

STAFF REPORT
(Final Plat, Overall Preliminary Plat Approved 12/29/05)

CASE NUMBER: SUB 2008-01 – BELLECHASE 2nd ADDITION

OWNER/APPLICANT: Bellechase Development LLC, PO Box 3081, Wichita, KS 67201

SURVEYOR/ENGINEER: Ruggles & Bohm, P.A., 924 N. Main, Wichita, KS 67203

LOCATION: East side of 127th St. East, North of Harry

SITE SIZE: 38.98 acres

NUMBER OF LOTS

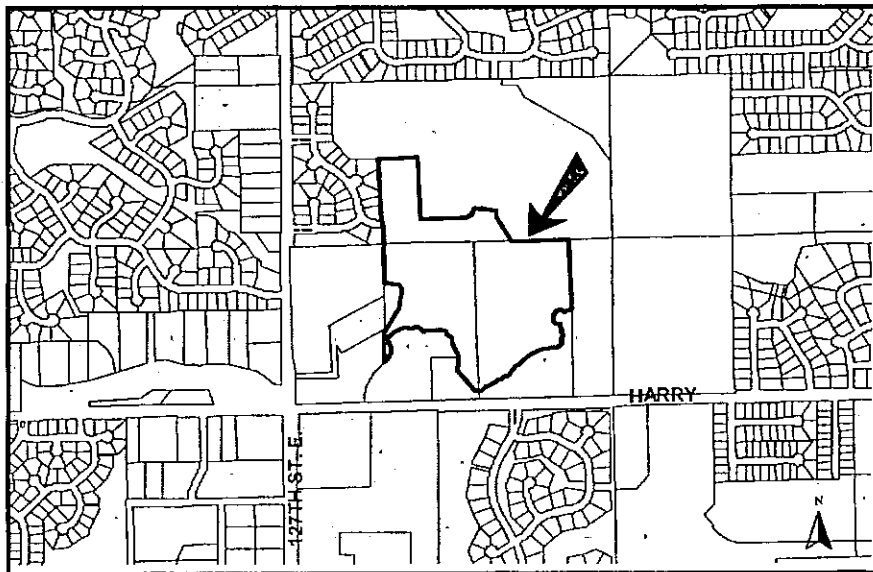
Residential:	56
Office:	
Commercial:	
Industrial:	
Total:	<u>56</u>

MINIMUM LOT AREA: 8,160 square feet

CURRENT ZONING: SF-5, Single-Family Residential

PROPOSED ZONING: Same

VICINITY MAP



SUB 2008-01 – Final Plat of BELLECHASE 2nd ADDITION
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NOTE: This final plat consists of the south portion of the overall preliminary plat approved for the site and represents the second phase of development. The street layout is consistent with the preliminary plat.

STAFF COMMENTS:

- A. The applicant shall guarantee the extension of sanitary sewer and City water (mains and laterals) to serve the lots being platted.
- B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- C. City Engineering needs to comment on the status of the applicant's drainage plan.
- D. The Applicant shall guarantee the paving of the proposed streets. The guarantee shall also provide for sidewalks on at least one side of all through, non cul-de-sac streets.
- E. In accordance with the KS Wetland Mapping Conventions under the Memorandum of Understanding between the USDA-NRCS; USEPA; USACE; and USF&WS, this site has been identified as one with potential wetland hydrology. The US Army Corps of Engineers (USACE) should be contacted (316-322-8247) to have a wetland determination completed.
- F. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.
- G. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the appropriate governing body, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by the governing body.
- H. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.
- I. The Applicant is reminded that a platting binder is required with the final plat. Approval of this plat will be subject to submittal of this binder and any relevant conditions found by such a review.
- J. County Surveying requests an onsite benchmark.
- K. The plat's text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.
- L. The applicant shall install or guarantee the installation of all utilities and facilities that are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)
- M. The Register of Deeds requires all names to be printed beneath the signatures on the plat and any associated documents.
- N. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (Phone: 316-946-4556) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.
- O. The applicant is advised that various State and Federal requirements (specifically but not limited to the Army Corps of Engineers, Kanopolis Project Office, Rt. 1, Box 317, Valley Center, KS 67147) for the control of soil and wind erosion and the protection of wetlands may impact how this site can be developed. It is the applicant's responsibility to contact all appropriate agencies to determine any such requirements.

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- P. The owner of the subdivision should note that any construction that results in earthwork activities that will disturb one (1) acre or more of ground cover requires a Federal/State NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Also, for projects located within the City of Wichita, erosion and sediment control devices must be used on ALL projects. For projects outside of the City of Wichita, but within the Wichita Metropolitan area, the owner should contact the appropriate governmental jurisdiction concerning erosion and sediment control device requirements.
- Q. Perimeter closure computations shall be submitted with the final plat tracing.
- R. The representatives from the utility companies should be prepared to comment on the need for any additional utility easements to be platted on this property.
- S. A compact disc (CD), which will be used by the City and County GIS Departments, detailing the final plat in digital format in AutoCAD. If a disc is not provided, please send via e-mail to Cheryl Holloway (E-Mail address: cholloway@wichita.gov). Please include the name of the plat on the disc.

