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MEMORANDUM

TO: Steve Burns, Town Planner

FROM: Mike Casino, RKG Associates, Inc. and
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DATE: September 4, 2001

SUBJECT: Final Report: Build-Out Analysis for the Town of York

1. Introduction

This memorandum presents a summary of the residential build-out analysis prepared for the town of York. A build-out analysis is a statistical planning tool used to determine the potential development capability within a community based on a specific set of parameters. While a build-out study typically identifies the maximum amount of development that could occur within a community it does not imply that this level of development will be reached within any specific time-frame. The results of a build-out study should be treated as a gauge for evaluating land use regulations and their potential effect on the man-made and natural environments.

As specified under the Scope of Services, this build-out analysis is comprised of two alternative scenarios. The first scenario involved determining the potential number of additional residential units that could reasonably be constructed under the town's current zoning regulations. The second scenario involved the evaluation of the town's residential development potential based on the natural constraints associated with the carrying capacity of the remaining undeveloped land area. Using two alternative methods it can help to determine if the town's regulatory mechanisms are designed appropriately to direct development as it relates to the natural environment within York

The build-out analyses discussed in this memorandum have been conducted primarily through the use of a geographic information system (GIS). Using Arcview GIS software, we have incorporated into the analysis a variety of data layers from the York GIS data library, as well as data from the State's Office of GIS and other state, regional and private sources. GIS provides a powerful tool for conducting this type of analysis because it allows for large amounts of data to be evaluated simultaneously and displayed spatially. In addition, it allows the user to establish relationships between various geographic data layers and draw conclusions about these relationships. In other words, GIS facilitates an "overlay" approach whereby the user could, for example, overlay zoning boundaries with

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assessor's parcels, soils, watershed boundaries, etc., and develop an understanding of where elements of each of these layers lie in relationship to one another.

The primary GIS data layers used to conduct this build-out analysis included the following: York Zoning District Boundaries; York Assessor's Parcels; York Shoreland Wetlands Boundaries; Watershed Boundaries; York County Soil Survey; and the Existing Conservation/Protected Lands layer. More detailed information about the sources of these data layers will be included in an appendix to this analysis.

The remainder of this memorandum is divided into two primary sections which summarize the methodology and results of the respective build-out scenarios described above.

2. Build-Out Analysis Based on Zoning Regulations

Methodology and Assumptions - The zoning build-out scenario provides an estimate of the potential number of additional single family dwelling units that could be constructed in York on the town's remaining undeveloped land. In order to estimate this potential it was necessary to determine how much land was currently undeveloped or underdeveloped, how much of this land could be developed, and at what density can it be developed.

Estimating how much land is currently undeveloped was determined by using the GIS parcel data layer which was linked to the York assessment data base by means of the map and lot number. The assessment data base contains a series of land use codes that identify the existing land use of each parcel in town. Parcels classified as undeveloped in the assessment data base (land use code 99) were selected to identify the gross amount of developable land that currently exists in York.

In order to further refine the amount of potentially developable land, areas within town that are considered undevelopable were subtracted from gross development area identified in the assessment records. Undevelopable land was defined as those parcels that are considered to be conservation areas and therefore, have a relatively high degree of protection from development, as well as the areas that are identified as wetlands under the town's Shoreland Zoning District. The GIS was used to subtract the data layers of undevelopable land (conservation and wetland areas) from the gross undeveloped land area (land use code 99) to arrive at the potentially developable land area that currently exists within the town.

Parcels identified as potentially developable were then grouped by the zoning district in which they are situated. Once again this operation was performed using the GIS by overlaying the zoning layer onto the parcel layer and in "cookie cutter" fashion, cutting the parcels into their respective zoning districts. Since some parcels straddle a zoning district boundary a new square footage was calculated for each parcel after being divided into zoning districts. This data layer containing undeveloped parcels by zoning district was used to perform the final calculations of potential build-out within the town.

The second consideration evaluated under the zoning build-out involved an examination of "underdeveloped" parcels in town. For the purposes of this analysis, underdeveloped was defined as a parcel that had an existing single family house and total acreage that was at least twice the minimum lot size required by zoning. Since these parcels have the potential to be subdivided they also have the potential to contribute to the total potential build-out within the town. The identification of these underdeveloped parcels was accomplished with the GIS using the same procedures described above.

