

STORM WATER DRAIN NO. 161

to serve

Angelfire Addition - Phase 1

CITY OF WICHITA, KANSAS

Michael E. Lindebak, P.E. City Engineer

Project Number

468-83184

OCA Number

751292

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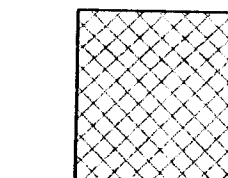
Scale: 1" = 150'

EARTH WORK TOTALS

	C.Y. Fill	C.Y. Cut
Mass Grading	181,430	1,564
Ponds	0	192,336
Total	181,430	193,900

Earthwork quantities do not include correction factors and are for reference only. All cost associated with mass grading shall be included in the bid item "Mass Grading". If shortage of material occurs, Lots 49-54, Block B shall not be filled, but graded to provide positive drainage. If surplus of material occurs, the excess shall be stockpiled in a location determined by the engineer.

Benefit District



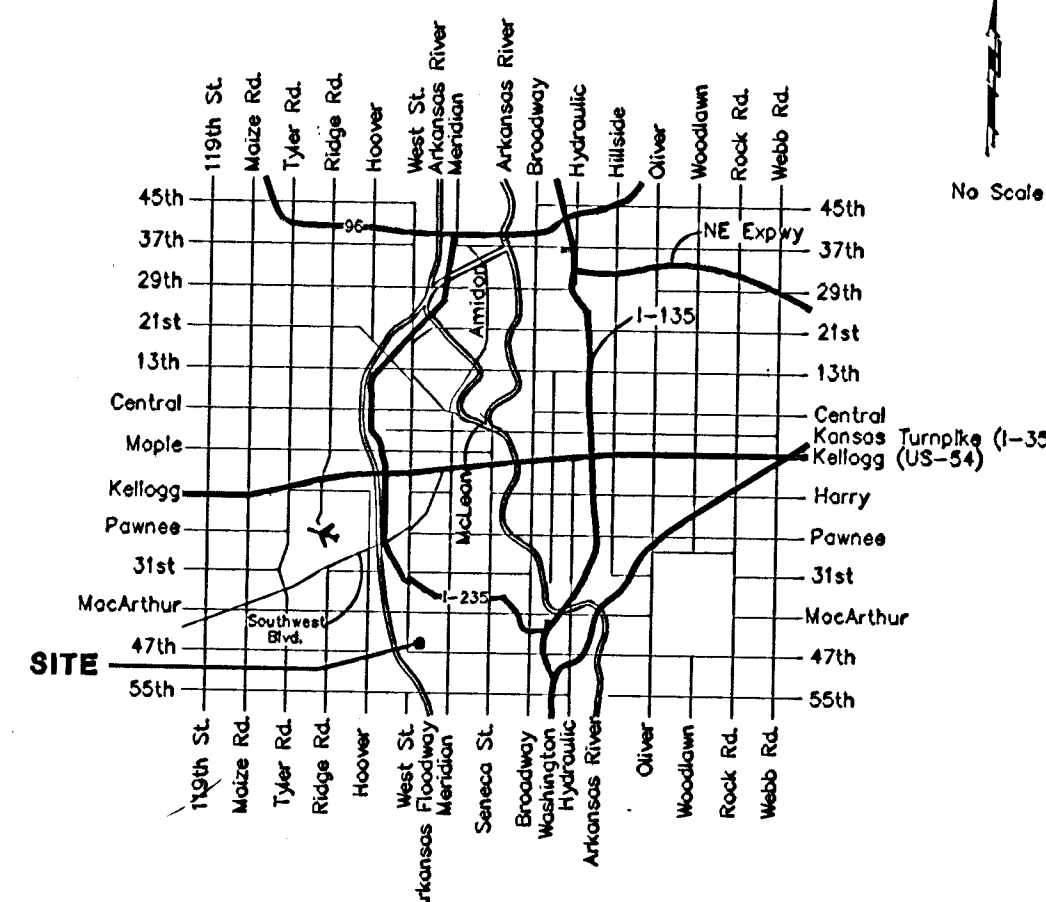
BENCHMARKS:

Railroad Spike in Power Pole
Located 27' South and 402' East
of the Northwest Corner of the
NE 1/4, Section 24, TWP. 28-S, R-1-W.

Elevation = 92.98 City Datum

City of Wichita Benchmark Disc SE Corner of
Intersection of 47th St. S. and West St.
42.10' E. of Centerline
51.00' S. of Centerline
99.80' E. of P.P. on SW Corner
23.80' S. of P.P.

Elevation = 92.29 City Datum



Vicinity Map



SW Cor. SW 1/4, SEC. 13,
TWP. 28-S, R-1-W

SE Cor. SW 1/4, SEC. 13,
TWP. 28-S, R-1-W

GENERAL NOTES:

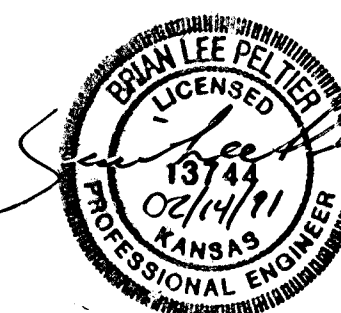
- Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

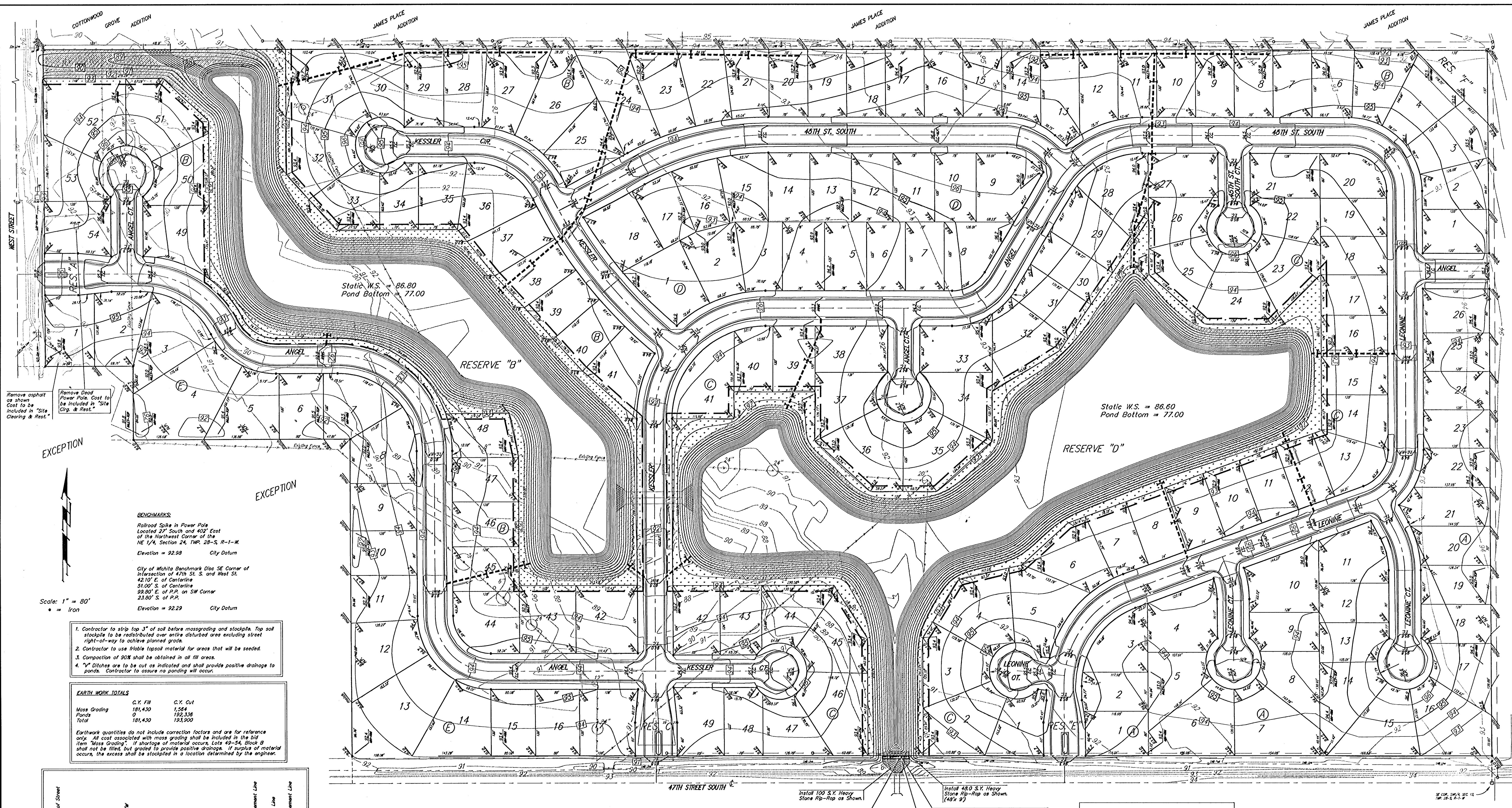
Kansas One-Call	687-2470
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The Contractor must notify the following in case of an emergency:

Cox Communications	262-0661
K.G.E. Electric Service	383-8600
Kansas Gas Service	383-8600
Peoples Gas Company	942-8350
Southwestern Bell Telephone Company	1-571-2611
City of Wichita Water Dept.	268-4908
City of Wichita Traffic Engineering	269-4446
- Underground utility service lines and overhead utility pole lines are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- The Contractor shall not start work on the project until the project inspector is assigned to the project and is present on the site. Any work done without inspection will be required to be uncovered for inspection.
- 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.
- Limits of earthwork shall match existing ground elevations at the right-of-way line unless otherwise noted on the plans with a new finished grade elevation. When a new finished grade elevation is shown, the earthwork shall extend one-foot beyond the right-of-way line and then sloped up or down using permissible slopes to match the existing ground surface.
- Contractor to seed project according to project notes and specifications.
- This project is subject to a current SWPP Plan. Contractor shall comply with any unusual requirements as necessary for site to be in compliance during construction.
- Staking coordinates for this project will be made available to the City of Wichita, by Baughman Co., P.A., at the time of construction.

BOOKED
1-31-03
MCG
C-242





Remove asphalt as shown. Cost to be included in "Site Clearing & Rest."

Remove Dead Power Pole. Cost to be included in "Site Clearing & Rest."

EXCEPTION

EXCEPTION

BENCHMARKS

Railroad Spike in Power Pole Located 27' South and 402' East of the Northwest Corner of the NE 1/4 Section 24, T1P. 28-S, R-1-W. Elevation = 92.98 City Datum

City of Wichita Benchmark Disc SE Corner of Intersection of 47th St. S. and West St. 42.10' E. of Centerline 51.00' S. of Centerline 99.80' E. of P.P. on SW Corner 23.90' S. of P.P. Elevation = 92.29 City Datum

Scale: 1" = 80'

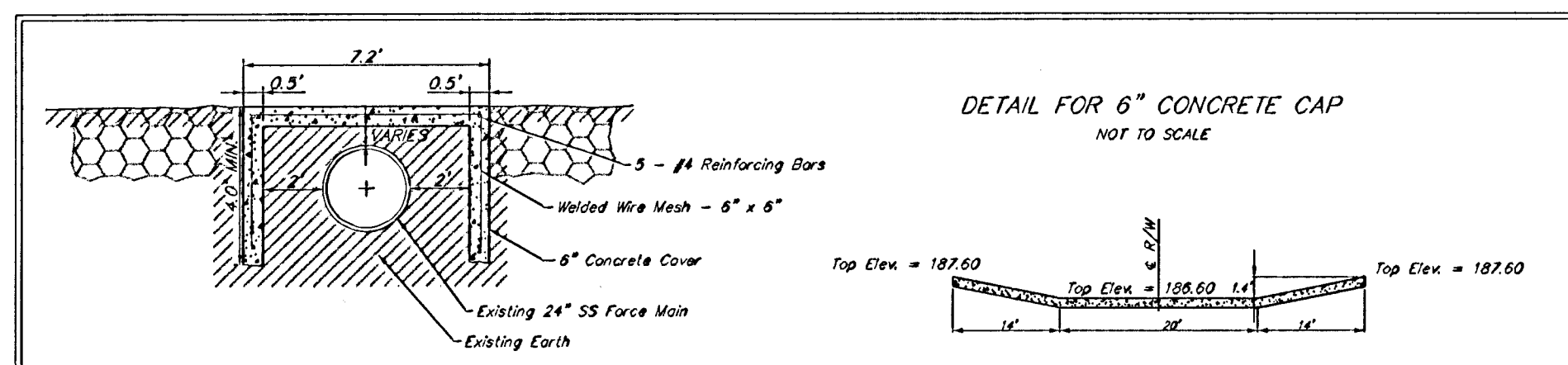
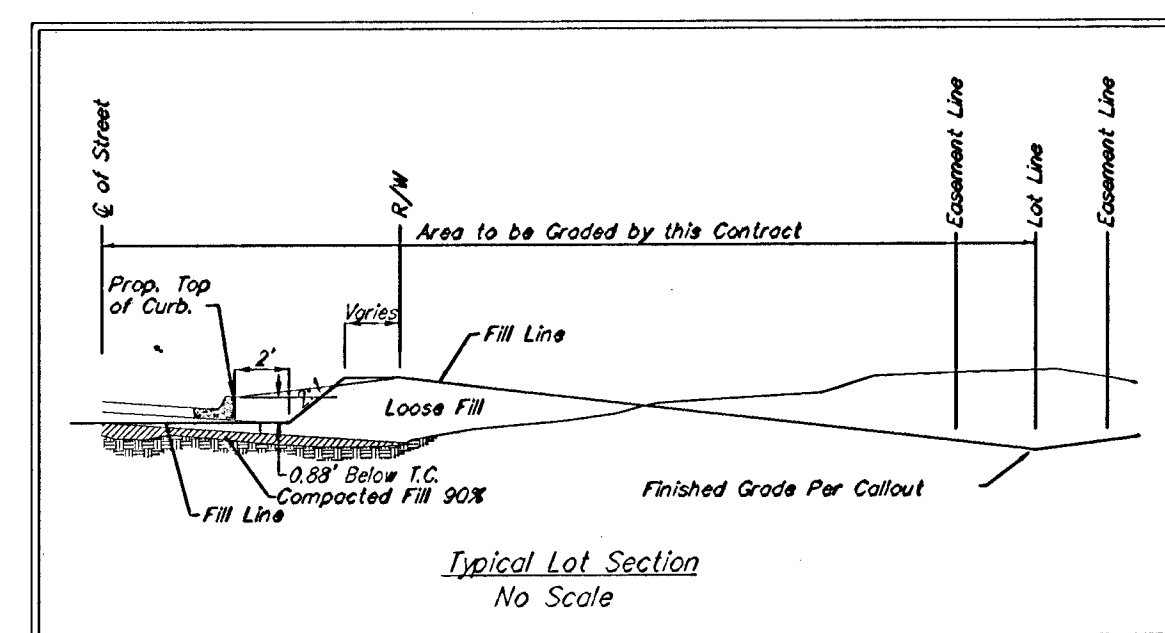
• = Iron

1. Contractor to strip top 3" of soil before massgrading and stockpile. Top soil stockpile to be redistributed over entire disturbed area excluding street right-of-way to achieve planned grade.
2. Contractor to use friable topsoil material for areas that will be seeded.
3. Compaction of 90% shall be obtained in all fill areas.
4. "V" Ditches are to be cut as indicated and shall provide positive drainage to ponds. Contractor to assure no ponding will occur.