**BELLECHASE 2nd ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS
DRAINAGE ANALYSIS
NOVEMBER 2007**

Belle Chase Addition is located near the northwest corner of the intersection of 127th Street East and Harry Street. The total addition consists of approximately 100.8 acres. From the National Cooperative Web Soil Survey 2.0, the predominant on-site soils are Rosehill silty clay and Clime silty clay, hydrologic soils group D and C respectively. For the sake of drainage analysis type D hydrologic group characteristics will be used. The site is currently used as pasture.

Belle Chase Addition is situated immediately south of Country Hollow Addition, Wichita, Sedgwick County, Kansas. A small portion of the southernmost part of the plat is within the floodway.

In the pre-developed condition offsite drainage comes from Country Hollow Addition to the north of the site. Spring Branch Creek flows just south of the addition. The site drains from north to south into the Spring Branch.

In the developed condition, the site will be subdivided into 222 single family lots. There is an existing pond in the Northeast corner of the plat that will be improved. A detention pond will be constructed along the South edge of the plat. The site will be drained into storm water systems and then into the drainage ponds. Some drainage will flow to the Spring Branch undetained.

HEC-HMS 3.0.1 was used for the hydraulic analysis of the site. For all rainstorm events studied, the total discharge from the site was reduced in the developed condition.

Storm Return Period	Existing Runoff (cfs)	Developed Runoff (cfs)
2 yr	236.6	231.3
5 yr	329.6	314.8
10 yr	405.7	381.8
25 yr	480.8	448.9
100 yr	640.2	590.1

Table 1: Peak runoff for each studied rainfall event.

Existing Conditions

The existing site is 100.8 acres of pasture with hydrologic group D and C soil. The Country Hollow Drainage plan was used to input discharge from Country Hollow onto Belle Chase. The time of concentration is 22.8 minutes for the West basin and 18.6 minutes for the East basin. Time of Concentration was found using the velocity method. Considering the soil types and land use, a curve number of 83 was used for the onsite areas. Existing runoff for each return period is shown in Table 1. Runoff from the West basin flows undetained to the Spring Branch. Runoff for the East basin flows into an existing pond. Existing Pond data is found in Table 2.

West Basin:

$T_c = 300' / 0.45 \text{ ft/sec (overland)} + 300' / 1.5 \text{ ft/sec (sheet flow)} + 1260' / 2.5 \text{ ft/sec (channel flow)} = 1370 \text{ seconds} = 22.8 \text{ minutes.}$

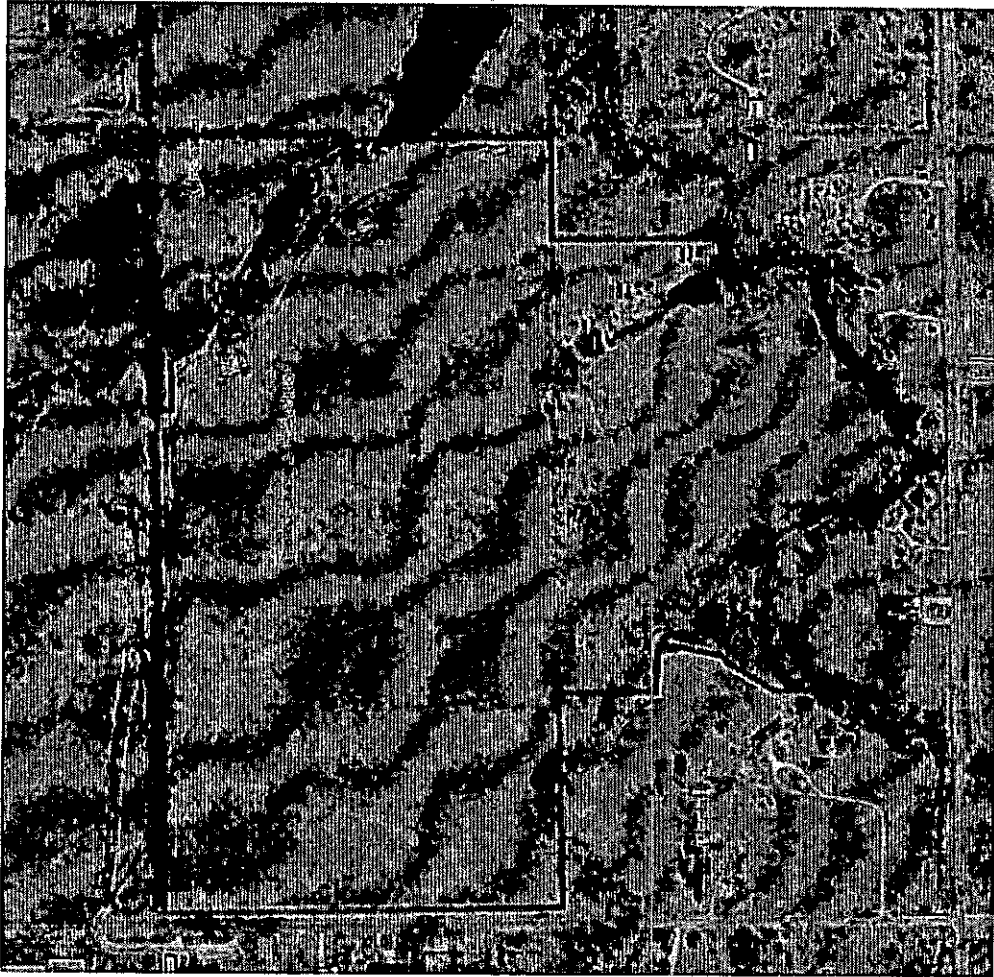
East Basin:

$T_c = 300' / 0.45 \text{ ft/sec (overland)} + 300' / 1.5 \text{ ft/sec (sheet flow)} + 630' / 2.5 \text{ ft/sec (channel flow)} = 1116 \text{ seconds} = 18.6 \text{ minutes.}$

The existing pond is controlled by a 12" CMP and ultimately a low area acts as a weir.

Elevation	Area (acres)	Discharge (cfs)
1313.5	1.16	0.0
1314.0	1.30	0.8
1314.5	1.63	2.1
1315.0	1.95	3.3
1315.5	2.37	54.0
1316.0	2.78	185.0
1316.5	3.33	425.0
1317.0	3.88	792.0

Table 2: Existing Pond data.



BELLECHASE 2ND ADDITION

AERIAL

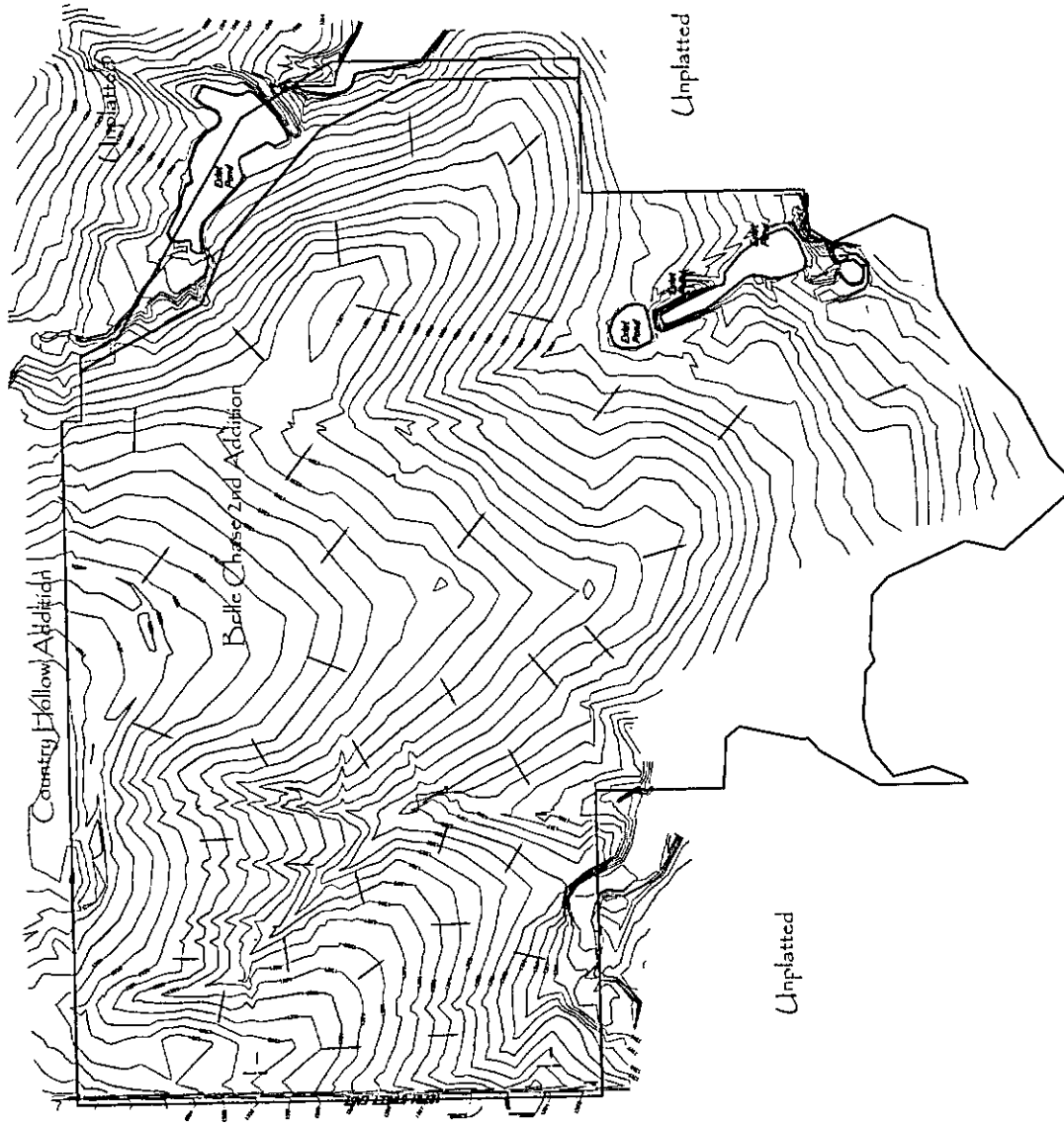
WICHITA, KANSAS



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DATE	BY	REVISION

Scale: 1" = 100'