The final set of assumptions used for the build-out analysis relate to the density of development that could be expected within the various zoning districts. There are several factors that affect this figure. The first is the minimum lot size permitted by zoning, the second are natural constraints such as soils and slopes, and the third is the amount of land that is required for construction of roadways and utilities within a new subdivision. The minimum lot size permitted by zoning was taken from the town's Zoning Ordinance, as amended through 5/20/00. Areas of town served by municipal sewer allow for a higher density of development under the Ordinance, which was also taken into consideration. In reality, newly created lots typically end up being larger than the minimum lot size because of natural constraints, the shape of the parcel being subdivided, market demands, and other factors. Therefore, the average lot size of existing single family homes within each zoning district was also calculated with the GIS for use as a density factor in comparison to the zoning requirements. Finally, in order to factor in the construction of roads and utilities for the build-out analysis, 15% of the potentially developable land was deducted to allow for this consideration.

Findings and Conclusions - Based on the assumptions described in the preceding section the potential number of additional single family dwellings that could be constructed in York under current zoning requirements was calculated. These estimates were calculated for each individual zoning district and then totaled to provide a town-wide estimate. Table 1 presents the results of this process. In some cases, the town has multiple districts of the same zoning classification (e.g. there are two separate GEN-3 districts). The potential development for each of these districts was calculated separately and the location of each districts is illustrated on Map 1. (Note: The BUS-1, 2 and 3 districts were excluded from the analysis because of the very limited amount of undeveloped parcels that remain in those areas.)

As shown in Part A of Table 1 (Row 4), there is approximately 9,700 acres of undeveloped and potentially developable land remaining within the town. After deducting 15% to allow for road and utility construction we are left with approximately 8,300 net acres. Based on the minimum lot size prescribed by zoning it is estimated that 3,654 single family dwellings could be constructed on this land area. If the average lot size for existing single family homes is used to calculate build-out, the potential number of dwellings is reduced to 2,865. These figures are summarized in Table 2.

Part B of Table 1 presents the potential build-out of parcels that have an existing single family house and sufficient acreage to be further subdivided. These underdeveloped parcels have a gross area of 4,700 acres and a net developable area of approximately 3,400 acres. Based on the minimum lot size permitted by zoning there is the potential to construct 1,591 single family