EARTH WORK TOTALS

	C.Y. Fill	C.Y. Cut
Mass Grading	181,430	1,584
Ponds	0	192,336
Total	181,430	193,920

Earthwork quantities do not include correction factors and are for reference only. All cost associated with mass grading shall be included in the bid item "Mass Grading". If shortage of material occurs, Lots 48-54, Block B shall not be filled, but graded to provide positive drainage. If surplus of material occurs, the excess shall be stockpiled in a location determined by the engineer.



Install 100 S.Y. Heavy Stone Rip-Rap as Shown.

Use Extreme Caution Around 24\"/>

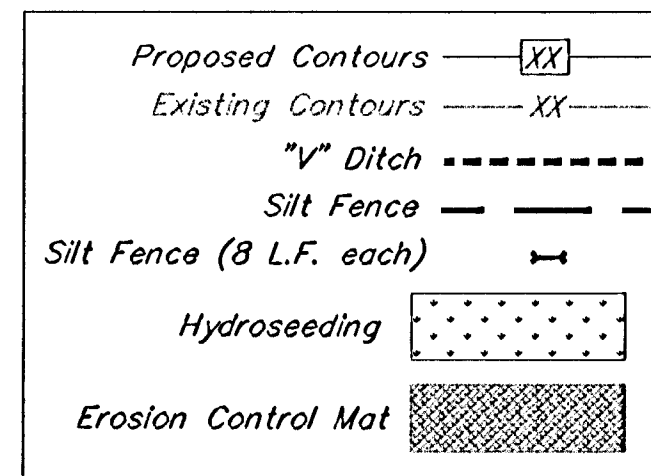
Install 48.0 S.Y. Heavy Stone Rip-Rap as Shown.

Install 48.0 L.F. Concrete Cap over Existing 24\"/>

CAUTION

SHO Lines

Wear



ANGELFIRE ADDITION
MASS GRADING PLAN
WICHITA, KS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
318-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER
488-89184

DESIGN
BLP

DRAWN
AEG

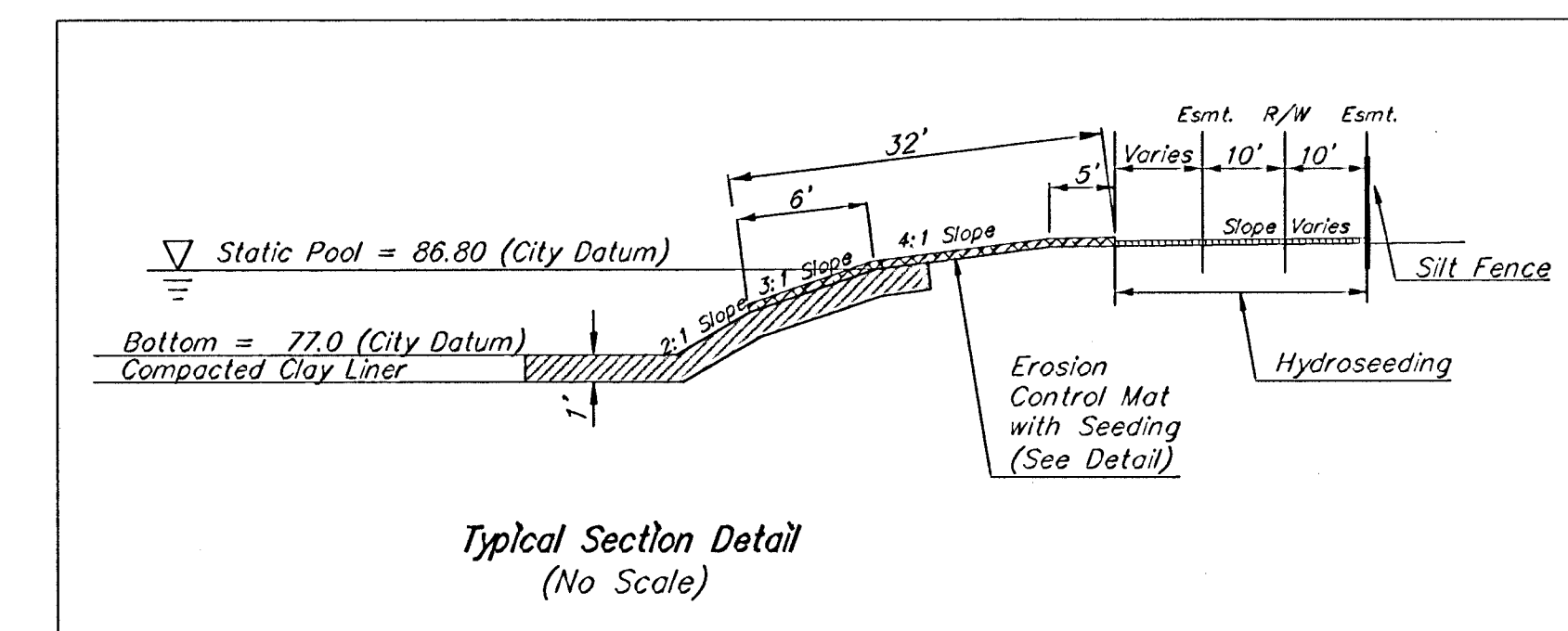
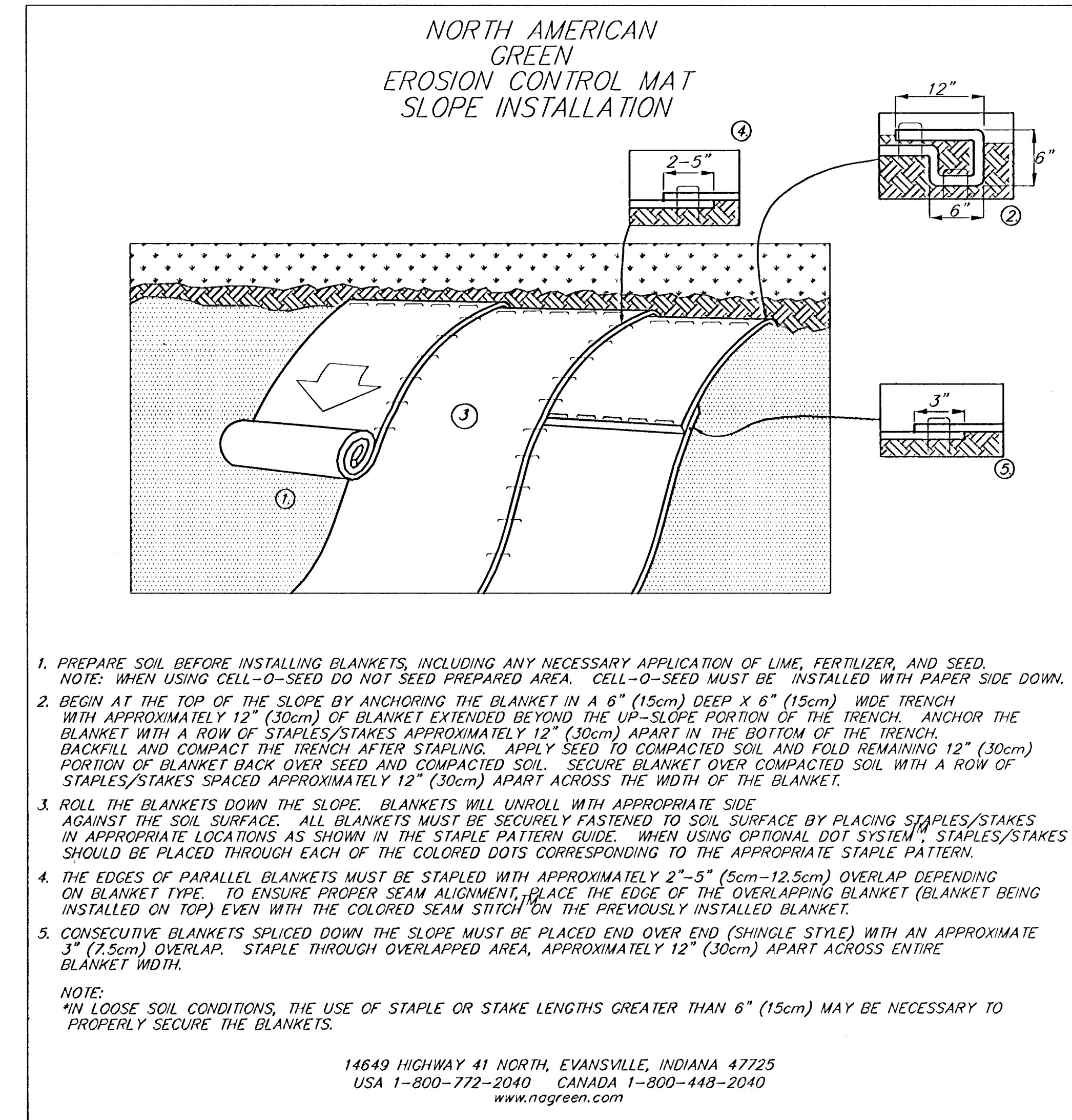
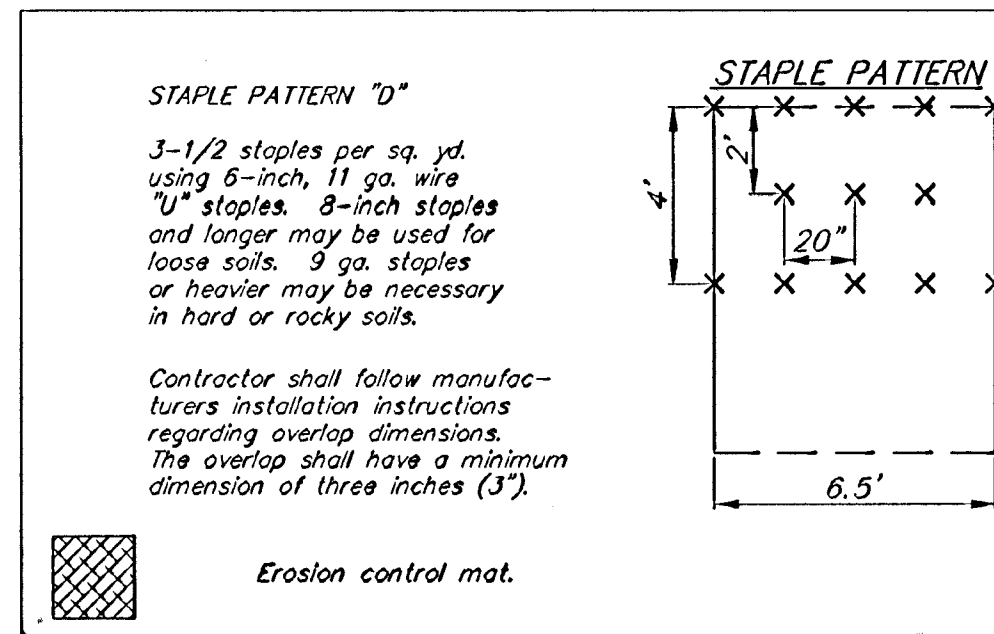
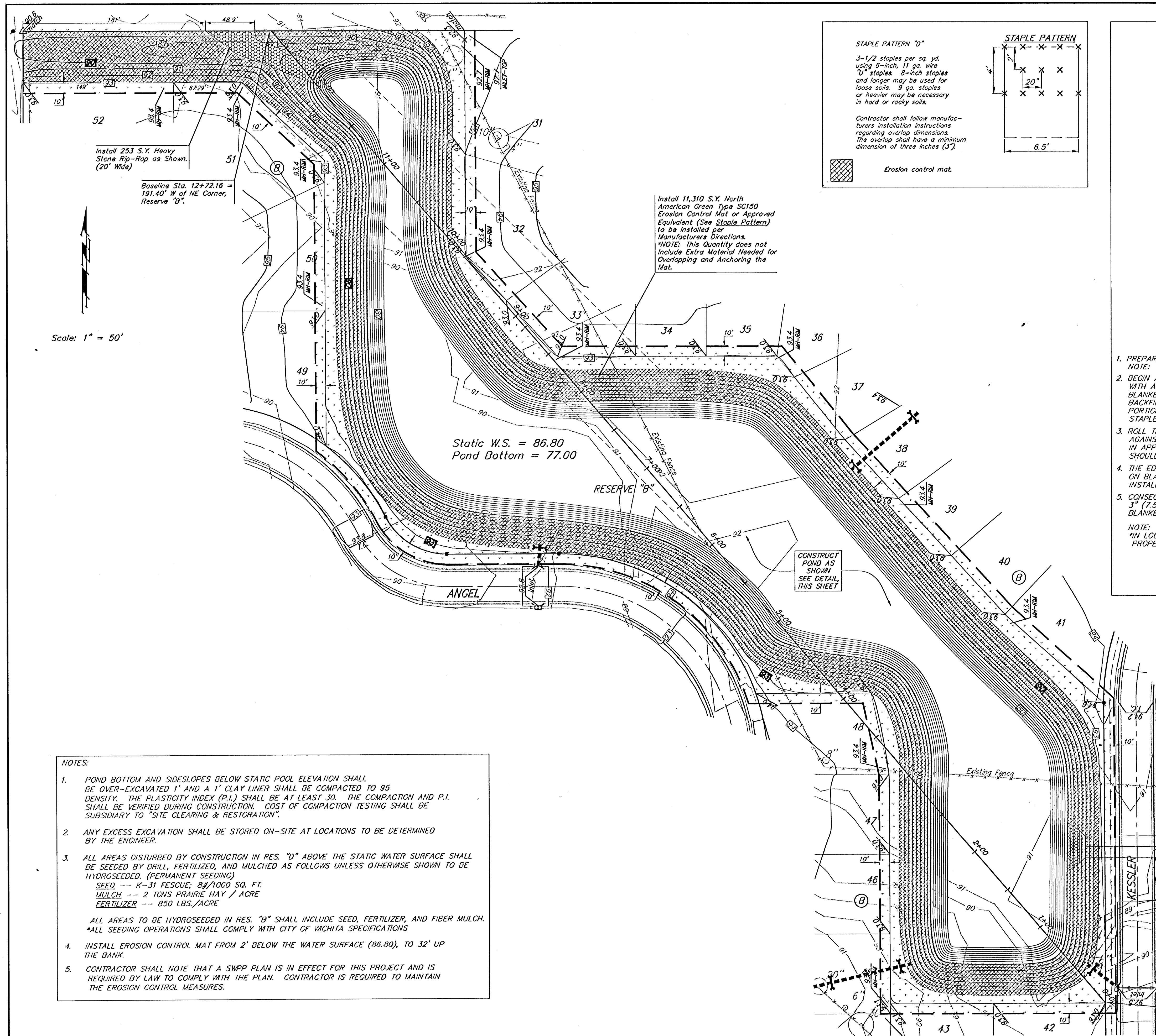
APPROVED