**BELLECHASE 2ND ADDITION
EXISTING CONTOURS**

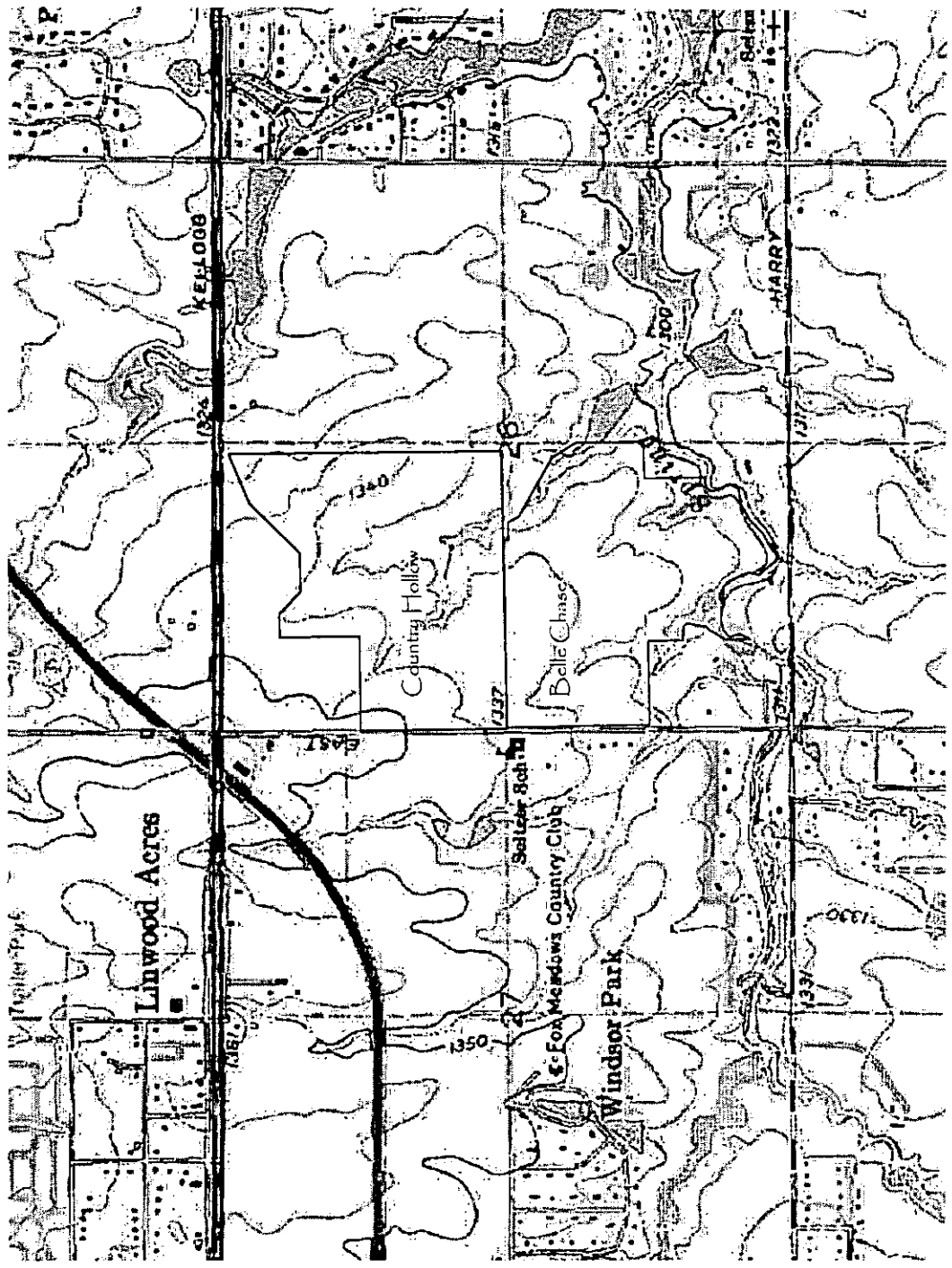
WICHITA, KANSAS

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Project No.	1000000000
Sheet No.	1
Date	10/1/2007
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BELLECHASE 2ND ADDITION
 USGS
 WICHITA, KANSAS



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Developed Conditions

The developed condition for Belle Chase Addition is 222 single family residential lots. 80.0 acres will be developed into lots with the remaining 30.7 left as reserves. The existing detention pond will be improved and controlled with a weir. A new detention pond will be constructed and controlled by a weir. A portion of the site will continue to drain to the Spring Branch undetained, however the overall discharge for the developed site will be decreased from the existing condition. The Country Hollow runoff was recreated using drainage model information furnished by MKEC.

Basin	Peak Discharge (cfs)				
	2-year	5-year	10-year	25-year	100-year
Onsite West	107.2	147.2	179.0	210.8	277.8
Pond Basin	27.2	37.3	45.3	53.3	70.2
Exist Pond	27.2	37.3	45.3	53.3	70.2
Onsite Southeast	19.6	27.9	32.7	38.5	50.6

Table 3 – Developed Basin Discharges.