MAP 1
Zoning District Boundaries for the York Build-Out Analysis
York, Maine

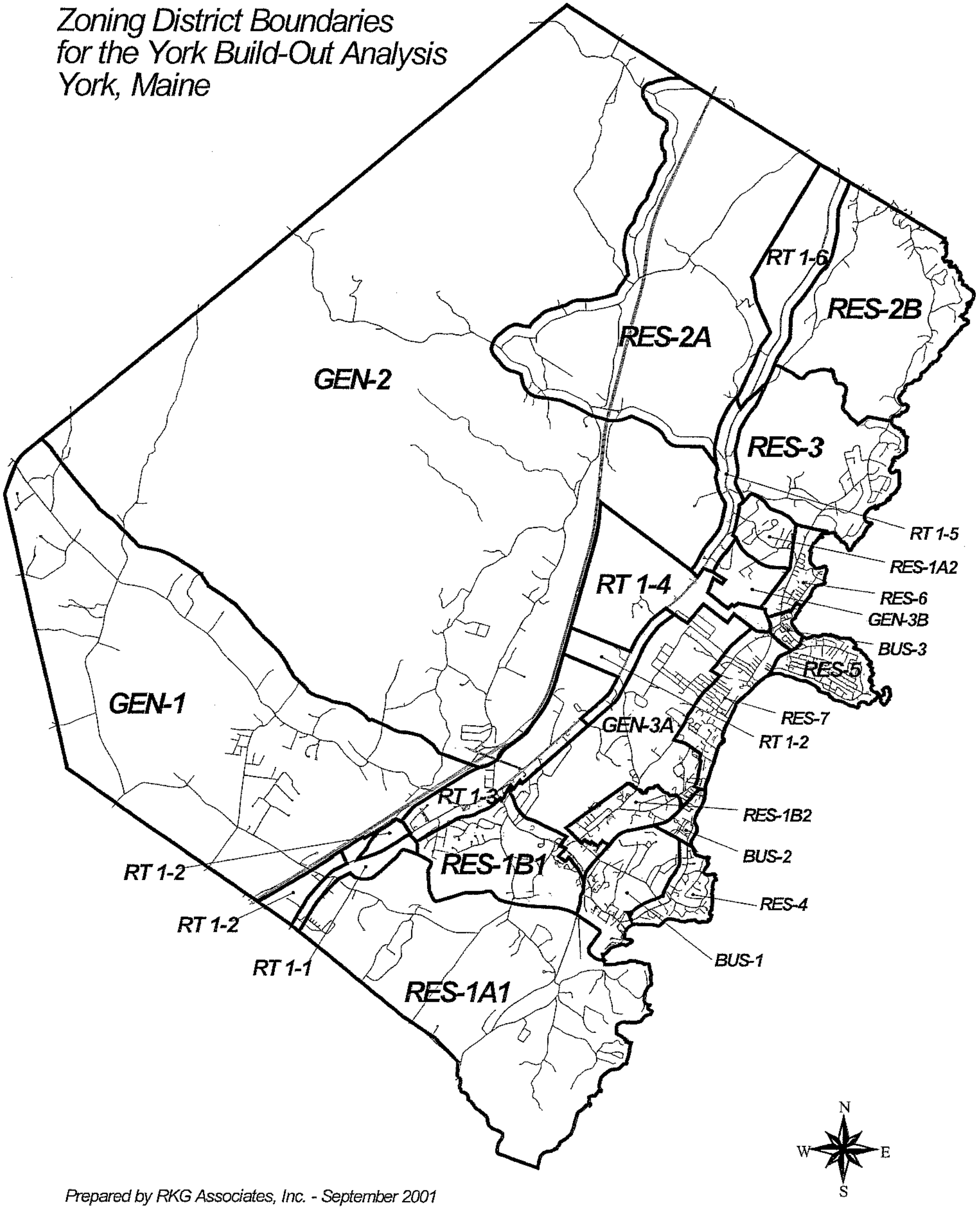

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Table 1
York Zoning Build-Out Analysis by Zoning District

		RESIDENTIAL ZONING DISTRICTS																ROUTE 1 COMMERCIAL ZONING DISTRICTS							TOTAL ALL DISTRICTS
		GEN 1	GEN 2	GEN 3A	GEN 3B	RES 1A1	RES 1A2	RES 1B1 Sewer	RES 1B2 Sewer	RES 2A	RES 2B	RES 3	RES 4 Sewer	RES 5 Sewer	RES 6	RES 7 Sewer	TOTAL	RT 1-1	RT 1-2	RT 1-3	RT 1-4	RT 1-5	RT 1-6	TOTAL	
1	Minimum Lot Size w/o Municipal Sewer (Zoning)	3	3	1	1	2	2	1	1	2	2	2	1	0.45	0.45	0.45		2	1	2	2	1	2		
2	Minimum Lot Size with Municipal Sewer (Zoning)	NA	NA	NA	NA	NA	NA	0.7	0.7	NA	NA	NA	0.7	0.27	NA	0.27		NA	NA	NA	NA	NA	NA		
3	Average Single Family Lot Size	4.1	4.7	1	1.8	2.7	1.1	0.8	0.7	4.1	1.7	1.4	0.8	0.2	0.3	0.2		6.1	2.3	1	1.3	2.3	2.9		
	PART A. POTENTIAL HOUSING UNIT DEVELOPMENT ON VACANT LAND																								
4	Undeveloped Acreage	956	4,588	113	41	729	31	21	20	1,483	477	499	9	25	5	25	9,022	9	38	91	174	62	365	739	9,761
5	Potentially Developable Acreage (15% deducted for roads/utilities construction)	813	3,900	96	35	620	26	18	17	1,261	405	424	8	21	4	21	7,669	8	32	77	148	53	310	628	8,297
6	Additional Single Family Units based on Min. Lot Size (Zoning)	271	1,300	96	35	310	13	26	24	630	203	212	11	79	9	79	3,297	4	32	39	74	53	155	357	3,654
7	Additional Single Family Units based on Existing Avg. Single Family Lot Size	198	830	96	19	229	24	22	24	307	239	303	10	106	14	106	2,529	1	14	77	114	23	107	336	2,865
	PART B. POTENTIAL HOUSING UNIT DEVELOPMENT ON SUBDIVIDABLE LAND WITH EXISTING SINGLE FAMILY DWELLING																								
8	Subdividable Acreage with Existing Single Family House	1,497	1,440	235	49	574	10	69	22	444	155	143	34	16	15	37	4,740								
9	Total Single Family Lots	72	65	27	9	55	1	24	8	44	16	10	18	22	9	28	408								
10	Potentially Developable Acreage (min. lot size deducted for existing house and 15% deducted for roads/utilities construction)	1,089	1,058	177	34	394	7	38	12	303	105	105	14	5	9	21	3,370								
11	Additional Single Family Units based on Min. Lot Size (Zoning)	363	353	177	34	197	3	55	17	151	52	52	19	19	21	77	1,591								
12	Additional Single Family Units based on Existing Avg. Single Family Lot Size	266	225	177	19	146	6	48	17	74	62	75	17	26	31	104	1,291								
	PART A AND PART B COMBINED TOTALS																								
13	Additional Single Family Units based on Min. Lot Size (Zoning)	634	1,653	273	69	507	17	80	41	782	255	264	30	98	30	156	4,888	4	32	39	74	53	155	357	5,245
14	Additional Single Family Units based on Existing Avg. Single Family Lot Size	464	1,055	273	38	376	30	70	41	381	300	378	27	132	45	210	3,820	1	14	77	114	23	107	336	4,156