DATE
2/13/01

SCALE
NOTED

SHEET
2
OF
14

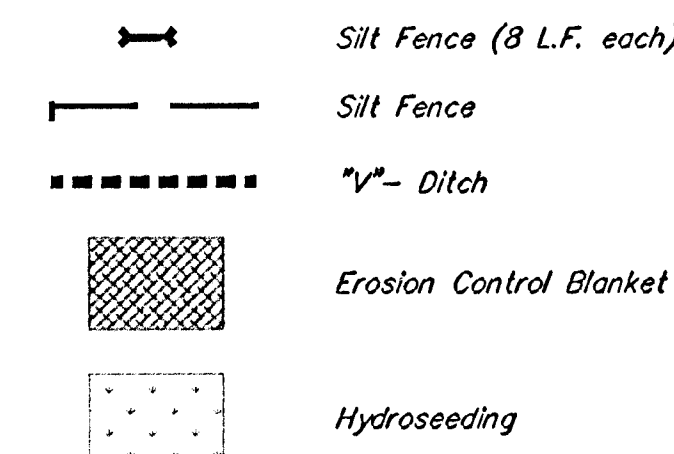
F:\AngelFire\massgrading-11-28-01



NOTES:

1. POND BOTTOM AND SIDESLOPES BELOW STATIC POOL ELEVATION SHALL BE OVER-EXCAVATED 1" AND A 1" CLAY LINER SHALL BE COMPACTED TO 95 DENSITY. THE PLASTICITY INDEX (P.I.) SHALL BE AT LEAST 30. THE COMPACTION AND P.I. SHALL BE VERIFIED DURING CONSTRUCTION. COST OF COMPACTION TESTING SHALL BE SUBSIDIARY TO "SITE CLEARING & RESTORATION".
2. ANY EXCESS EXCAVATION SHALL BE STORED ON-SITE AT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. ALL AREAS DISTURBED BY CONSTRUCTION IN RES. "D" ABOVE THE STATIC WATER SURFACE SHALL BE SEEDED BY DRILL, FERTILIZED, AND MULCHED AS FOLLOWS UNLESS OTHERWISE SHOWN TO BE HYDROSEEDING. (PERMANENT SEEDING)
SEED -- K-31 FESCUE; 8#/1000 SQ. FT.
MULCH -- 2 TONS PRAIRIE HAY / ACRE
FERTILIZER -- 850 LBS./ACRE

ALL AREAS TO BE HYDROSEEDING IN RES. "B" SHALL INCLUDE SEED, FERTILIZER, AND FIBER MULCH. *ALL SEEDING OPERATIONS SHALL COMPLY WITH CITY OF WICHITA SPECIFICATIONS
4. INSTALL EROSION CONTROL MAT FROM 2' BELOW THE WATER SURFACE (86.80), TO 32' UP THE BANK.
5. CONTRACTOR SHALL NOTE THAT A SWPP PLAN IS IN EFFECT FOR THIS PROJECT AND IS REQUIRED BY LAW TO COMPLY WITH THE PLAN. CONTRACTOR IS REQUIRED TO MAINTAIN THE EROSION CONTROL MEASURES.



POND DATA:
STATIC POOL ELEVATION = 86.80 (City Datum)
BOTTOM ELEVATION = 77.00 (City Datum)

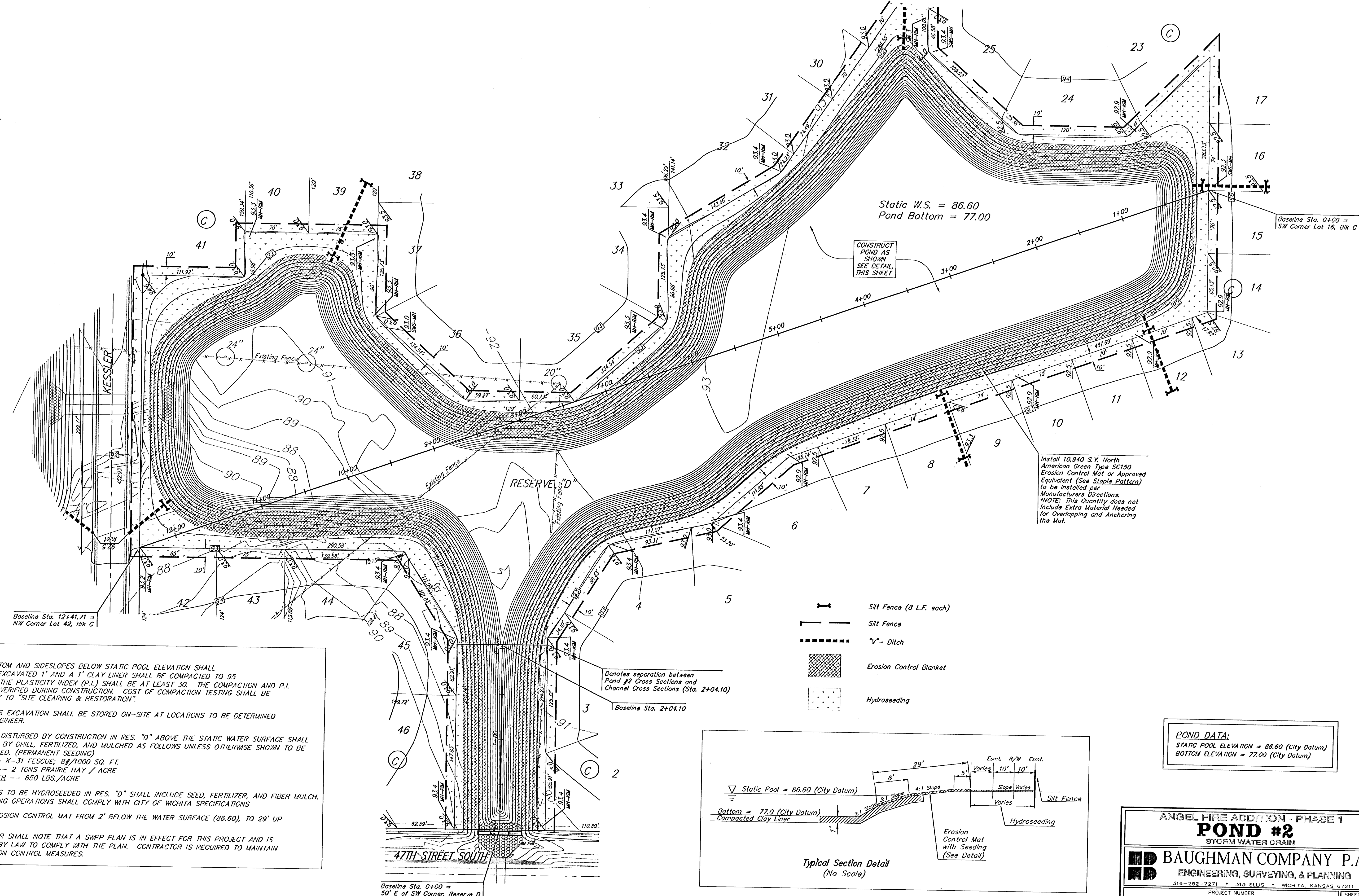
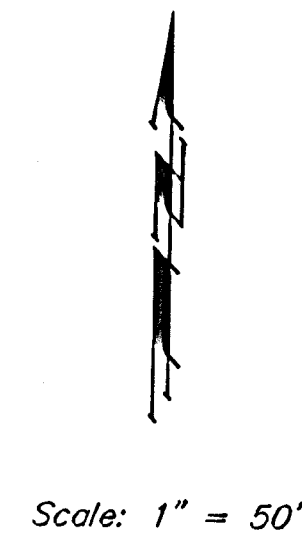
ANGEL FIRE ADDITION - PHASE 1

POND #1
STORM WATER DRAIN

ED BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
318-292-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER
488-83184

DESIGN BLP DRAWN AEG APPROVED DATE 2/13/01 SCALE NOTED SHEET **3** OF **14**



- NOTES:
- POND BOTTOM AND SIDESLOPES BELOW STATIC POOL ELEVATION SHALL BE OVER-EXCAVATED 1' AND A 1' CLAY LINER SHALL BE COMPACTED TO 95 DENSITY. THE PLASTICITY INDEX (P.I.) SHALL BE AT LEAST 30. THE COMPACTION AND P.I. SHALL BE VERIFIED DURING CONSTRUCTION. COST OF COMPACTION TESTING SHALL BE SUBSIDIARY TO "SITE CLEARING & RESTORATION".
 - ANY EXCESS EXCAVATION SHALL BE STORED ON-SITE AT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
 - ALL AREAS DISTURBED BY CONSTRUCTION IN RES. "D" ABOVE THE STATIC WATER SURFACE SHALL BE SEED, FERTILIZED, AND MULCHED AS FOLLOWS UNLESS OTHERWISE SHOWN TO BE HYDROSEED. (PERMANENT SEEDING)
SEED -- K-31 FESCUE; 8#/1000 SQ. FT.
MULCH -- 2 TONS PRAIRIE HAY / ACRE
FERTILIZER -- 850 LBS./ACRE
ALL AREAS TO BE HYDROSEED IN RES. "D" SHALL INCLUDE SEED, FERTILIZER, AND FIBER MULCH.
ALL SEEDING OPERATIONS SHALL COMPLY WITH CITY OF WICHITA SPECIFICATIONS
 - INSTALL EROSION CONTROL MAT FROM 2' BELOW THE WATER SURFACE (86.60), TO 29' UP THE BANK.
 - CONTRACTOR SHALL NOTE THAT A SWPP PLAN IS IN EFFECT FOR THIS PROJECT AND IS REQUIRED BY LAW TO COMPLY WITH THE PLAN. CONTRACTOR IS REQUIRED TO MAINTAIN THE EROSION CONTROL MEASURES.

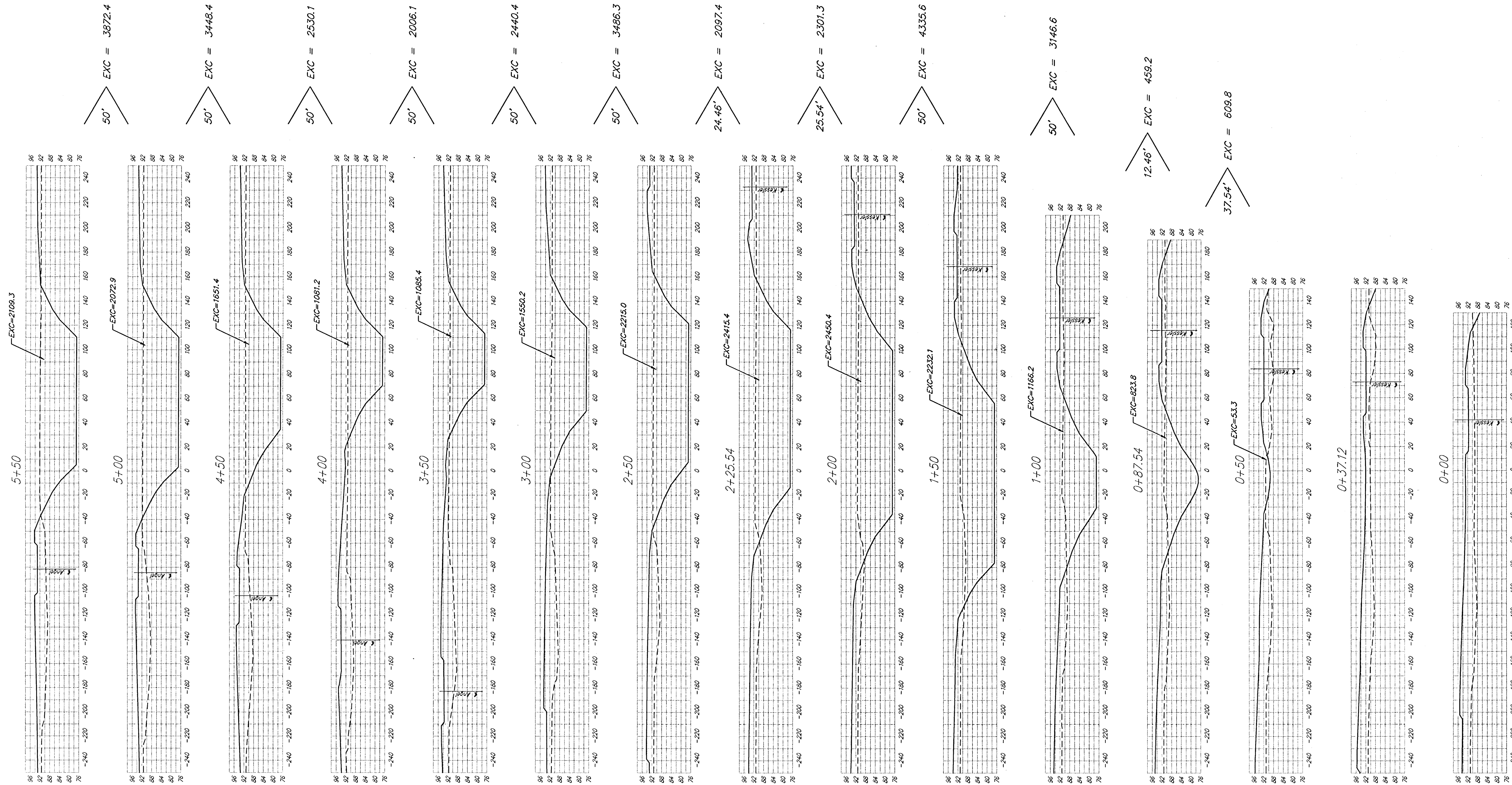
POND DATA:
STATIC POOL ELEVATION = 86.60 (City Datum)
BOTTOM ELEVATION = 77.00 (City Datum)

