

# DRAINAGE IMPROVEMENTS FOR MEDITERRANEAN PLAZA ADDITION

CITY OF WICHITA, KANSAS  
JIM ARMOUR, ACTING CITY ENGINEER

PRIVATE PROJ. #1461 PPS

OCA 607861

## EARTHWORK SUMMARY

EXCAVATION	0 C.Y.
COMPACTED FILL (95% DENSITY)	2100 C.Y.

NOTE: 20% HAS BEEN ADDED TO FILL QUANTITIES TO ALLOW FOR COMPACTION.

## GENERAL NOTES

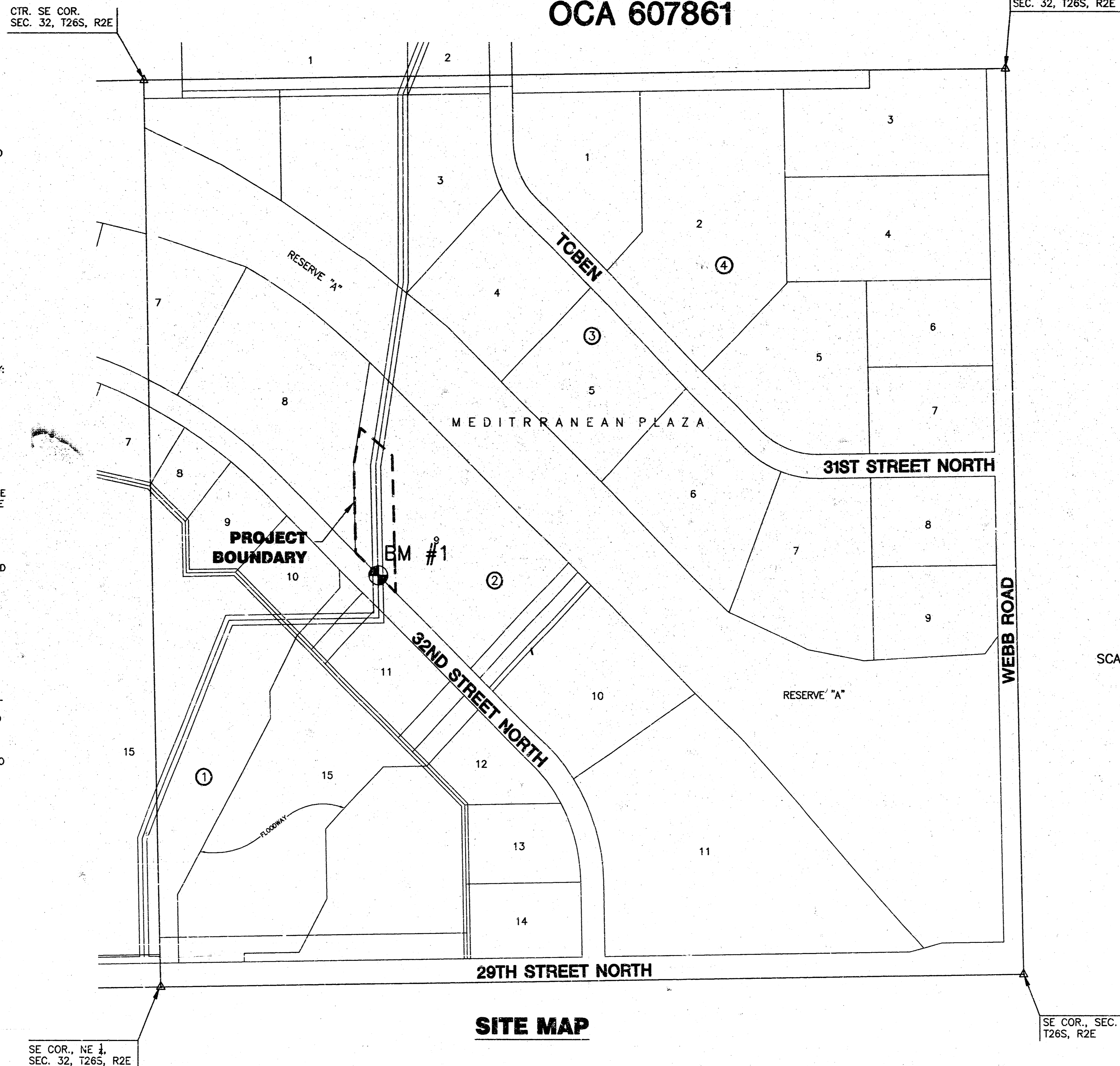
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
- CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.
- EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- 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	800-344-7233
OR 687-2470 (LOCAL WICHITA)	

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:  

COX COMMUNICATION (CABLE)	262-0661
WESTAR (ELECTRIC)	261-6512
KANSAS GAS SERVICE (GAS)	832-3101
SBC (TELEPHONE)	800-870-8399
CITY OF WICHITA WATER & SEWER	262-8000
AQUILA (GAS)	946-0096
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS 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 EARTHWORK COMPACTION SHALL BE 95% DENSITY.
- CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITH ANNUAL RYE GRASS.
- ALL EXISTING TRASH / DEBRIS WITHIN THE CONSTRUCTION AREAS SHALL BE REMOVED AND DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AND MEET THE REQUIREMENTS OF NOTE 5 ABOVE. THIS SHALL BE CONSIDERED SUBSIDIARY TO SITE CLEARING AND RESTORATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OFF SITE SOILS TO COMPLETE THE REQUIRED FILLS. THESE SOILS SHALL BE CLEAN AND FREE OF DEBRIS, RUBBLE, TRASH, AND VEGETATIVE MATERIAL. IMPORTED SOILS SHALL BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO PLACEMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING A SOILS ENGINEER TO INVESTIGATE THE ON SITE SOILS TO DETERMINE REQUIRED MOISTURE & COMPACTION REQUIREMENTS. FILLS SHALL BE PLACED IN LIFTS OF NOT MORE THAN 8" IN THICKNESS. SAID LIFTS SHALL BE TESTED AND APPROVED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF NEXT LIFT.

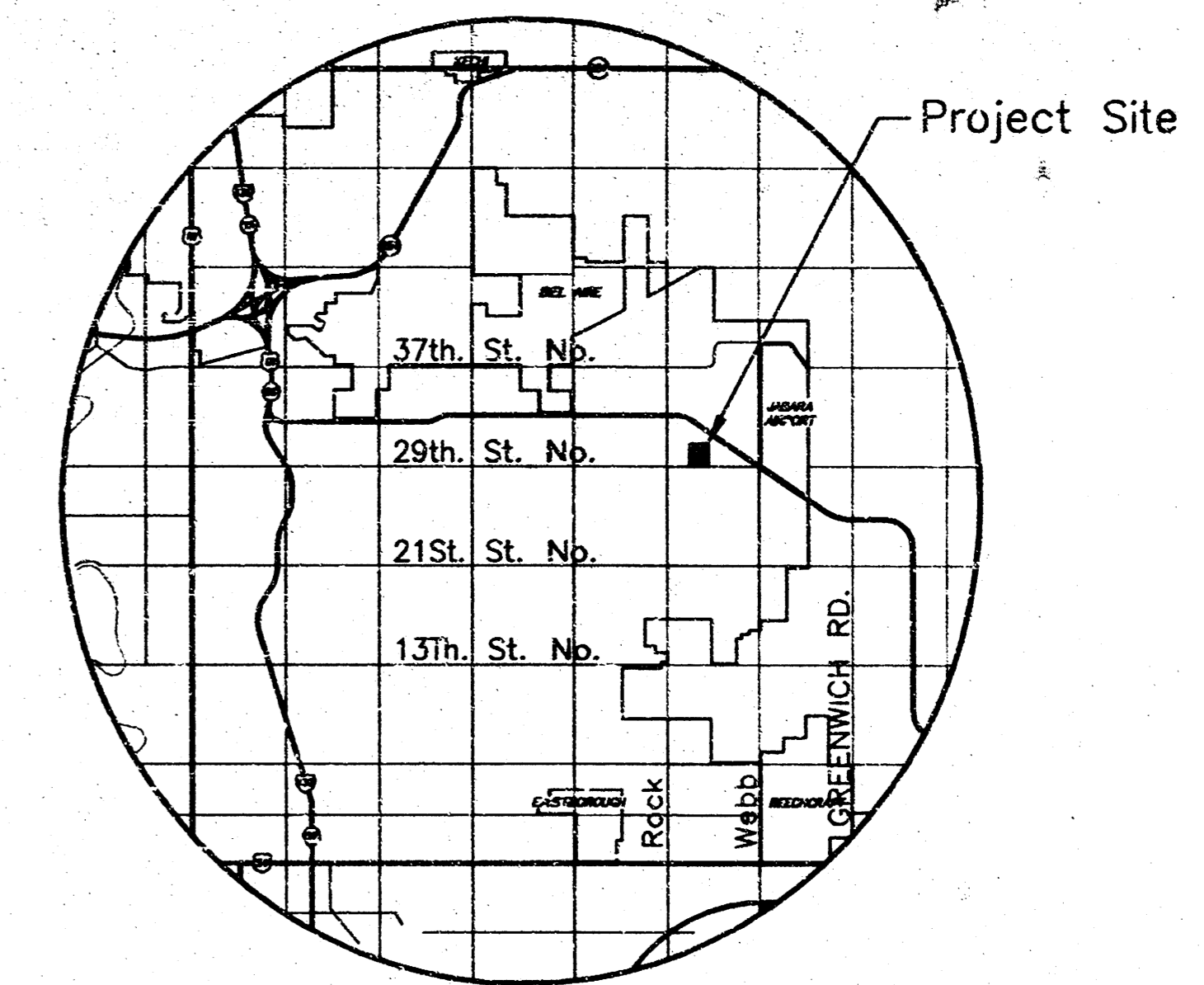
CTR. SE COR.  
SEC. 32, T26S, R2E



SITE MAP

SE COR., NE 1,  
SEC. 32, T26S, R2E

SE COR., NE 1,  
SEC. 32, T26S, R2E



LOCATION MAP

APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA

STORM SEWERS URH 7/16/04

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

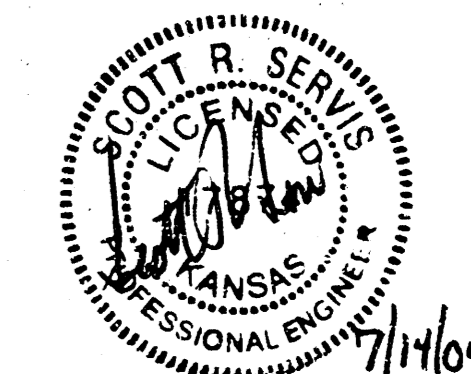
## INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	RETAINING WALL DETAIL
3	GRADING PLAN
4	SWS DETAIL
5-8	EROSION CONTROL/SEEDING
9	FINAL PLAT

SCALE: 1" = 200'