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In summary, the build-out analysis suggests that approximately 2,800 to 3,600 additional single family dwellings could potentially be constructed on land in York that is currently undeveloped and assumed to be available for development. No attempt has been made to determine the length of time over (i.e. absorption period) which this build-out might occur. These estimates are based on existing zoning requirements and historic development trends within the town. If these parameters are changed in the future it would alter the findings of this analysis. Economic and housing market conditions will also have a significant influence on the actual amount of housing constructed in York, as will the willingness of property owners to develop their land.

In addition, it is estimated that 1,300 to 1,600 single family dwellings could be constructed on land that currently has an existing house and sufficient acreage to be subdivided. Although these parcels have a somewhat lower probability of being developed, there is still a reasonable potential for its occurrence. However, subdivision of these properties is likely to occur at a slower rate than undeveloped land and therefore, represents a longer-term potential build-out period for the town. Combining both the potential development on undeveloped land with parcels that could be further subdivided suggests that approximately 4,200 to 5,200 additional single family dwellings could be built under current zoning regulations.

Table 2
Potential Additional Single Family Units on Undeveloped and Underdeveloped Parcels in York - June 2001

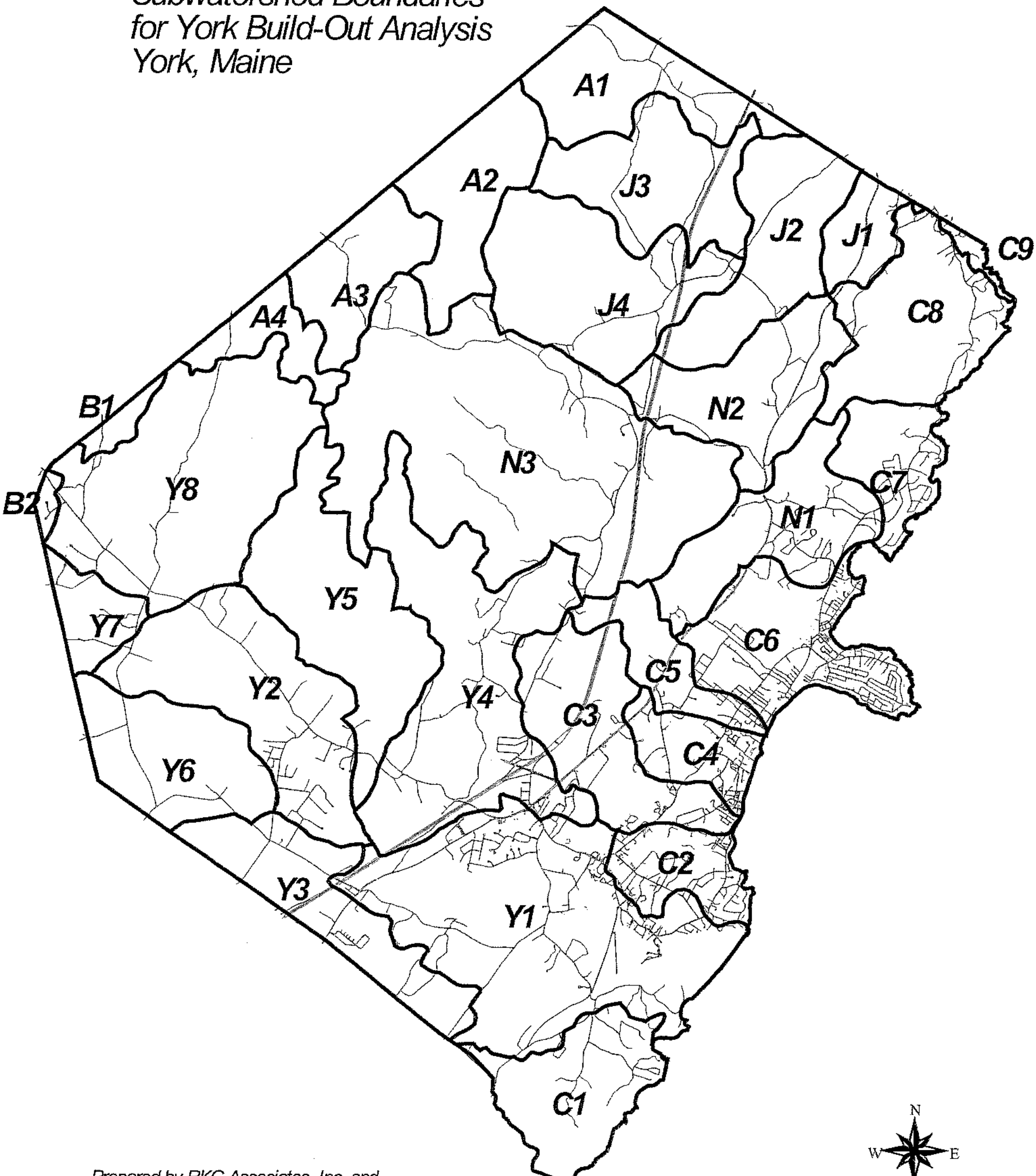
	Based on Zoning Min. Lot Size	Based on Existing Avg. Single Family Lot Size
PART A		
Total Additional Single Family Units on Undeveloped Land		
In Residential Zoning Districts	3,297	2,529
In Route 1 Commercial Districts	357	336
Total Additional Single Family Units	3,654	2,865
PART B		
Total Additional Single Family Units on Subdividable Parcels with an Existing Single Family Dwelling		
Total Additional Single Family Units	1,591	1,291
Total Parts A and B	**5,254**	**4,156**

