

CONSTRUCTION PLANS FOR PROPOSED WATER DISTRIBUTION SYSTEM

TO SERVE
RAINBOW LAKES WEST ADDITION

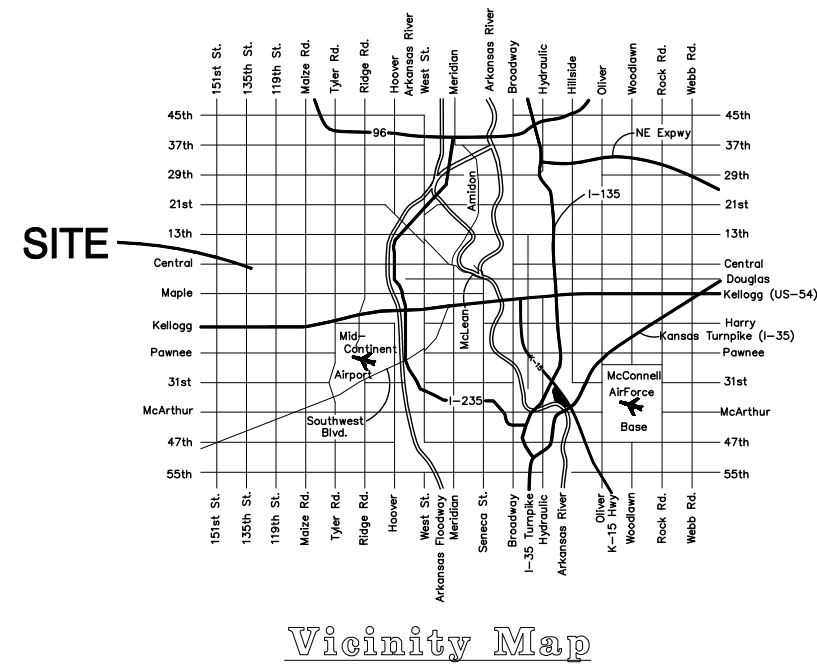
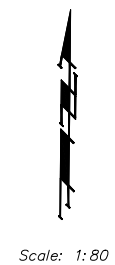
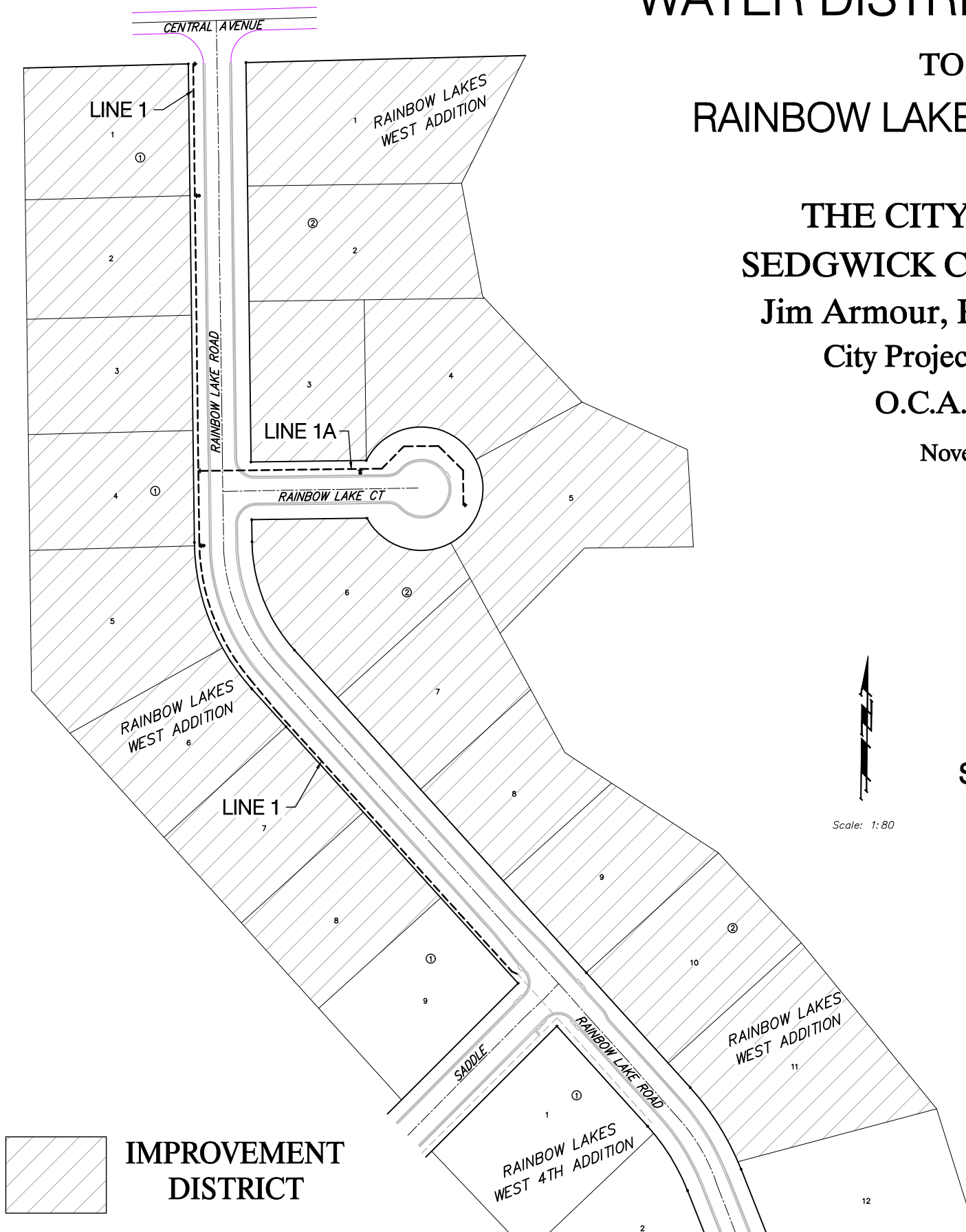
FOR
THE CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

Jim Armour, P.E., City Engineer

City Project No. 448-90195

O.C.A. No. 735320

November 2006



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Benchmarks

BM #1 - "□" CUT ON TOP OF NORTH CURB APPROX 8.2' NW OF NW EDGE OF DRIVEWAY ON LOT 8, BLOCK 2, RAINBOW LAKES WEST ADDITION
ELEV. = 156.20'

BM #2 - "□" CUT ON TOP OF CURB AT N END OF N CURB RETURN AT INTERSECTION OF RAINBOW LAKES AND RAINBOW LAKES CT.
ELEV. = 156.82

 **IMPROVEMENT DISTRICT**

GENERAL NOTES

1. The Contractor shall be made aware of the fact that construction will take place in close proximity of existing utilities. Any conflicts with these utilities shall be reported to the Engineer.
2. Existing utilities, both above and below ground, and their locations as shown on the plans, represent the best information available for design. The locations of utilities as shown on the plans are not guaranteed and the Contractor shall verify all utilities and their locations before beginning construction. Plans have been sent to the utility companies for verification of facilities. The Contractor shall exercise extreme caution while working near utilities and shall be responsible for all marked utilities damaged by his construction activity.
3. All water mains and appurtenances shall be installed in accordance with City of Wichita, Kansas Standard Specifications for Water Main Installations.
4. The Water Department shall field locate water valves one time during construction when requested by the Contractor. It shall be the responsibility of the Contractor to preserve such field locations during the construction process. Water valves, water valve boxes, or fire hydrants damaged during construction shall be repaired at the Contractor's expense. Contact Bill Perkins with the Wichita Water Department for water service information.
5. Opening and closing of water valves shall be done slowly to prevent damage to the distribution system by a water hammer. All valves that are 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 a water valve only when the Project Inspector assigned to the project is present.
6. The Contractor shall not start work on the project until the Project Inspector assigned to the project is present. Any work done without inspection will be required to be uncovered for inspection.
7. All traffic signs that are located in direct conflict with the proposed construction shall be removed by the Contractor. All signs that are removed during construction shall be reset by the Contractor as soon as construction permits. All Traffic Control Signs shall remain operational during all phases of the project by either resetting existing or erecting temporary signs. This shall include all school crossing, warning signs, and applicable regulatory signs. The cost for any removal, replacement and/or resetting of traffic signs shall be INCIDENTAL to "Site Clearing and Restoration".
8. The Contractor shall give all property owners and/or tenants of developed property directly abutting the construction of this project a minimum of ten (10) days notice prior to start of construction, and a 24 hour notice prior to any planned water shut down.
9. Properties within the project limits have underground sprinkler systems in public right-of-way which may conflict with new construction. The Contractor will be required to remove and replace to existing working order all sprinkler systems damaged by his construction operations. Portions of underground sprinkler systems not in conflict with new construction shall be protected from damage and shall remain in place. The Contractor shall contact the property owner for location and condition prior to removal. All work in connection with underground sprinkler systems shall be considered INCIDENTAL to "Site Clearing and Restoration". Underground sprinkler systems were found during survey.
10. Contractor shall be responsible for implementing erosion control methods during construction to prevent unnecessary silt/sediment discharge through downstream properties and/or storm sewer systems. Contractor shall install and maintain erosion controls as directed by the Engineer. These controls may include but not limited to: hay bales; silt fences, temporary mulching or other controls necessary to inhibit sediment runoff during construction.
11. All project waste, including trees, rubble, abandoned pipes, excess excavation, etc. shall be disposed of on sites provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance, and location. Locations that, in the opinion of the Engineer, 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 into the waters or wetlands of the United States is subject to the U S Army Corp of Engineers permitting regulations. Any material stockpiled beyond the approved construction limits may require an archaeological investigation unless buried in a previously approved disposal site. All cost for erosion control shall be considered INCIDENTAL to the Lump Sum Bid Item "Erosion Control BMP's"
12. All lawn/turf areas disturbed by construction shall be restored with the same grass sod as existing. Restoration of disturbed areas shall include, but not limited to, top soil preparation, sodding, fertilizing, watering & etc. All sodding work shall be in accordance with City Standard specifications and the City Administrative Regulations No. AR78 which governs cleanup and restoration or replacement following construction. All costs for this work shall be INCIDENTAL to "Site Clearing & Restoration."
13. Each bidder shall visit the site of the project before submitting a proposal in order to become better informed of the existing field conditions and obstacles which might be encountered during construction. Each bidder should understand that no additional compensation will be awarded for extra work that should have been evaluated prior to bidding.
14. When the Contractor's construction operations disturb existing landscaped areas, reimbursement to the Landowner or re-establishment of landscaping shall be the Contractor's responsibility. During the bidding process, Contractor shall evaluate potential costs for landscaping restoration or reimbursement. No additional moneys shall be granted to the Contractor for items that may have been overlooked during pre-bid site visits. Reimbursement costs shall be INCIDENTAL to the Lump Sum Bid Item "Site Clearing & Restoration".
15. The Contractor shall be responsible for preserving all Shown property irons. The Contractor will be required to reestablish any property irons which are damaged or destroyed by his construction operations. Such irons shall be reestablished by a licensed land surveyor in accordance with state laws. All Costs for this shall be SUBSIDIARY to "Site Clearing & Restoration."
16. Temporary Blow-off Valves necessary to flush lines at existing water line tie-ins shall not be paid for directly, but shall be considered INCIDENTAL to other items in the bid.
17. NO Services are to be Installed with this Project.

LIST OF UTILITY COMPANIES

Contractor shall be required to provide notice to Kansas One Call at 687-2470 a minimum of two (2) working days prior to any excavation or work adjacent to utilities.