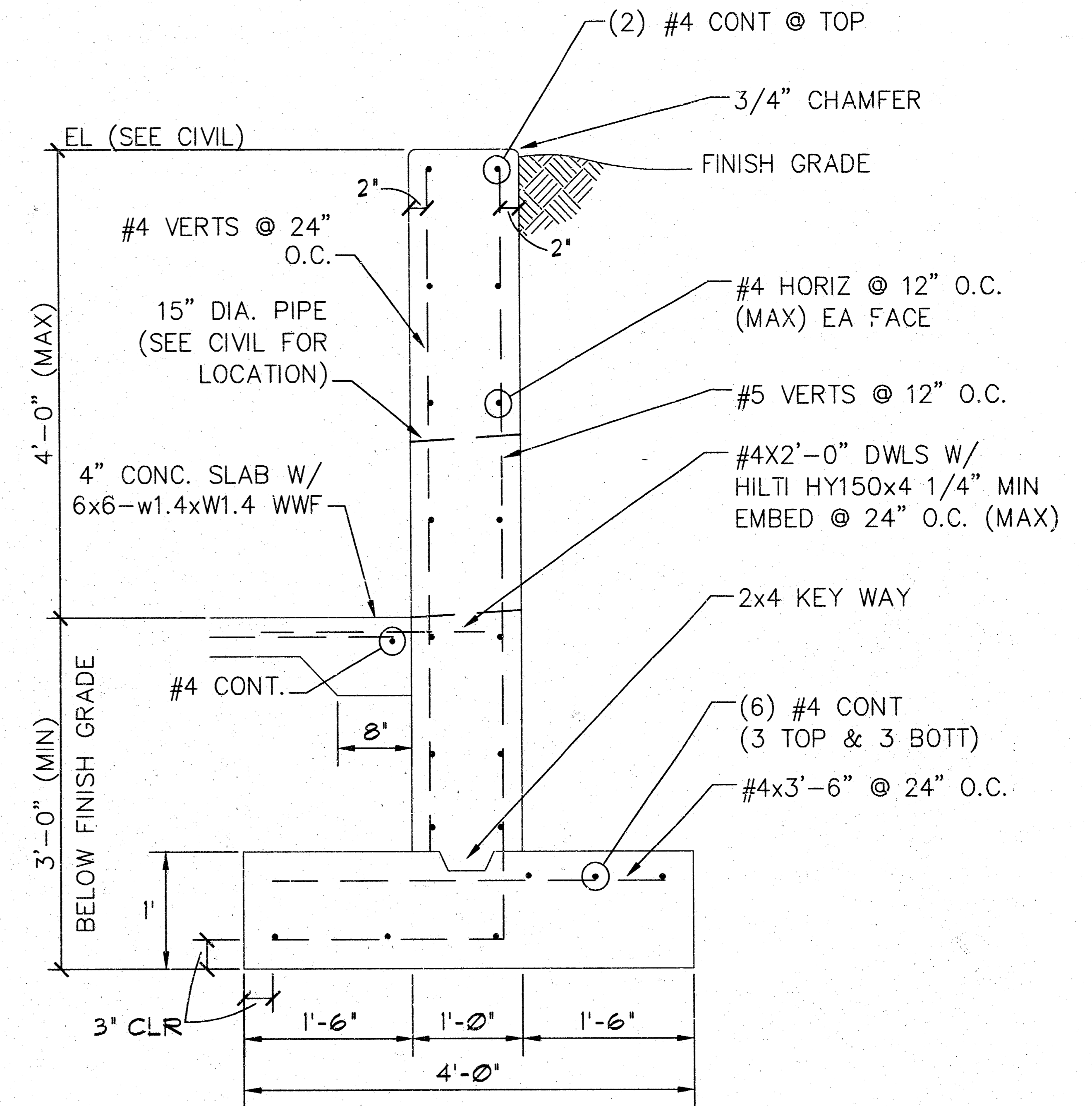
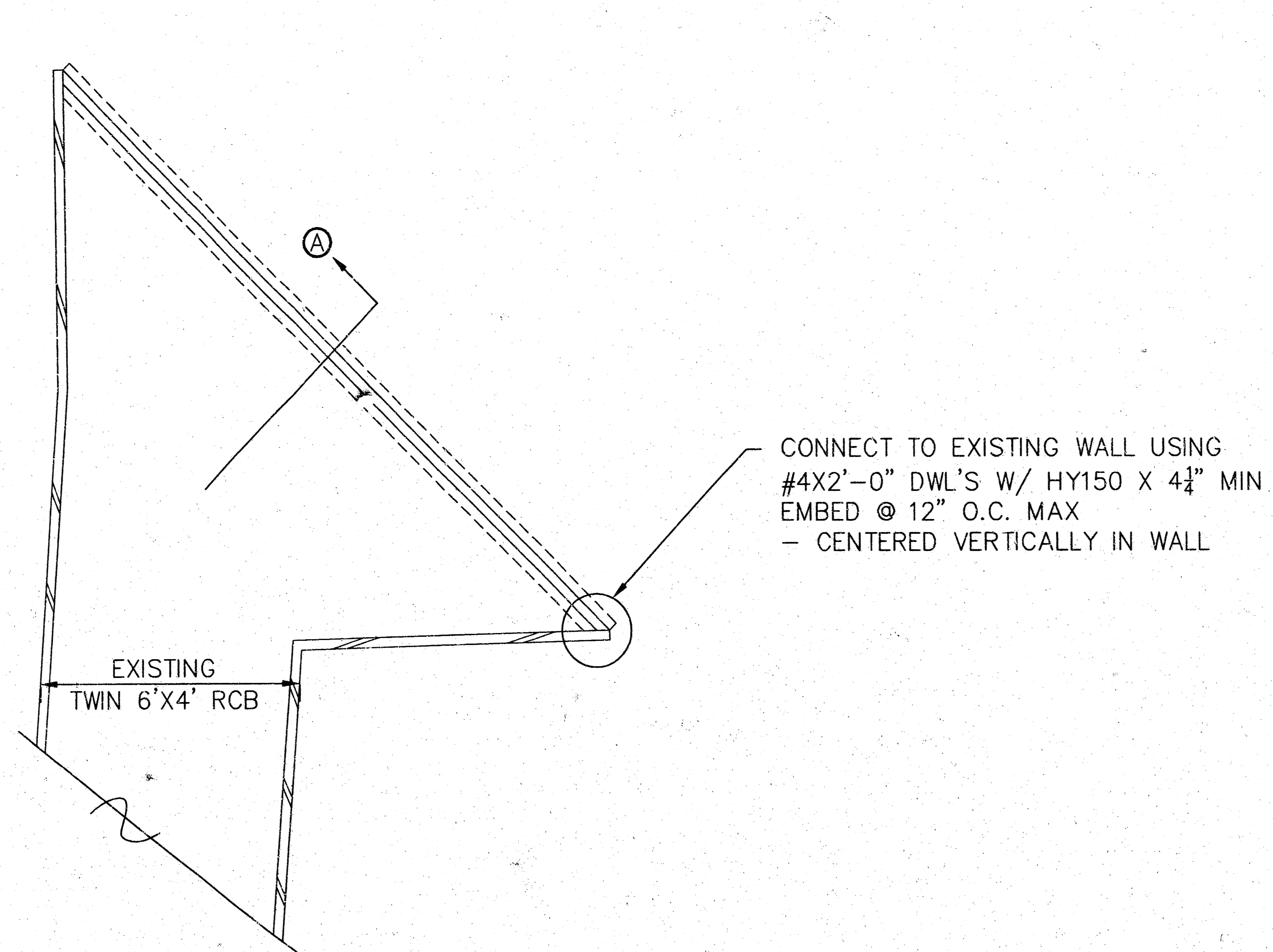
## BENCHMARKS

BM #1 Chiseled "□" cut top of headwall on the NW Corner  
RCB @ the SW Corner of Lot 9, Block 2.  
Elev. = 221.12 (C.O.W.)

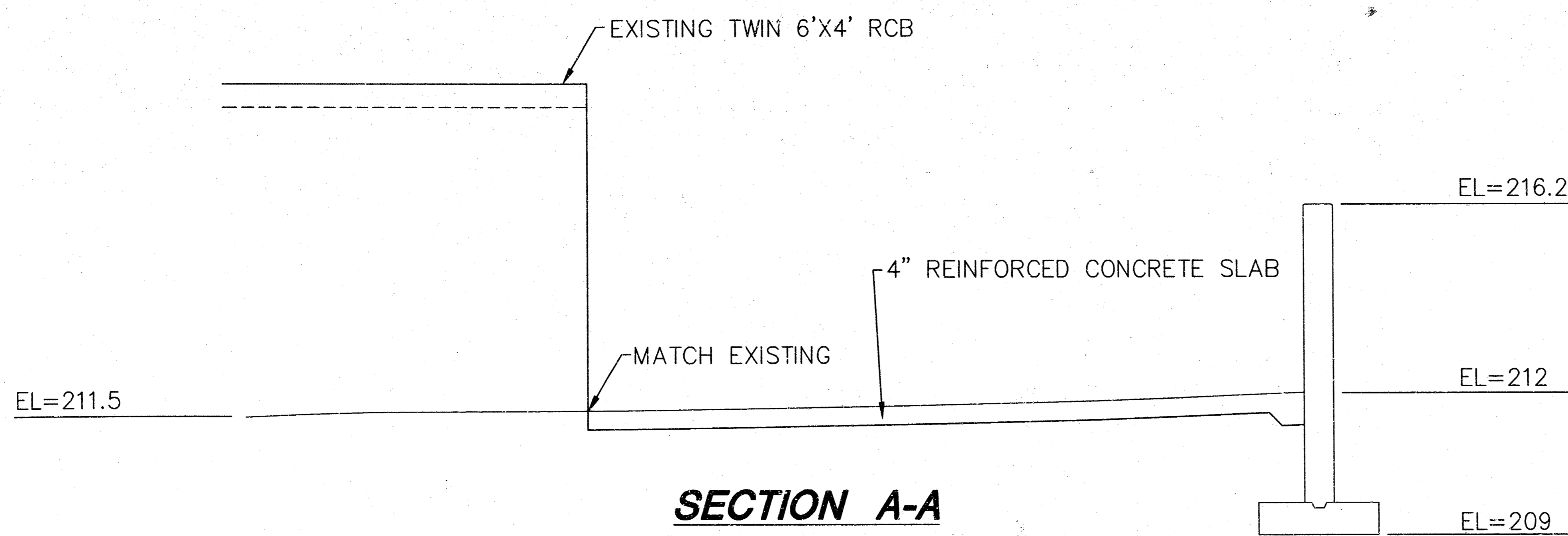


ASBUILT 2-3-05

 <b>MKEC</b> ENGINEERING CONSULTANTS 411 N. WEBB ROAD WICHITA, KS. 67206 316-684-9600	<b>MEDITERRANEAN PLAZA</b>	
	PROJECT NAME	
	<b>LOT 9, TRACT 2</b>	
	<b>GRADING PLAN</b>	
SHEET TITLE		
DESIGN BY: <u>SRS</u>	DRAWN BY: <u>KWS</u>	CHECKED BY: <u>GJA</u>
DATE: <u>JULY 2004</u>	JOB NO.: <u>PH_TITLE</u>	SHEET/OF: <u>1 / 9</u>