Developed Drainage Basins

Onsite West

Undetained Drainage to Spring Branch

Area = 49.2 acres

CN = 90

Time of Concentration = 18 minutes

Pond Basin

Onsite Drainage to Proposed Pond

Area = 11.3 acres

CN = 90

Time of Concentration = 15 minutes

Existing Pond

Onsite Drainage to Existing Pond

Area = 11.3 acres

CN = 90

Time of Concentration = 15 minutes

Southeast Basin

Undetained Drainage to Spring Branch

Area = 8.2 acres

CN = 90

Time of Concentration = 15 minutes

Pond Ratings

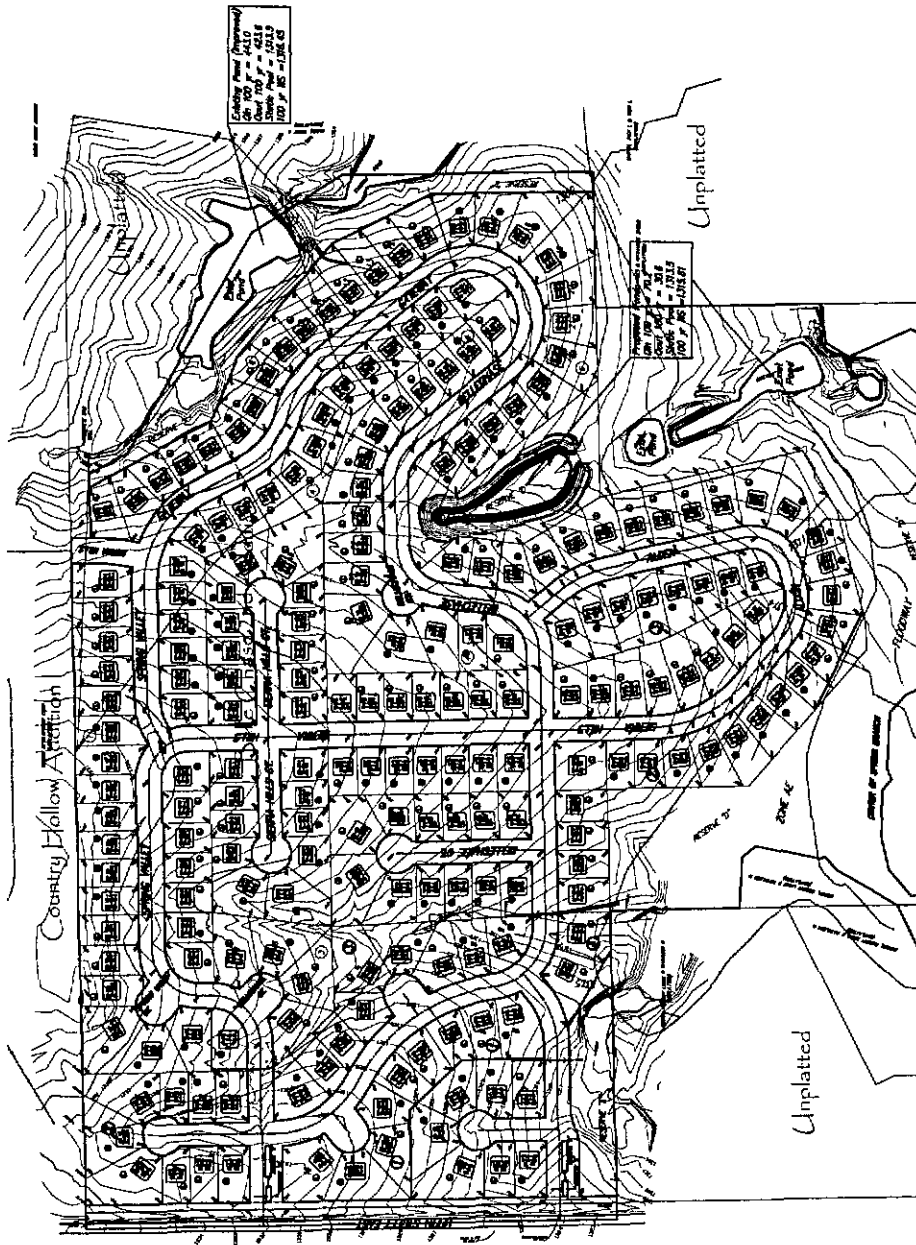
The following tables represent the data associated with the onsite detention ponds.

Elevation	Area (ac)	Discharge (cfs)	Storage (ac-ft)
1313.5	0.98	0.0	0
1314.0	1.55	29.5	0.63
1314.5	1.82	83.4	1.40
1315.0	2.09	153.3	2.30
1315.5	2.46	236.0	3.44
1316.0	2.83	329.8	4.76
1316.5	3.27	433.5	6.38
1317.0	3.71	546.3	8.21

Table 4 – Existing pond (Improved) data.