TYPE	OWNER	CONTACT	TELEPHONE	(ALT.)
TV	Cox Communications (Cable)	Eva Moore	262-4270	260-7204
Electric	Westar Energy (K.G.E.)	Miles Caps	383-8650	261-6824
Gas	Kansas Gas Service	Matt Fulghum	888-482-4950	832-3123
Gas	Aquila Energy	Calvin Briggs	800-303-0357	941-1608
Telephone	AT&T (formerly SBC) Telephone	Jim Toben	268-2759	800-286-8313
Water	Wichita Water Department	Bill Perkins	268-4563	268-4908
Storm Water Sewer	Wichita SWS Maintenance	Doug Arvidson	268-4090	268-4095
Sanitary Sewer	Wichita Sewer Maintenance	Calvin Fugit	268-4024	268-4025

Drawing File: E:\eng\Rainbow Lakes WTR\notespage.dwg

Design: J. Burger
 Drawn: J. Burger
 Approved: J. Bradley
 Scale: None

Project No. 448-0195 CAPITAL IMPROVEMENT PROJECT

**WATER SYSTEM IMPROVEMENTS
 RAINBOW LAKES WEST ADDITION**

GENERAL NOTES



Baughman Company, P.A.
 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

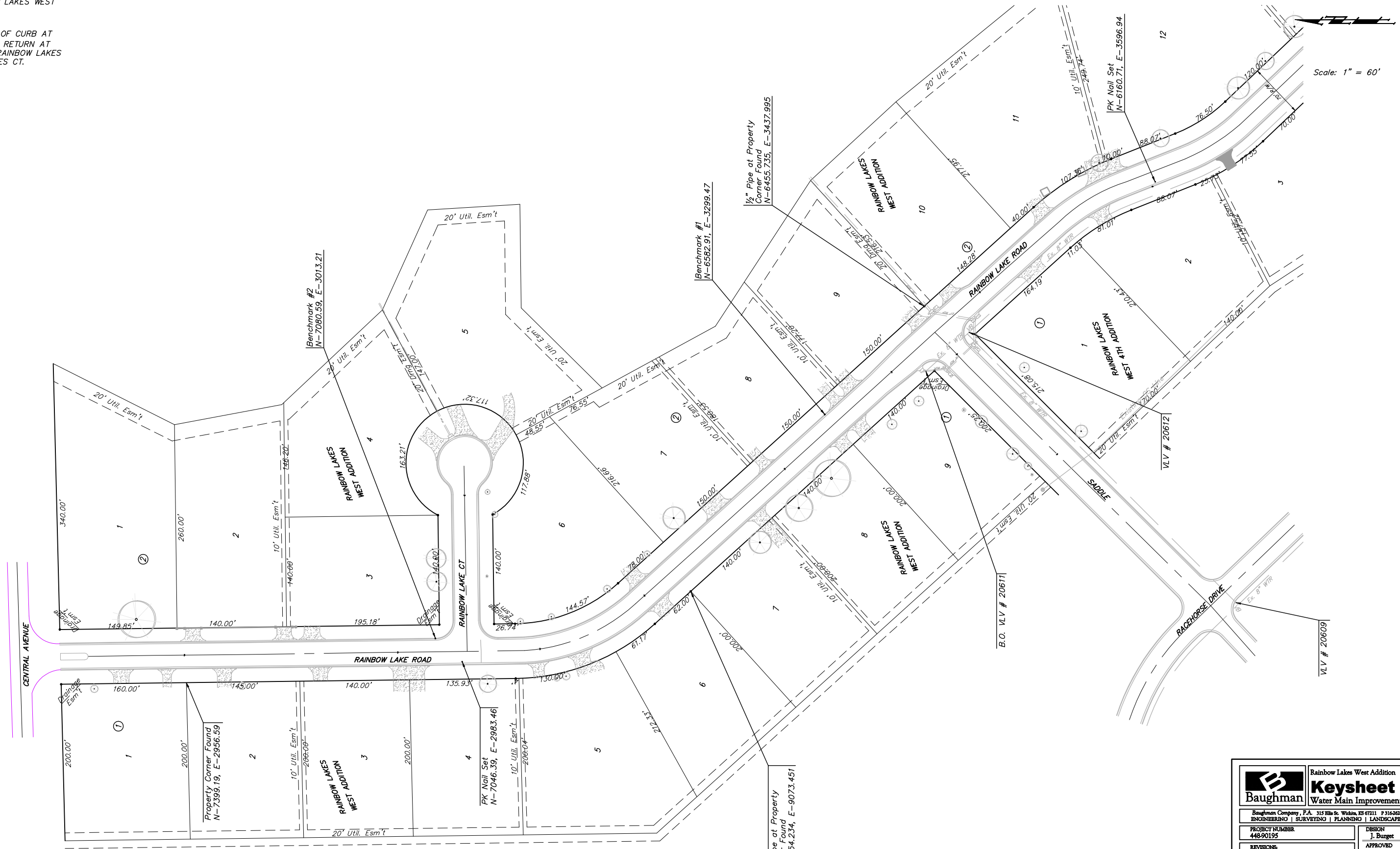
November 2006

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OF
14

BENCHMARKS:

"□" CUT ON TOP OF NORTH CURB APPROX 8.2' NW OF NW EDGE OF DRIVEWAY ON LOT 8, BLOCK 2, RAINBOW LAKES WEST ADDITION
ELEV. = 156.20'

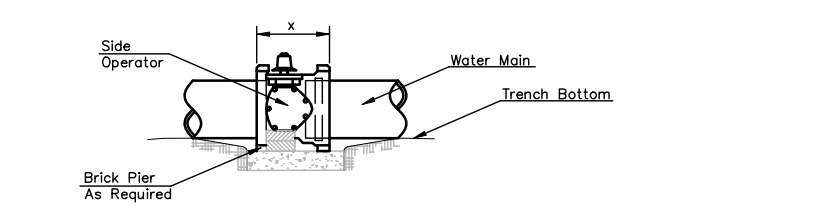
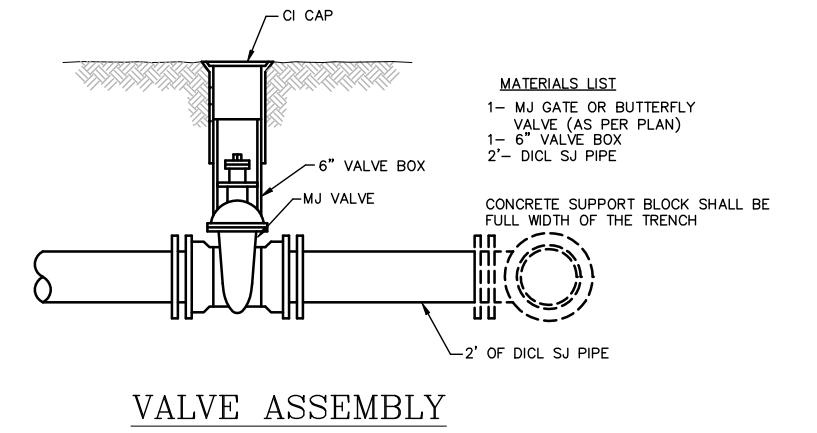
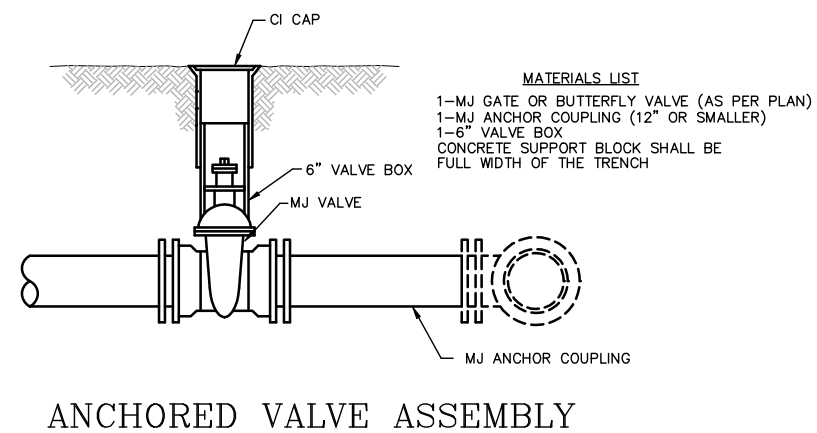
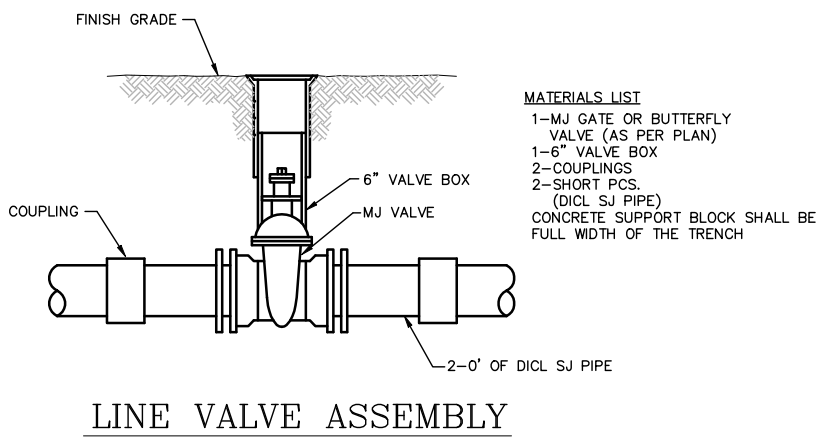
"□" CUT ON TOP OF CURB AT N END OF N CURB RETURN AT INTERSECTION OF RAINBOW LAKES AND RAINBOW LAKES CT.
ELEV. = 156.82



Scale: 1" = 60'