ANGEL FIRE ADDITION - PHASE 1
POND #2
STORM WATER DRAIN

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-282-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER
488-83184

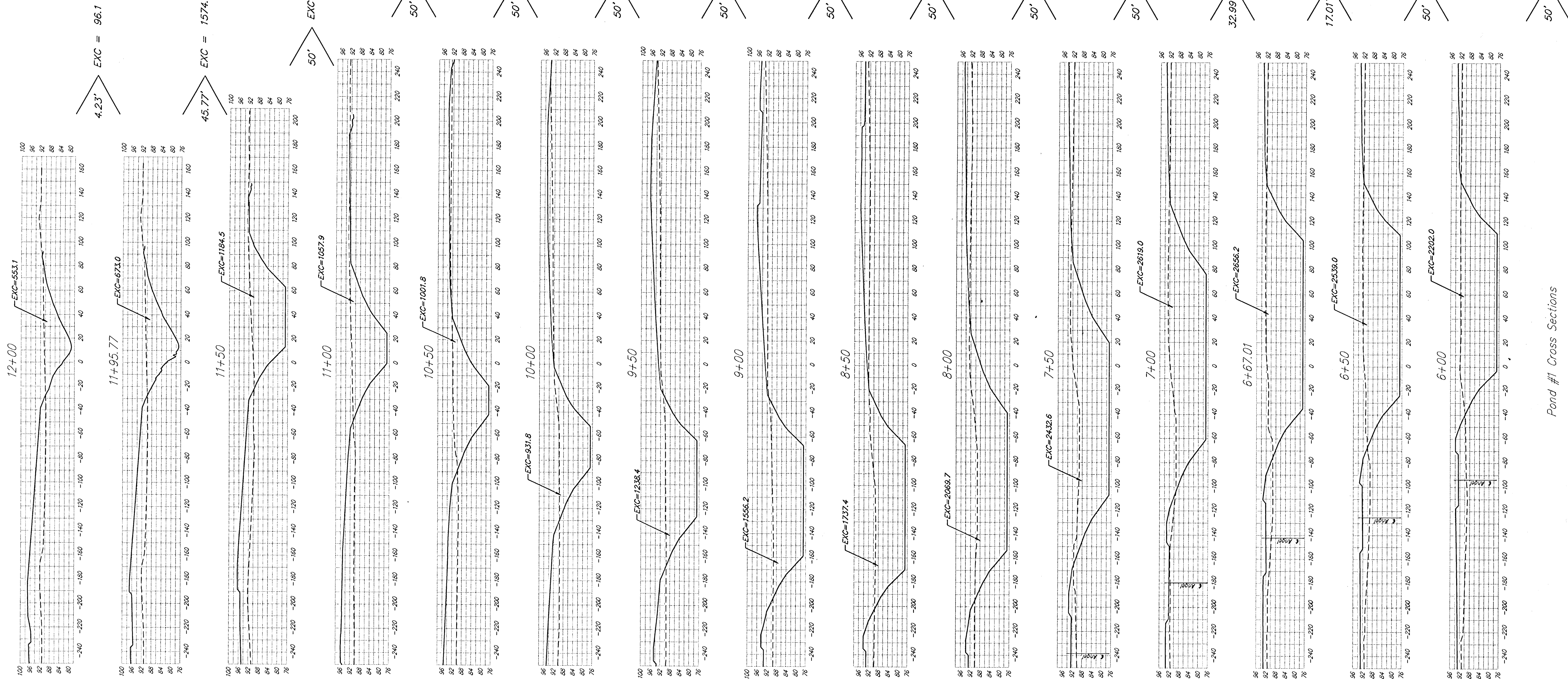
DESIGN: BLP DRAWN: AEG APPROVED: DATE: 2/13/01 SCALE: NOTED SHEET: 4 OF 14



Pond #1 Cross Sections

Scale:
1"=40' Horizontal
1"=20' Vertical

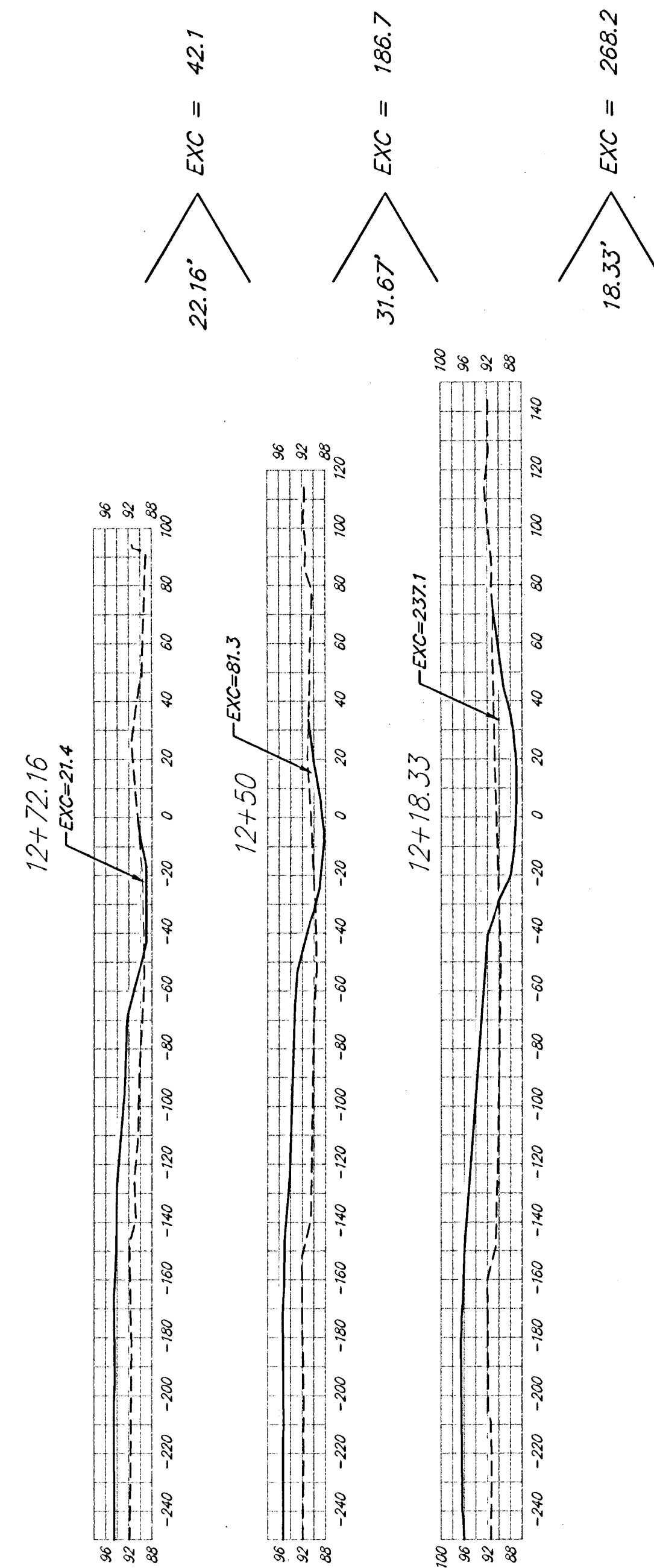
EXC = 30,733.6



Pond #1 Cross Sections

EXC = 40,703.4

Scale:
1"=40' Horizontal
1"=20' Vertical

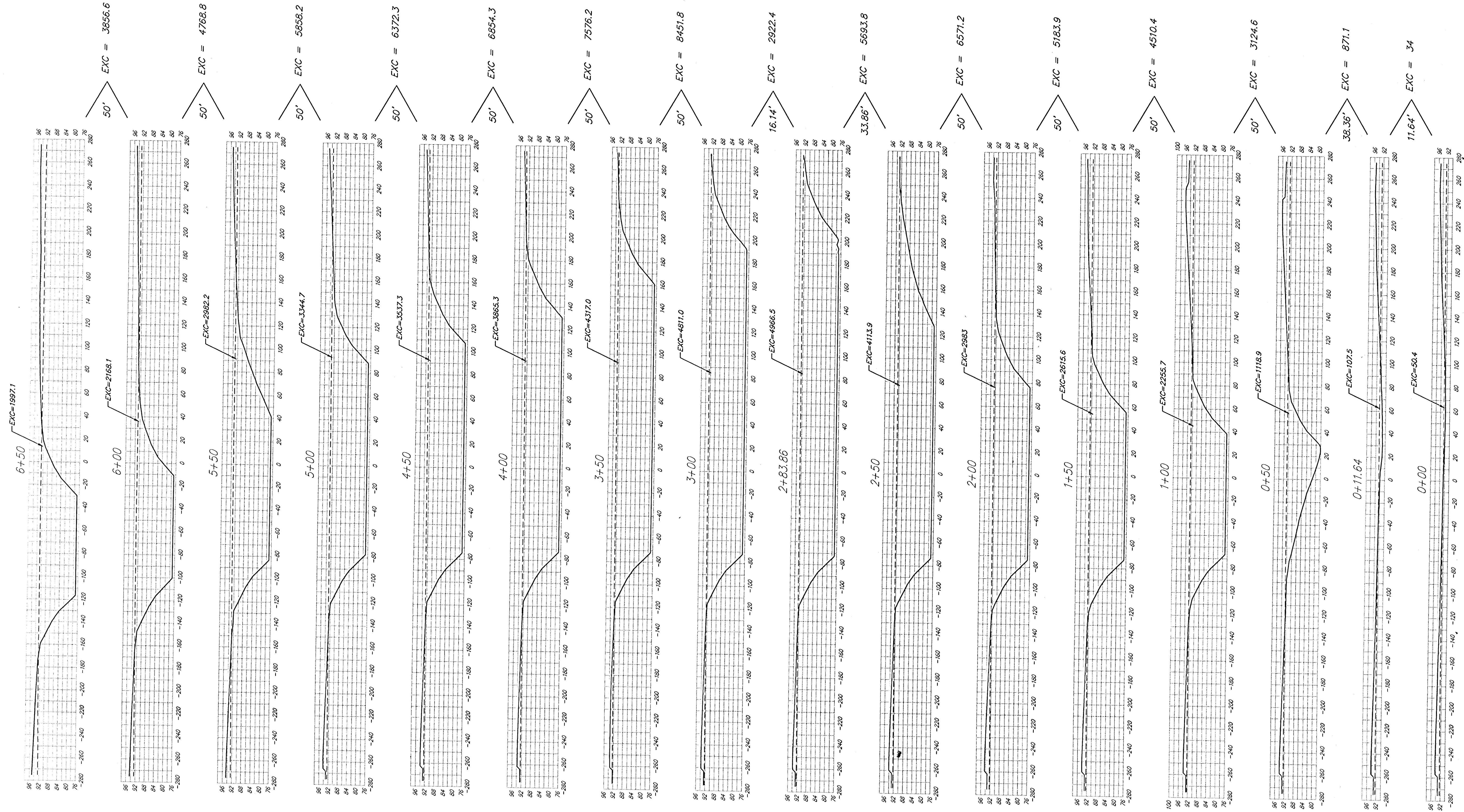


Pond #1 Cross Sections

EXC = 497.0

Scale:
1"=40' Horizontal
1"=20' Vertical

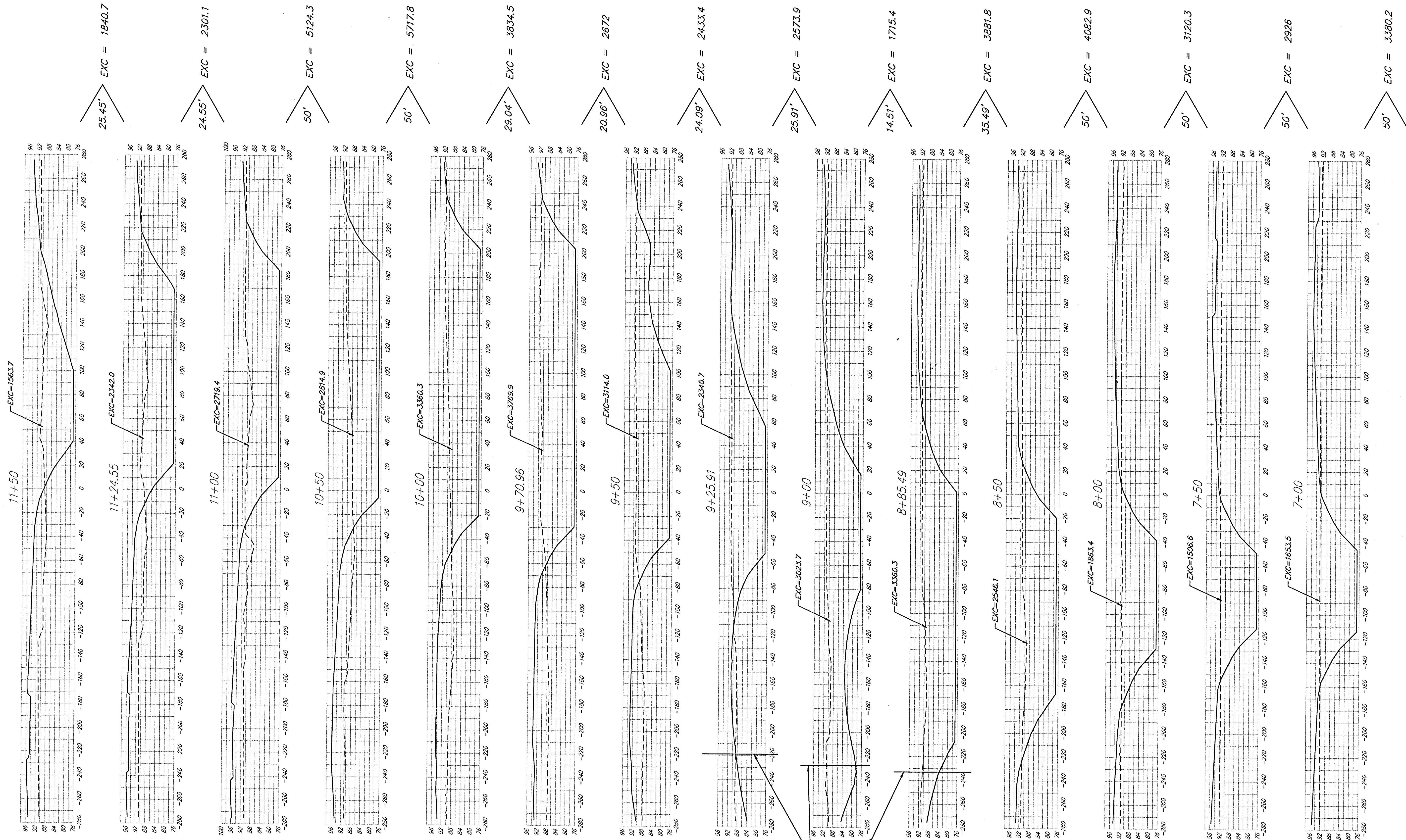