**SECTION A**



**SECTION A-A**

H:\CIVIL\03057.DWG (DRWG) RET WALL

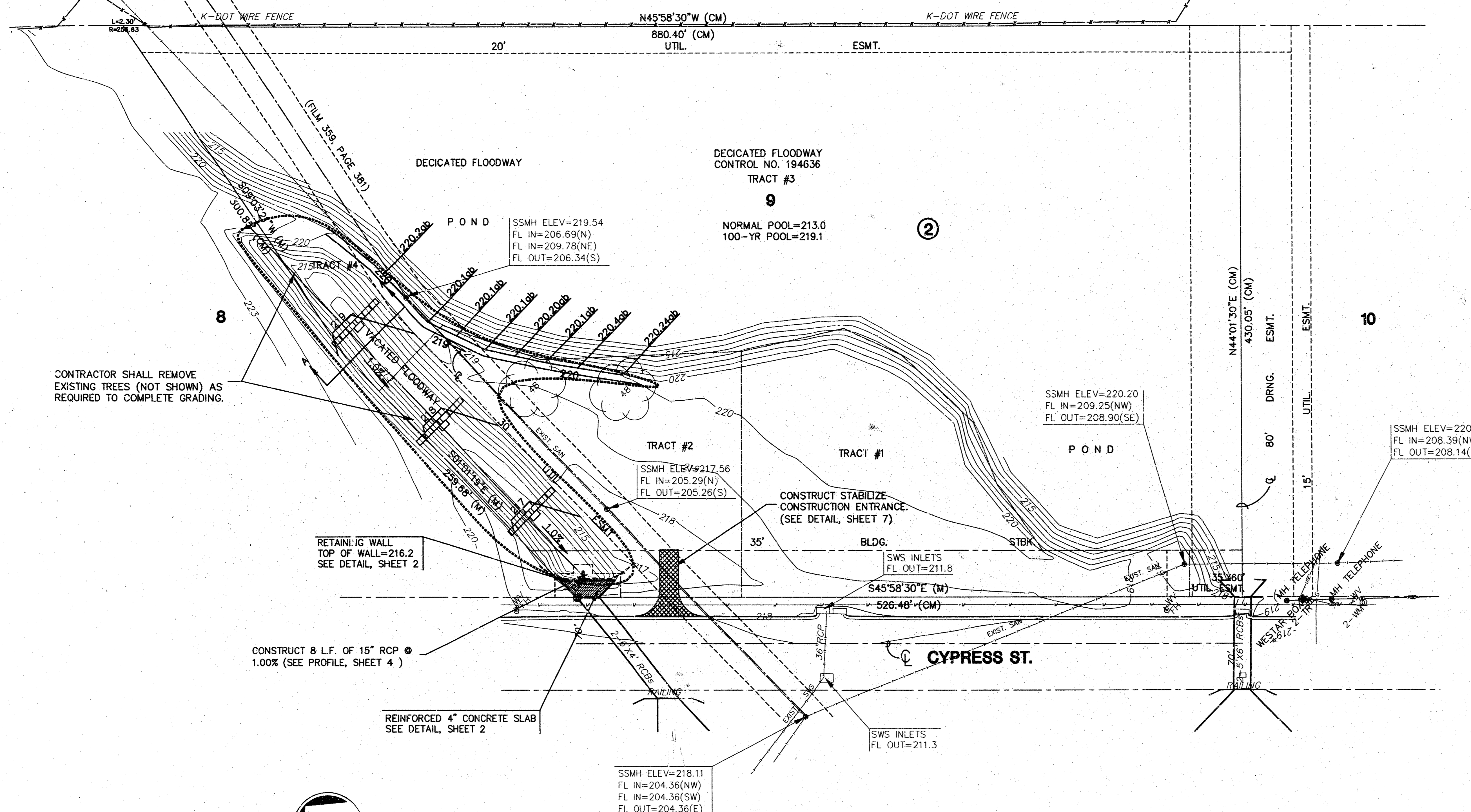
**MEDITERRANEAN PLAZA**  
PROJECT NAME

**RETAINING WALL DETAILS**  
SHEET TITLE

DESIGN BY: SRS	DRAWN BY: KWS	CHECKED BY: GJA
DATE: JULY 2004	JOB NO.: RETWALL	SHEET NO.: 2 / 9

411 N. WEBB ROAD  
WICHITA, KS. 67206  
316-264-9800

**K-96 (NORTHEAST EXPRESSWAY)**



CONTRACTOR SHALL REMOVE EXISTING TREES (NOT SHOWN) AS REQUIRED TO COMPLETE GRADING.

RETAINING WALL TOP OF WALL=216.2 SEE DETAIL, SHEET 2

CONSTRUCT 8 L.F. OF 15" RCP @ 1.00% (SEE PROFILE, SHEET 4)

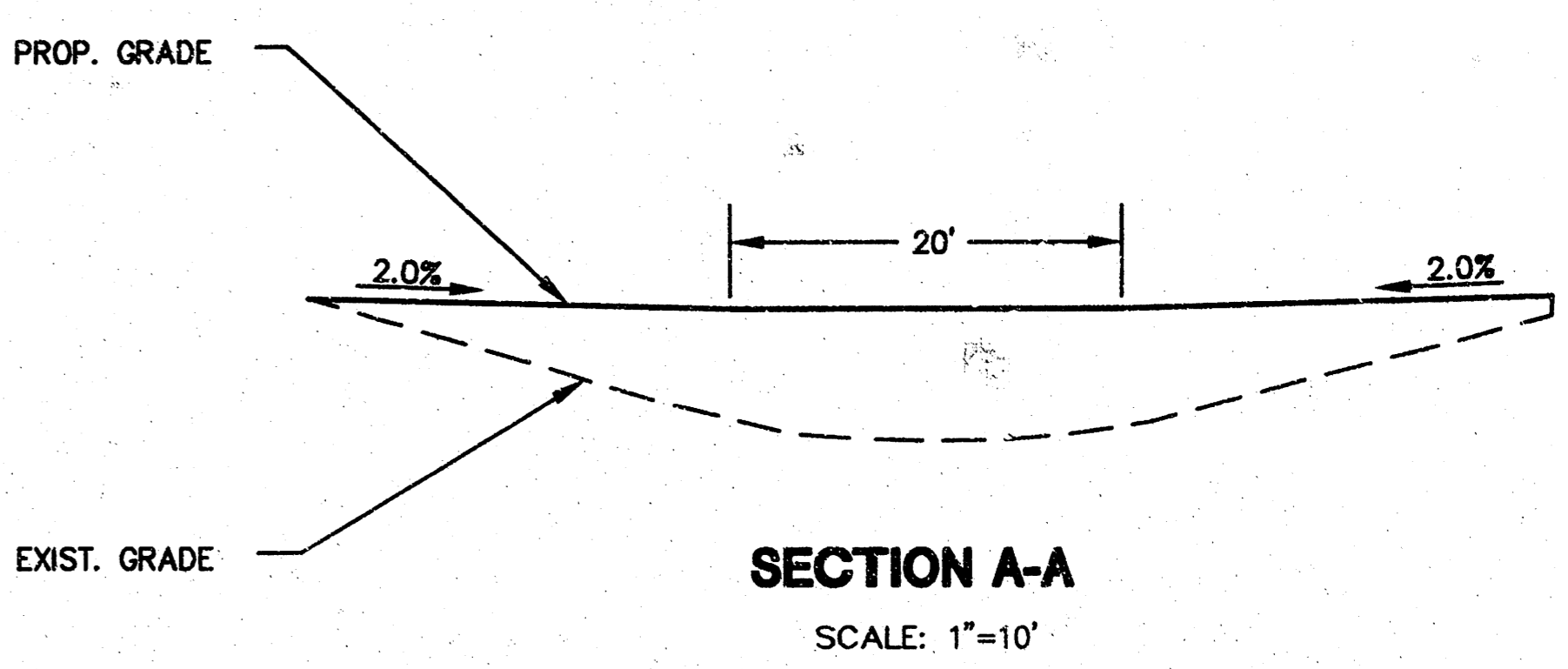
REINFORCED 4" CONCRETE SLAB SEE DETAIL, SHEET 2

SSMH ELEV=218.11  
FL IN=204.36(NW)  
FL IN=204.36(SW)  
FL OUT=204.36(E)

SWS INLETS  
FL OUT=211.3

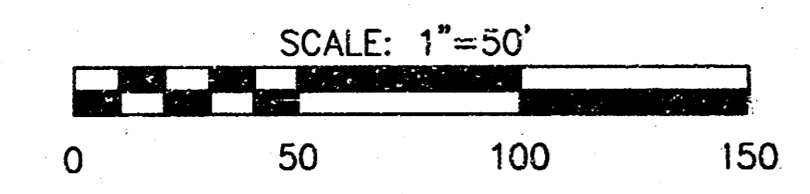
SSMH ELEV=220.20  
FL IN=209.25(NW)  
FL OUT=208.90(SE)

SSMH ELEV=220.64  
FL IN=208.39(NW)  
FL OUT=208.14(SE)



**NOTES**

1. EROSION CONTROL IS TO MEET ALL FEDERAL, STATE, COUNTY & LOCAL CODE STANDARDS.
2. ALL AREAS DISTURBED SHALL BE SEEDED (COST SUBSIDIARY TO TEMPORARY SEEDED) AND FERTILIZED AS FOLLOWS:  
ANNUAL RYE @ 200 LBS/ACRE  
10-20-10 @ 350 LBS/ACRE  
THIS AREA SHALL BE FINE GRADED AND SURFACE SHALL BE FREE FROM STICKS, SMALL STONES, AND OTHER EXTRANEUS MATERIALS.
3. CONTRACTOR SHALL PROVIDE EROSION PROTECTION THROUGHOUT PROJECT CONSTRUCTION. THE PLAN PROVIDED HERE IS FOR FINAL PROTECTION. VARIOUS PHASES OF THIS PLAN SHALL BE IMPLEMENTED OR MODIFIED TO CONTROL EROSION. MODIFICATIONS OF THE PLAN SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE.
4. SEEDED AREAS SHALL BE PREPARED FOR PLANTING WITH COMMON AGRICULTURAL TECHNIQUES. APPROVE WITH OWNER'S REPRESENTATIVE BEFORE PLANTING.
5. ALL SEED SHALL BE DISTRIBUTED WITH AN ACCEPTABLE DRILL INTENDED FOR SUCH OPERATIONS, OR OTHER EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE. SEEDING DEPTH SHALL BE 1/4".
6. ALL SEEDED AREAS SHALL BE IMMEDIATELY MULCHED WITH PRAIRIE HAY AT 2 TONS/ACRE ANCHOR MULCH BY CRIMPING INTO TOPSOIL WITH SUITABLE MECHANICAL EQUIPMENT.
7. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND IMPLEMENTING ALL EROSION CONTROL. COST IS SUBSIDIARY TO CHECK DAMS AND STABILIZED CONSTRUCTION ENTRANCE.



**LEGEND**

- W — WATER LINE
- S — SANITARY SEWER LINE
- S — STORM SEWER LINE
- 155 — EXIST. CONTOURS
- — — PROP. PROPERTY LINE
- - - - - SILT FENCE
- ○ ○ ○ ○ APPROXIMATE SEEDED LIMITS
- □ □ □ □ STRAW BALE DIKE OR ORGANIC FILTER BERM CHECK DAMS
- ▨ ▨ ▨ ▨ ▨ STABILIZED CONSTRUCTION ENTRANCE

ASBUILT 2/3/05

**MKEC**  
ENGINEERING CONSULTANTS  
411 N. WEBB ROAD  
WICHITA, KS. 67206  
316-684-9600

**MEDITERRANEAN PLAZA**  
PROJECT NAME  
**LOT 9, TRACT 2**  
GRADING PLAN  
SHEET TITLE

DESIGN BY: SRS	DRAWN BY: KWS / TLT	CHECKED BY: GJA
DATE: JULY 2004	JOB NO.: 03057	SHEET/OF: 3 / 9

APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA

STORM SEWERS

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**GENERAL NOTES**

- UNLESS SHOWN OR OTHERWISE STATED ON THESE DRAWINGS, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS.
- THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
- ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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.
- TREES TO BE REMOVED ARE MARKED . ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
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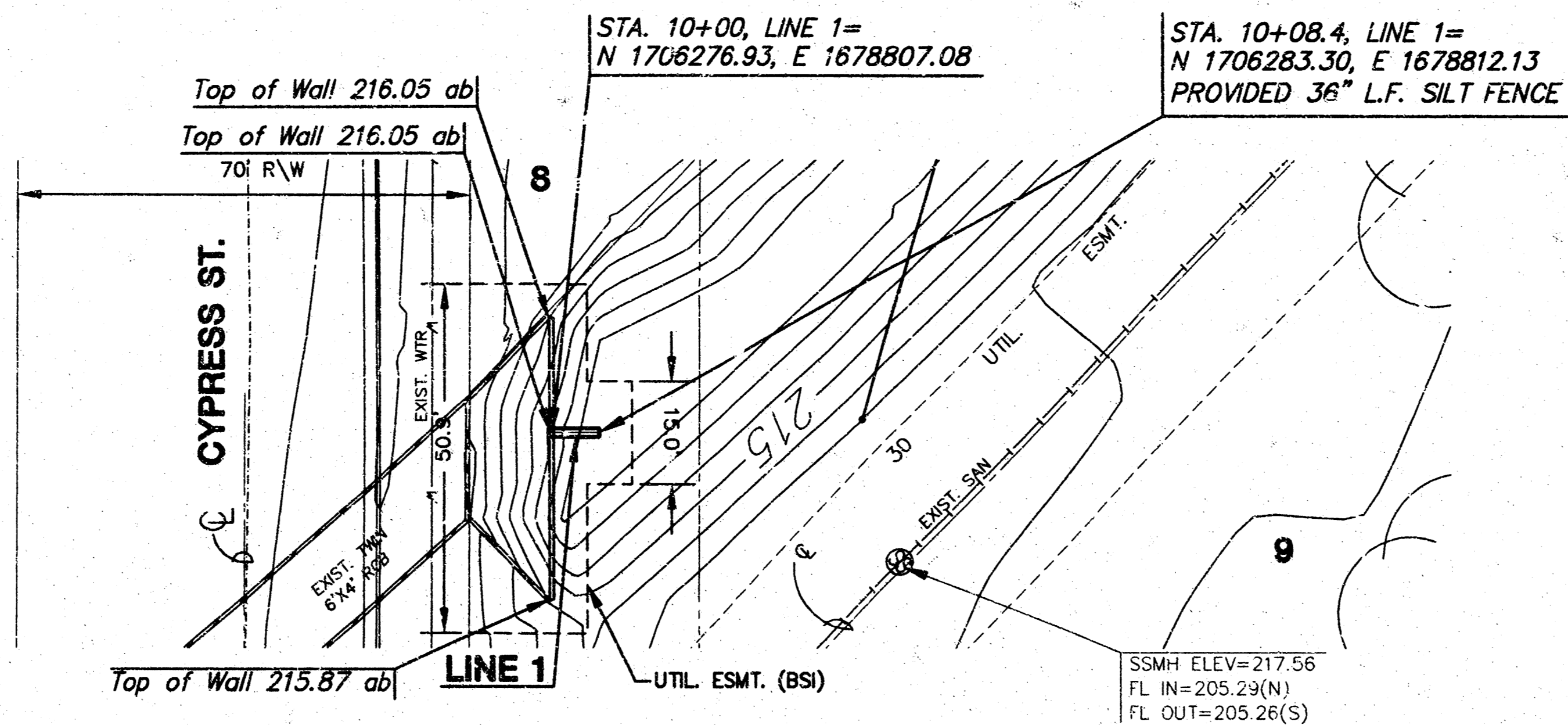
THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:

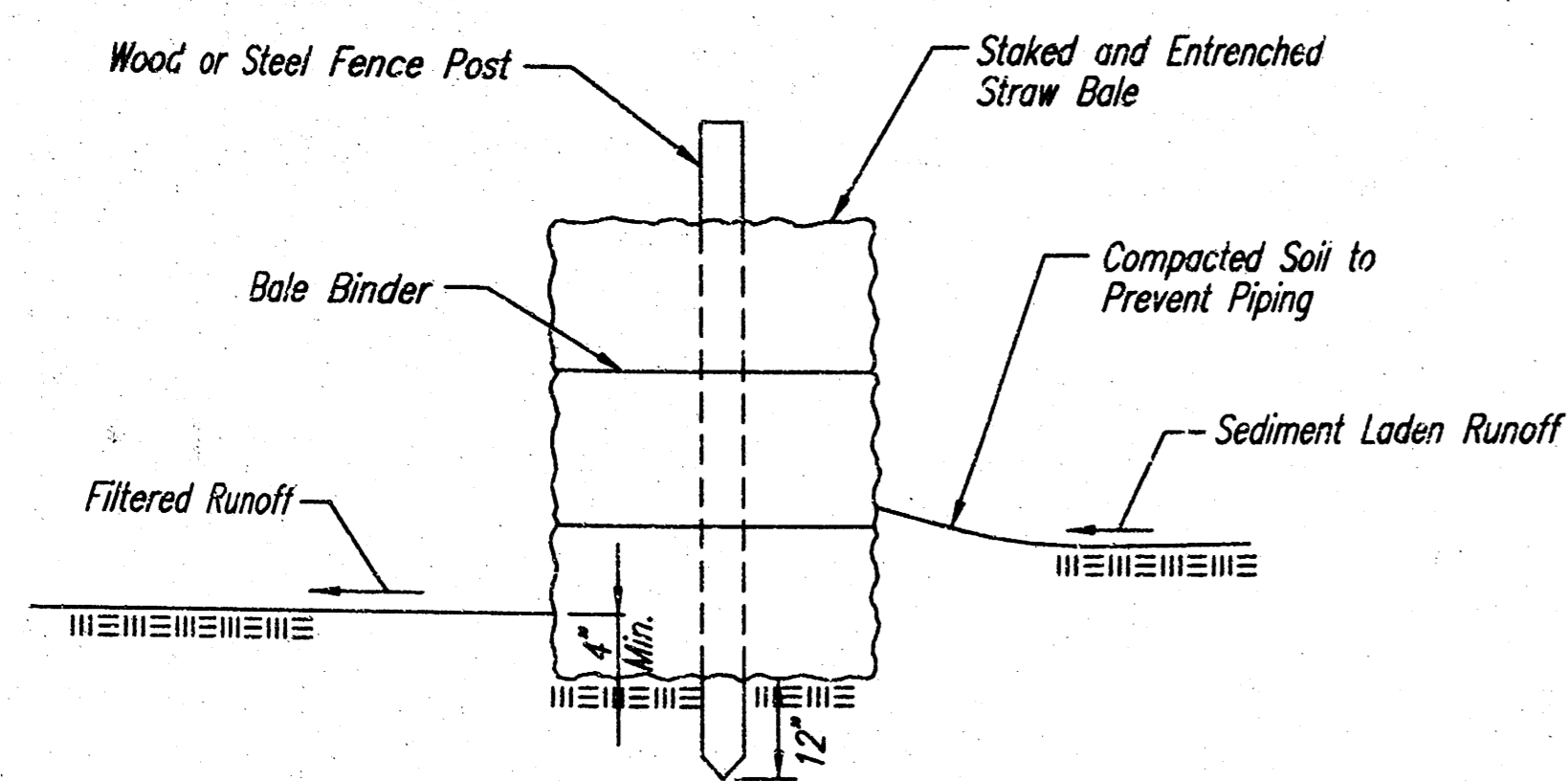
COX COMMUNICATIONS (CABLE)	262-0661
WESTAR (ELECTRIC)	261-6512
KANSAS GAS SERVICE (GAS)	832-3101
SBC (TELEPHONE)	800-870-8390
CITY OF WICHITA WATER & SEWER	262-6000
AQUILA (GAS)	946-0096

9. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS 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.

10. CONTRACTOR SHALL RESEED AND MULCH ALL DISTURBED AREAS NOT REQUIRED TO BE SODDED. COST SHALL BE CONSIDERED SUBSIDIARY TO SITE RESTORATION.

MEDITERRANEAN PLAZA ADD.





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.

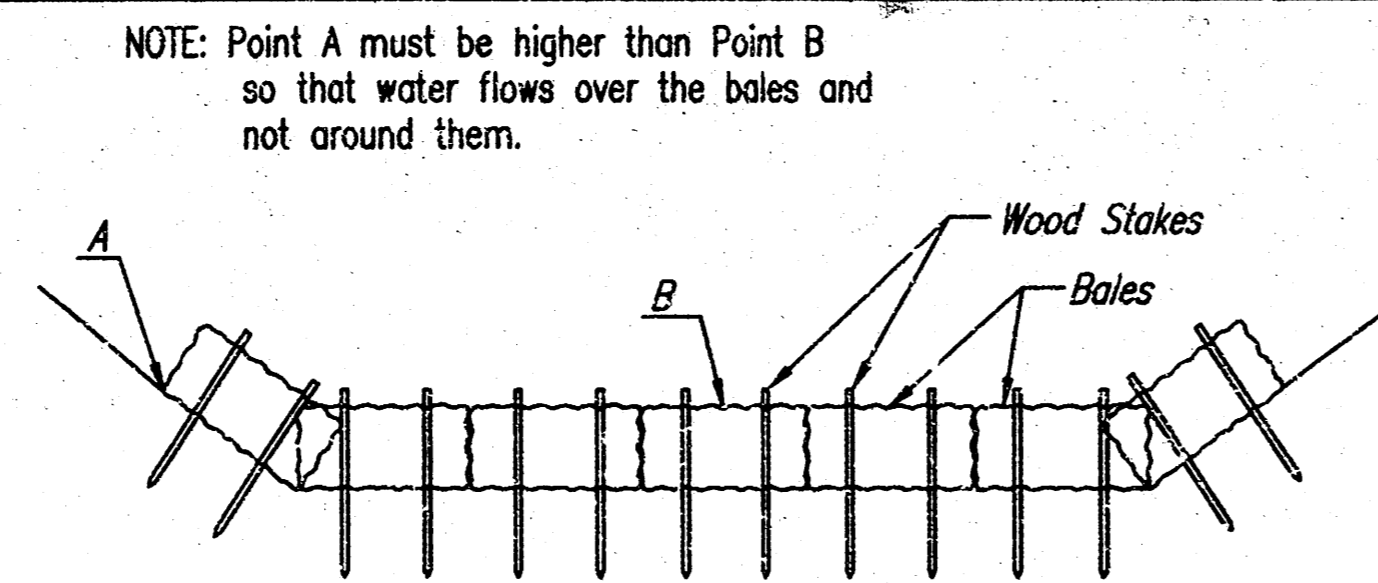
Do not place bale slope barriers in areas with shallow soils underlain by rock. If the barrier is not anchored sufficiently, it will wash out.

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

**Proper installation method:**

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

Optional: On the downstream side of the trench, roll out a length of erosion-control blanket (scour apron) equal to the length of the trench. Place the upstream edge of the erosion-control blanket along the bottom upstream edge of the trench. The erosion control blanket should be anchored in the trench with one row of 8" landscape staples placed on 18" centers.

The remainder of the erosion-control blanket (the portion that is not lying in the trench) will serve as the downstream scour apron. This section of the blanket should be anchored to the ground with 8" landscape staples placed around the perimeter of the blanket on 18" centers. The remainder of the blanket should be anchored using two evenly spaced rows of 8" landscape staples on 18" centers placed perpendicular to the flowline of the ditch.

Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.

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

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

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

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

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

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

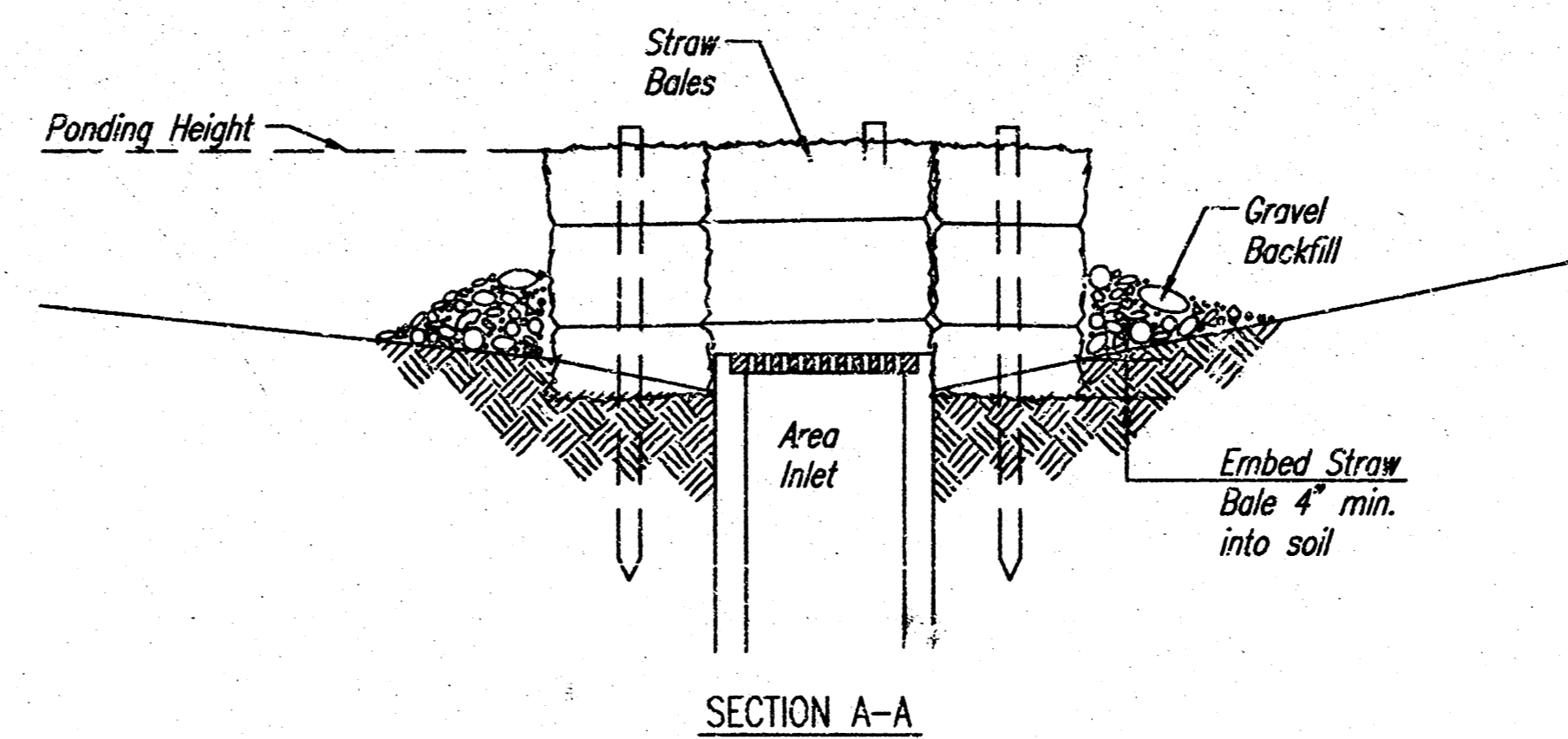
Do not place bale ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.