Source: RKG Associates, Inc.

3. Build-Out Analysis Based on Land Capability

The second build-out scenario considered for York provides the total number of lots each watershed area can support if each lot was sized to its natural capability. This number provides us with the carrying capacity of each subwatershed. When the number of lots exceeds this number, then the chance of water quality problems increases. For the purposes of this analysis, the town has been divided into 30 subwatersheds which are illustrated on Map 2.

MAP 2
Subwatershed Boundaries
for York Build-Out Analysis
York, Maine



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Methodology and Assumptions - There has been development in York for well over 200 years and many acres of land have already been developed. Does this mean that no more development should take place? Are there areas of the subwatersheds overbuilt already relative to the ability of the land to support it? In order to determine the remaining development potential within the town, the total number of lots was calculated by the soil lot size method which is discussed below.

Each soil mapping unit found in York has been rated for its ability to support a residential or commercial lot, based on a formula which has water quality as its primary concern. Potential pollution sources considered were septic systems, lawns and impermeable surfaces. The assessment of suitability was based on a report by the New Hampshire Department of Environmental Services and the Rockingham County (NH) Conservation District entitled "Environmental Planning For Onsite Wastewater Treatment in New Hampshire". The report assigns a recommended lot size for each individual soil mapping unit. Because the soils in York are identical to those mapped in New Hampshire, according to the standards of the National Cooperative Soil Survey and the USDA-NRCS, the system has been adopted for use in this report.

According to the study, nitrogen, in the form of nitrates, is the major contaminant factor in the sizing of lots. The primary mechanism of nitrate nitrogen reduction in the groundwater is through dilution. Other wastewater contaminants are assumed to be adequately handled by a combination of septic system design and setback restrictions. The nitrate nitrogen is diluted by rainfall recharge prior to entering the groundwater. The amount of natural recharge (and the amount of dilution) is dependent primarily upon soil texture and slope. Thus, the size of the lot (based upon dilution of nitrate nitrogen to an acceptable level) is dependent upon soil texture and slope.

A computer program was developed which uses a variety of inputs to determine optimum density

Table 3
Soil Based Lot Sizing Formula Inputs

Allowable nitrogen concentration	10mg/l
Fertilized land area	15000sq ft*
Weight of nitrogen in lawn fertilizer	1 lb./1000 sq. ft
Nitrogen leached from turf	5 %
Impervious land area	3000 sq. ft
Annual precipitation	42 in/yr.
Nitrogen concentration in precip.	0. 5 mg/l
Daily offsite use per person	00/0
Nitrogen conc. in household water	0 mg/l
Annual nitrogen input per person	9 lbs./yr.
Nitrogen loss in septic tank	20%
Nitrogen loss in soils	0
Number of persons per home	4.1 persons/home
Natural recharge	7-18 in/yr.