Elevation	Area (ac)	Discharge (cfs)	Storage (ac-ft)
1313.5	0.79	0.0	0.0
1314.0	0.84	3.1	0.41
1314.5	0.89	8.7	0.84
1315.0	0.94	16.0	1.30
1315.5	0.99	24.6	1.78
1316.0	1.04	34.4	2.29
1316.5	1.09	45.2	2.82
1317.0	1.14	56.9	3.38

Table 5 – Proposed Pond Data.



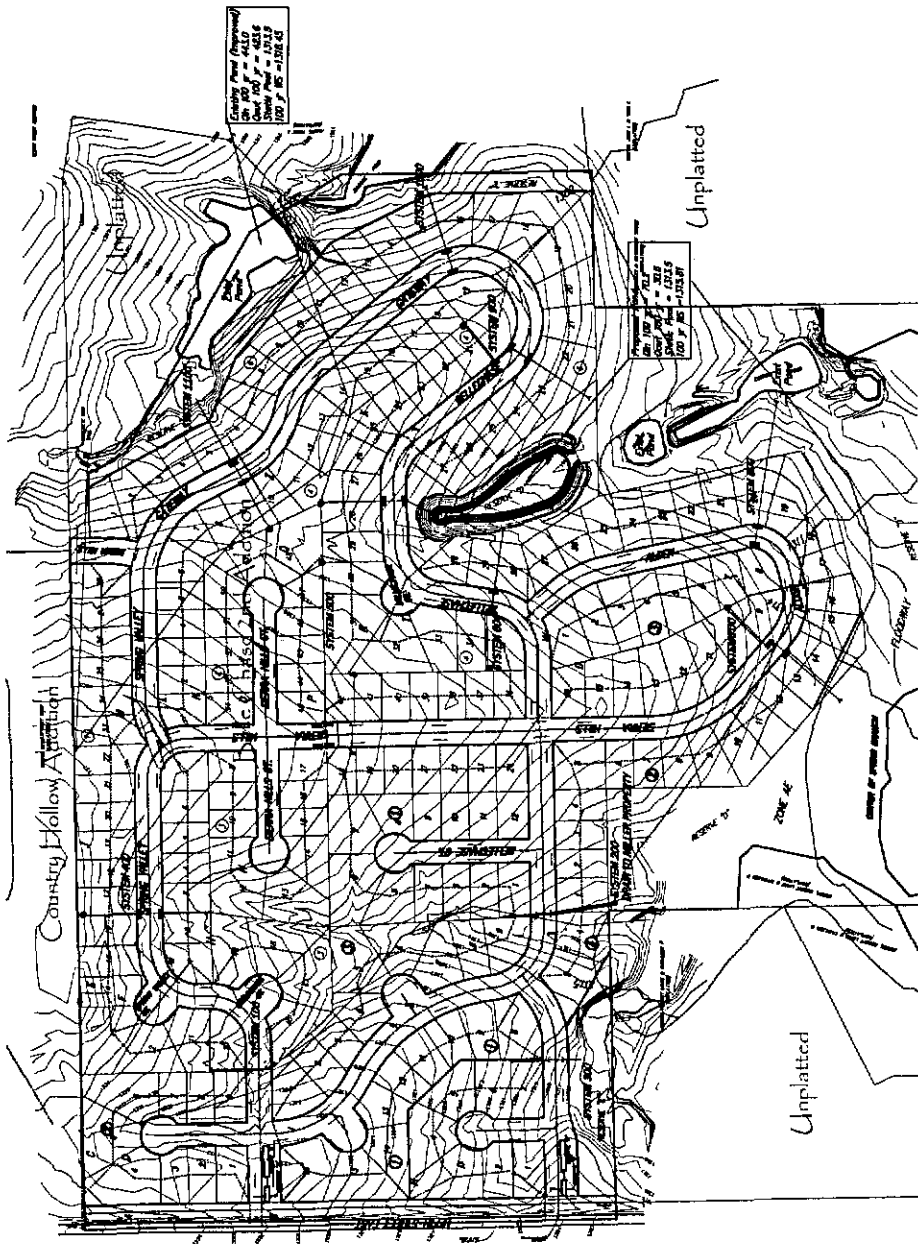
BELLECHASE 2ND ADDITION
 4 CORNER LOT GRADING
 WICHITA, KANSAS



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DATE	10/1/03
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Sheet 4 of 10



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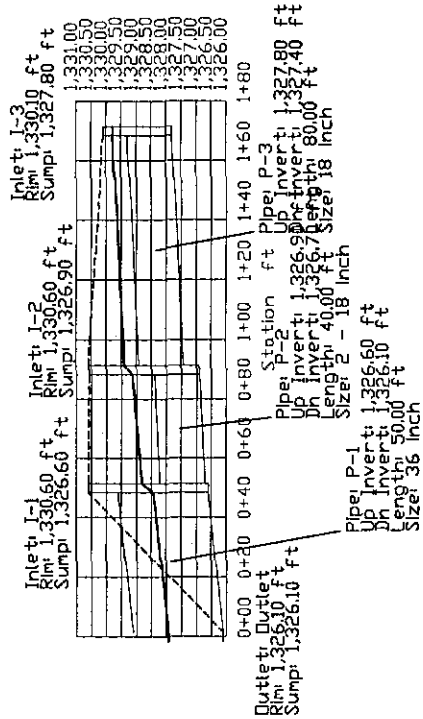


