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V. Economic Impact Assessment Overview

A. Economic Impact Assessment

The economic impact assessment uses data based on existing conditions and potential conditions from the results of the build-out analysis. Data for the assessment is derived from Queen Anne’s County Office of Taxation and current millage rates. The assessment provides a range of potential fiscal impacts based on potential future land uses as per the build-out scenarios and analysis. Included in the assessment are each of the three build out scenarios with and without allowable bonus factors and with and without possible expansion of the Growth Area. An explanation is provided for the various assumptions made for adjustments to current data, assessed values of residential and non-residential properties, and potential tax revenue generated due to changes in land use.

B. Explanation of Economic Impact Assessment Methodology

The following explains the economic impact assessment methodology used to generate total assessed values of residential property, total assessed values of non-residential property, total projected property tax revenue, and projected special tax district revenue. An explanation of the methodology is provided by illustrating how current assessed and resulting revenue are calculated, and then how that process was applied to projected housing units, and non-residential space for each build-out scenario.

Total current assessed data for the properties in the Kent Narrows Growth Area as provided in Table 24 include actual total assessed values by property type, as provided by the Queen Anne’s County Office of Taxation, and the Maryland Department of Assessments and Taxation.

Table 24: Actual Assessed Values of Properties in the Growth Area

Description	Number of Properties	Total Improved Assessment	Total Land Assessment	Grand Total Assessment	Base Property Tax Rate (0.87 per \$100 of Total Assessed Value)	Special Tax District Rate (2005 rate of .06 per \$100 Total Assessed Value of Commercial Properties)	Total Revenue
Commercial	38	\$ 21,681,000	\$ 20,540,100	\$ 42,221,100	\$ 367,324	\$ 25,333	\$ 392,656
Commercial - Condominium	282	\$ 5,799,500	\$ 1,920,100	\$ 7,719,600	\$ 67,161	\$ 4,632	\$ 71,792
Exempt - Commercial	14	\$ 1,516,300	\$ 3,212,500	\$ 4,728,800	\$ -	\$ -	\$ -
Marsh Land	1	\$ -	\$ 510	\$ 510	\$ 4	\$ -	\$ 4
Residential	49	\$ 5,464,880	\$ 15,625,900	\$ 21,090,780	\$ 183,490	\$ -	\$ 183,490
Residential - Condominium	323	\$ 43,490,500	\$ 42,409,000	\$ 85,899,500	\$ 747,326	\$ -	\$ 747,326
TOTAL	707	\$ 77,952,180	\$ 83,708,110	\$161,660,290	\$ 1,365,304	\$ 29,964	\$1,395,268

Source: Maryland Department of Assessments and Taxation; assessments out to July 2005 as of August 2004

Note that Table 24 provides improved assessed value and land assessed value, and that the addition of these two columns equates to column grand total assessed value. From the total assessed values, potential property tax revenue and special tax district revenues can be calculated. The current base property tax rate is 0.87 cents per every \$100 of assessed value.



The special tax district rate is 0.06 cents per every \$100 of assessed value of commercial properties only. The addition of base property tax revenues and special district tax revenues equate to total revenues that may be expected. Kent Narrows may expect to collect a total of \$1,395,268 in tax revenues for 2005. Figure 18: Map 9- Special Taxing District, illustrates the current (2004) special taxing district area used for calculations.

The specific economic impact assessment methodology included the following steps using existing conditions data from the build-out scenario.

- A. Apply data from current assessed and current potential tax revenue data to existing conditions
- B. Update assessment and revenue data based on development since the release of the tax assessment data (August 2004)
- C. Modify assessment and revenue based on planned development (as per Build-out Scenarios)
- D. Apply an average assessed value to projected residential units
- E. Apply an average assessed value (per square foot) to projected non-residential square footage
- F. Calculate potential base property tax and special taxing district revenues

The results of applying the above steps to existing conditions data are described in the following section economic Impact Assessment Results.

C. Economic Impact Assessment Results

Assessment results are provided in Tables 25 through 30, where existing condition adjustments, projected new and redevelopment impacts, and total impacts are illustrated. The results provide an assessment of potential future impacts and can be referenced to guide policy and land use decisions. Actual development patterns and therefore impacts may vary. The following provides an explanation of how to interpret Tables 25 – 27. The same method of interpretation is applicable to Tables 28 – 30.