Bale ditch checks must be dug into the ground. Bales at ground level do not work because they allow water to flow under the check.

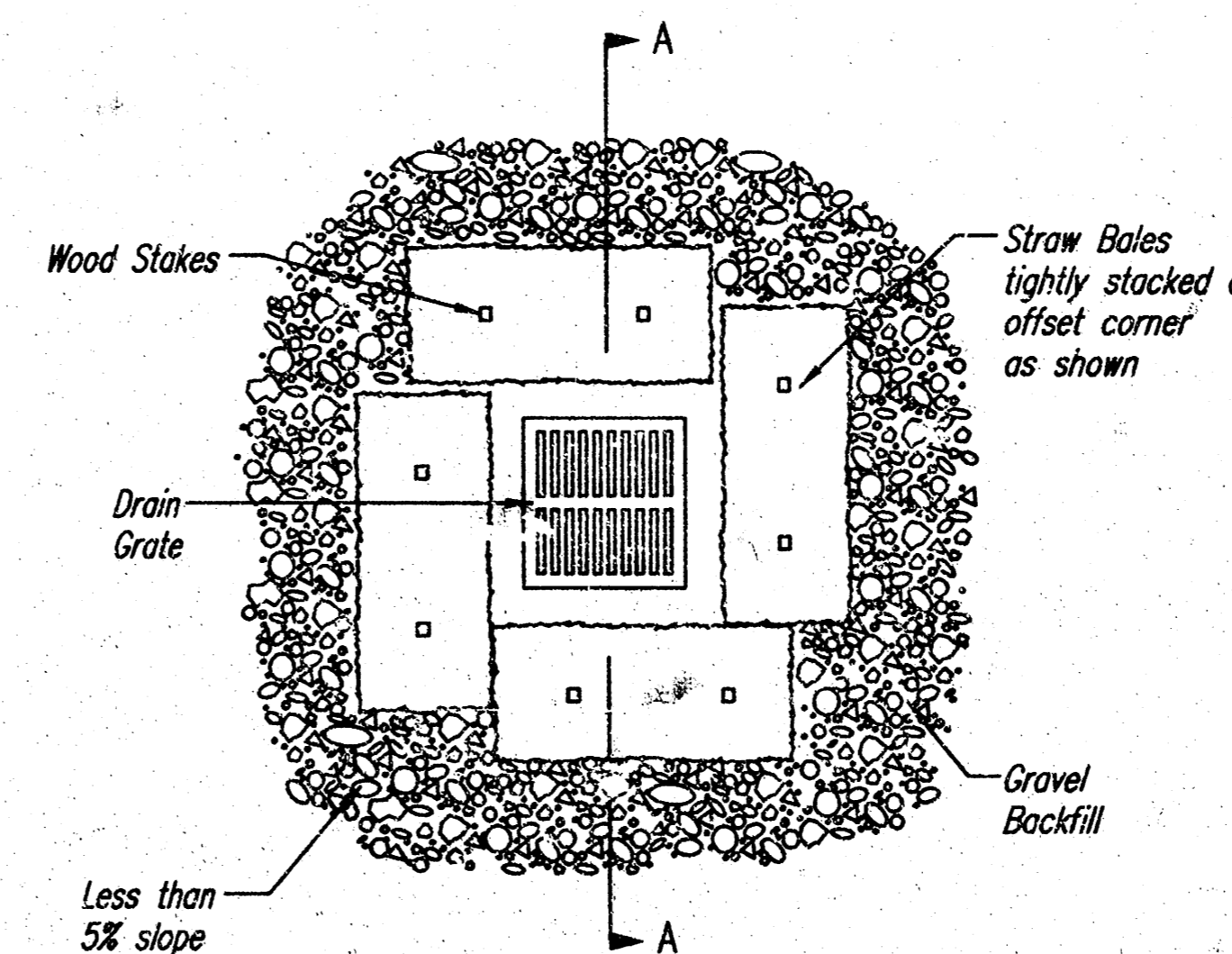
**Inspection and Maintenance:**

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

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



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

**Material Specification:**

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

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

**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.

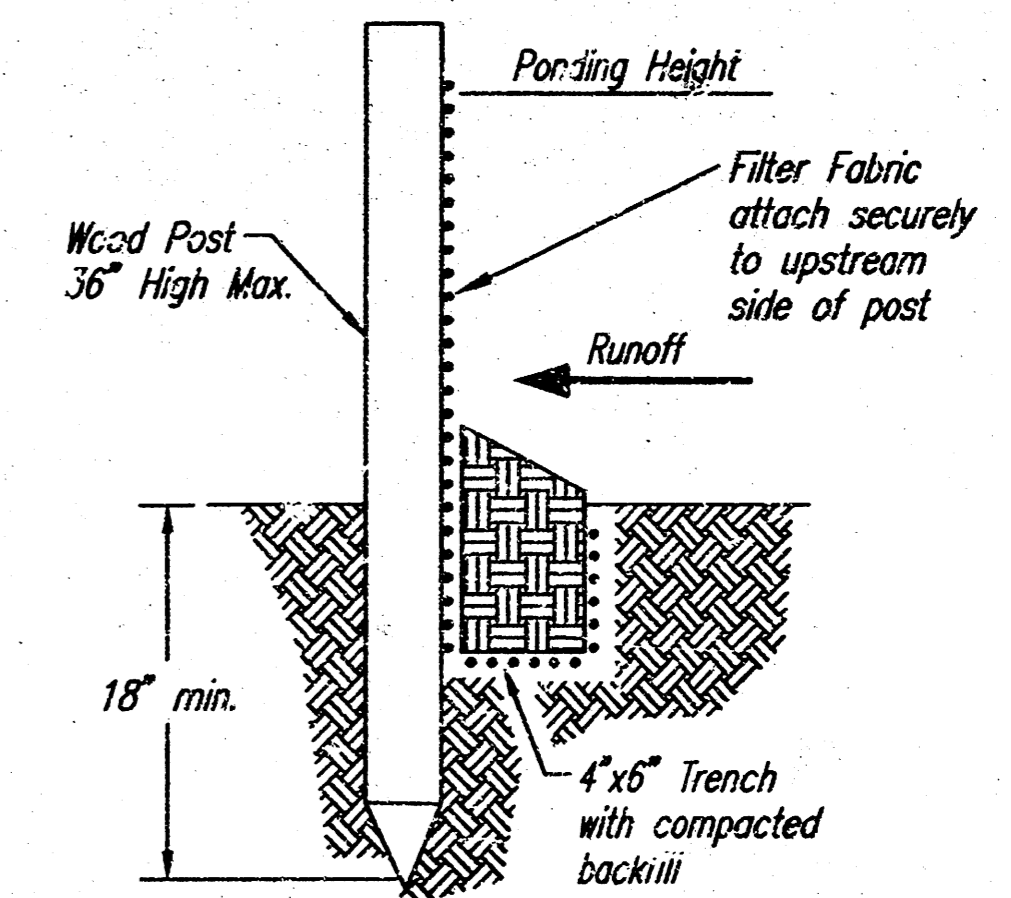
**List of common placement/installation mistakes to avoid:**

Bales should be placed directly against the perimeter of the area inlet. This allows overlapping 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?



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 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.

Place the exposed silt fence upslope of the trench to clear an area for driving in the posts. Lay the silt fence fabric on 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?

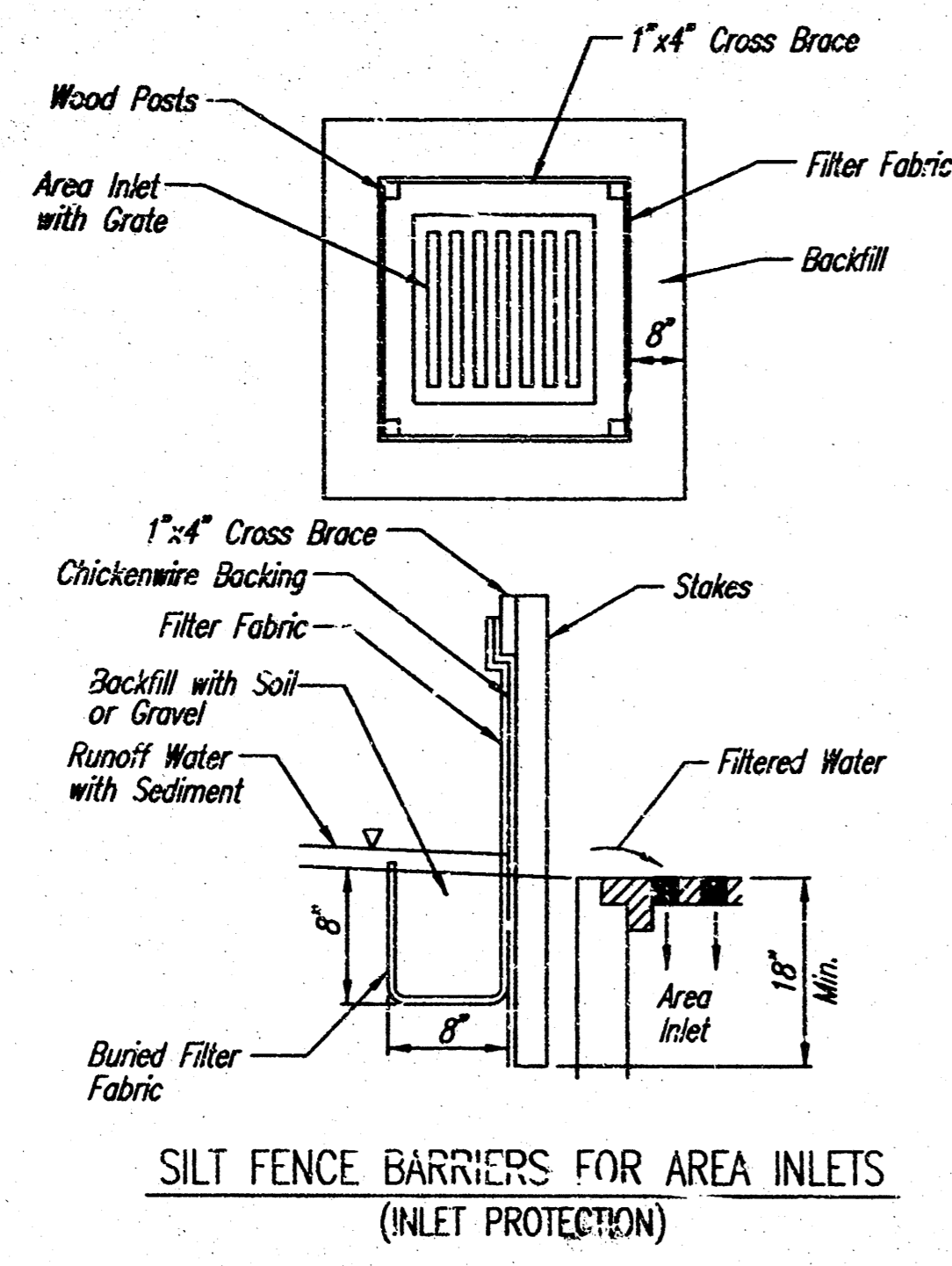
**CITY OF WICHITA**

**SOIL EROSION BMP DETAILS**

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

PROJECT NUMBER	O&A NO.
1461 PPS	607861
DATE	SHEET 5 OF 9
JULY 2004	

NSNR DEP OPER SCALE: 1"=1.00' H:\CWA\0357A\DWG\DRWG\SMP\_1 LIBRARY\CIVIL\EROSION\WICHITA\BMP\STORM\SEMP\_PEC\_DTJSL-R14.DWG 04/02/03 09:08:33 AM CST