*6000 sq. ft for cluster housing

Source: Environmental Planning for Onsite Wastewater Treatment in New Hampshire, NHDES and RCCD.

of dwelling units based upon groundwater recharge for a typical home with lawn, septic system, well, etc. Inputs, are shown in Table 3. Results for each soil mapping unit, based on soil hydrologic group and slope, yields lot sizes from 35,500 to 100,000 square feet.

Lots on the best soils that are capable of utilizing the most nutrients onsite, require a 35,500 square foot lot, which is the minimum. As the soils decrease in their ability to utilize nitrogen, the lot sizes increase. Note that for the purposes of this report, hydric (wetland) soils and soils with slopes over 25% were given no minimum lot size, even though in a cluster development scenario, they would be given a unit density, based on the formula. Also note that those areas mapped "Ur- Urban land" in the York County Soil Survey were also given no minimum lot size, since they are considered 85% in urban use and include a variety of soil types.

By calculating the extent of each mapping unit within the watershed, the number of lots that the watershed can support can be determined. (Those subwatersheds that are served at least partially by municipal sewerage are excluded because the major source of pollution used in the lot sizing formula, septic systems, does not exist.). For example, soil-mapping unit HnC, the Hermon extremely stony fine sandy loam soil on an 8 to 15% slope, has a high development potential and has a recommended lot size of 42,000 square feet. Based on data derived from the computerized soils map, it was determined that subwatershed B2 has about 32 acres of this soil type, thus it is capable of supporting 33 lots. This same calculation is done for all soil mapping units in all of the subwatersheds.

Findings and Conclusions - Table 4 illustrates that with a few exceptions, the watersheds are not overbuilt relative to their capability. The build-out shows the soils theoretically capable of supporting over 7,900 lots. Of course, these numbers are only theoretical in nature and do not take into account a variety of site specific factors including soil mapping unit configurations, setbacks and buffer requirements, the need for roads and open space, land owner desires, and additional public land requirements prior to build-out, etc. In fact, most recent developments do not have a density equal to that allowed by soil lot sizing regulations or the zoning districts for these and other reasons. Thus to create a more realistic density, a 25% reduction has been applied to each category, which reduces the total potential lots in the unsewered areas within the study area to about 5,900 lots – a more "realistic" potential future density.

For comparison to the estimated potential future density, the number of existing lots for each non-sewered subwatershed has been determined. If this number is subtracted from the "Realistic Density", the "Net Potential Additional Lots" is revealed. Basically, York's non-sewered areas overall can support about 2,335 additional lots, or about 57% more than exists at the present time, without water quality impacts, assuming environmentally sound development practices are employed.

The build-out analysis suggests that some of the watersheds may be approaching or exceeding a suitable level of development based on the soils capability to support that development. Of the subwatersheds that are showing up beyond estimated build-out levels, N1 and C7 in particular may warrant further study to evaluate existing water quality conditions, determine the number of lots that are actually supporting septic systems, and estimate the potential for additional development under the existing regulatory framework. If these "overbuild lots" are factored into the calculation it would reduce the total build-out potential to an additional 1,848 lots town-wide. However, it is probably more appropriate to evaluate these negative numbers from an individual watershed perspective versus at the town-wide level.

Table 4
Subwatershed Build-Out by Land Capability
(Non-sewered areas)

Subwatershed	Lots By Soil Type Build-Out	Realistic Density Increase (-25%)	Existing Lots	Net Potential Addtional Lots
A1	350	263	105	158
A2	157	117	25	92
A3	59	44	5	39
A4	125	94	20	74
B1	41	30	9	21
B2	46	34	26	8
C1	184	138	167	-29
C2	*	*	*	*
C3	*	*	*	*
C4	*	*	*	*
C5	*	*	*	*
C6	*	*	*	*
C7	236	177	324	-147
C8	486	365	295	70
C9	26	19	42	-23
J1	100	75	78	-3
J2	386	290	122	168
J3	429	322	112	210
J4	759	569	206	363
N1	339	254	478	-224
N2	466	350	246	104
N3	976	732	374	358
Y1	*	*	*	*
Y2	453	340	346	-6
Y3	255	191	246	-55
Y4	897	673	569	104
Y5	221	166	79	87
Y6	277	208	130	78
Y7	171	128	74	54
Y8	703	527	180	347
TOTAL	**8,142**	**6,106**	**4,258**	**2,335 (new) 1,848 (net)****

* A portion of these subwatersheds are serviced by municipal sewer, therefore, build-out estimates have been based on the amount of impermeable surface area.
** Derived by subtracting watersheds with a negative number of lots from the potential additional new lots.