Table 25: Summary of Tax Revenue Existing Conditions, illustrates the application of steps A through C in the methodology. As Table 25 illustrates, the total assessed value of residential and non-residential (commercial) properties in Kent Narrows is \$156,930,980 and is anticipated to generate a total of \$1,395,264 in revenues. Note that Table 25 does not include the assessed values of exempt commercial and marsh properties as shown in Table 24 above. Table 25 further illustrates that assessed data for the 39 homes (Appletree Custom Homes and Narrows Pointe) were already included in the assessment data, yet the square footage of the Hilton Hotel had not been included, and therefore an adjustment was made.

Planned Development modifications to Table 25 included applying average assessed values to housing units that do not yet exist but which are planned to be constructed. According to current assessed data, the average assessed value of a Residential Condominium in Kent Narrows is \$265,943 and the average assessed value of a Residential unit is \$430,424. These values were applied to each unit in the planned development portion of Table 25 to establish an estimate assessed value for units pending construction. A similar average was calculated for assessed value per square foot of non-residential



space. According to current assessment data the average assessed value of non-residential space is \$107.04 per square foot. The value was calculated by using the total improved assessed value of new non-residential development as divided by the total space (square footage) of new development. From these updates and modifications revenues were calculated and current viable development values were established.

Table 26 Summary of Tax Revenue by Scenario (New Development & Redevelopment) illustrates the results of applying residential average assessed values and non-residential average assessed values to the projected housing units and projected non-residential square footage. Table 26 also illustrates potential revenues as a result of potential development.

Table 27 Total Potential Tax Revenue by Scenario (Existing Development plus Projected New Development & Redevelopment), was created by adding existing conditions data (Table 25) to the summary of tax revenue data for new development and redevelopment (Table 25).



Figure 17: Special Taxing District Ordinance

ARTICLE IV Special Kent Narrows Tax District [Adopted by Ord. No. 92-11]

§ 5-12. Definitions.

In general. In this article the following terms have the meanings indicated.

AUTHORITY — The Kent Narrows Commercial Management and Waterfront Improvement Authority.

BOND — Collectively all bonds and other debt instruments issued by the County to finance public improvements and amenities in the District, including any such indebtedness incurred prior to July 17, 1993.

DISTRICT — The geographic area described by the District boundaries established under § 5-13 of this article, in which the Authority shall operate and perform its responsibilities.

EXEMPT PROPERTY

- A. Property within the District that is not subject to the assessment of the supplemental property tax.
- B. Includes:
 - (1) Property owned by federal, state, County, or local governments or their agencies; and
 - (2) Property used solely for residential purposes.

PUBLIC IMPROVEMENTS

- A. Pedestrian and bicycle pathway systems, landscaping, signs, lighting, and any other improvement needed to enhance pedestrian access and safety throughout the District.
- B. Also includes operations and maintenance of pedestrian access systems.

§ 5-13. District established; boundaries.

- A. Established. A Kent Narrows Commercial Management and Waterfront Improvement District is established in accordance with Article 25A, § 5(F) of the Annotated Code of Maryland.
- B. Boundaries. The boundaries of the District are those set forth in maps available at the office of the County Commissioners which are incorporated herein by reference.

§ 5-14. Authority established; purposes.

- A. Established. The County Commissioners shall serve as the Authority.
- B. Purposes. The purposes of the Authority are for:
 - (1) The provision of security, maintenance, and amenities within the District; and
 - (2) The design, approval, and financing of public improvements in the District.
- C. Special taxing district. The Authority is a special taxing district pursuant to Article 25A, § 5(F) of the Annotated Code of Maryland.

§ 5-15. Supplemental property tax.



- A. In general. The funding of public improvements, including the payment of any bond, shall be provided for by an annual supplemental property tax levied on all property within the District that is subject to real property tax and is not exempt property.
- B. Tax procedures.
 - (1) The supplemental property tax shall be assessed and collected in conjunction with property taxes collected by the County.
 - (2) Collection of the supplemental property tax shall be in accordance with Title 14 of the Tax-Property Article of the Annotated Code of Maryland, and all provisions applicable to the assessment, collection, enforcement priority, and refunding of County property taxes shall apply to the supplemental property tax unless otherwise provided under this article.