 BAUGHMAN COMPANY P. A. ENGINEERING & SURVEYING 316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67211	REV.
	SHEET 7



Pond #2 Cross Sections

Scale:
1"=40' Horizontal
1"=20' Vertical

	BAUGHMAN COMPANY P. A. ENGINEERING & SURVEYING 316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67211	REV.
	PROJECT NUMBER 468-83184	SHEET 8



Pond #2 Cross Sections

EXC = 45,604.3

Scale:
1"=40' Horizontal
1"=20' Vertical



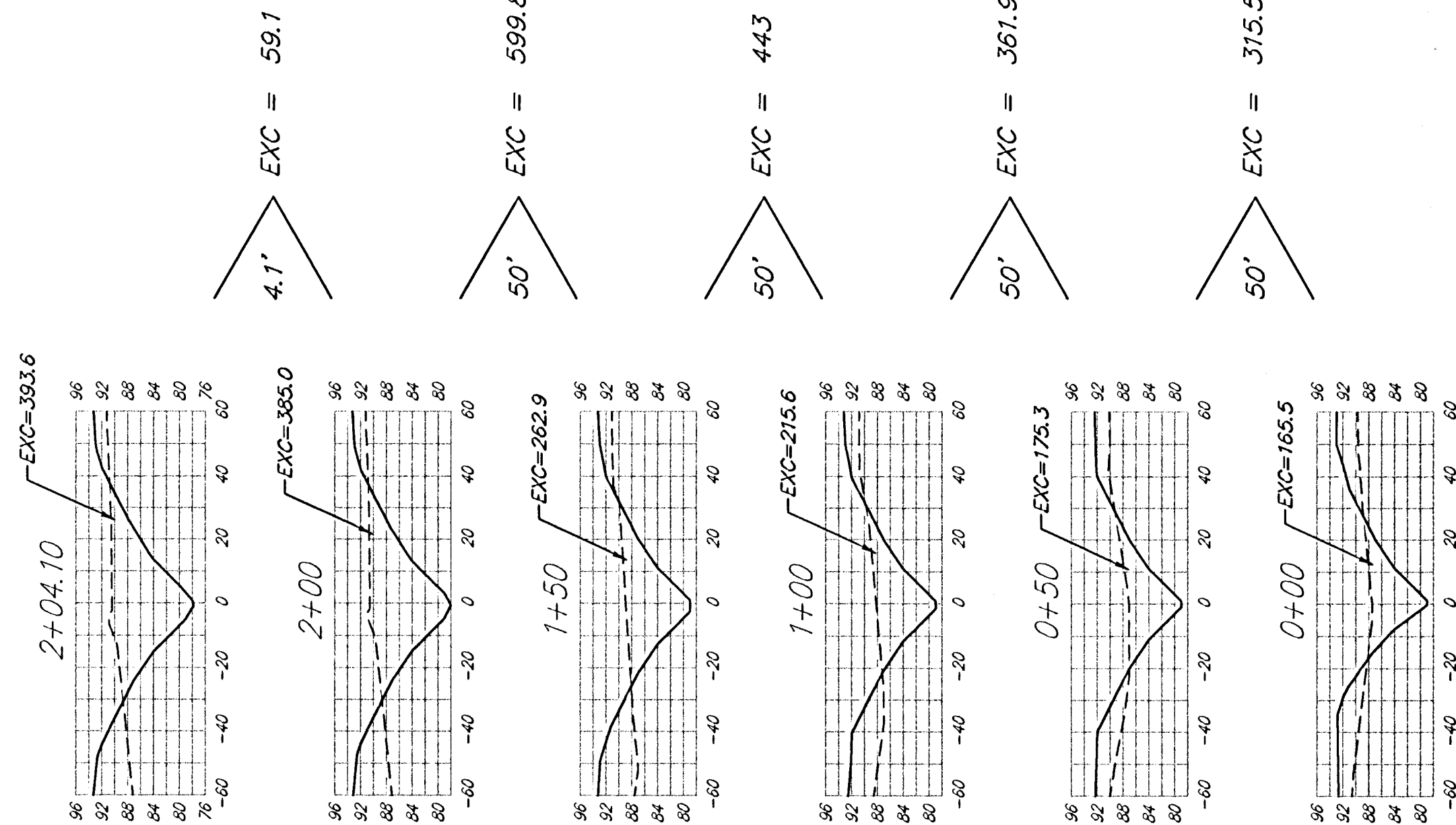
BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER
468-83184

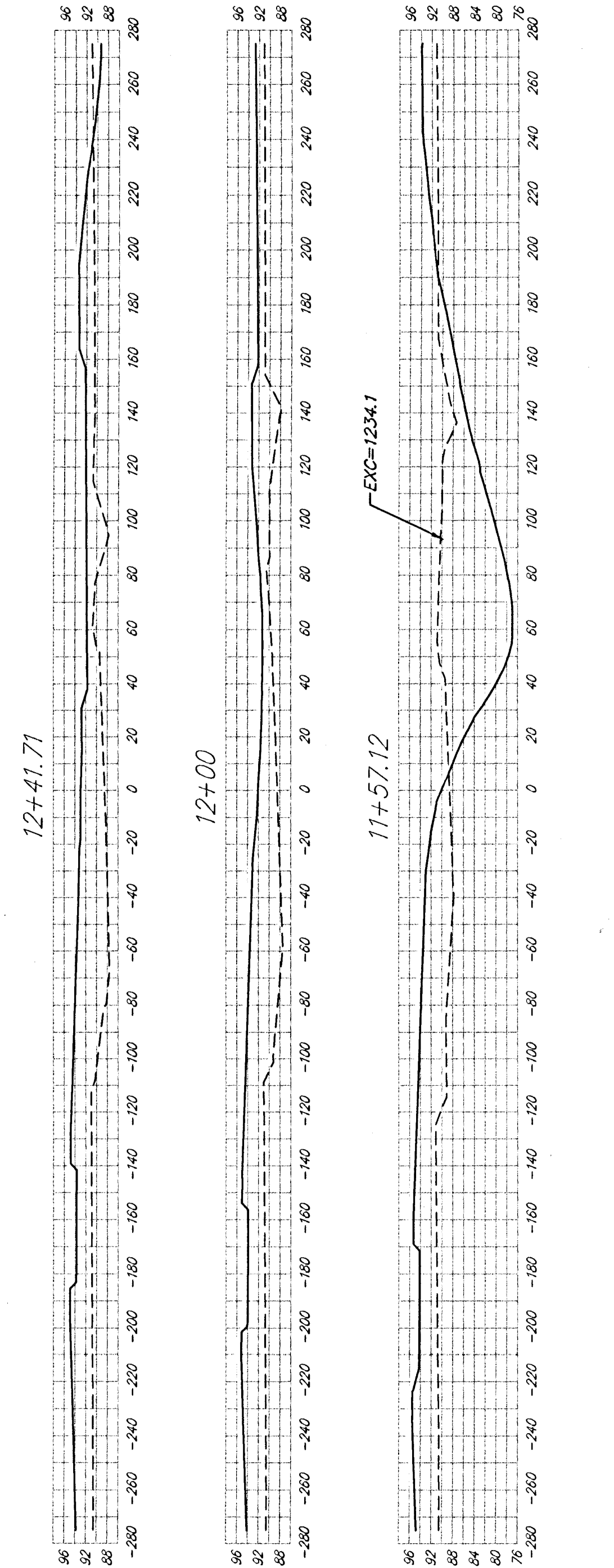
REV.

SHEET

9



Channel Cross Sections



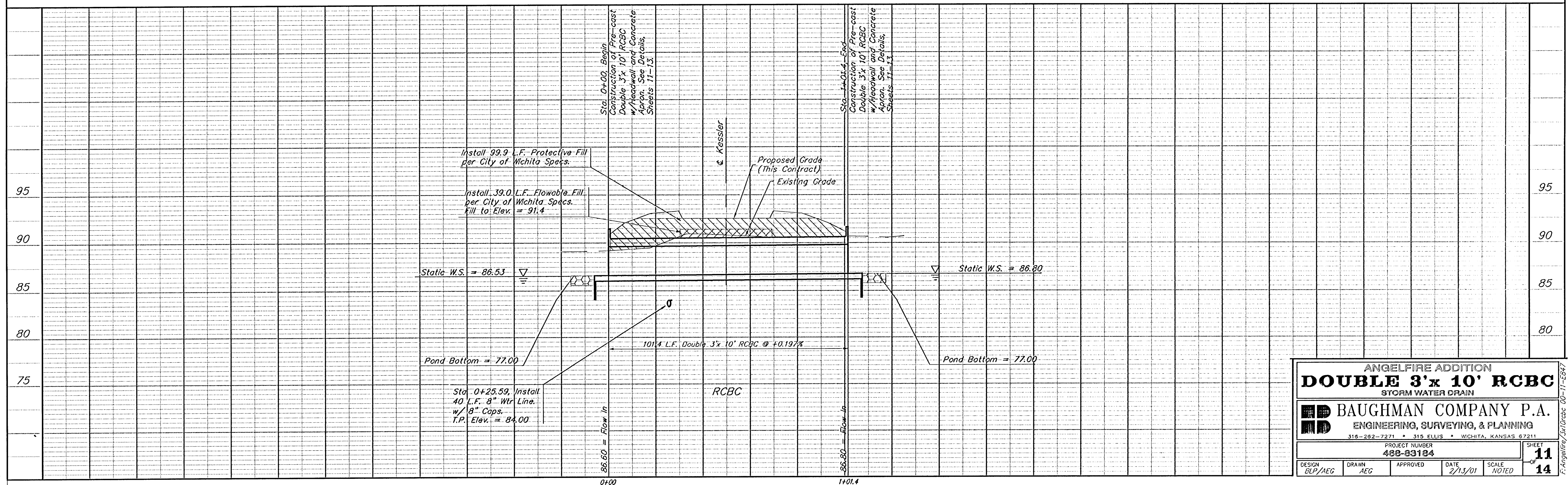
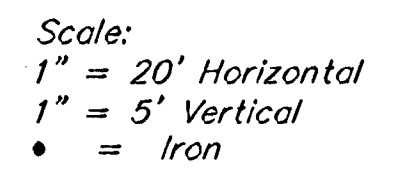
Pond #2 Cross Sections