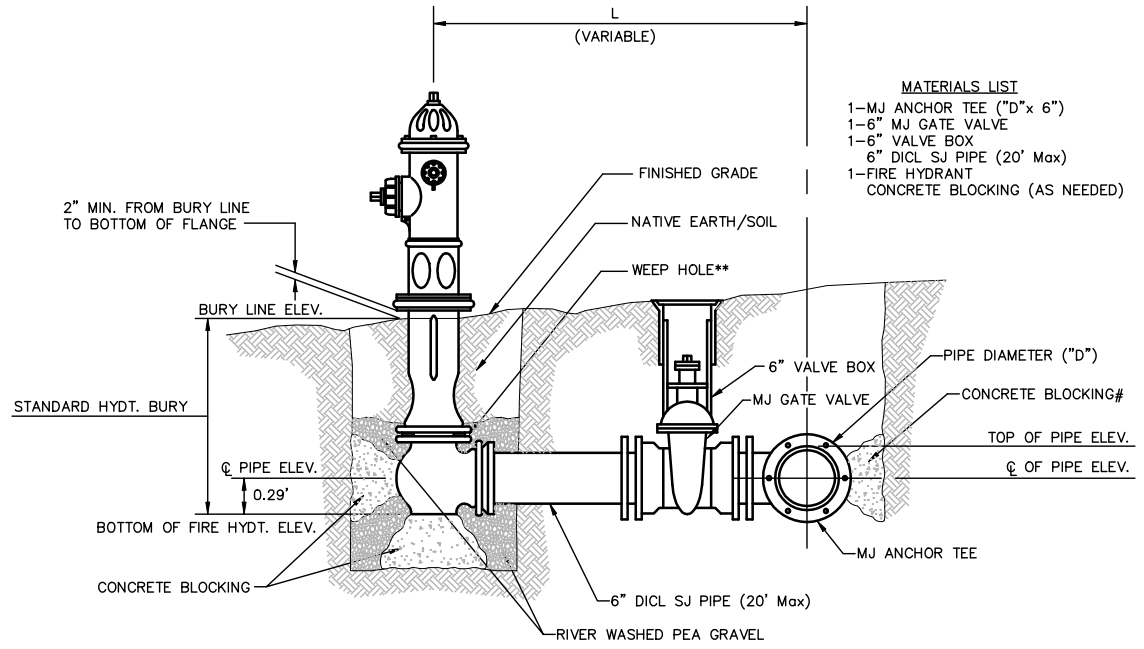
NOTE: VALVE NUMBERS SHOWN IDENTIFY VALVE LOCATIONS REQUIRED FOR SHUT DOWN

		Rainbow Lakes West Addition	
		Keysheet	
		Water Main Improvements	
<small>Baughman Company, P.A. 315 8th St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE</small>			
PROJECT NUMBER 448-90195	DESIGN J. Burget	DRAWN J. Burget	
REVISIONS:	APPROVED J. Bradley	DATE 11/06	
	SCALE Noted	SHEET	
		3 OF 14	
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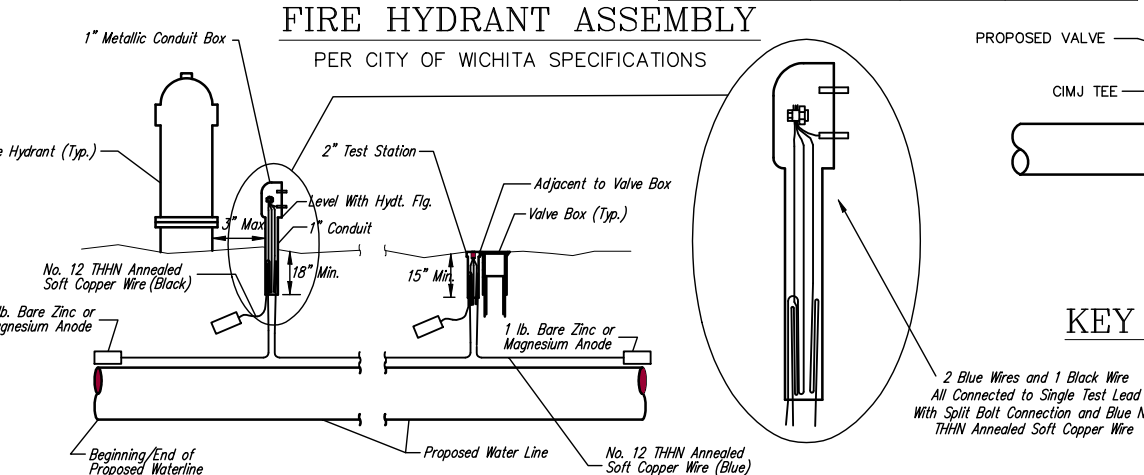
- NOTES**
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. Larger lines to be detailed on plans.
 - 6" Valve Box and Cover required per City of Wichita Std. Specifications.
 - Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION

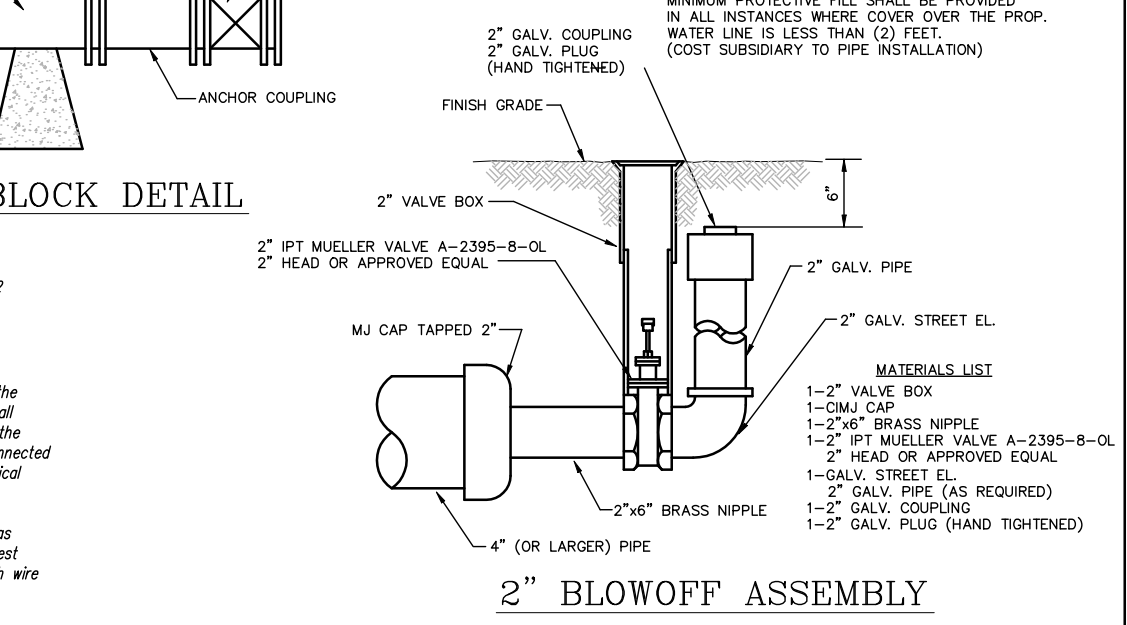
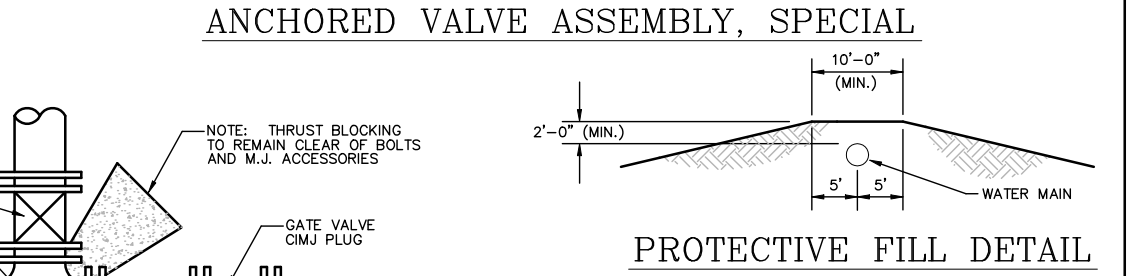
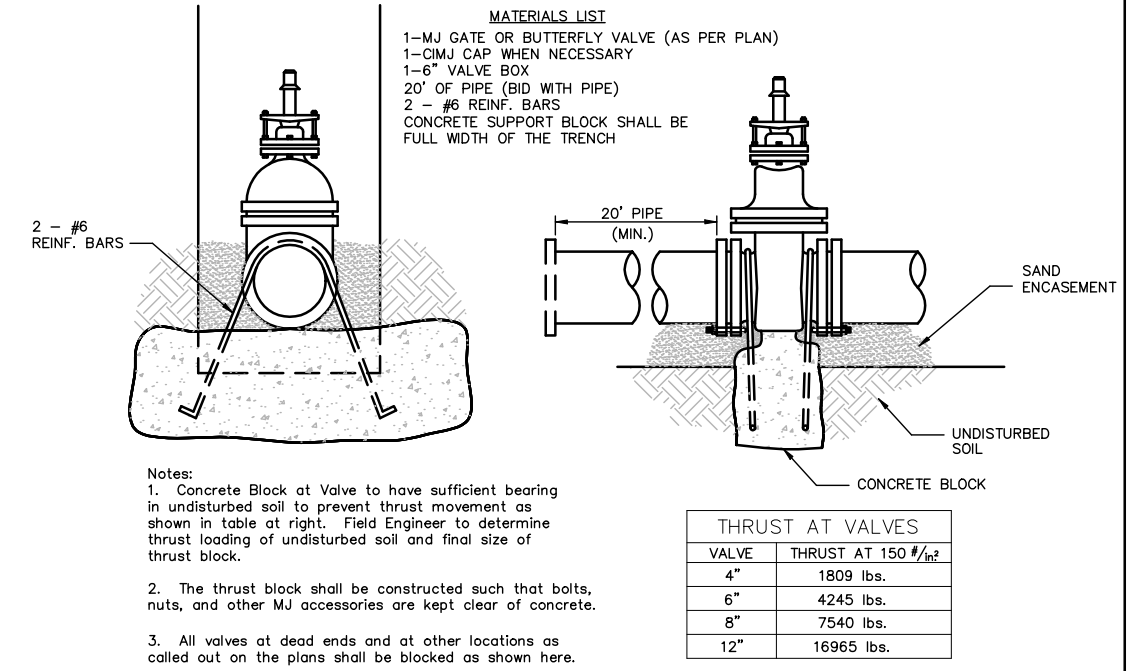


FIRE HYDRANTS REQUIRED

LINE	STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
1	6+61.04	161.50	157.62	4.5'
1	10+86.00	161.85	158.00	4.5'
1A	1+96.50	157.96	154.08	4.5'



TRACER WIRE DETAIL
 COST IS SUBSIDIARY TO PIPE INSTALLATION



THE CITY OF WICHITA

STANDARD WATER ASSEMBLY DETAILS

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

CITY ENGINEER'S OFFICE
 455 NORTH MAIN STREET
 WICHITA, KANSAS 67202
 (316) 268-4201
 (316) 268-4114 FAX

PROJECT NUMBER 448-90195
INDEX CODE 735320

DATE NOV 2006
SHEET 4 OF 14

Revised: 6-7-00, MCG

BENCHMARKS:

"□" CUT ON TOP OF NORTH CURB APPROX 8.2' NW OF NW EDGE OF DRIVEWAY ON LOT 8, BLOCK 2, RAINBOW LAKES WEST ADDITION
ELEV. = 156.20'

"□" CUT ON TOP OF CURB AT N END OF N CURB RETURN AT INTERSECTION OF RAINBOW LAKES AND RAINBOW LAKES CT. EX FH
ELEV. = 156.82

W.L. Sta. 0+00.00, Begin Line 1
=B.L. Sta. 10+41.92, 28.95' Lt.
Remove Existing Blowoff Valve.
Install 1 - 8" 22.5° CIMJ Bend

Install 7.84 L.F. 8" DI CL Pipe
W.L. Sta. 0+07.84, Line 1
=B.L. Sta. 10+49.18, 31.91' Lt.
Install 1 - 8" 22.5° CIMJ Bend

Install 422.51 L.F. 8" Pipe

CAUTION!
Ex. U/G CATV Near

B.L. Sta 14+53.23
N-6754.234, E-3073.451
Iron Pin @ Property Corner

W.L. Sta. 4+30.35, Line 1
=B.L. Sta. 14+71.36, 31.47' Lt.
Deflect Pipe 2'00'00" N
Match Point