§ 5-16. Imposition of supplemental property tax; limitations. [Amended by Ord. No. 95-12]

A. Imposition.

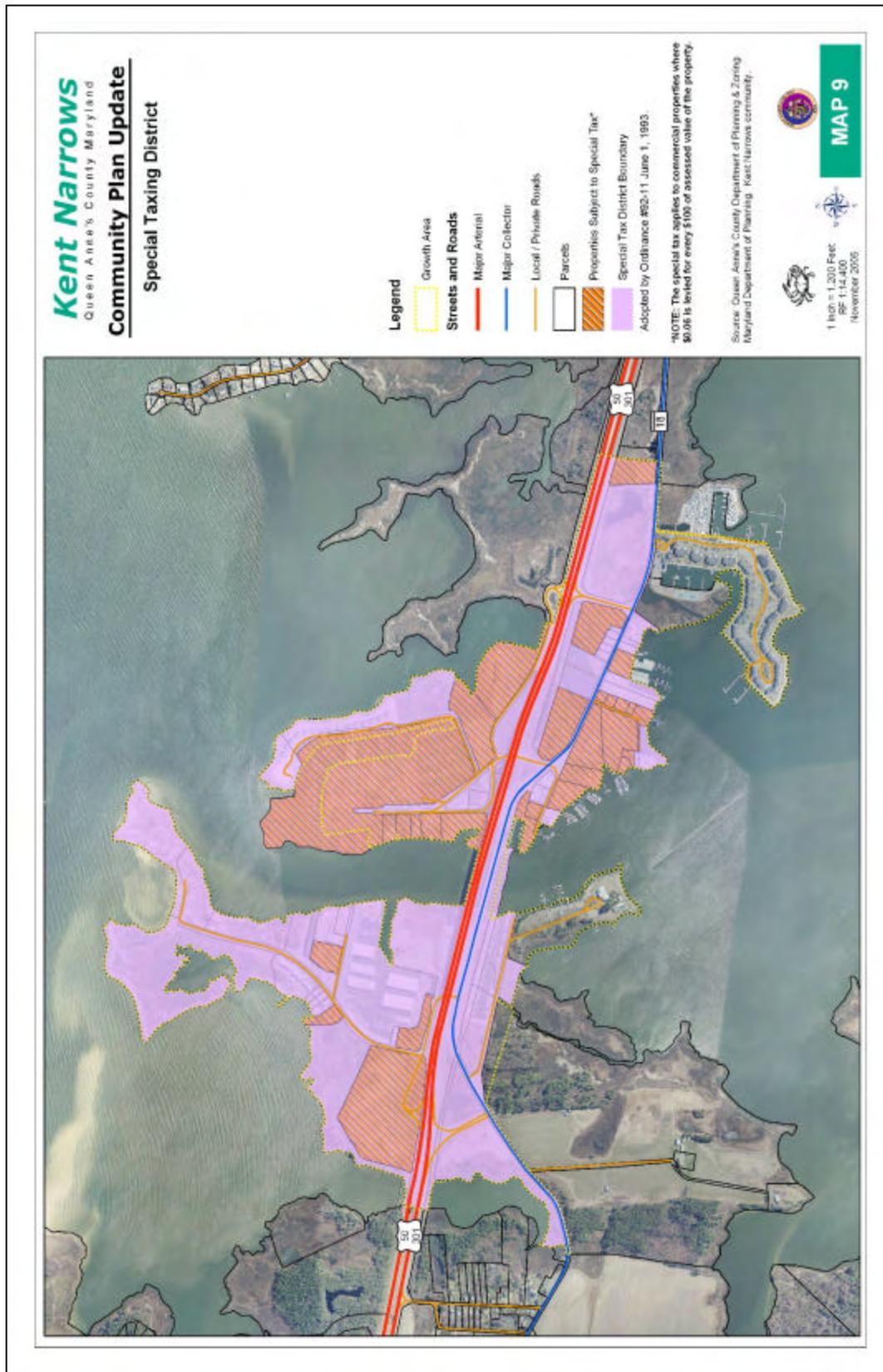
- (1) ~~The County Commissioners shall establish the rate of the supplemental property tax for the following taxable year prior to July 1 of each year.~~
- (2) ~~The rate shall be based on the County Commissioners' good faith estimate of the cost of providing public improvements for the upcoming fiscal year, including the cost of retirement of any bond.~~