EXC = 2148.2

Scale:
1"=40' Horizontal
1"=20' Vertical

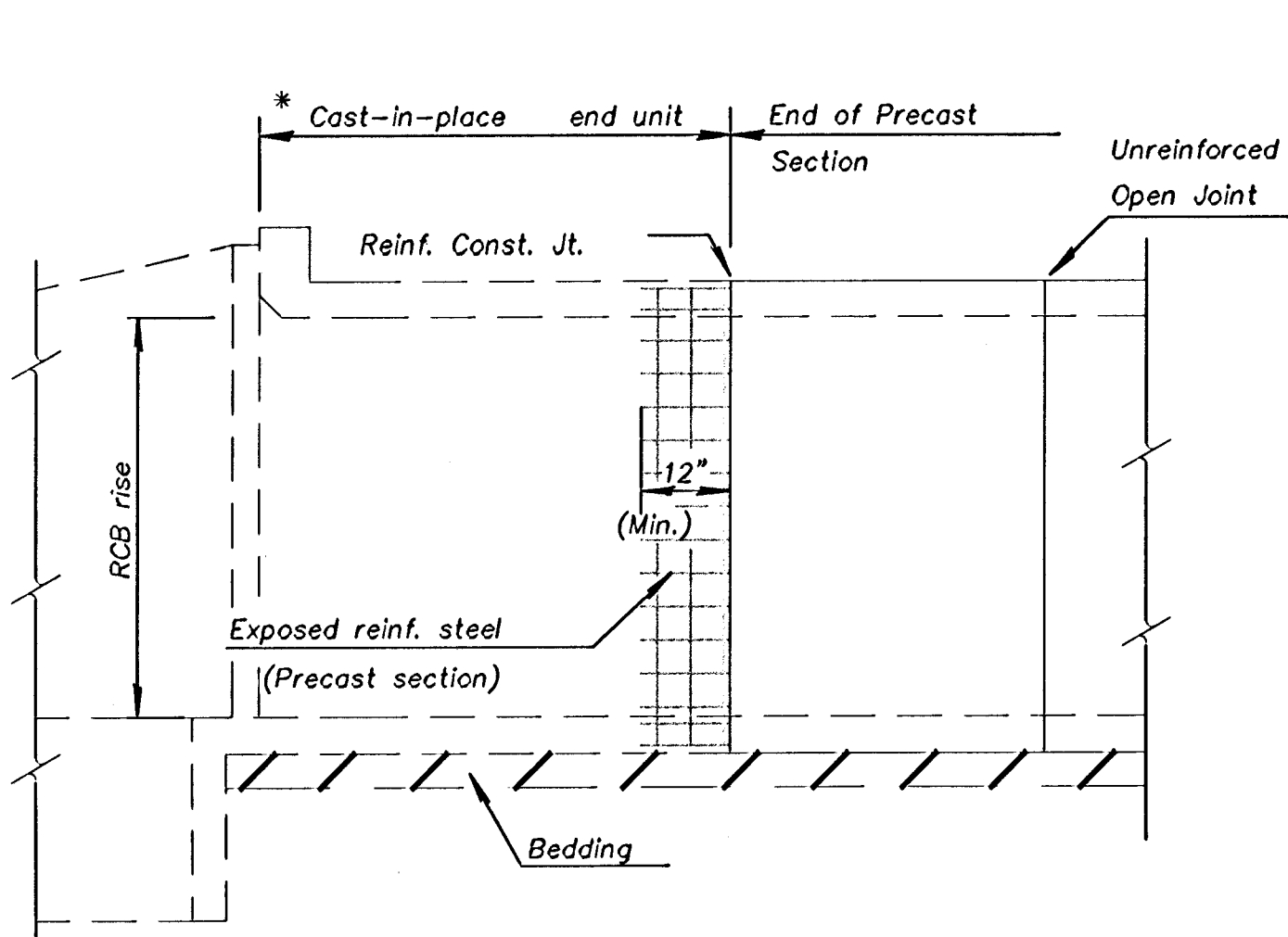
Railroad Spike in Power Pole
Located 27' South and 402' East
of the Northwest Corner of the
NE 1/4, Section 24, TWP. 28-S, R-1-W.
Elevation = 92.98 City Datum

Elevation = 92.29 City Datum



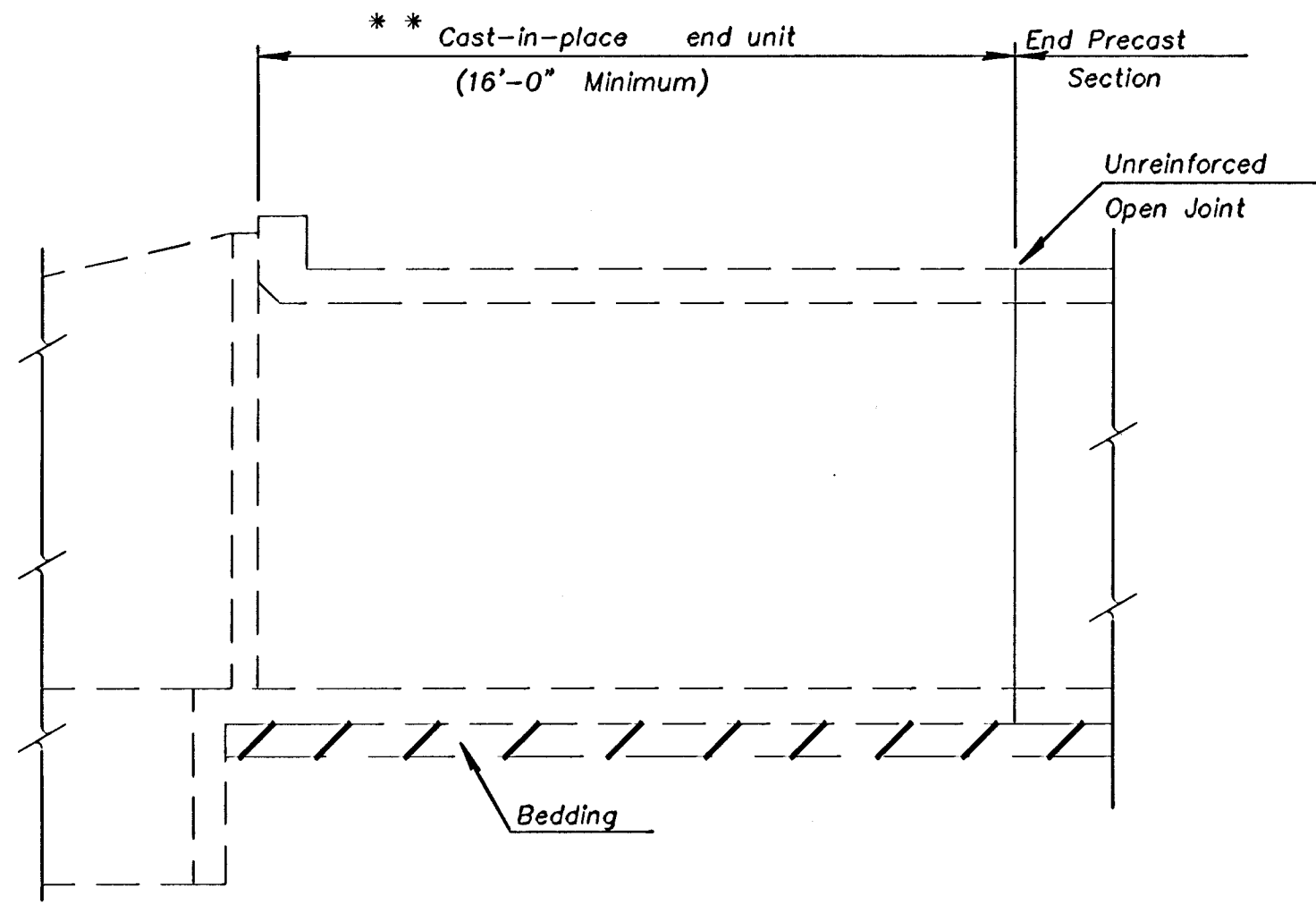
ANGELFIRE ADDITION			
DOUBLE 3'x 10' RCBC			
STORM WATER DRAIN			
 BAUGHMAN COMPANY P.A. ENGINEERING, SURVEYING, & PLANNING			
316-262-7271 • ELLUS • WICHITA, KANSAS 67211			
PROJECT NUMBER			
488-93184			
DESIGN BLP/AEG	DRAWN AEG	APPROVED	DATE 2/15/01 SCALE NOTED

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	468-83184	2001	12	14



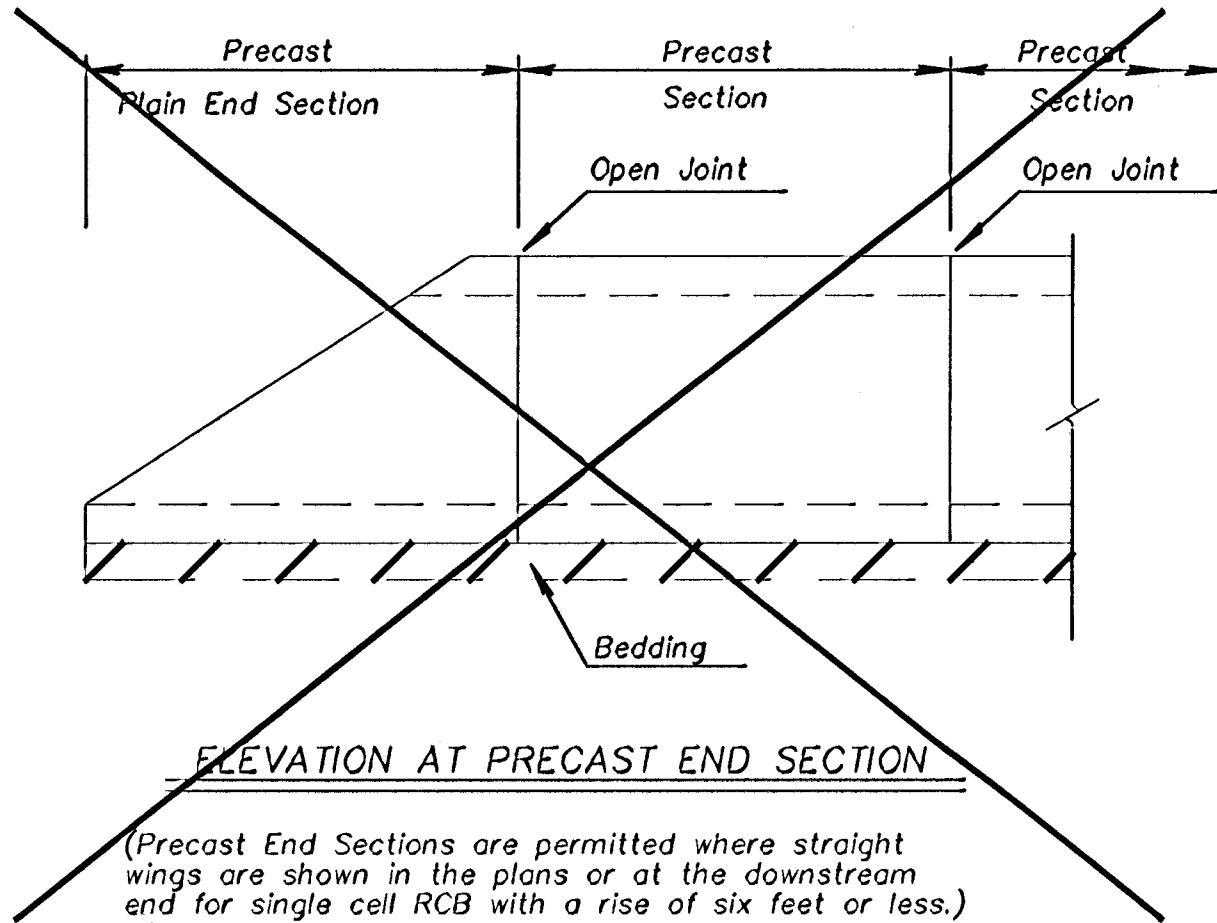
ELEVATION AT HEADWALL

* Minimum barrel length of cast-in-place end unit shall equal the RCB rise or 8'-0", whichever is less. This length can be used when the joint between the cast-in-place end unit and the precast section is reinforced as shown.



ELEVATION AT HEADWALL

** Minimum barrel length of cast-in-place end unit shall be 16'-0" when using an unreinforced open joint at the end of the precast section.

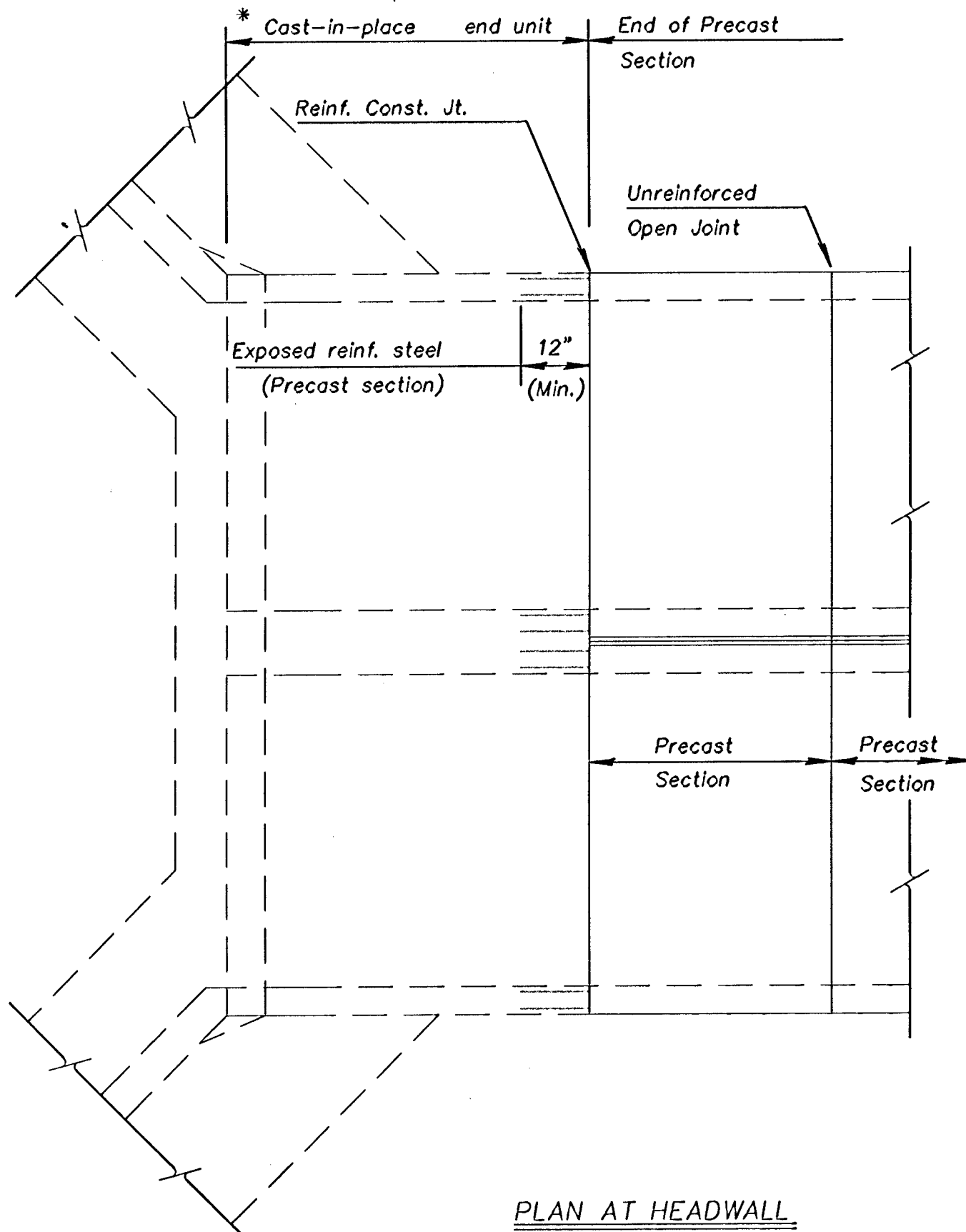


NOTE: See "Bridge Excavation" sheet, (Std. No. BR100), for excavation details and basis of payment.