**BELLECHASE 2ND ADDITION
 DRAINAGE BASINS
 WICHITA, KANSAS**

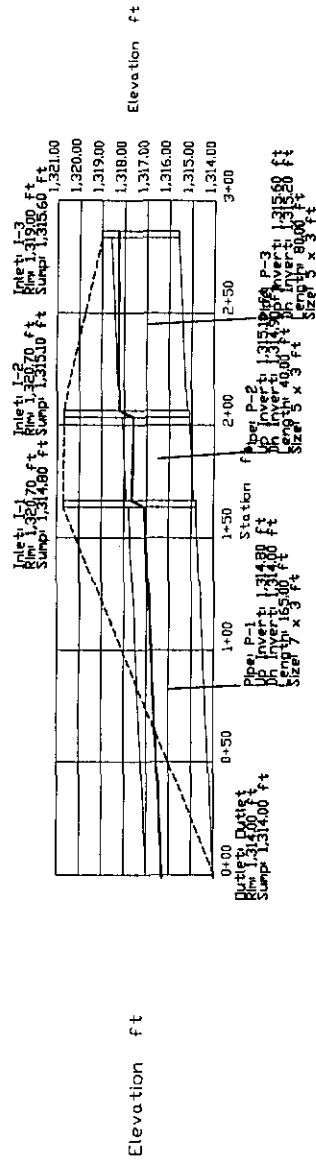
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Date: 10/1/07
 Scale: 1" = 100'

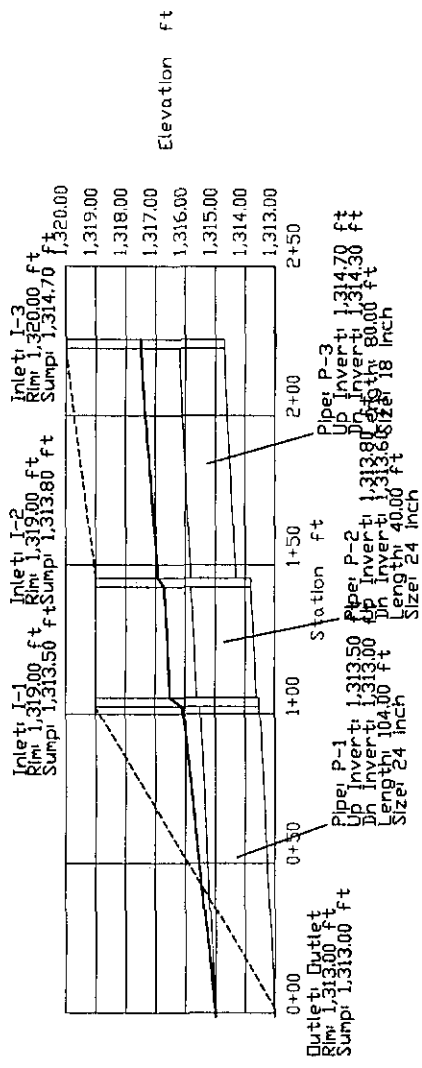
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SYSTEM 300 PROFILE



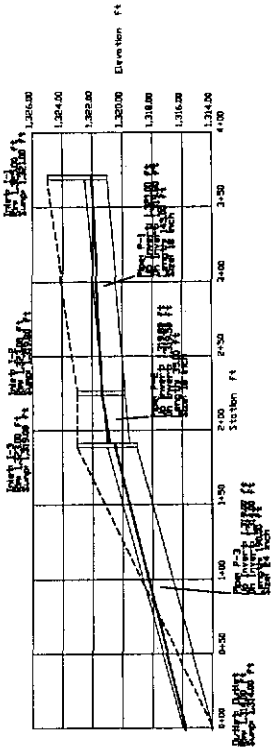
BELLE CHASE 2nd ADDITION
SWS PROFILES



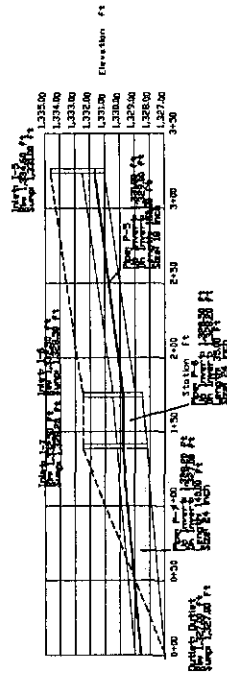
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DATE	12/04/07
BY	WJS
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SCALE	AS SHOWN
TITLE	BELLE CHASE 2ND ADDITION SWS PROFILES
PROJECT NUMBER	07-00000000
DATE PLOTTED	12/04/07