B. Limitations. The supplemental property tax:

- (1) ~~May only be used for purposes authorized under § 5-14 of the articles and~~
- (2) ~~May not revert to the general fund of the County.~~



Figure 18: Map 9- Special Taxing District





Growth Area Expansion Tables

The following section identifies tax revenue summaries for the large area expansion analysis and the small area analysis as previously described.



Table 25: Summary of Tax Revenue Existing Conditions (Large Area)

Kent Narrows Bulkhead Scenarios

Table 25: Summary of Tax Revenue Existing Conditions	96	98	100	102	104	106	108	110	112	114	
Time Line	Development / Alteration	Description	Household Units	Current - Adjusted Residential Assessment	Current - Adjusted Commercial Assessment	Current and Adjusted Residential Assessment	Current and Adjusted Commercial Assessment	Current and Adjusted Total Assessment	Proposed Property Tax 2005 rate of \$16 per \$100 Assessment Value	Proposed Special Tax District Rate (2005 rate of .06 per \$100 Value of Property)	Projected Tax Revenue (State and District)
2006	Kent Narrows Growth Area	Current Bulk Level	215	156,599,239	480,025	49,940,195	196,930,380	1,269,266	29,394	1,298,284	
	USDC/CRS to State		20	-	-	-	-	-	-	-	
	Subtotal		235	156,599,239	74,850	49,940,195	196,930,380	1,269,266	29,394	1,298,284	
2005	Planned Developments		254	166,066,239	74,850	8,171,871	194,902,960	1,405,000	4,937	1,409,937	
		150 Units, Density and Bulkhead	40	12,004,287	-	-	12,004,287	11,327	-	11,327	
		General Lot Development (Normal "Residential" Assessment Bulk)	10	4,304,240	-	-	4,304,240	37,447	-	37,447	
		High Rise / Phase 2	10	2,679,430	7,000	740,270	3,496,700	29,656	490	30,146	
		High Rise / Phase 1	10	2,679,430	7,000	740,270	3,496,700	29,656	490	30,146	
	Subtotal		104	20,967,437	14,000	1,502,037	22,483,474	1,502,037	13,764	14,713	
Future	Kent Narrows Growth Area Total		339	177,566,676	708,250	60,302,081	219,414,855	2,771,303	43,158	2,814,461	
	Existing Viable Development		324	159,618,530	575,700	37,963,281	197,557,511	1,409,033	22,739	1,431,772	

Column Notes

- A) Existing Conditions with Adjustments based on recent development
- B) Existing Conditions with Adjustments based on recent development
- C) Existing Conditions with Adjustments based on recent development
- D) Existing Conditions with Adjustments based on recent development
- E) Existing Conditions with Adjustments based on recent development
- F) Calculated at a rate of \$100 cents per \$100 of Total Assessment Value
- G) Calculated at a rate of \$100 cents per \$100 of Total Assessment Value of Commercial Properties
- H) Sum of Columns F & G



Table 26: Summary of Tax Revenue by Scenario (New Development & Redevelopment) (Large Area)

Table 27: Total Potential Tax Revenue by Scenario (Existing Development plus Projected New Development & Redevelopment) (Large Area)