**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.

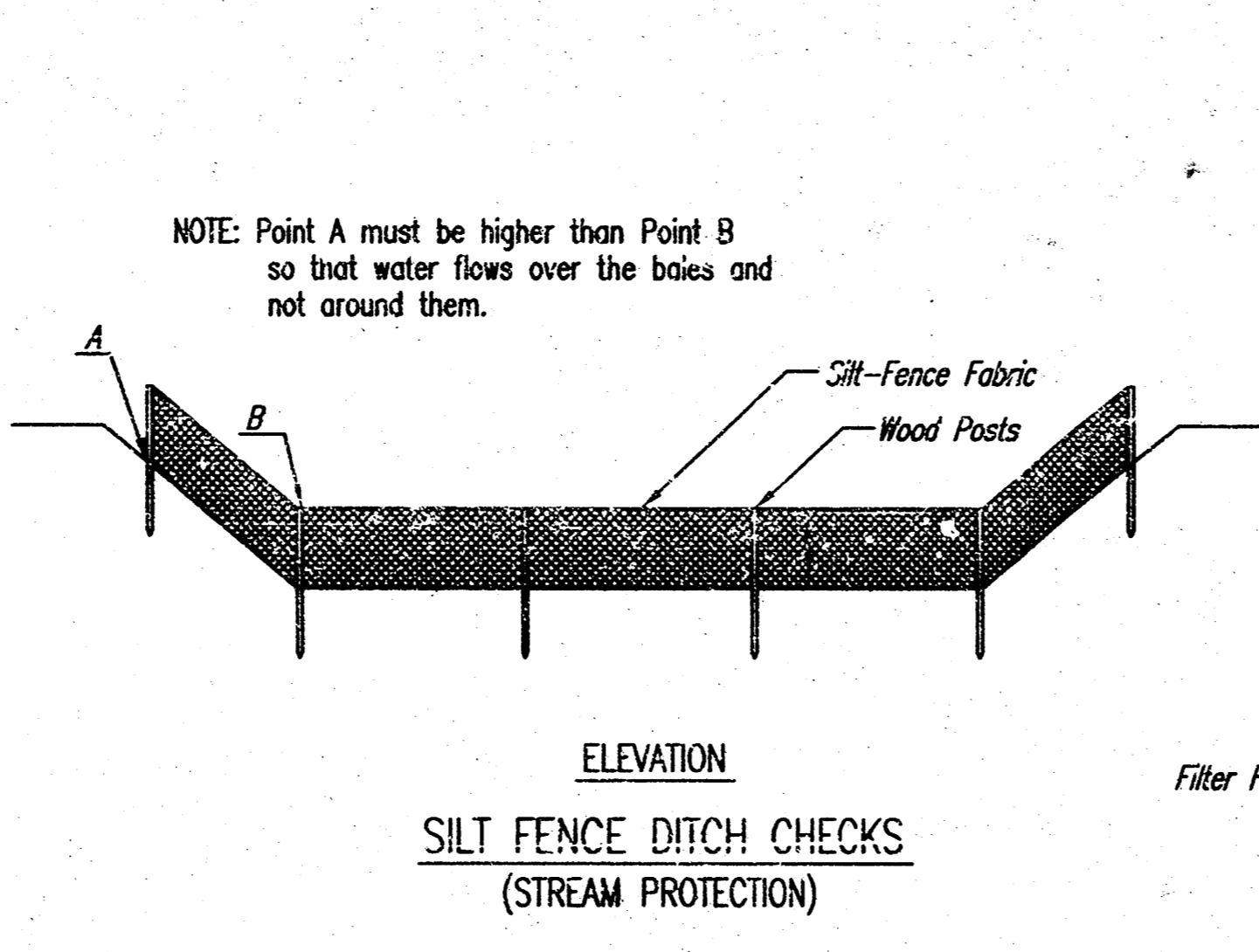
**Placement:**  
 Place a silt fence drop inlet barrier in a location where it is unlikely to be overtopped. Water should flow through silt fence, not over it. Silt fence barriers for area inlets often fail when repeatedly overtopped. When used as a barrier for area inlets, silt fence fabric and posts 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 overtopped 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?



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

**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.

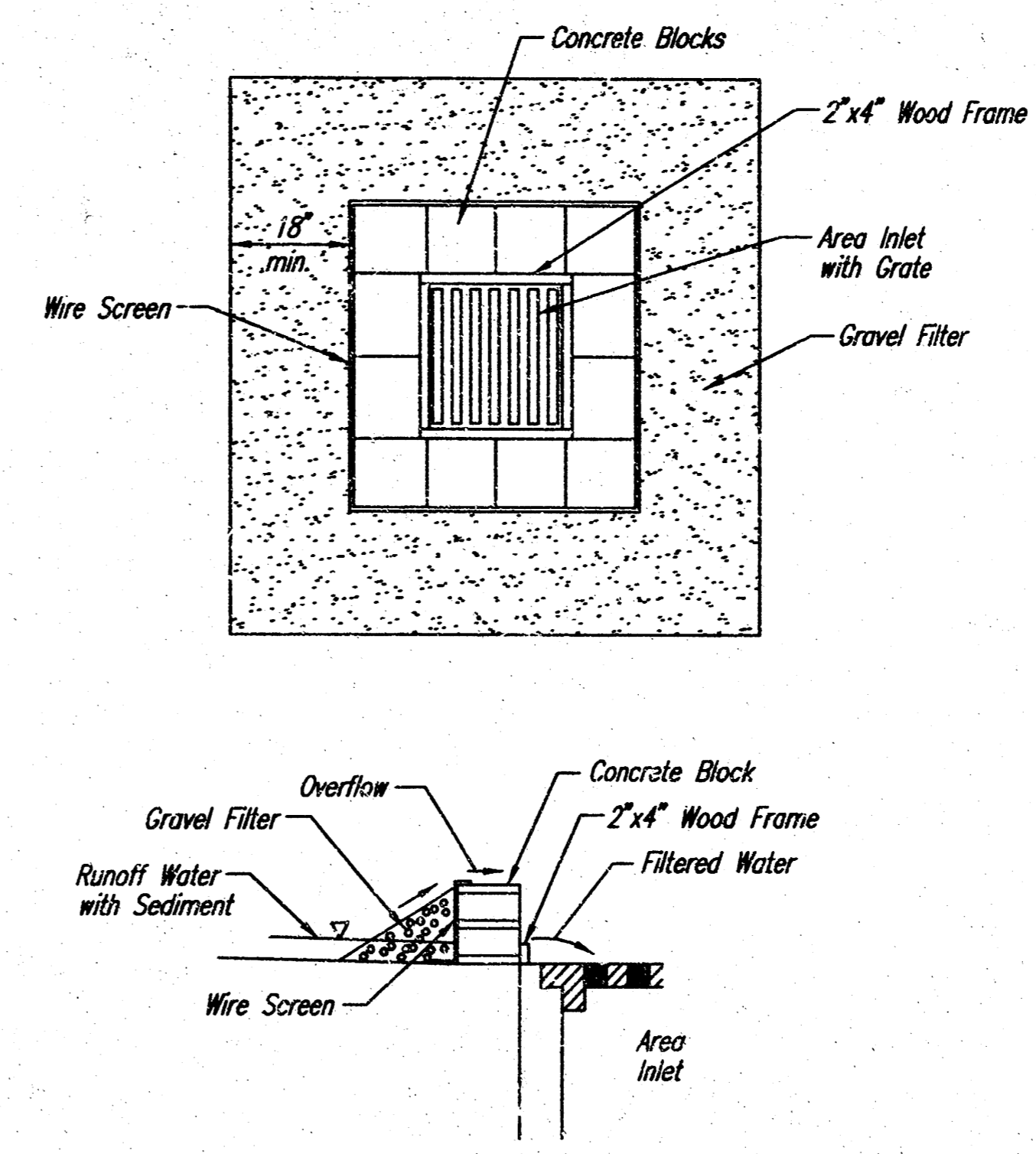
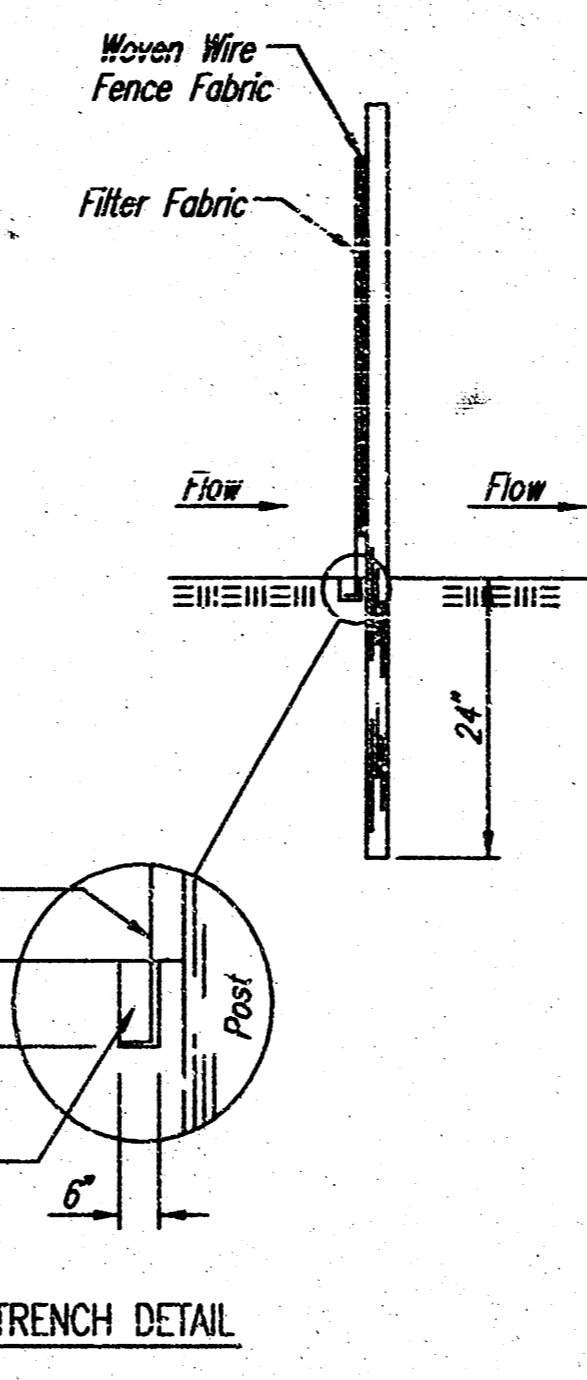
**Placement:**  
 Place silt fence in ditches where it is unlikely that it will be overtopped. Water should flow through a silt fence ditch check, not over it. Silt fence ditch checks often fail when overtopped. Silt fence ditch checks should be placed perpendicular to the flowline of the ditch. The 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.



**Material Specification:**  
 Concrete blocks should be 18" x 18" x 18" minimum. Wire screen should be 1/2" mesh. Gravel filter should be 1/4" to 3/8" diameter. Area inlet grate should be 1/2" x 1/2" mesh.

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.