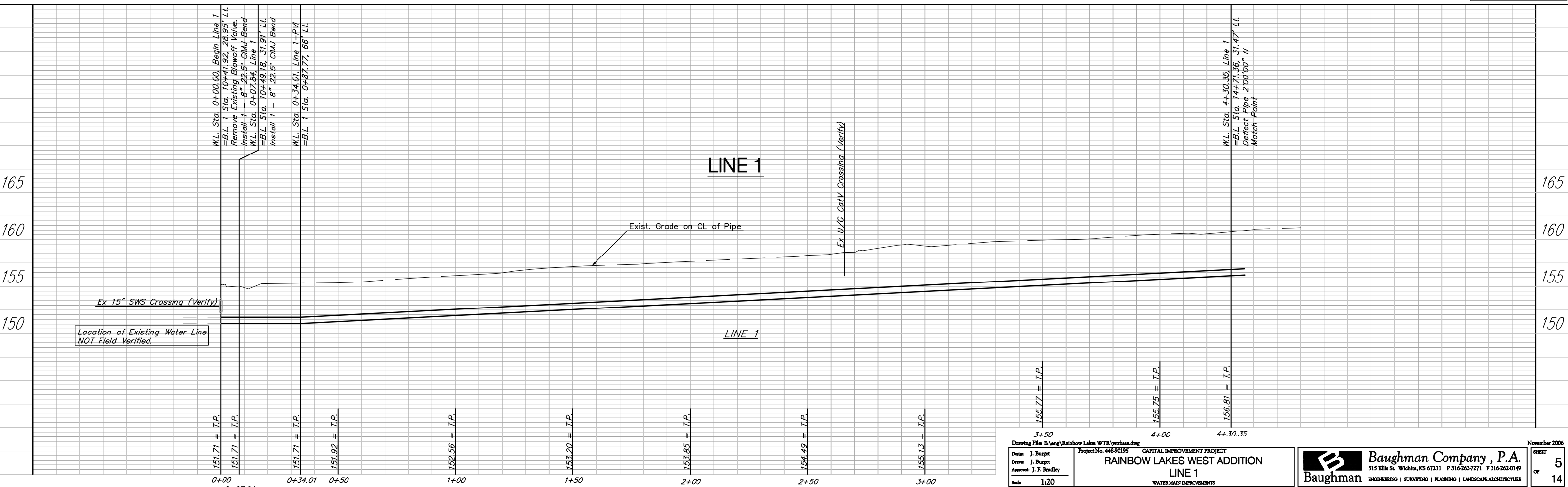
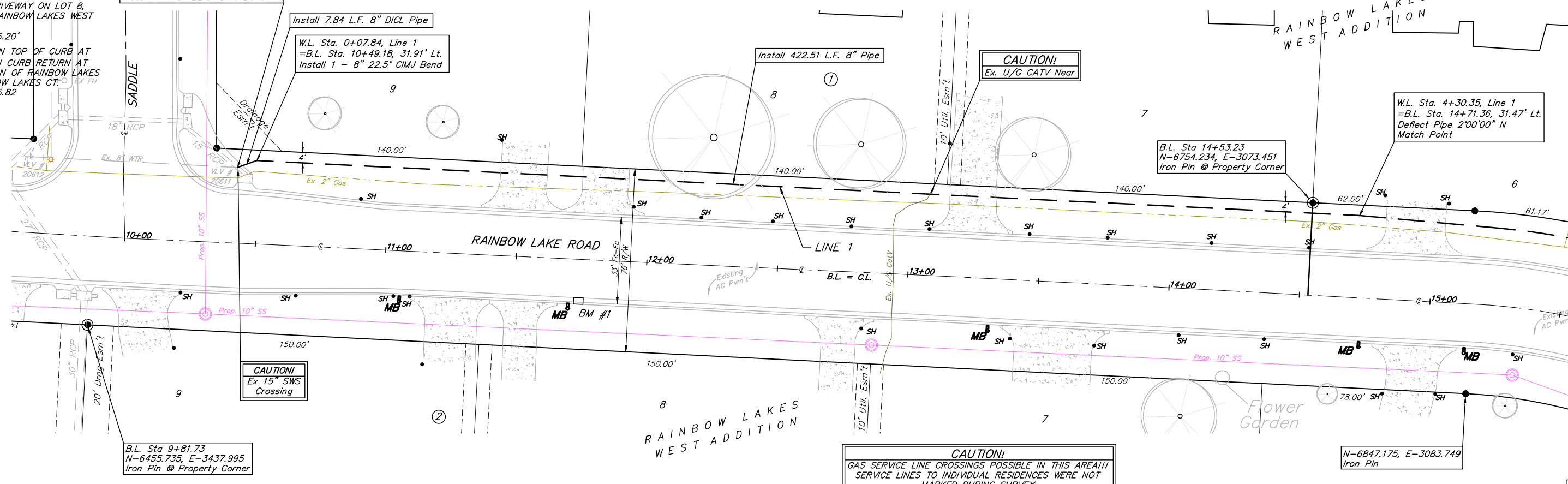
B.L. Sta 9+81.73
N-6455.735, E-3437.995
Iron Pin @ Property Corner

CAUTION!
GAS SERVICE LINE CROSSINGS POSSIBLE IN THIS AREA!!!
SERVICE LINES TO INDIVIDUAL RESIDENCES WERE NOT MARKED DURING SURVEY

N-6847.175, E-3083.749
Iron Pin

SH: SPRINKLER HEAD

0 10 20
SCALE:
1" = 20' Horizontal
1" = 5' Vertical



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Project No. 448-90195
CAPITAL IMPROVEMENT PROJECT
RAINBOW LAKES WEST ADDITION
LINE 1
WATER MAIN IMPROVEMENTS
Scale: 1:20

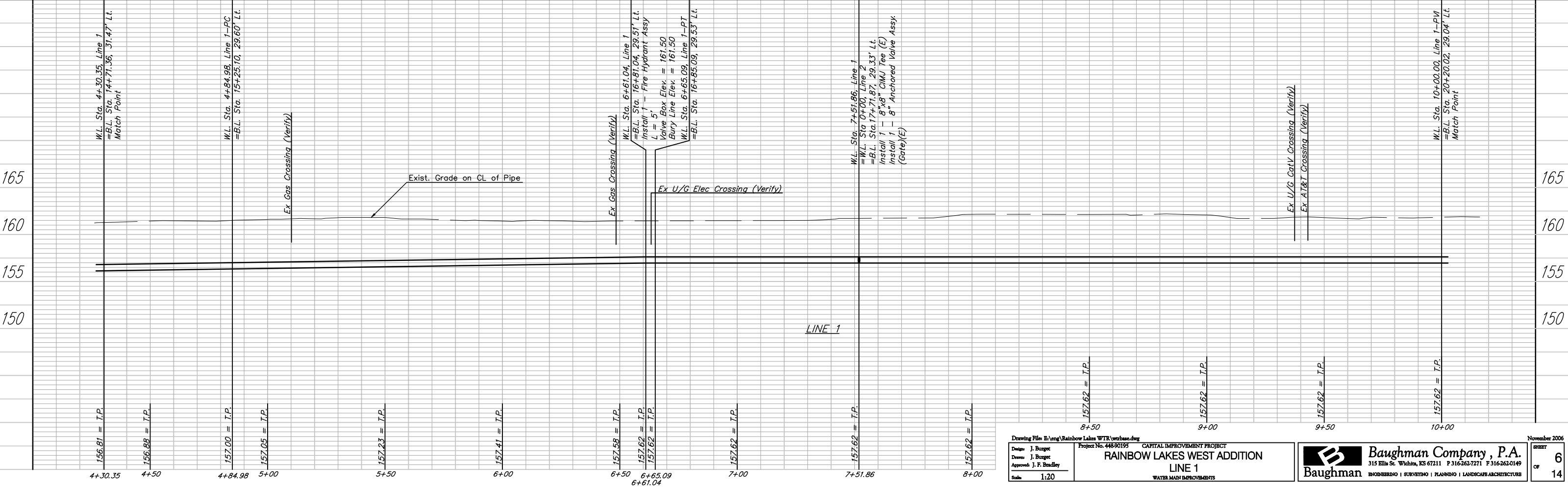
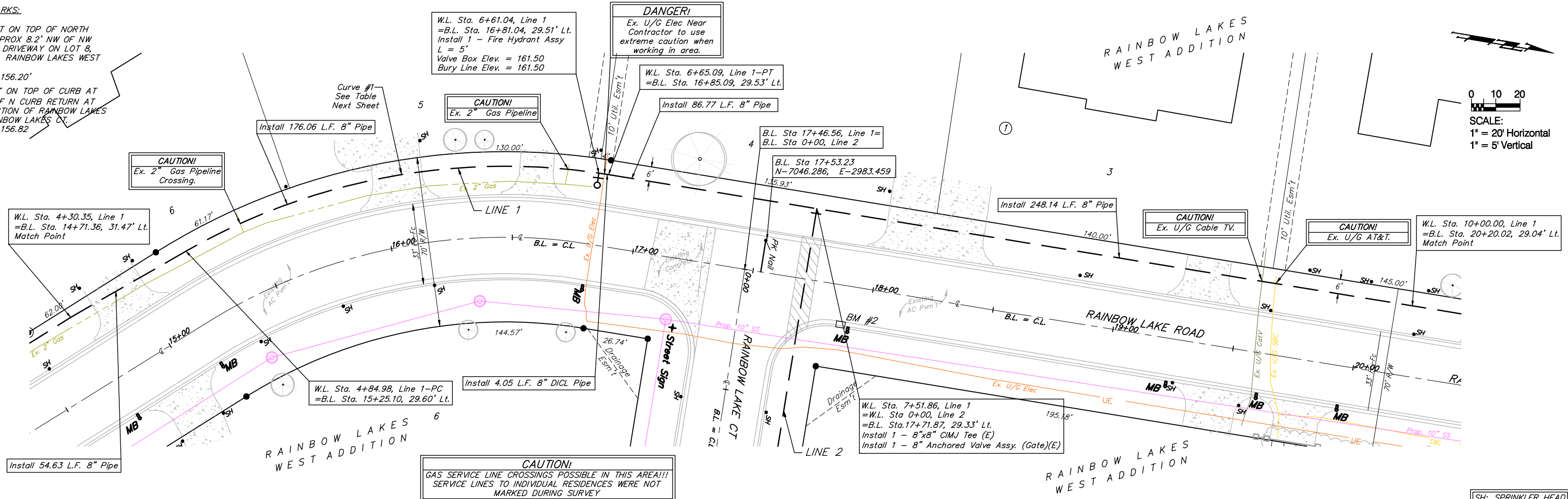
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November 2006
5 OF 14