Kent Narrows Industrial Scenario									
Table 12: Summary of Tax Potential by Scenario (New Development & Redevelopment)									
Summary of Tax Revenue by Scenario (New Development & Redevelopment)									
Scenario Name	Projected Housing Units	Projected Residential Assessment*	Projected Non-Residential Space (Square Feet)	Projected Non-Residential Assessment**	Projected Total Assessment	Projected Property Tax (2005 rate of 0.07 per \$100 Assessed Value)	Projected Special Tax District Rate (2005 rate of .36 Commercial Program)	Projected Tax Revenue (plus Special District)	Projected Tax Revenue (plus Special District)
Scenario 1: Residential Redevelopment	588	\$2,387,715	-	-	\$2,387,715	\$1,671,300	-	\$1,671,300	\$1,671,300
Scenario 2: Non-Residential Redevelopment	1,344	\$2,481,150	567,744	\$66,778	\$2,547,928	\$1,783,546	\$22,718	\$1,806,264	\$1,806,264
Scenario 3: Mixed-Use Redevelopment	335	\$4,533,330	375,148	\$4,500,444	\$9,033,774	\$6,327,777	\$83,553	\$6,411,330	\$6,411,330
Scenario 4: Mixed-Use Redevelopment	1,272	\$4,533,330	1,403,677	\$16,692,664	\$21,569,331	\$15,299,825	\$22,718	\$15,526,543	\$15,526,543
Scenario 5: Mixed-Use Redevelopment	995	\$4,533,330	724,619	\$7,752,242	\$12,790,181	\$9,155,807	\$118,771	\$9,274,578	\$9,274,578
* Note: Assessed value of Properties. Property taxes estimated at an average 0.07% per \$100 of assessed value. ** Note: Non-residential assessment rates estimated at an average 107 per \$100 of assessed value.									
Table 13: Total Potential Tax Revenue by Scenario (Existing Development plus Projected New Development & Redevelopment)									
Total Potential Tax Revenue by Scenario (Existing Development plus Projected New Development & Redevelopment)									
Description	Current and Total Projected Housing Units	Current (Adjusted) Total Residential Assessment	Current (Adjusted) Non-Residential Space (Square Feet)	Current (Adjusted) Non-Residential Assessment	Current (Adjusted) and Projected Total Assessment	Current and Projected Property Tax (2005 rate of 0.07 per \$100 Assessed Value)	Current and Projected Special Tax District Rate (2005 rate of .36 Commercial Program)	Current and Projected Tax Revenue (plus Special District)	Current and Projected Tax Revenue (plus Special District)
Scenario 1: Residential Redevelopment	335	\$2,387,715	575,788	\$66,778	\$2,454,493	\$1,722,841	-	\$1,722,841	\$1,722,841
Scenario 2: Non-Residential Redevelopment	1,728	\$2,481,150	1,135,532	\$132,456	\$2,613,606	\$1,829,523	\$22,718	\$1,852,241	\$1,852,241
Scenario 3: Mixed-Use Redevelopment	520	\$4,533,330	375,148	\$4,500,444	\$9,033,774	\$6,327,777	\$83,553	\$6,411,330	\$6,411,330
Scenario 4: Mixed-Use Redevelopment	1,607	\$4,533,330	1,403,677	\$16,692,664	\$21,569,331	\$15,299,825	\$22,718	\$15,526,543	\$15,526,543
Scenario 5: Mixed-Use Redevelopment	1,272	\$4,533,330	724,619	\$7,752,242	\$12,790,181	\$9,155,807	\$118,771	\$9,274,578	\$9,274,578
* Note: Assessed value of Properties. Property taxes estimated at an average 0.07% per \$100 of assessed value. ** Note: Non-residential assessment rates estimated at an average 107 per \$100 of assessed value.									



Table 28: Summary of Tax Revenue Existing Conditions (Small Area)