**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?

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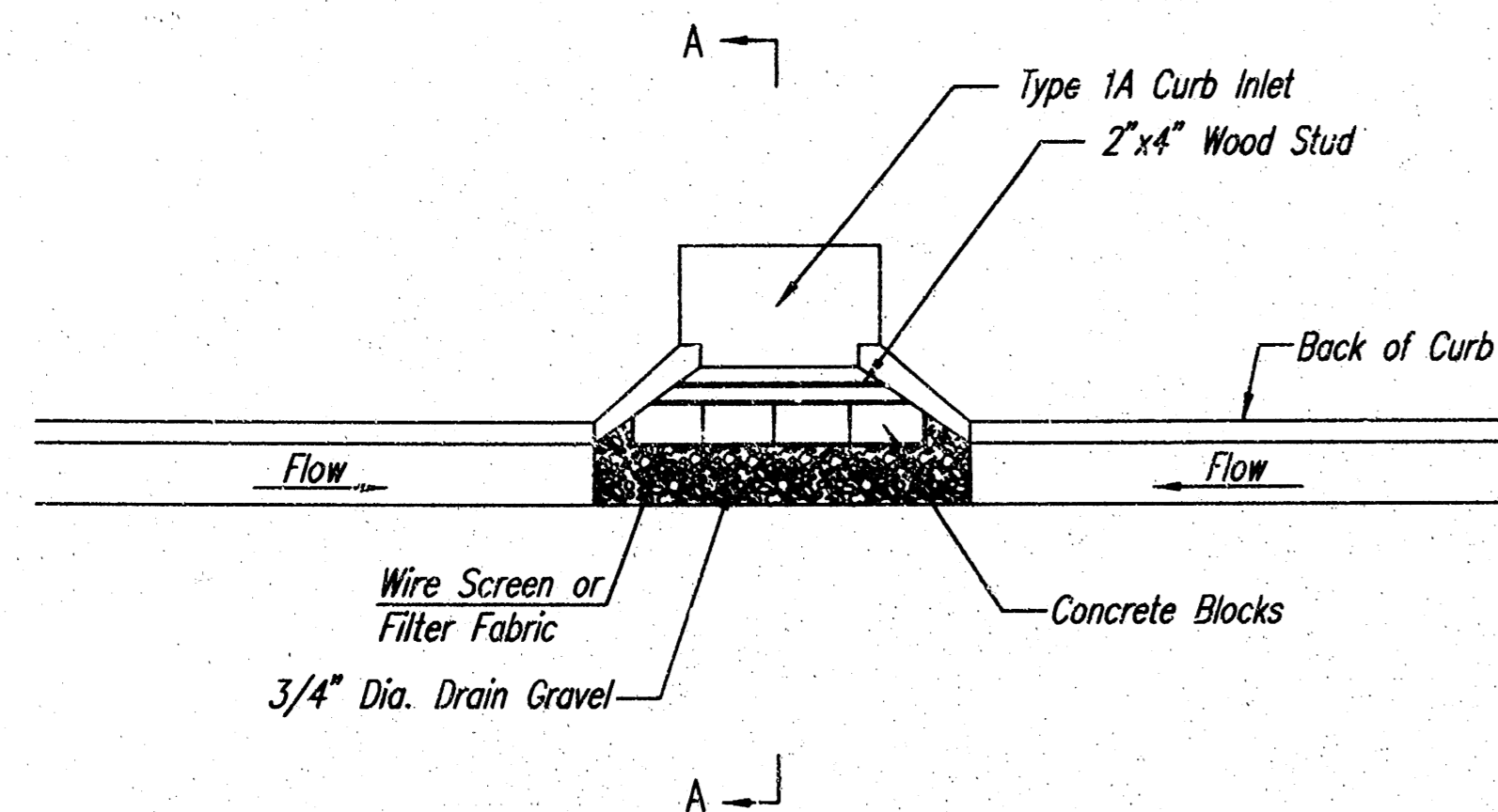
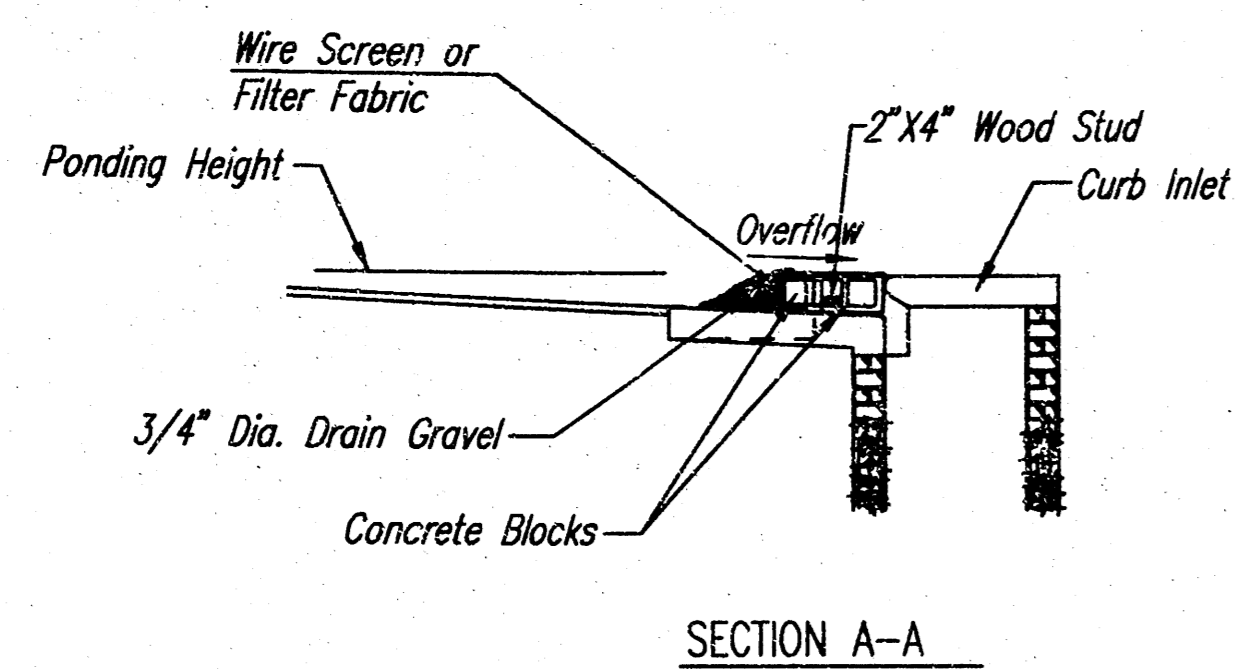
**SOIL EROSION  
BMP DETAILS**

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

PROJECT NUMBER: 1461 PPS      OCA NO.: 807861

DATE: JULY 2004      SHEET 6 OF 9

DSNR, DEP. OPER. DEP. SCALE: 1=1.00  
 2. STANDARD Standards Wichita (SEBMP)\_PEC\_DTL.S3 06-05-2001 02:03:06 pm



**CURB INLET GRAVEL FILTERS**  
(INLET PROTECTION-RESIDENTIAL STREETS ONLY)

NOTE: Other types of curb inlet protection may be approved by the city so long as equal protection is provided.

A gravel inlet filter shall be installed at sump locations on residential streets. This type of protection is not to be used on arterial or collector streets at any time that it would pose an undue traffic hazard.

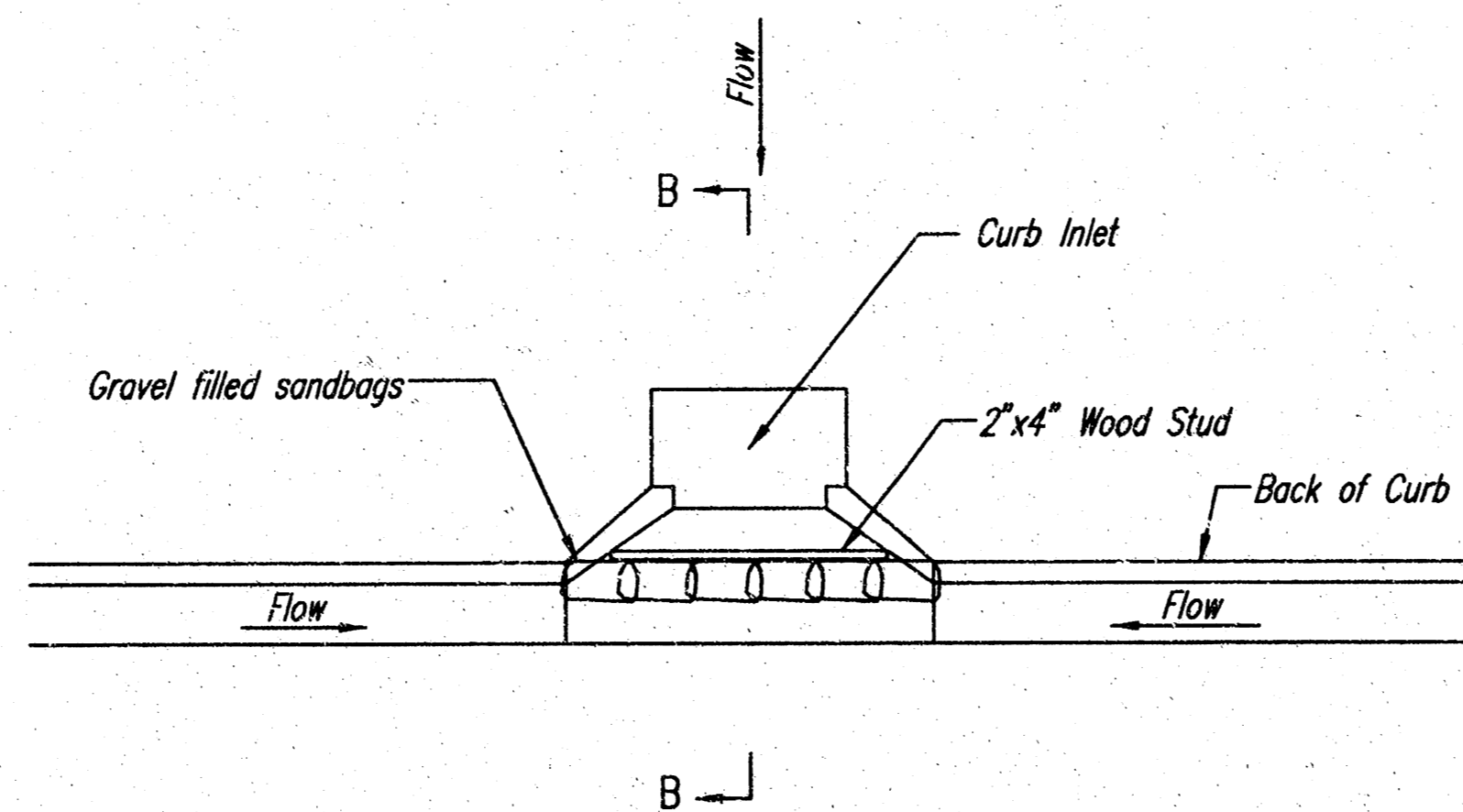
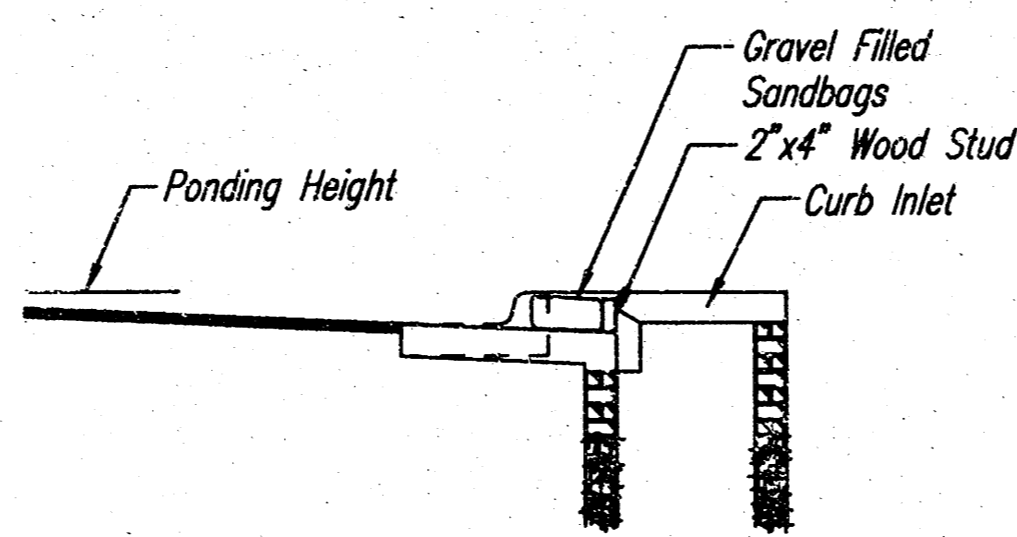
Instructions for Installing:

- STEP 1: Place concrete blocks around the inlet as shown on drawing. Insert 2x4 board as shown.
- 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 installation is the use of gravel bags supported by a 2"x4" board to prevent collapsing.