4. Impermeable Surfaces Build-Out

The previous build-out scenario provided some insights into the potential development of unsewered areas in York's subwatersheds without impacting water quality. However, a small portion of the town is served by municipal sewer and in those locations, the soil lot size density calculations discussed above do not apply. These areas include portions of subwatersheds C2, C3, C4, C5, C6, and Y1. Therefore, an alternative build-out methodology had to be applied to these watersheds to determine the potential for future development.

The evaluation of impermeable surfaces is one key to assessing these portions of the watersheds and can be an indicator of environmental buildout.. Impermeable surfaces contribute significant nonpoint pollutants. The Maine Department of Environmental Protection estimates that 60% of the state's pollution is from nonpoint pollution sources. Researchers have found that parking lot runoff, for example, can have extremely high concentrations of nutrients, trace metals and hydrocarbons (Watershed Protection Techniques, Vol. 3, No. 2). Therefore, in the sewered portions of the study area, the amount of impermeable surface was used to establish build-out scenarios.

Impervious cover is a very useful indicator with which to measure the impacts of land development on aquatic systems. Recent research has shown that streams in urban watersheds possess a fundamentally different character than streams in forested, rural, or even agricultural watersheds. The amount of impervious cover in the watershed can be used as an indicator to predict how severe these differences can be, with degradation becoming more severe as impervious cover increases. Stream changes that may occur include:

- Increased surface runoff during storm events
- Bankfull floods increasing in magnitude and frequency
- Changing dimensions of the stream channels
- Channel enlargement
- Stream channel erosion and greater sediment loads
- Dry weather flow decreases
- In stream habitat degradation
- Summer stream temperature increases

During a storm event, runoff from urban areas (i.e. impermeable surfaces) can carry a broad range of contaminants. Data collected and studies done by the Environmental Protection Agency (EPA) indicates that drainage runoff from residential, commercial and light industrial areas can carry more then 10 times the level of total suspended solids on an annual loading basis as discharges from municipal sewage treatment plants that provide secondary treatment. Stormwater can also carry higher annual loads of chemical oxygen demand, total lead, and total copper, compared to sewage effluent. Urban stormwater runoff can have extremely high fecal coliform counts. Undeveloped land exports about 0.19 lbs. of phosphorus and 1.35 lbs. of nitrogen per acre per year. As the amount of impermeable surface increases, the amount of nutrients exported increases dramatically. If 100% of an area is paved, nitrogen exported increases from 1.35 to 25.66 lbs. per acre- a substantial increase. In short, it can be a very serious source of pollution and is generally discharged directly to surface waters without treatment.

Impermeable areas include roofs, driveways, roads, parking lots, etc. The amount of impermeable surfaces in York and in the six subwatersheds is unknown. The extensive field work and data collection necessary to accurately assess the amount of impermeable surfaces was beyond the scope of this study. However, assumptions have been made to permit the calculations of impermeable surfaces in the subwatersheds of sufficient detail for general planning purposes.

To calculate the amount of existing impermeable surfaces, the number of developed residential lots for each subwatershed was determined using data from the Assessor's records integrated with the GIS system. The assumption was made that each developed residential lot contained 5,000 square feet of impermeable area, including roofs, driveways, and road frontage. For example, there are 510 existing residential lots in subwatershed C2, which results in 59 acres of impermeable surface at 5,000 square feet per lot.

The same methodology was used for other developed lots including industrial, commercial and municipal uses. For each of these uses, 10,000 square feet per lot of impermeable surfaces was assumed.

For the build-out, the number of potential residential and commercial lots for each subwatershed was determined utilizing the zoning build-out analysis data and the same assumption pertaining to the amount of impermeable surfaces for each use was used as for the existing lots.

Findings and Conclusions - Table 5 summarizes the results of the impermeable build-out analysis for the six subwatersheds in York that are served by municipal sewer. Based on this analysis none of the subwatersheds are at, or appear to be heading towards, the non-supporting category which is describe in Table 6. However, classifying the six subwatersheds under this system at build-out would indicate that subwatersheds C2, C4, and C6, with projected levels of impermeable surfaces ranging from 11 to 23 percent, warrant monitoring and further analysis.