Time Line	Development / Alteration	Description	Housing Units	Current - Adjusted Residential Assessments	Current - Adjusted Nonresidential Space (Square Feet)	Current & Adjusted Nonresidential Assessment	Current and Adjusted Total Assessment	Projected Property Tax (2005 rate of 0.07 per \$100 Assessed Value)	Projected Tax Revenue (Base plus Special District)	Projected Special Tax District Rate (2005 rate of 26 per \$100 Total Assessed Value of Commercial Properties)	Projected Tax Revenue (Base plus Special District)
2006	Kent Narrows Growth Area Modifications to Trails	Caracas Book Level	215	106,920,230	656,620	40,341,793	156,933,300	1,283,336	20,264	1,303,264	
		Apartment Cluster Homes (1 unit already included in Current Assessments)									
		Narrow Ridge (6 Units already included in Current Assessments)	39		74,850	6,011,871		6,011,871	49,703	4,907	74,510
		Hillside Trail - Phase 1	30			307,890,973		307,890,973	2,403,083	34,272	2,437,355
2005	Subtotal Saturated Development		284	106,920,230	763,470	407,232,766	164,945,273	1,430,683	54,776	1,485,459	
		The Trail - Downer Land Development	15	2,000,745			3,050,135		34,795		34,795
		Bay East Development (H/LRH)	49	12,031,267			13,031,267		113,227		113,227
		Century Lane Development (Assessed/Nonassessed/ assessment level)	10	4,204,340			4,204,340		37,447		37,447
Future	Subtotal Kent Narrows Growth Area Total Area 7,000 (Development)		10	2,070,130	7,000	749,273	3,000,703	29,655	450	30,105	
		Housing for Income Population	64		14,760	1,562,037	1,562,037	13,764	340	14,113	
			288	135,974,325	765,250	60,285,863	197,250,383	1,603,848	1,599	286,347	
			2	1,033,772	203,427	22,423,500	23,457,227	204,313	36,176	277,025	
			324	120,970,339	978,760	37,983,381	187,773,913	1,459,833	22,716	1,482,549	

Column Notes
 (A) Existing Conditions with Adjustments based on recent developments
 (B) Average Residential Assessment Value or Residential Condominium (\$25,940), and Residential of \$400,459
 (C) Existing Conditions with Adjustments based on recent development
 (D) Existing Conditions with Adjustments based on recent development
 (E) Existing Conditions with Adjustments based on recent development
 (F) Calculated at a rate of 0.070 cents per \$100 of Total Assessed Value
 (G) Calculated at a rate of 0.050 cents per \$100 of Total Assessed Value of Commercial Properties
 (H) Sum of Columns F & G

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Table 29: Summary of Tax Revenue by Scenario (New Development & Redevelopment) (Small Area)

Table 30: Total Potential Tax Revenue by Scenario (Existing Development plus Projected New Development & Redevelopment) (Small Area)

