code

**Parcel No. 3 - (B-4 Central Business District)**  
 Permitted Uses: All uses permitted in the B-4 Central Business District of the Andover Zoning Regulations.  
 Gross Area - 9.93 Ac.  
 Maximum Building Coverage - 35%  
 Maximum Building Height - 45 feet  
 Setbacks - As shown hereon and/or  
 Front: 35' (Cloud Ave.)  
 Rear: 20' (YMCA Dr.)  
 Side: 10' (zero if developed as strip center)  
 Parking Ratio - As per zoning code

**Parcel No. 3b - (B-4 Central Business District and R-4 Multiple-Family District)**  
 Permitted Uses: All uses permitted in the B-4 Central Business District and R-4 Multiple-Family District of the Andover Zoning Regulations.  
 Gross Area - 33.11 Ac.  
 A 6 foot tall screening/buffering fence shall be placed south of YMCA Drive to restrict access between Parcel 3b multiple family residential dwellings and the adjoining R-2 single family residential property. The construction of the 6 foot tall fence shall be completed upon development of the adjacent apartment property to the north. If the apartment development is built in phases, the adjacent portion of the fence shall be built concurrently.  
 R-4 Setbacks - As shown hereon and/or  
 Front: 20' (Cloud Ave. & Yorktown St.) for habitable structures  
 10' (Cloud Ave. & Yorktown St.) for accessory structures  
 Rear: 20' (YMCA Dr.)  
 Side: 0' if developed under same ownership and/or  
 Maximum Building Coverage - 35%  
 Maximum Building Height - 45 feet and/or 3 story tall units  
 Maximum Multi-Family Density - 16 dwelling units per acre or a maximum of 210 dwelling units  
 Parking Ratio - As per zoning code

**B-4 Setbacks - As shown hereon and/or**  
 Front: 35' (Cloud Ave. & Yorktown St.)  
 Rear: 20' (YMCA Dr.)  
 Side: 20'

**multiple-family**  
 Maximum Building Coverage - 35%  
 Maximum Building Height - 45 feet



Center, 6th P.M. SE. corner Reflection Lake at Cloud City 3rd Addition, Final PUD. Fnd. 5/8" Rebar w/ KEMPA id cap.