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

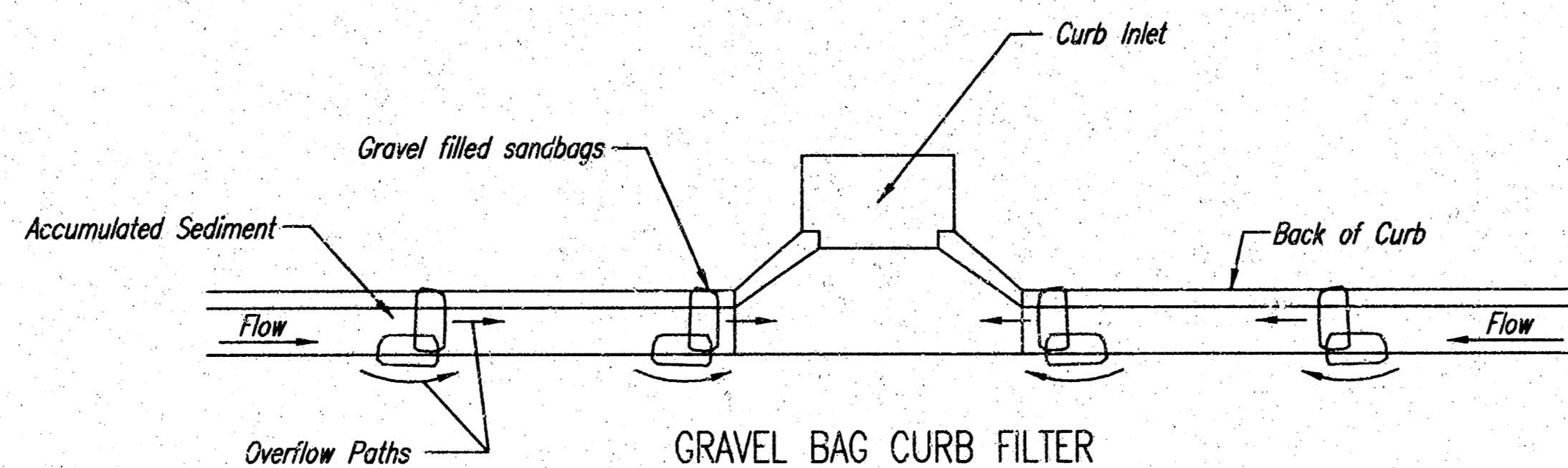
Maintenance:

All curb inlet gravel filters shall be inspected and repaired after each runoff event. Sediment deposits are to be removed once material is within 8 cm (3 inches) of the top of any block. Periodically, the gravel shall be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets.



**CURB INLET SANDBAG FILTERS**  
(INLET PROTECTION)

NOTE: Other types of curb inlet protection may be approved by the City so long as equal protection is provided.



**GRAVEL BAG CURB FILTER**  
(INLET PROTECTION)

NOTE: Place two or more sets of bags in a manner that results in maximum support. The flow line bag must be lower than top of curb.

CURB SEDIMENT TRAPS.

When inlets are located on streets having a grade (i.e., sump conditions do not exist), installing gravel (or sand) bags in the gutter flow line to create small sediment traps can be considered. Gravel bags are recommended over sand bags to allow for drainage.

If the spacing between bags becomes too large, little sediment may be trapped. Spacing of bags should be completed using the table or graph that illustrates placement distances based upon street slope. When installed in the gutter, bag tops must be lower than the sidewalk.

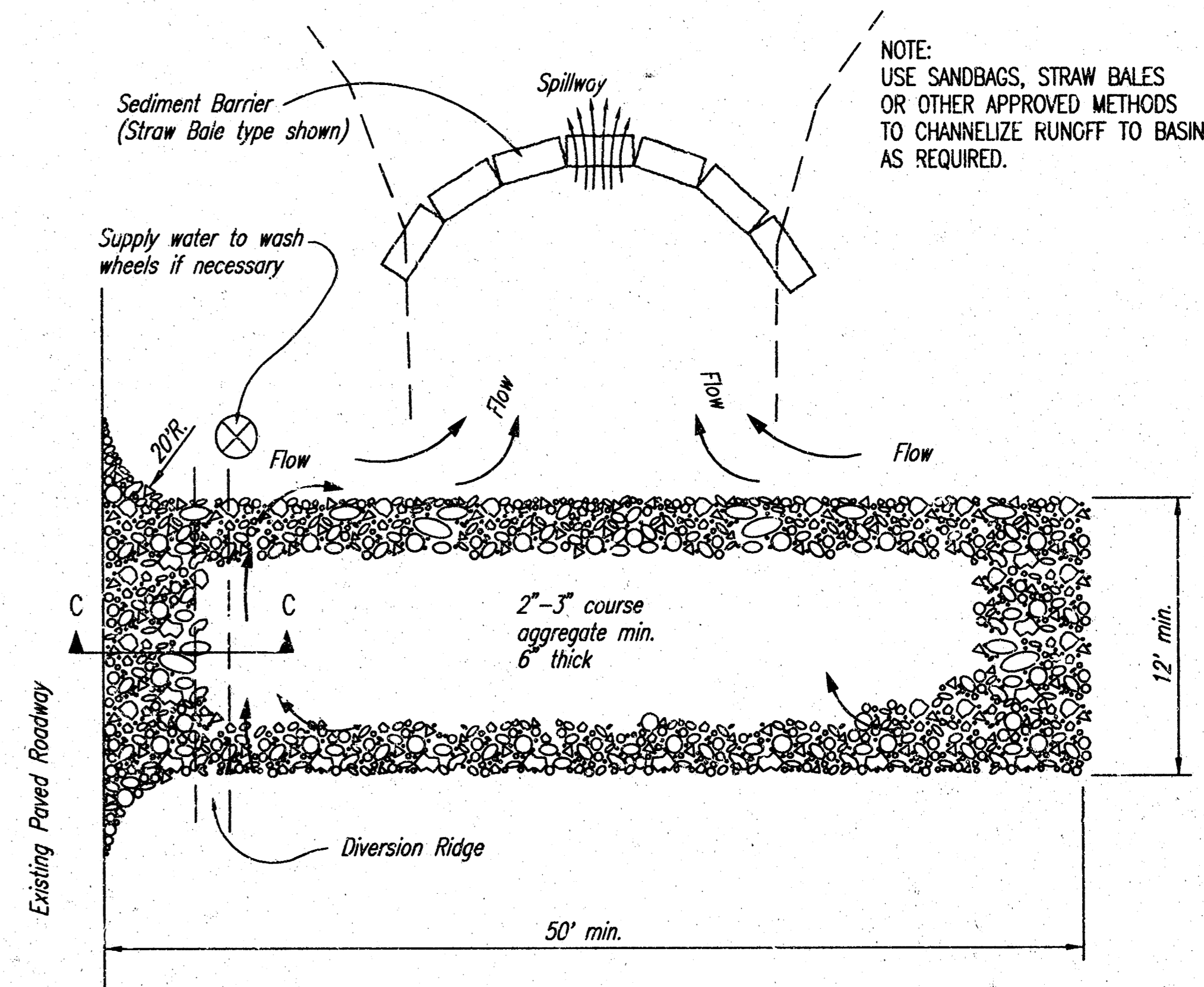
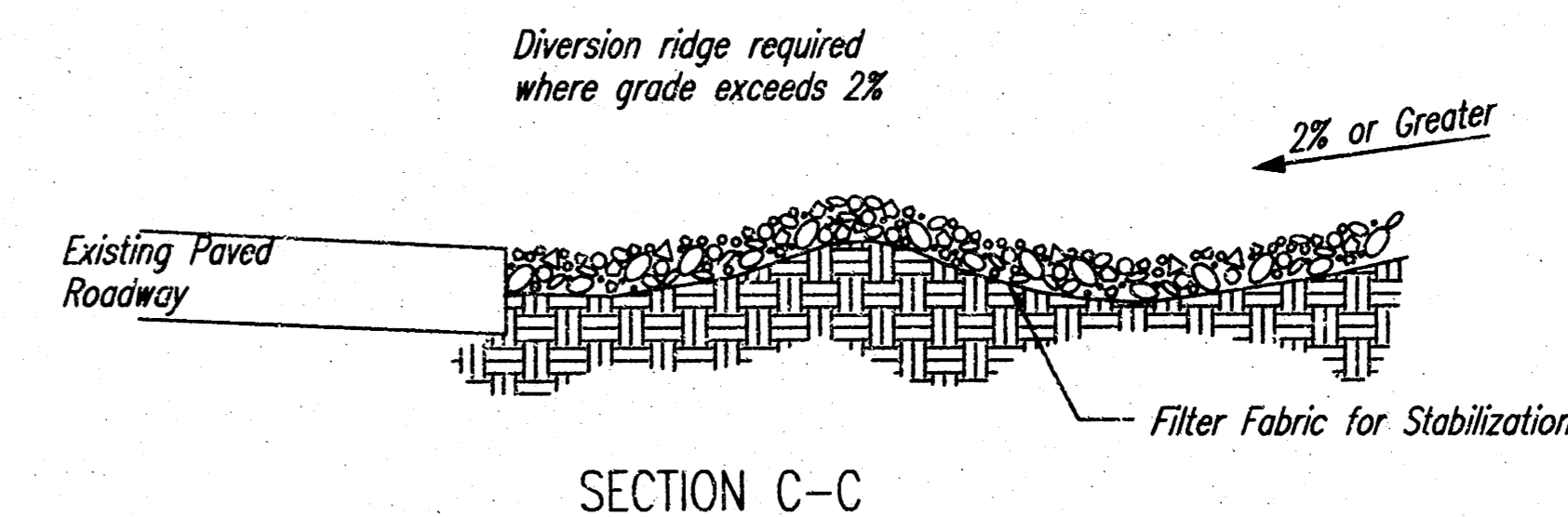
Spacing:

Gravel bags are to be placed according to street grades using the following table or graph that appears below.

GRADE (%)	SPACING (FEET)
0.5	75
1.0	45
2.0	18
3.0	12
4.0	9
5.0	6

Maintenance:

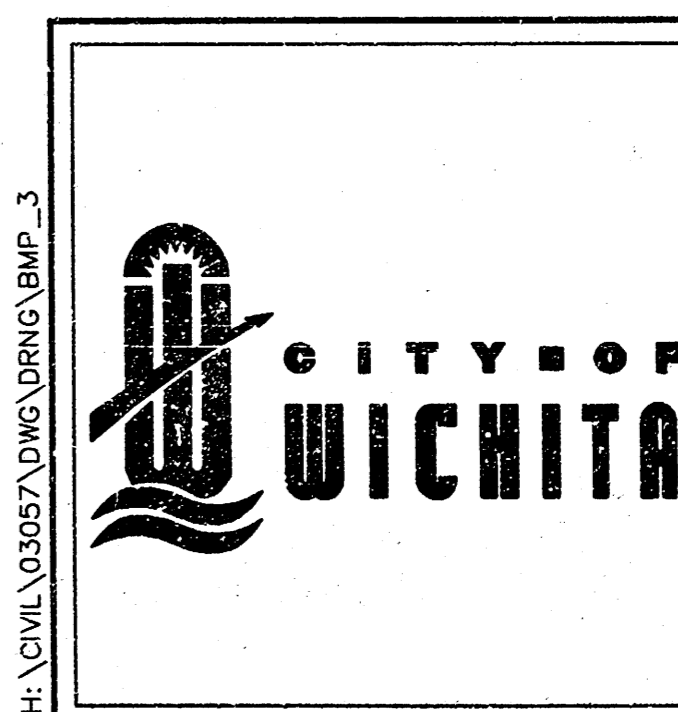
Collected sediment shall be removed after every runoff event. Bags that are destroyed by vehicular traffic or through natural deterioration are to be immediately replaced.



**STABILIZED CONSTRUCTION ENTRANCE**

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

PROJECT NUMBER: 1461 PPS  
O&A NO.: 607861

DATE: JULY 2004  
SHEET 7 OF 9



# FINAL PLAT OF MEDITERRANEAN PLAZA

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

Lot No.	Block No.	Minimum Lot Area (Acres)	Minimum Lot Area (S.G.S.)
10	1	219.5	1406.9
11	1	219.5	1406.9
12	1	219.5	1406.9
15	1	219.5	1406.9
8	2	219.5	1406.9
9	2	219.5	1406.9
1	3	225.5	1412.9
2	3	225.5	1412.9
3	3	225.5	1412.9
4	3	225.5	1412.9