Kent Narrows Buildout Scenarios									
Table 29: Summary of Tax Revenue by Scenario (New Development & Redevelopment)									
Scenario Name	Projected Housing Units	Projected Residential Assessable	Projected Non-Residential Space (Square Feet)	Projected Non-Residential Assessment	Projected Total Assessment	Projected Property Tax (2006 rate of \$18.67 per \$100 Assessment)	Projected Special Tax (2006 rate of \$6.00 per \$100 Commercial Properties)	Projected Total Revenue (Base plus Special Districts)	Projected Special Revenue (Base plus Special Districts)
Scenario 1: Residential Buildout Total	334	\$2,585,916	-	-	\$2,585,916	\$480,538	\$-	\$480,538	\$-
Scenario 2: Non-Residential Buildout Total With Bonus	279	\$1,408,130	347,786	\$31,856,089	\$1,439,986	\$267,598	\$82,875	\$350,473	\$82,875
Scenario 3: Non-Residential Buildout Total Without Bonus	-	-	568,718	\$9,075,165	\$9,075,165	\$1,682,014	\$24,325	\$1,706,339	\$24,325
Scenario 4: Mixed-Use Buildout Total With Bonus & Expansion	352	\$4,224,323	378,148	\$6,650,444	\$10,874,767	\$2,015,401	\$57,500	\$2,072,901	\$57,500
Scenario 5: Mixed-Use Buildout Total Without Bonus	239	\$2,289,350	107,677	\$20,006,009	\$22,295,357	\$4,145,164	\$115,401	\$4,260,565	\$115,401
Scenario 6: Mixed-Use Buildout Total With Bonus & Expansion	287	\$1,000,452	413,122	\$4,228,267	\$5,641,841	\$1,045,709	\$29,875	\$1,075,584	\$29,875
Scenario 7: Mixed-Use Buildout Total Without Bonus & Expansion	236	\$2,083,336	266,488	\$2,349,824	\$2,616,360	\$486,063	\$13,132	\$499,195	\$13,132
**Note: Assessment Value of Other Miscellaneous Properties shown in scenario 4 is \$4,673,915 per scenario 4b.									
Table 30: Total Potential Tax Revenue by Scenario (Existing Development plus Projected New Development & Redevelopment)									
Scenario Name	Current and Total Projected Housing Units	Current (Adjusted) and Projected Total Residential Assessment	Current (Adjusted) and Projected Total Non-Residential Space (Square Feet)	Current (Adjusted) and Projected Total Residential Assessment	Current (Adjusted) and Projected Total Non-Residential Assessment	Current and Projected Property Tax (2006 rate of \$18.67 per \$100 Assessment)	Current and Projected Special Tax (2006 rate of \$6.00 per \$100 Commercial Properties)	Current and Projected Total Revenue (Base plus Special Districts)	Current and Projected Special Revenue (Base plus Special Districts)
Scenario 1: Residential Buildout Total	665	\$5,974,130	578,789	\$37,662,361	\$43,636,719	\$813,278	\$-	\$813,278	\$-
Scenario 2: Non-Residential Buildout Total With Bonus	719	\$24,794,846	578,188	\$27,663,361	\$28,242,049	\$5,272,468	\$22,750	\$5,295,218	\$22,750
Scenario 3: Non-Residential Buildout Total Without Bonus	334	\$12,913,500	1,252,058	\$9,297,996	\$20,211,496	\$3,802,270	\$82,875	\$3,885,145	\$82,875
Scenario 4: Mixed-Use Buildout Total With Bonus & Expansion	334	\$12,913,500	1,096,471	\$18,113,096	\$30,026,596	\$5,545,401	\$15,401	\$5,560,802	\$15,401
Scenario 5: Mixed-Use Buildout Total Without Bonus	239	\$6,512,820	507,677	\$10,103,012	\$16,616,024	\$3,045,164	\$82,875	\$3,128,039	\$82,875
Scenario 6: Mixed-Use Buildout Total With Bonus & Expansion	287	\$2,484,842	854,025	\$7,448,025	\$9,932,867	\$1,845,114	\$47,500	\$1,892,614	\$47,500
Scenario 7: Mixed-Use Buildout Total Without Bonus & Expansion	199	\$1,299,890	785,488	\$7,952,198	\$9,252,088	\$1,717,195	\$47,500	\$1,764,695	\$47,500
Scenario 8: Mixed-Use Buildout Total With Bonus & Expansion	199	\$1,299,890	785,488	\$7,952,198	\$9,252,088	\$1,717,195	\$47,500	\$1,764,695	\$47,500

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Water and Sewer Impacts

The following describes the water and sewer impacts for existing conditions as well as for each of the scenarios.

Water

The County's Water Treatment Plant at Oyster Cove treated an average of 66,143 gallons per day (gpd) for the four quarters ending in July 2005. Between October 2004 and January 2005 the plant consumption was approximately 66,143 gpd. The current water pressure is 50-65 pound per square inch (psi).

Table 31: Water Needs

Description	Projected Housing Units (Column A)	Projected Water Needs per dwelling unit (250 gpd /unit in Column A) (Column B)	Projected Non-residential Space (Square Feet) (Column C)	Projected Non-residential Water Needs gpd (0.25 gpd / square foot in Column C) (Column D)	Projected Development Water Needs gpd (Sum of Columns B & D) (Column E)	Total Water Needs gpd (Existing Conditions plus Projected Needs) (Column F)
Existing Conditions* Kent Narrows (2005)	334	83,500	575,789	143,947	227,447	227,447
Scenario 1: Residential Build-out Total	348	87,040	-	-	87,040	314,487
Scenario 1: Residential Build-out Total with Expansion of Growth Area	379	94,840	-	-	94,840	322,287
Scenario 2: Non-Residential Build-out Total With Bonus	-	-	947,866	236,966	236,966	464,414
Scenario 2: Non-Residential Build-out Total Without Bonus	-	-	568,719	142,180	142,180	369,627
Scenario 2: Non-Residential Build-out Total With Bonus & Expansion	-	-	1,032,808,	258,202	258,202	485,649
Scenario 2: Non-Residential Build-out Total Without Bonus & Expansion	-	-	619,685	154,921	154,921	382,368
Scenario 3: Mixed-Use Build-out Total With Bonus	355	88,862	379,146	94,787	183,649	411,096
Scenario 3: Mixed-Use Build-out Total Without Bonus	235	58,649	187,677	46,919	105,569	333,016
Scenario 3: Mixed-Use Build-out Total With Bonus & Expansion	387	96,826	413,123	103,281	200,106	427,554
Scenario 3: Mixed-Use Build-out Total Without Bonus & Expansion	256	63,905	204,496	51,124	115,029	342,476