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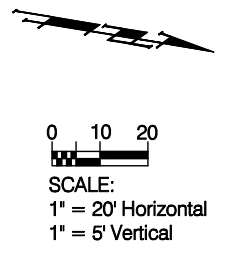
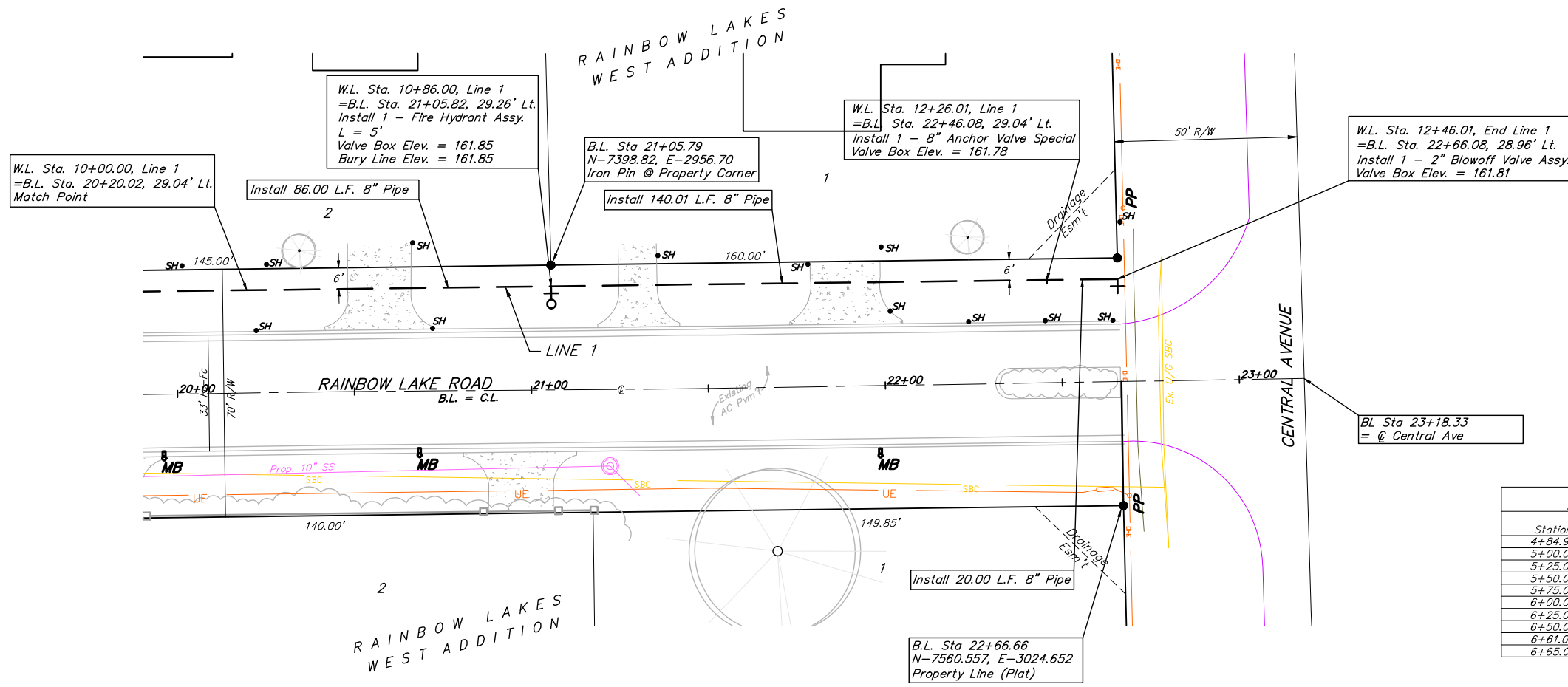
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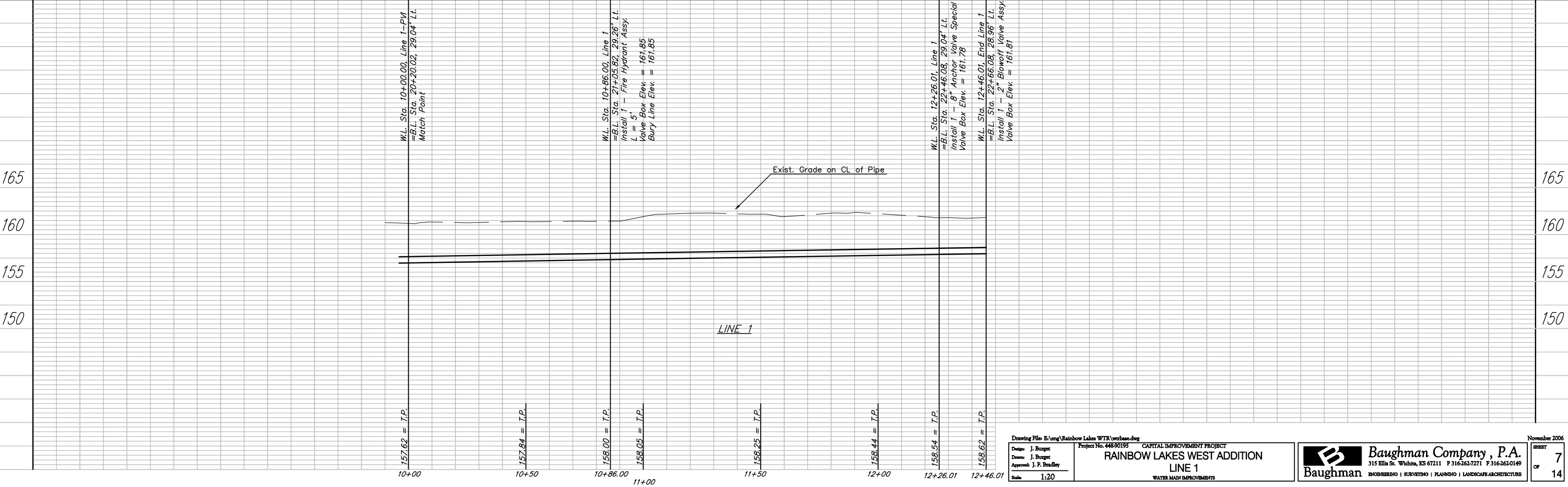
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ELEV. = 156.82



Curve #1
Curve Data Based on Centerline of Pipe
Rad. = 264' Delta = 39°0'0" Tangent = 93.49'
Arc = 180.11' L.C. = 176.25' Def/Ft. = 6.49603 Min.

Station	Arc	FACE CHORD LENGTHS		
		8' Lt.	Def.	T. Def.
4+84.98	-	-	0'00"00"	0'00"00"
5+00.00	15.02'	15.44'	1'37"34"	1'37"34"
5+25.00	25.00'	25.69'	2'42"24"	4'19"58"
5+50.00	25.00'	25.69'	2'42"24"	7'02"22"
5+75.00	25.00'	25.69'	2'42"24"	9'44"46"
6+00.00	25.00'	25.69'	2'42"24"	12'27"10"
6+25.00	25.00'	25.69'	2'42"24"	15'09"34"
6+50.00	25.00'	25.69'	2'42"24"	17'51"58"
6+61.04	11.04'	11.35'	1'11"43"	19'03"41"
6+65.09	4.05'	4.16'	0'26"19"	19'30"00"

(SH: SPRINKLER HEAD)



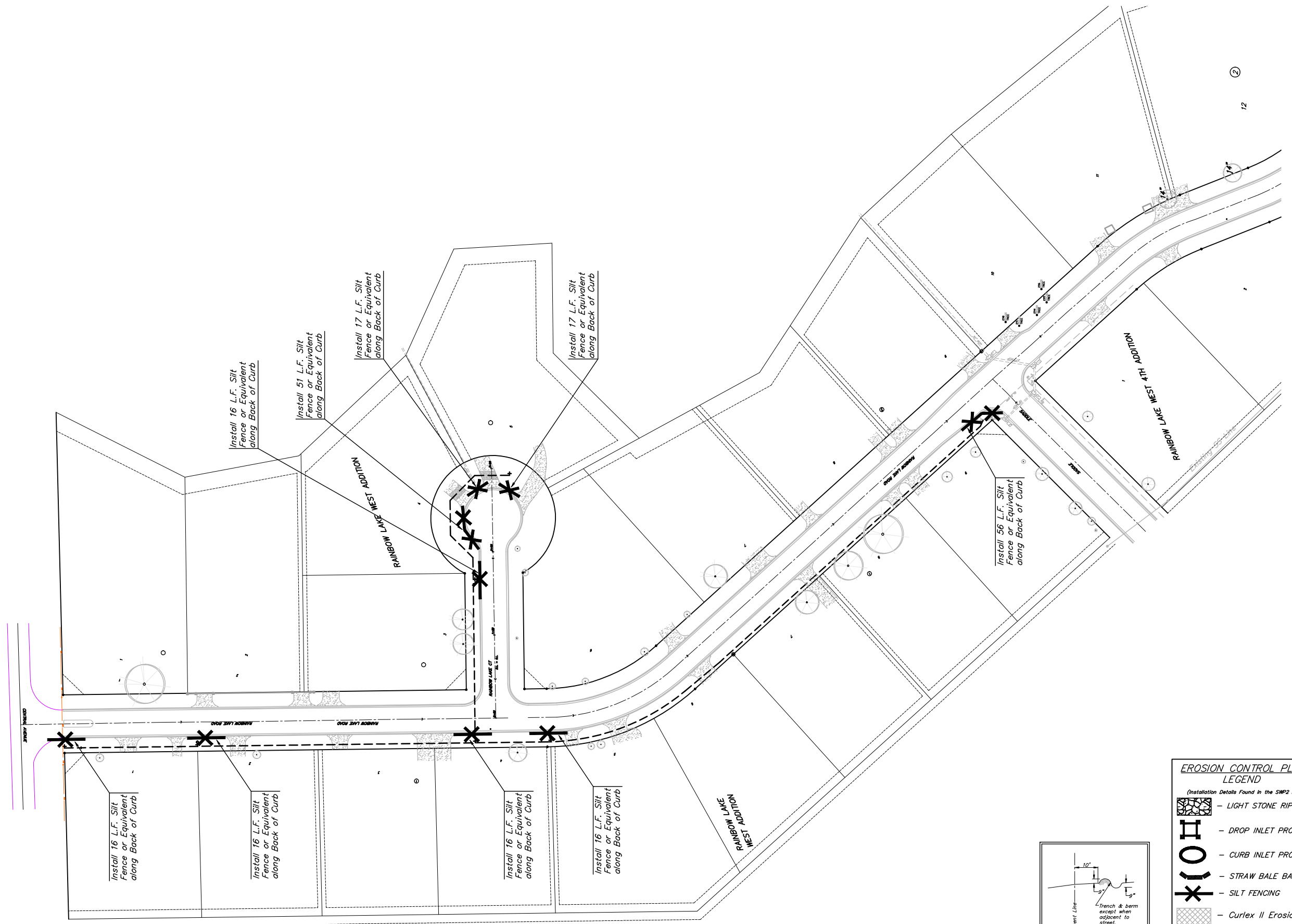
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Project No. 448-90195
CAPITAL IMPROVEMENT PROJECT
RAINBOW LAKES WEST ADDITION
LINE 1
WATER MAIN IMPROVEMENTS
Scale: 1:20

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November 2006
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14



Scale: 1" = 60'



NOTE: Contractor shall install & maintain erosion control measures as necessary for construction. Contractor shall be required to maintain all on-site erosion control items until final acceptance by the City of Wichita.

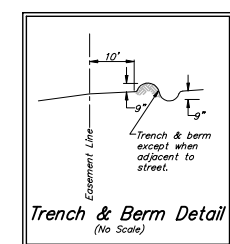
EROSION CONTROL MEASURE	UNITS	QUANTITY
SILT FENCE	L.F.	222
RIPRAP	S.Y.	0
DROP INLET BARRIER	EA.	0
CURB INLET BARRIER	EA.	0
STRAW BALE DITCH CHECK	EA.	0
TRENCH & BERM	L.F.	0
CURLEX	S.Y.	0
POND E.C. BLANKET	S.Y.	0
Construction Entrance	EA.	0

QUANTITIES ARE FOR INFORMATION ONLY!
CONTRACTOR SHALL VERIFY QUANTITIES PER FINAL BID QUANTITY SHEET.

EROSION CONTROL PLAN LEGEND
(Installation Details Found in the SWP2 Plan)

- LIGHT STONE RIP-RAP
- DROP INLET PROTECTION
- CURB INLET PROTECTION
- STRAW BALE BARRIERS
- SILT FENCING
- Curlex II Erosion Mat
- VEGETATED AREA LEFT UNDISTURBED

NO SCALE



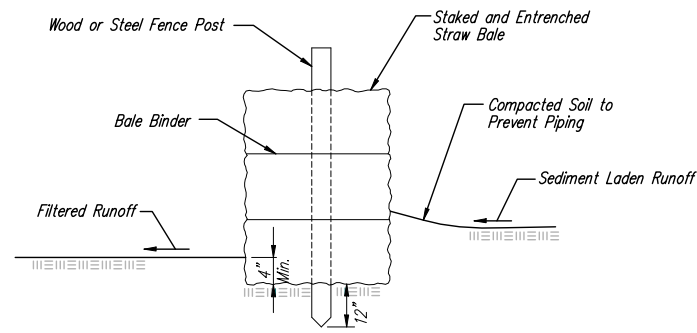
Baughman Rainbow Lakes West Addition
EROSION CONTROL PLAN
Water Main Improvements

Baughman Company, P.A. 315 8th St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

PROJECT NUMBER 448-90195	DESIGN J. Burget	DRAWN J. Burget
REVISIONS:	APPROVED J. Bradley	DATE 11/06
	SCALE Noted	SHEET

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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.