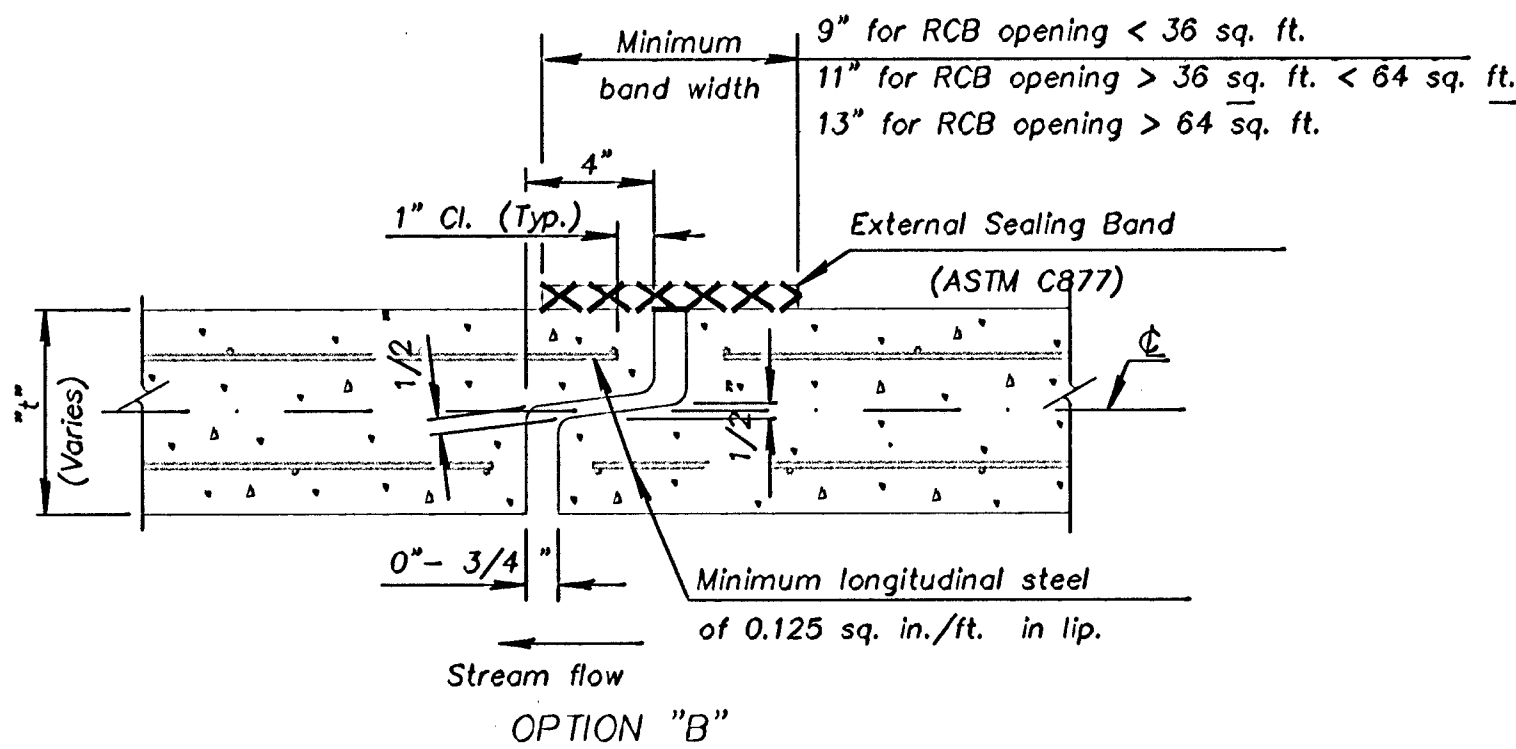
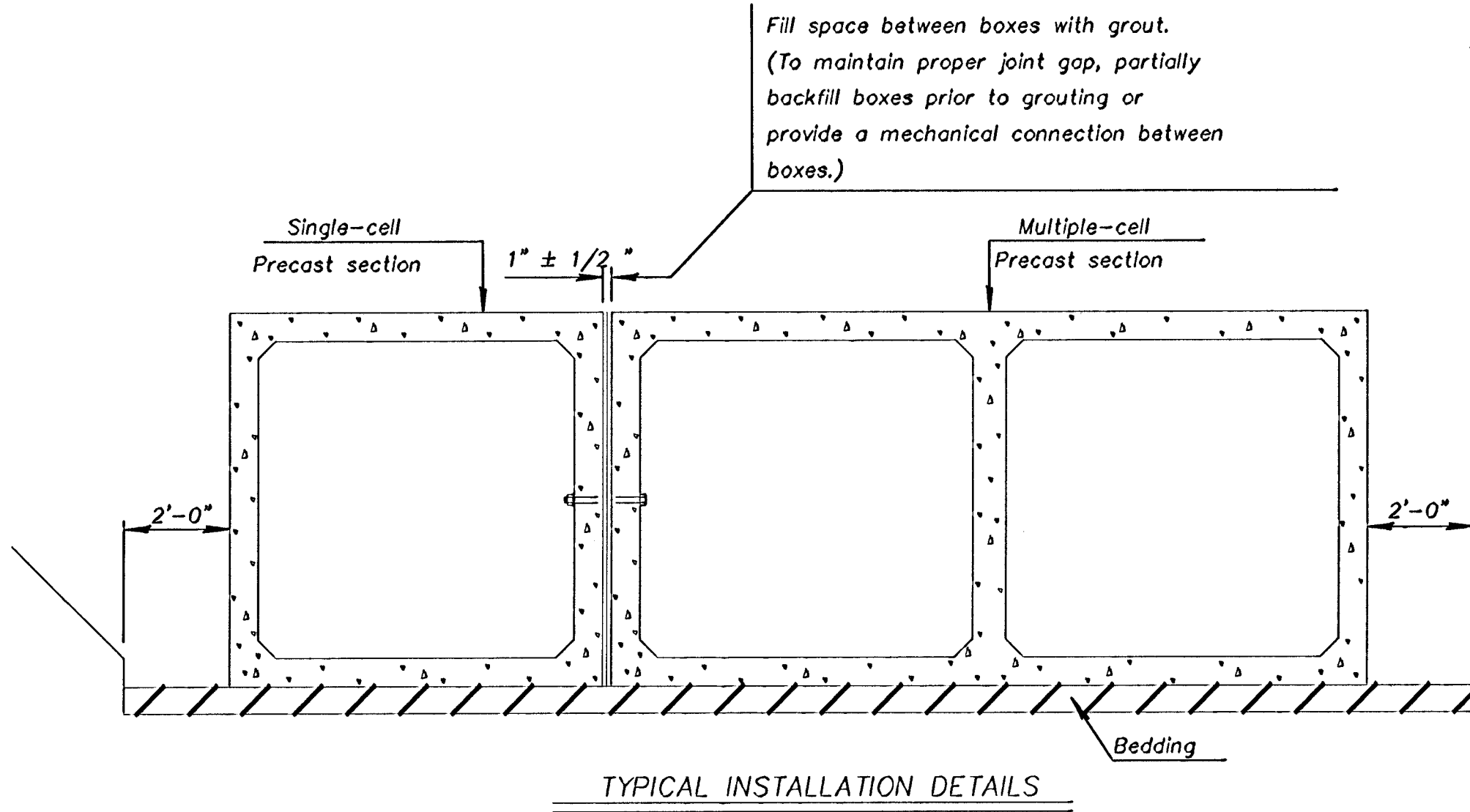
NOTE: Minimum length of precast section shall be 4'-0".

NOTE: A single cell box of equivalent area may be substituted for a double cell box with cell spans less than or equal to 6'-0". Two single cell boxes may be substituted for a double cell box, when approved by the Engineer.

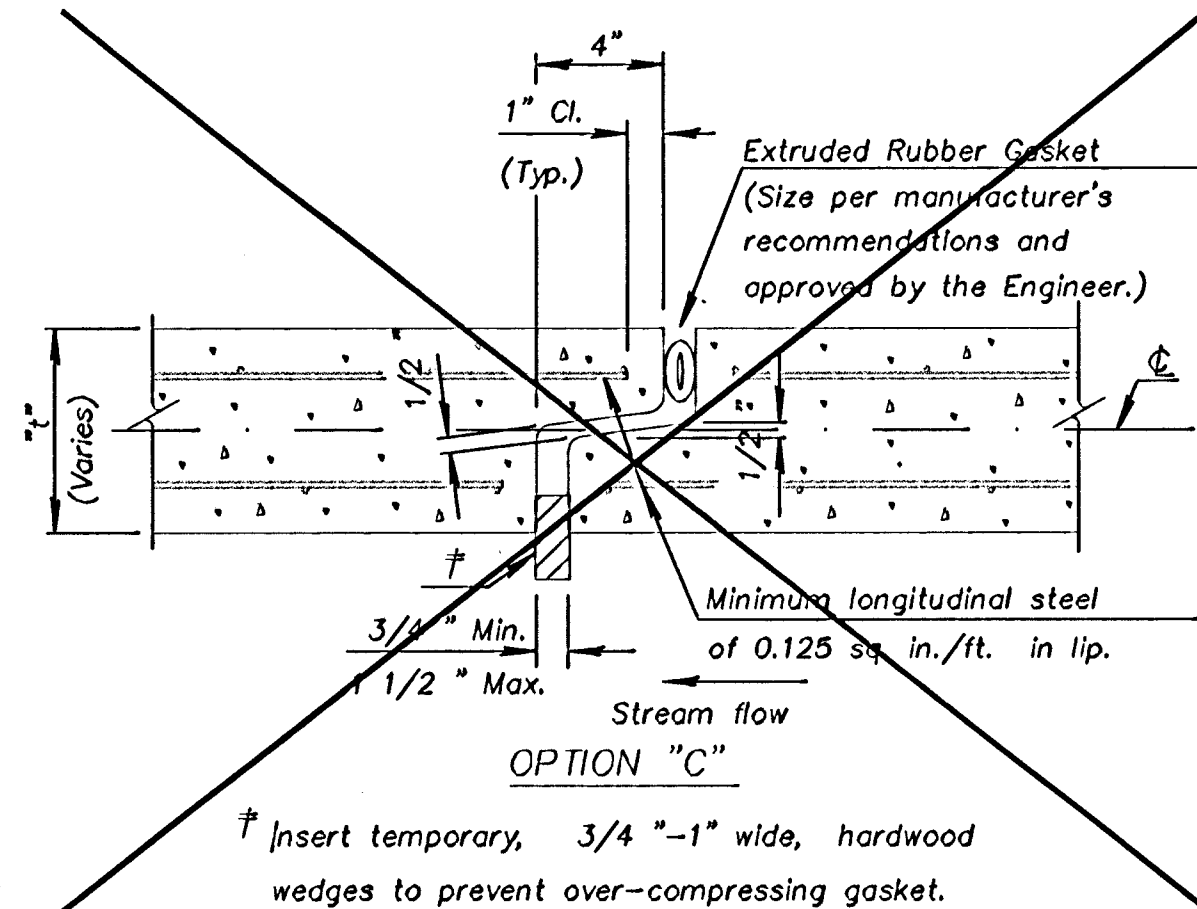
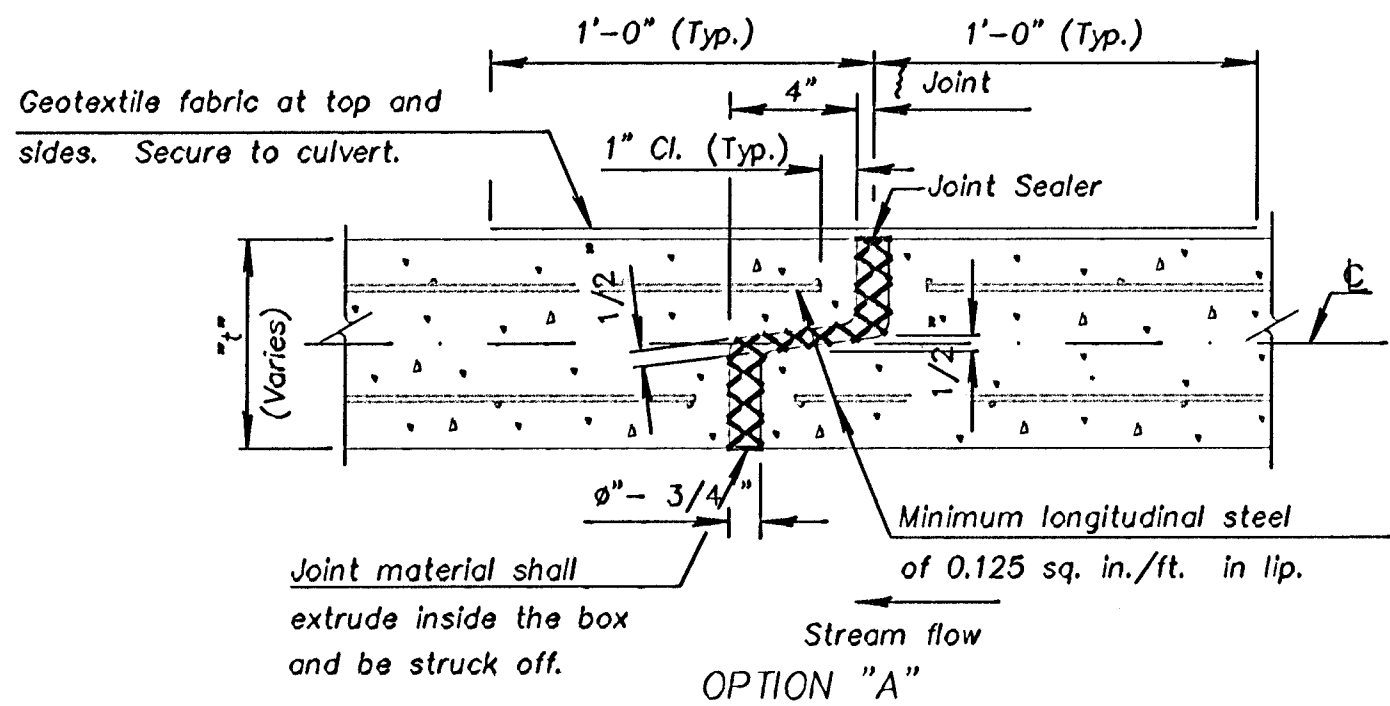
NOTE: See respective RCB Standard Sheets for cast-in-place details.