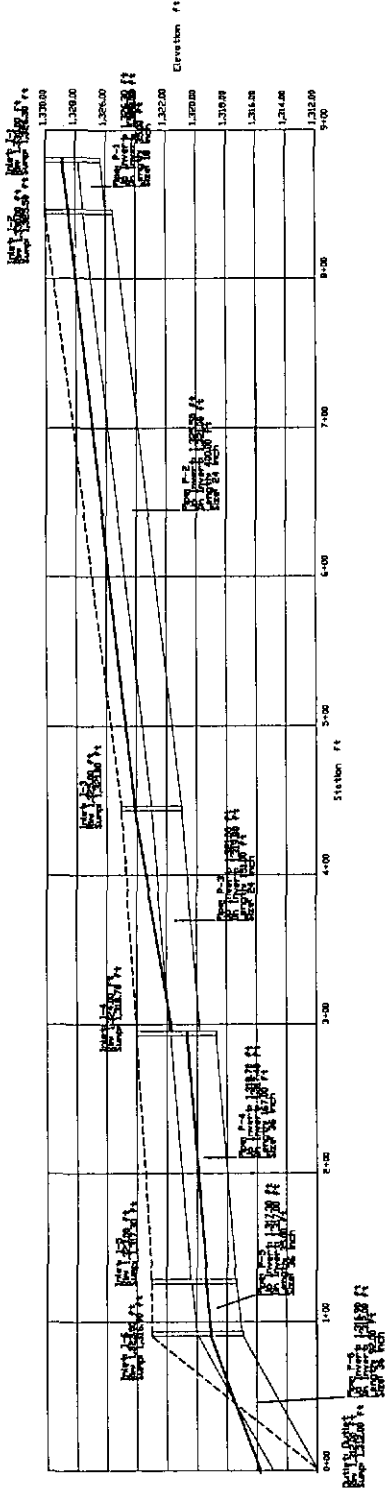
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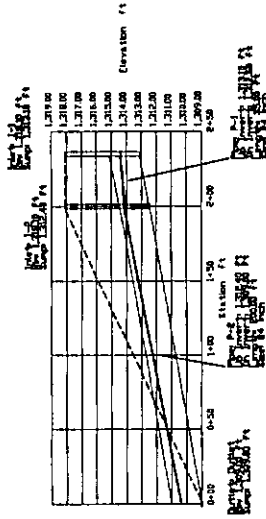
BELLE CHASE 2nd ADDITION
SWS PROFILES



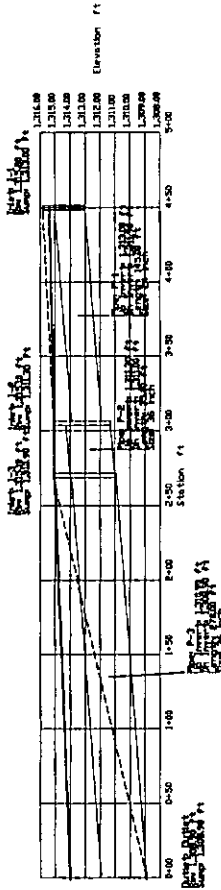
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DATE	12/14/07
BY	W. J. BOHM
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DATE	12/14/07

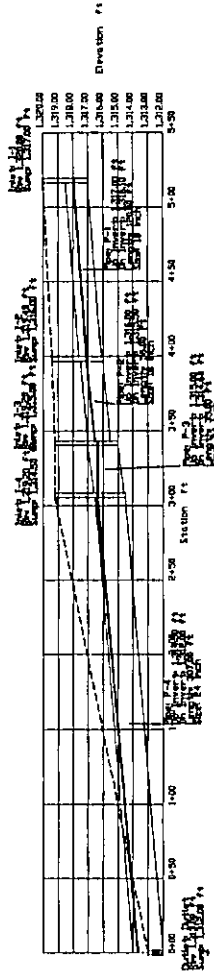
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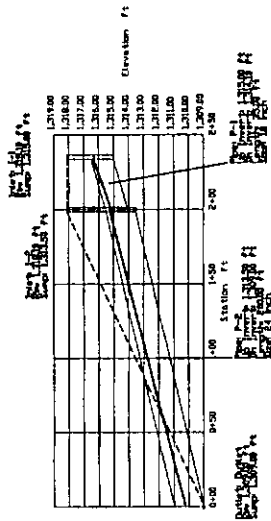
BELLE CHASE 2nd ADDITION
 SWS PROFILES



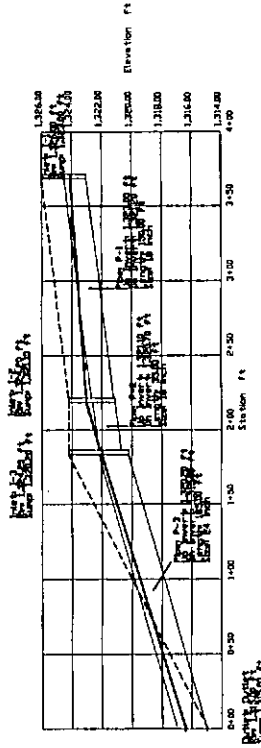
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 Email: info@rugglesandbohannan.com

DATE: 11/11/11
 PROJECT: Belle Chase 2nd Addition
 SHEET: 11 OF 11
 DATE: 11/11/11

SYSTEM 1000 PROFILE



SYSTEM 1100 PROFILE



BELLE CHASE 2nd ADDITION
SWS PROFILES



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Project No. 2207 Profiles
Date: 4. 2005