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 practicable, 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.

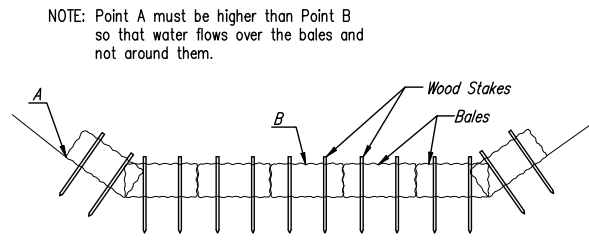
Do not place bale slope barriers in areas with shallow soils underlain by rock. If the barrier is not anchored sufficiently, it will wash out.

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?



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.

Checks should not be placed in ditches where high flows are expected. Rock checks should be used instead.

Bales should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.

The following table provides check spacing for a given ditch grade:

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

Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is 4" deep and a bale's width wide. Extend the trench in a straight line along the entire length of the proposed ditch check. Place the soil on the upstream side of the trench—it will be used later.

Optional: On the downstream side of the trench, roll out a length of erosion-control blanket (scour apron) equal to the length of the trench. Place the upstream edge of the erosion-control blanket along the bottom upstream edge of the trench. The erosion control blanket should be anchored in the trench with one row of 8" landscape staples placed on 18" centers. The remainder of the erosion-control blanket (the portion that is not lying in the trench) will serve as the downstream scour apron. This section of the blanket should be anchored to the ground with 8" landscape staples placed around the perimeter of the blanket on 18" centers.

The remainder of the blanket should be anchored using two evenly spaced rows of 8" landscape staples on 18" centers placed perpendicular to the flowline of the ditch. Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.

Once all the bales have been installed and anchored, place the excavated soil against the upstream side of the check and compact it. The compacted soil should be no more than 3" to 4" deep and extend upstream no more than 24".

List of common placement/installation mistakes to avoid:

Do not place a bale ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.

Do not place bale ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow.

Follow prescribed ditch-check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks.

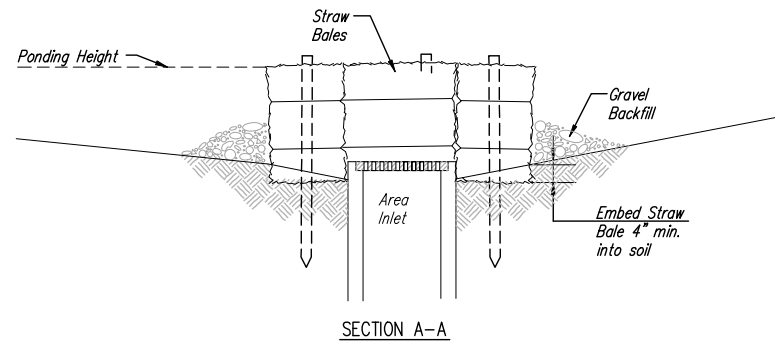
Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the check is higher than the top of the lowest center bale.

Do not place bale ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out. Bale ditch checks must be dug into the ground. Bales at ground level do not work because they allow water to flow under the check.

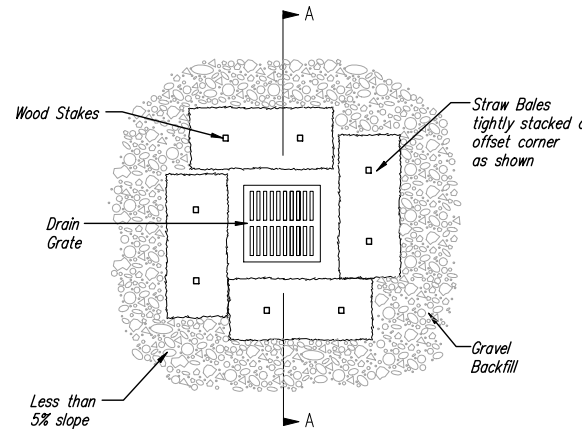
Inspection and Maintenance:

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

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



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

Material Specification:

Bale area inlet barriers should be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.

The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

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.

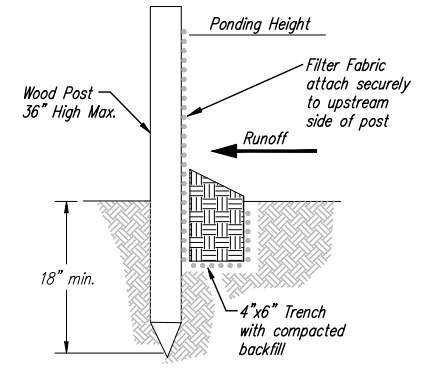
List of common placement installation mistakes to avoid:

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 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?



SILT FENCE BARRIERS

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 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?

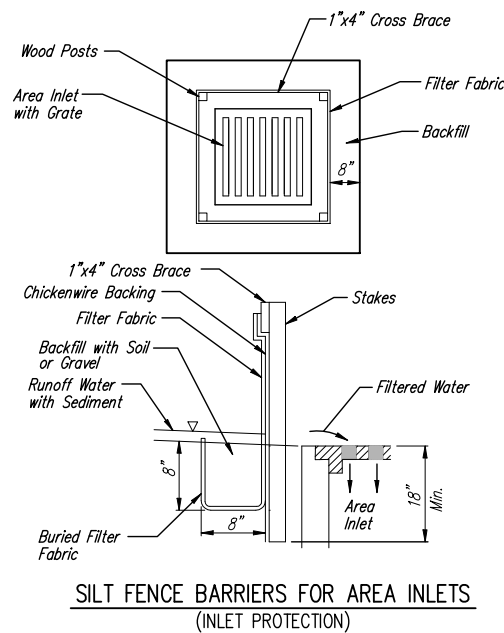


SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER: 448-90195
OCA NO.: 735320

DATE: NOV 2006
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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.

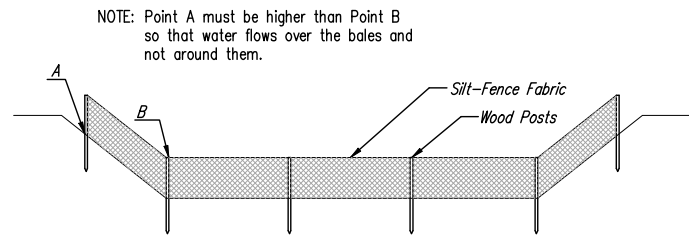
List of common placement/installation mistakes to avoid:

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 barriers 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 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. 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:

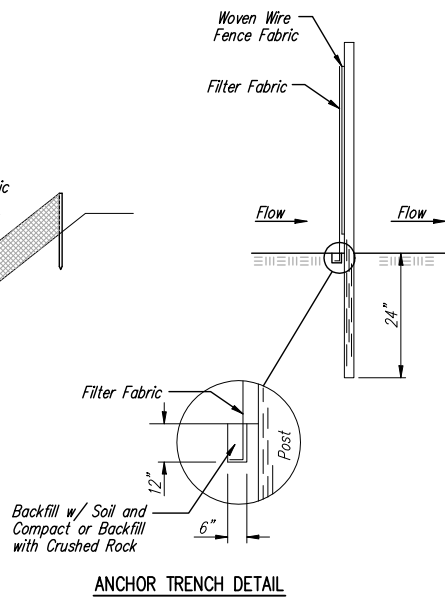
Ditch Check Ditch grade (%)	Spacing Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

Proper installation method:

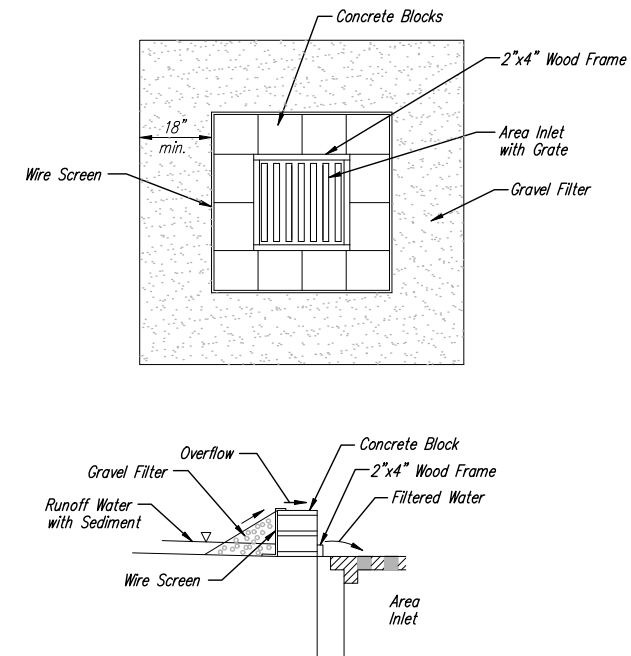
Excavate a trench perpendicular to the ditch flowline that is at least 12" deep by 6" wide. Extend the trench in a straight line along the entire length of the proposed ditch check. Place the soil on the upstream side of the trench for later use. Roll out a continuous length of silt fence fabric on the 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.



ANCHOR TRENCH DETAIL



CONCRETE BLOCK FILTER FOR AREA DRAIN
(INLET PROTECTION)

Gravel barriers provide little filtering of large inflow waters. However, when installed correctly and maintained, they can effectively treat low runoff flows.

Placement of gravel filters around area drains must be completed in a manner that will not cause local flooding.

Gravel filters can be used if the immediate and adjacent area to the area drain consists of soil or pavement.

Only gravel filters are to be installed on top of the pavement.

Instructions for Installing:

- STEP 1: Place concrete blocks around the grate. The blocks can be stacked one or two high and should be supported by a 2"x4" board.
- STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
- STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
- STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary.

An alternative method is use of gravel bags that are supported to prevent collapsing.

Use of rock having diameters smaller than 1" may result in clogging of pores and reduce the amount of water flowing into an inlet.

Maintenance:

All gravel filters installed around area drains should be inspected and repaired after each runoff event. Sediment should be removed when material is within 3" of the top of any block. Periodically, the gravel should be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets after every runoff event.