One factor that would help to improve the accuracy of this impermeable surface analysis is more specific data regarding the amount of commercial and industrial land within the subwatersheds that were evaluated. There is likely to be significant variation in the amount of impermeable surfaces from one site to another and no one assumption can adequately make up for the lack of site specific data. Digitizing the footprints from recent aerial photos of all commercial, industrial and other non-residential areas to determine the amount of roofs, parking areas, and roads/driveways would aid greatly in expanding and fine-tuning this analysis.

Table 5
Impermeable Surfaces Build-Out

Subwatershed	Acreage	Percent of Impermeable Surface-Existing	Percent of Impermeable Surface At Build-Out
C2	586	12	13
C3	1,286	5	7
C4	508	10	11
C5	566	7	8
C6	1,256	18	23
Y1	4,949	3	4

Table 6
Three Categories Used to Assess Impermeable Surface Impacts on Water Quality

0-10% Impermeable-Sensitive

This amount of impermeable surface in a subwatershed results in good to excellent stream water quality, diverse fish and aquatic communities, and no major changes in flooding, streambank erosion to be the natural level.

10-25% Impermeable- Impacted

In this category, streams show clear signs of degradation due to watershed urbanization. Increased erosion, unstable streambanks, and aquatic habitat changes, and reduced diversity often occur.

25-100% Impermeable- Non-supporting

At this level steams are classified as urban and they essentially become conduits for conveying stormwater and do not support a healthy aquatic environment. The streams have lower water quality and the streambed and its banks are often very unstable with stream widening common. Biological changes in the streams are high with high levels of bacteria and very low aquatic diversity. Receiving waters (larger streams) often experience increases in nutrient loads that can effect their biological condition.

5. Summary of Findings

This memorandum has presented two alternative residential build-out scenarios for the town of York. These alternatives evaluated the potential development that could possibly occur on the town's remaining undeveloped land area based on existing regulatory requirements, as well as the natural constraints related to the protection of water quality. The analysis was conducted largely through the use of a geographic information system (GIS) which made possible the ability to examine the large sets of geographic and numerical data required for this type of study.

Based on the minimum lot sized required by zoning it is estimated that an additional 3,600 single family dwellings could be constructed within the town. If the average lot size of existing single family homes is used to perform this calculation it is then estimated that an additional 2,800 dwellings could be constructed on the remaining developable land in York.

The second component of the regulatory build-out analysis examined the development potential of lots that had an existing single family home. It is estimated that lots which have sufficient acreage to be further subdivided hold the potential for construction of an additional 1,300 to 1,600 single family dwellings. Development of these parcels, however, would be expected to occur at a slower rate than on undeveloped land and therefore, represent a longer-term build-out scenario for the town. Combining both the potential development on undeveloped land with parcels that could be further subdivided suggests that approximately 4,200 to 5,200 additional single family dwellings could be built under current zoning regulations.

The second build-out scenario examined the potential for the creation of additional lots in the unsewered portion of town based on the land capability to accommodate on-site septic systems. Based on this analysis it is estimated that an additional 2,300 *new* lots (1,848 *net* lots) could potentially be created in town. This figure does not represent a town-wide build-out potential because watersheds that have access to municipal sewer were not evaluated since septic system limitations will not be an issue in those areas.

To facilitate a rough comparison between the zoning build-out potential and land capability build-out potential the approximate area of the watersheds that have access to municipal sewer (watersheds C2 through C6 and Y1) were removed from the zoning build-out calculations. This reduced the potential number of additional single family units that could be constructed to between 2,700 and 3,800 (existing lot size versus minimum required lot size). If this potential development level is compared to the 2,300 lots suggested by the land capability analysis, it indicates that natural constraints may be more of a limiting factor for build-out in York than the minimum lot size constraints imposed by zoning regulations.

For those watersheds that have access to the municipal sewerage system the impermeable surface analysis indicates that none of the watersheds have exceeded the theoretical build-out levels. However, several of the watersheds are exceeding the 10% mark of impermeable surface area which suggests that these areas may warrant more closer monitoring with regard to future development and its potential impacts on water quality.

Neither of these build-out scenarios are intended to suggest an <u>absolute</u> potential for future development in town. Nor is there any implied time-frame as to the rate at which this development may occur. This analysis offers a "big picture" perspective on the development potential in York based on a certain set of assumptions. It should be used by town officials only as a starting point for more detailed, site specific analysis.