PLAN AT HEADWALL
(Double culvert installation shown)



OPEN JOINT DETAIL



GENERAL NOTES

PRECAST BOX CULVERTS: If precast boxes are specified, construct them at the locations shown in the plans and according to the requirement shown on this sheet. When approved by the Engineer, precast box culverts may be used in lieu of cast-in-place box culverts. If the Contractor chooses the precast option, use the cast-in-place quantities as the cost basis. This cost includes all labor, equipment, material and incidentals necessary to complete the installation.

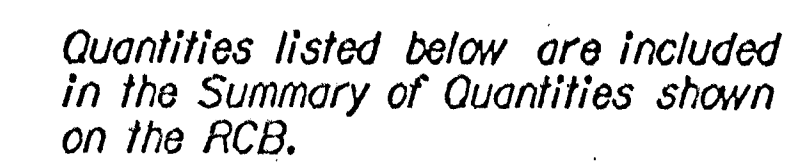
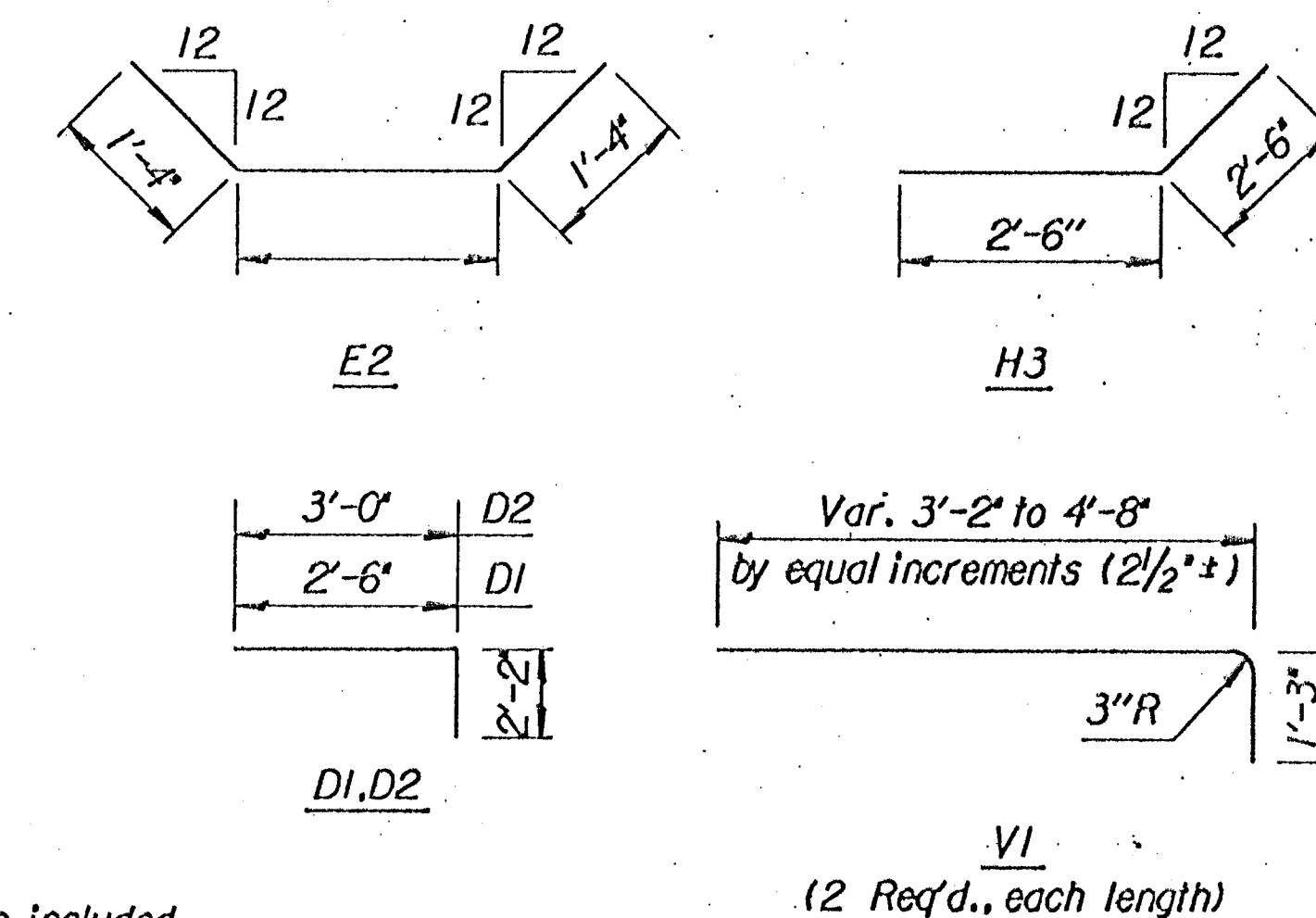
Unless otherwise approved by the Engineer, use cast-in-place collars at horizontal and vertical changes in RCB alignment. Use cast-in-place end sections and wingwalls except as noted on this sheet. The Engineer may require cast-in-place sections at junctions of drainage structures.

Cast-in-place concrete work shall conform to the requirements of the KDOT Specifications and KDOT's "Guidelines for Structural Design and Detail of Reinforced Concrete Box Culverts". Use Class AAA concrete and Grade 60 reinforcing steel conforming to ASTM A615M for cast-in-place construction.

SPECIFICATIONS: Single-cell Precast Concrete Box Culverts shall conform to the requirements of the following specifications except as noted in the KDOT Specifications. Design multiple-cell precast boxes in accordance with the criteria used to develop the single-cell precast boxes. (See Appendix of ASTM Specification C 1433, Table 2 and the latest AASHTO Specifications.)

DISTRIBUTION SLAB: Fill heights less than 2 feet require a distribution slab. Precast distribution slabs may be used for fill heights over 1 foot, otherwise use cast-in-place.

4	11-03-00	Revised ASTM / Added Note	RAM	KFH
3	12-20-96	Revised CIP end unit details.	RAM	KFH
2	1-17-95	Revised general notes	LRR	KFH
1	6-22-94	Added option 'C' & revised notes	RAM	KFH
NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION				
PRECAST CONCRETE BOX CULVERT DETAILS				
BR031				
FHWA APPROVAL 11-27-00 APP'D KENNETH F. HURST				
DESIGNED	DETAILED	PH QUANTITIES	CADD	
DESIGN CK.	DETAIL CK.	RAM QUAN. CK.	CADD CK.	



WINGWALL QUANTITIES (One End Only)	
Class AAA Concrete:	
Wingwalls -----	C
Apron -----	C
Soil Saver -----	C
Reinforcing Steel	Lb
Welded Wire Fabric	Lb

BENDING DIAGRAM
(All dimensions are out to out of bars.)

NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION RCB WINGWALLS 3 FT. RISE (0° SKEW)				
BRI0.00.03				
FINAL APPROVAL		APP'D		KENNETH F. HUBB
DESIGNED	RAM DETAIL	ROR	QUANTITIES	TRACED
DESIGN CK.	RRR DETAIL CK.	RRR	QUAN. CK.	TRACE CK.

WING DIMENSIONS FOR NORMAL BOX (3 1/2:1 Embankment Slope)

* See Bending Diagram

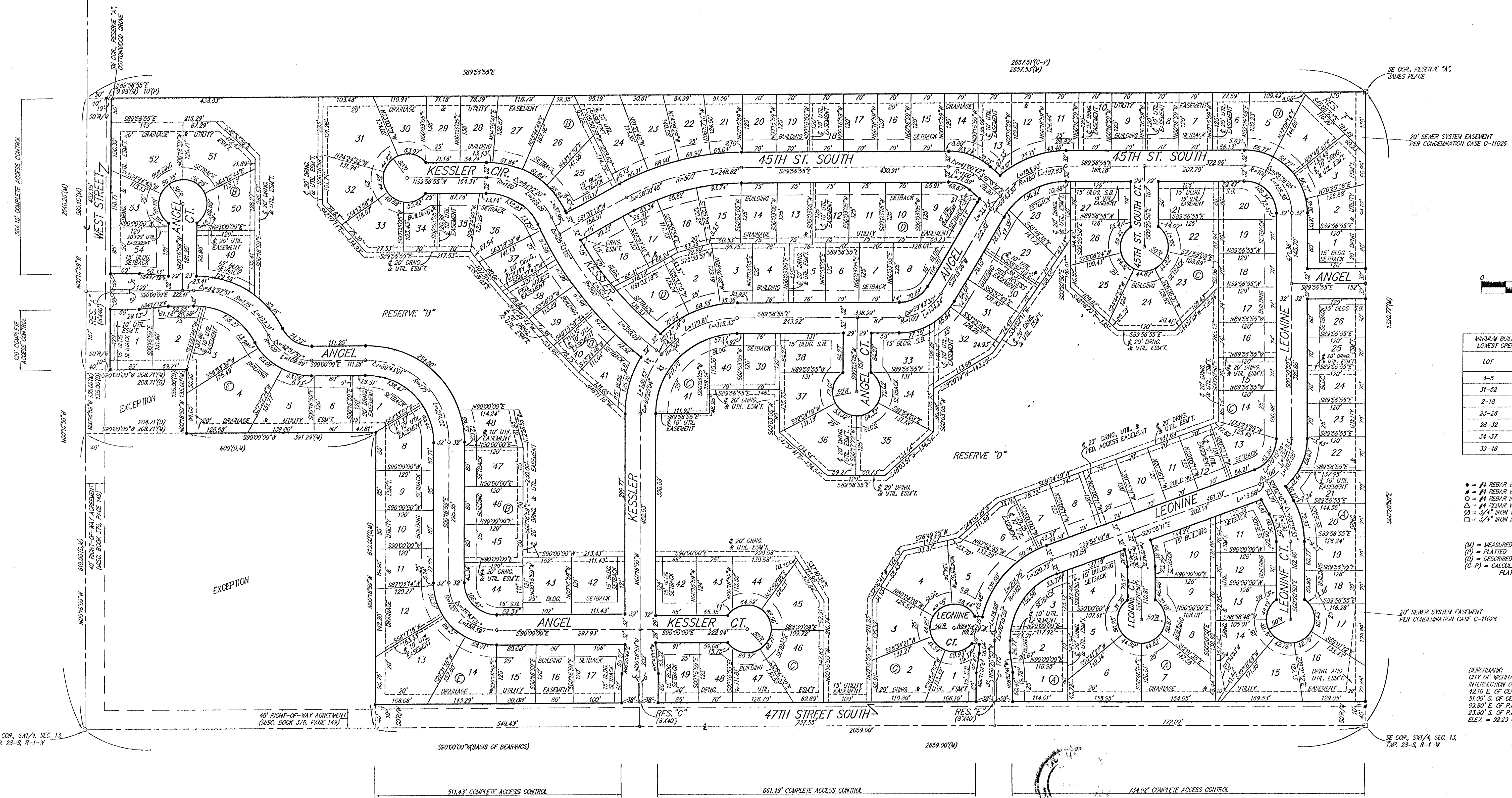
NOTE: Reinforcing Bar List is for both wings at one end of box only.

[illegible]

ANGEL FIRE ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS

NW COR. SW 1/4, SEC. 13,
T1P. 28-S, R-1-W



MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES		
LOT	BLOCK	ELEVATION CITY DATUM
3-5	B	95.0
31-52	B	94.0
2-18	C	94.0
23-28	C	94.0
28-32	C	94.0
34-37	C	94.0
39-48	C	94.0

• = #4 REBAR W/ "BAUGHMAN" CAP (SET)
• = #4 REBAR W/ "BAUGHMAN" CAP (FOUND)
○ = #4 REBAR IN THIMBLE (FOUND)
△ = #4 REBAR W/ "MKEC" CAP (FOUND)
□ = 3/4" IRON W/ "MKEC" CAP (FOUND)
□ = 3/4" IRON IN THIMBLE (FOUND)

(M) = MEASURED
(P) = PLATTED
(D) = DESCRIBED
(C-P) = CALCULATED PER
PLATTED INFO.

BENCHMARK:
CITY OF WICHITA BENCHMARK DISC - SE COR OF
INTERSECTION OF 47TH ST. S. AND WEST STREET
42.10' E. OF CENTERLINE
51.00' S. OF CENTERLINE
99.80' E. OF P.P. ON SW COR.
23.80' S. OF P.P.
ELEV. = 92.29 CITY DATUM

NOTE:
A MASTER GRADING PLAN FOR DRAINAGE HAS BEEN DEVELOPED FOR THIS
SUBDIVISION AND IS ON FILE WITH THE CITY OF WICHITA, KANSAS.
ALL DRAINAGE EASEMENTS, RIGHTS-OF-WAY, OR RESERVES SHALL REMAIN
AT ESTABLISHED GRADES OR AS MODIFIED WITH THE APPROVAL OF THE
CITY ENGINEER OF THE CITY OF WICHITA, KANSAS. NO OBSTRUCTIONS WHICH
IMPEDE THE FLOW OF THIS DRAINAGE SYSTEM SHALL BE ALLOWED.