Inspection and Maintenance:

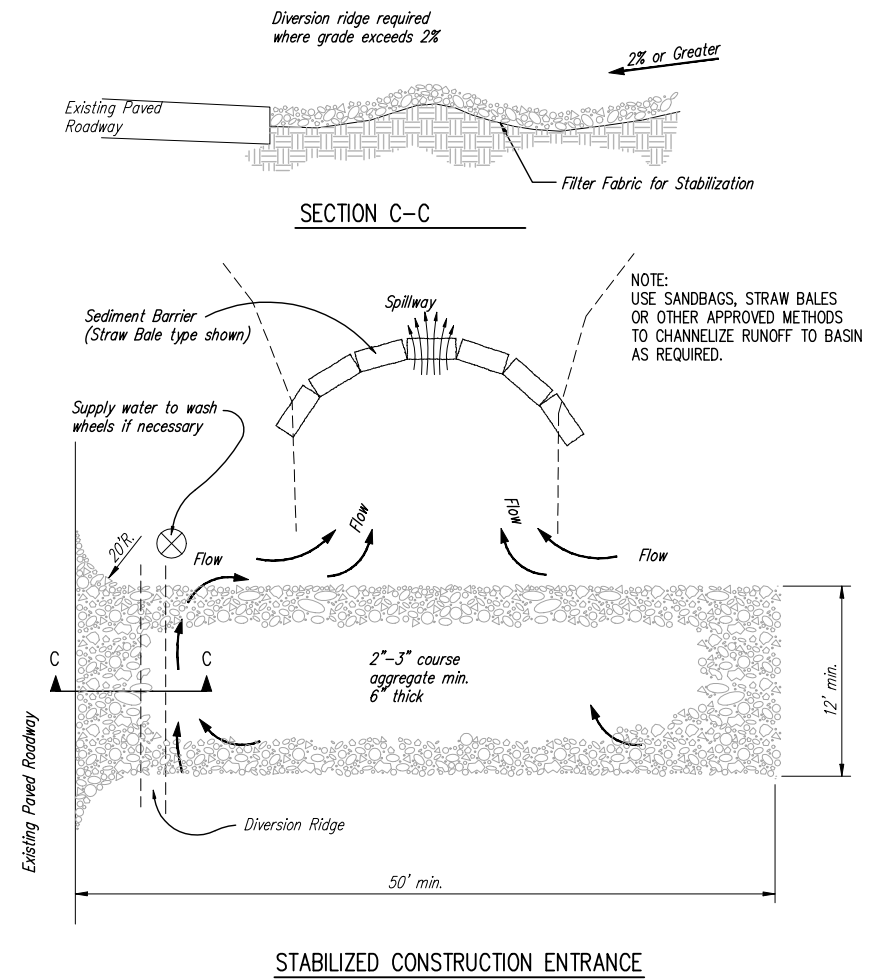
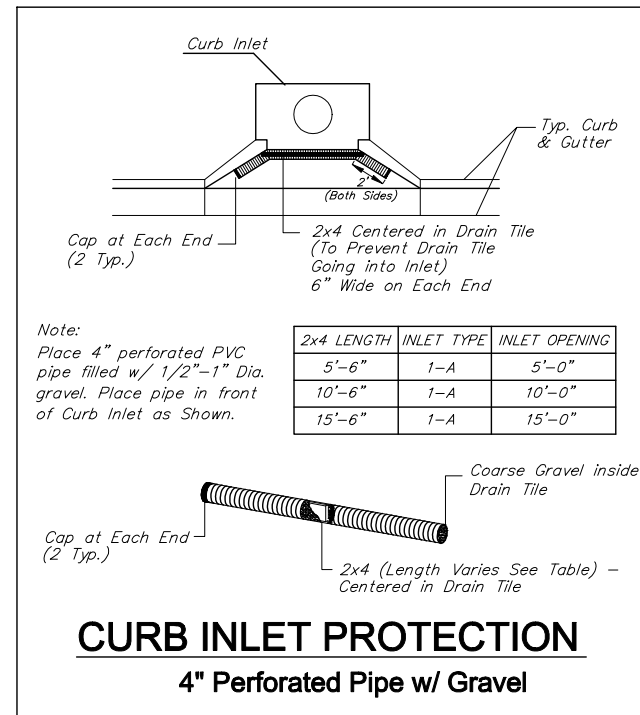
Silt fence ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

- 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?


**SOIL EROSION
BMP DETAILS**

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER 448-90195	OCA NO. 735320
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- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
 4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

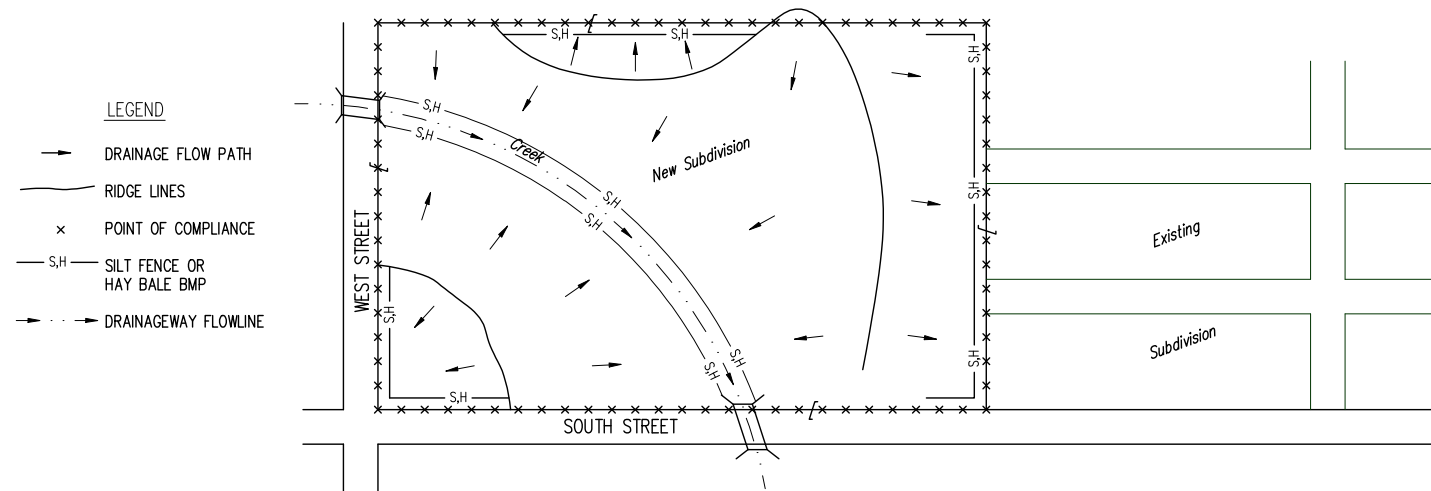


**SOIL EROSION
BMP DETAILS**

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

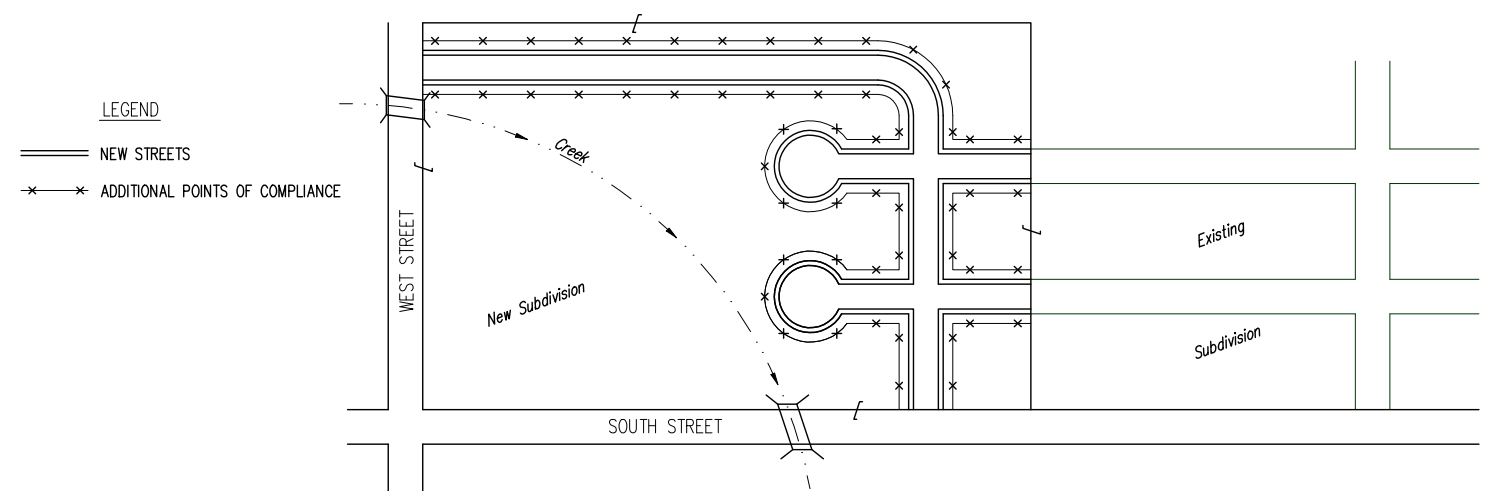
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PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



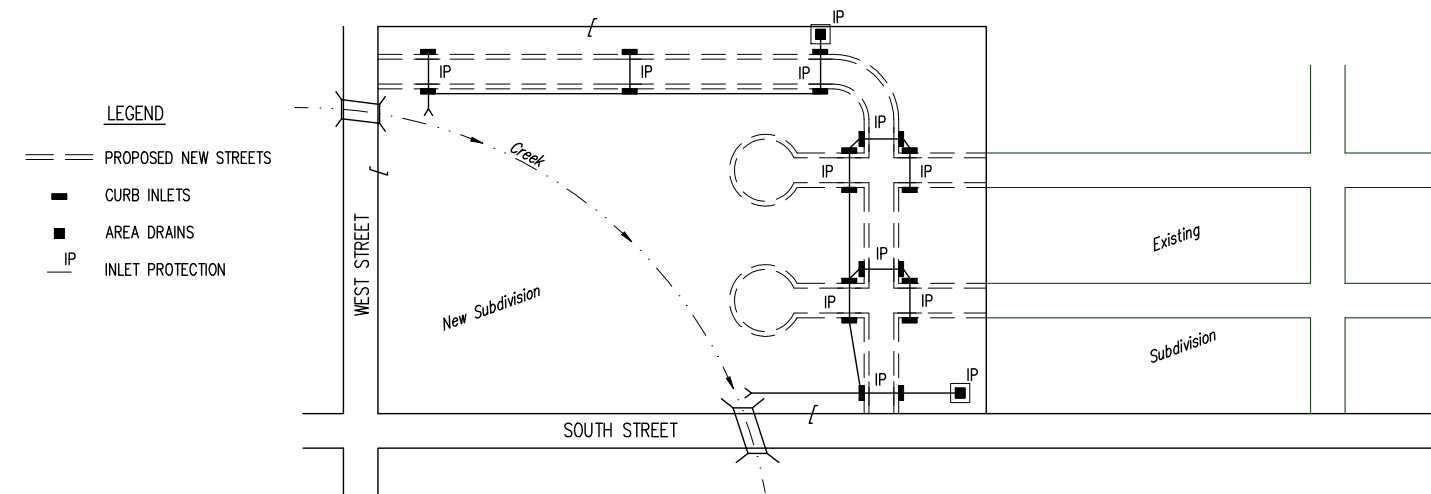
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
- HAYBALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE BMP'S WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
- SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR GUTTERLINES ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE BMP'S WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
- ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED AT THE END OF EACH WORK DAY.
- CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL BMP'S 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 BMP'S AT THEIR WORK LOCATIONS, AS NEEDED.
- UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
- THE SUBDIVISION DEVELOPER (OWNER) SHALL INSTALL AND MAINTAIN THE ON-SITE BMP'S.

PHASE 3 – STREET CONSTRUCTION



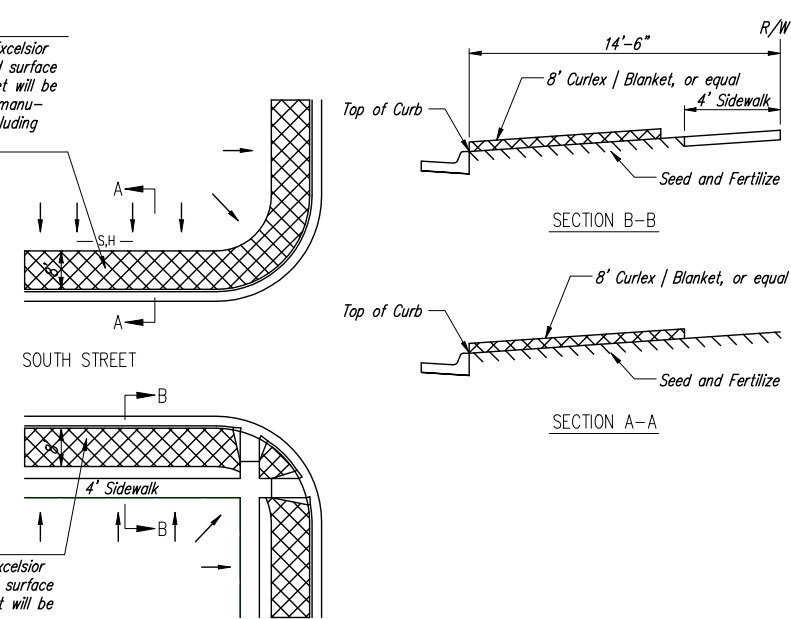
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL BMP'S INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
- CURB OPENING INLET PROTECTION:
 - SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED 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.
- BMP'S 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), BMP'S WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
- SEE DETAIL THIS SHEET ON BACK OF CURB PROTECTION.
- THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAYBALE OR SILT FENCE BMP'S 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 BMP'S.
- THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB BMP'S IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 – INSTALLATION OF STORM SEWER



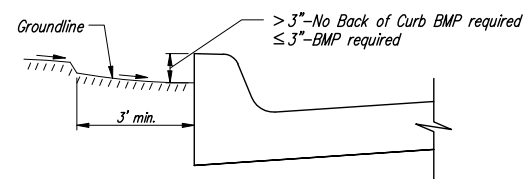
- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL BMP'S REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
- AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
- AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAYBALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
- CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION BMP'S MUST BE INSTALLED. SEE PHASE 3 – STREET CONSTRUCTION.
- THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE BMP'S. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION.
- THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE BMP'S ONCE INSTALLED.
- 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.

BMP—Install 8' wide Curlex / Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer's recommendation, including staples.



BMP—Install 8' wide Curlex / Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer's recommendation, including staples.

BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL

GENERAL NOTES:

- THE INTENT OF ALL BEST MANAGEMENT PRACTICES (B.M.P.'S) IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, OR ANY OTHER DRAINAGE FEATURE.
- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF BMP'S WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- BMP'S SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON THE BMP DETAIL SHEETS.
- PERSONS DESTROYING BMP'S SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT BMP'S.
- THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 5 ACRES OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL BMP'S ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLAN.
- FOR SUBDIVISIONS SMALLER THAN 5 ACRES, SOIL EROSION BMP'S ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
- FAILURE TO USE AND MAINTAIN BMP'S 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 BMP'S SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT BMP OTHER THAN THAT SHOWN. BMP'S, 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.



SOIL EROSION BMP'S SUBDIVISION DEVELOPMENT PROCESS

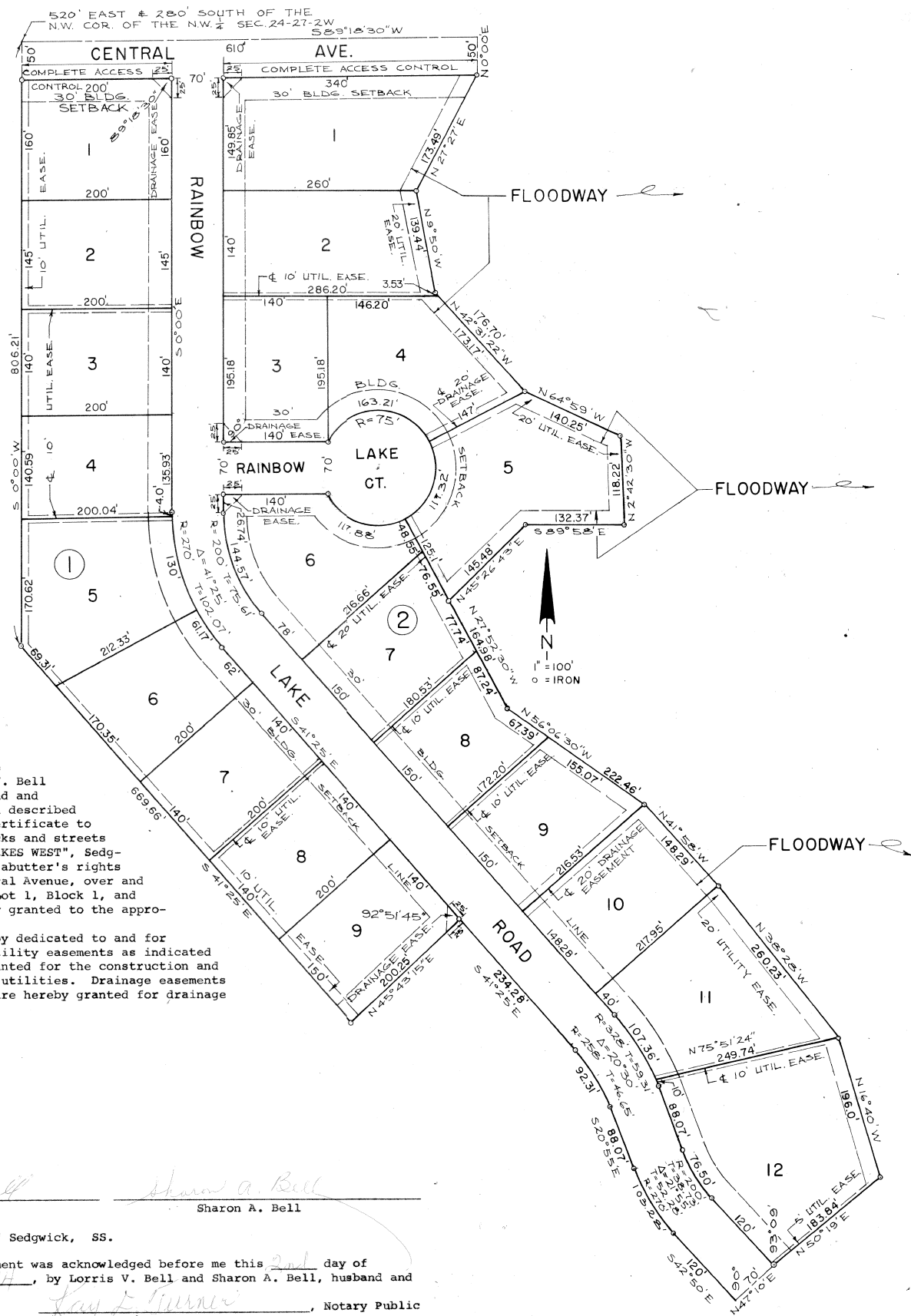
CHRISTOPHER M. CARRIER, P.E.
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DATE: NOV 2006
SHEET 13 OF 14

RAINBOW LAKES WEST

SEDGWICK COUNTY, KANSAS



State of Kansas)
County of Sedgwick) SS.

Know all men by these presents that we, Lorris V. Bell and Sharon A. Bell, husband and wife, have caused the land described in the Civil Engineer's certificate to be platted into lots, blocks and streets to be known as "RAINBOW LAKES WEST", Sedgwick County, Kansas. All abutter's rights of access to or from Central Avenue, over and across the north line of Lot 1, Block 1, and Lot 1, Block 2, are hereby granted to the appropriate governing body.

The streets are hereby dedicated to and for the use of the public. Utility easements as indicated on the plat are hereby granted for the construction and maintenance of all public utilities. Drainage easements as indicated on the plat are hereby granted for drainage purposes.

Lorris V. Bell Sharon A. Bell
Lorris V. Bell Sharon A. Bell

State of Kansas, County of Sedgwick, SS.

The foregoing instrument was acknowledged before me this 2nd day of July, 1974, by Lorris V. Bell and Sharon A. Bell, husband and wife.

Kay D. Turner
Notary Public
Kay D. Turner

State of Kansas, County of Sedgwick, SS.

I, Kenneth O. Taylor, Civil Engineer in said State and County, do hereby certify that I have surveyed and platted "RAINBOW LAKES WEST", Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of said survey described as follows: A tract in the NW 1/4 of Section 24, T27S, R2W of the 6th P.M., Sedgwick County, Kansas, described as follows: Commencing at the NW corner of said NW 1/4; thence S0°00'W on the west line of said NW 1/4, 280 feet; thence N89°18'30"E parallel to the north line of said NW 1/4, 520 feet to a point of beginning; thence S0°00'W parallel to the west line of said NW 1/4, 806.21 feet; thence S41°25'E, 669.66 feet; thence N45°43'15"E, 200.25 feet; thence S41°25'E, 234.28 feet to the P.C. of a curve; thence southeasterly on a curve to the right having a radius of 258 feet and a deflection angle of 20°30', 92.31 feet to the P.T. of said curve; thence S20°55'E on a tangent to said curve, 88.07 feet to the P.C. of a curve; thence southeasterly on a curve to the left having a radius of 270 feet and a deflection angle of 21°55', 103.28 feet to the P.T. of said curve; thence S42°50'E on a tangent to said curve, 120 feet; thence N47°10'E, 70 feet; thence N50°19'E, 183.84 feet; thence N16°40'W, 196.00 feet; thence N38°28'W, 260.23 feet; thence N41°58'W, 148.29 feet; thence N56°06'30W, 222.46 feet; thence N27°52'30"W, 164.98 feet; thence N45°26'43"E, 145.48 feet; thence S89°58'E, 132.37 feet; thence N2°42'30"W, 118.22 feet; thence N64°59'W, 140.25 feet; thence N42°31'22"W, 176.70 feet; thence N9°50'W, 139.44 feet; thence N27°27'E, 173.49 feet; thence N0°00'E, 50 feet; thence S89°18'30"W, 610 feet to the point of beginning.

Kenneth O. Taylor
Civil Engineer
Kenneth O. Taylor

This plat approved and all dedications shown hereon accepted by the Board of City Commissioners of the City of Wichita, Kansas, this 19 day of AUGUST, 1975.

Connie A. Peters
Mayor
Donald C. Gisick
City Clerk

This plat approved and all dedications shown hereon accepted by the Board of County Commissioners of Sedgwick County, Kansas, this 24th day of September, 1975.

ATTEST:
George Pierce
County Clerk
Carl E. Rush
Chairman
Tom Scott
Commissioner
John Hale
Commissioner

Entered on transfer record this 10th day of September, 1975.

George Pierce
County Clerk

State of Kansas, County of Sedgwick, SS.

This is to certify that this instrument was filed for record in the Register of Deeds Office, at 11:00 o'clock a.m., on the 10th day of September, 1975.

Bette F. McCort
Register of Deeds
Pearl B. Gilbert
Deputy

Seneca National Bank of Wichita, by W. Nolan Artz, President, and Mid Kansas Federal Savings and Loan Association of Wichita, by _____, mortgagees of the land described in the Civil Engineer's certificate, do hereby consent to the platting of "RAINBOW LAKES WEST", Sedgwick County, Kansas.

ATTEST:
W. Nolan Artz
CASHIER
W. Nolan Artz
President

ATTEST:
David H. Brasted
Sec'y.
Kenneth P. Brasted
V. Pres.
Kenneth P. BRASTED #

State of Kansas, County of Sedgwick, SS.

The foregoing instrument was acknowledged before me this 2nd day of July, 1974, by W. Nolan Artz, President, of Seneca National Bank of Wichita, a Kansas corporation, on behalf of the corporation.

Kay D. Turner
Notary Public
Kay D. Turner

State of Kansas, County of Sedgwick, SS.

The foregoing instrument was acknowledged before me this 28th day of June, 1974, by Kenneth P. Brasted II, Vice President, of Mid Kansas Federal Savings and Loan Association of Wichita, a Kansas corporation, on behalf of the corporation.

Georgia E. Van Arken
Notary Public
Georgia E. Van Arken

This plat of "RAINBOW LAKES WEST", Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 13th day of JUNE, 1974.

Wichita-Sedgwick County Metropolitan Area Planning Commission
By Marjorie L. Taylor
Chairman
Robert A. Lakin
Secretary
Robert A. Lakin