*Existing Conditions include viable development such as current economically viable properties plus pending development reduced by 4 units and the non-residential space by approximately 200,000 square feet (i.e.; the outlets are no longer included) assuming redevelopment occurs. Existing conditions assumes that all existing development were connected to the public water system. Unit calculations and square footage calculations reflect amount for new units as derived from Projected Units as subtracted from existing conditions.

Explanation of calculations: Column B = Column A unit count multiplied by 250 gpd
 Column D = Column C sq. ft multiplied by 0.25 gpd
 Column E = Sum of Columns B & D
 Column F = Existing Conditions (227,447) added to Column E (projected)

Refer to the Queen Anne's County, 2005 Comprehensive Water and Sewerage Plan.



The treatment process in the water treatment plant (WTP) must be able to meet the maximum daily demand, which in this case is 236,166 gpd for the day of highest use for current connections (2003). Allowing for operation for only 20 hours per day and 4,200 gallon per day for backwash water, the existing Oyster Cove WTP can produce a maximum of 300,000 gallons in any day. Capacity is restricted by a groundwater appropriation permit of 88,000 gpd. The water service area provides water to approximately two-thirds of the properties on east side of Kent Narrows and none on the west side. Future plans for water service expansion include a water tower as funds allow. Table 31: Water Needs, projects water needs based on projected housing units and projected non-residential space as per build-out scenarios, and does not include current housing units or non-residential uses.

Table 31: Water Needs, is based on data from the build-out scenarios where the estimate average allocation per dwelling unit is 250 gpd, and the average allocation for non-residential useage is 0.25 gpd per square foot. Due to lack of monitoring devices and on-lot systems, capacity needs for existing conditions have been calculated based upon averages provided by Queen Anne's County assuming that all development would be connected to the public water system. Provided that all units and non-residential space are connected to water services, an estimated 83,500 gpd will be needed for residential and 144,000 gpd for non-residential space or a total 227,500 gpd will be needed. To date, a total of 98,789 gpd of water is allocated to Kent Narrows, all of which services residential and commercial properties on the east side of the channel (62,500 gpd residential and 36,289 gpd commercial). Based upon the above calculations (current and projected), there is a need for future expansion of facilities to meet water demands.

Sewer

The allocated sewage flow for Kent Narrows is 158,248 gpd, the actual flow per day is unknown as the flow is not connected to water useage and is not metered. Based on the projected demands for water there will be an increased demand for sewer capacity. If all future uses are to be serviced by water and sewer, then sewer capacity must, at a minimum, be capable of processing potential water capacity (demand).

Kent Narrows Community Plan APPENDIX



Table 32: Sewer Needs

Description	Projected Housing Units (Column A)	Projected Sewer Needs per dwelling unit (250 gpd/unit in Column A) (Column B)	Projected Non-residential Space (Square Feet) (Column C)	Projected Non-residential Sewer Needs gpd (0.25 gpd / square foot) (Column D)	Projected Development Sewer Needs gpd (Sum of Columns B & D) (Column E)	Total Sewer Needs gpd (Current 135,468 Allocated Flow plus Projected Flow) (Column F)
Existing Conditions* Kent Narrows (2005)	334	83,500	575,789	143,947	227,447**	227,447**
Scenario 1: Residential Build-out Total	348	87,040	-	-	87,040	222,508
Scenario 1: Residential Build-out Total with Expansion of Growth Area	379	94,840	-	-	94,840	230,308
Scenario 2: Non-Residential Build-out Total With Bonus	-	-	947,866	236,966	236,966	372,434
Scenario 2: Non-Residential Build-out Total Without Bonus	-	-	568,719	142,180	142,180	277,648
Scenario 2: Non-Residential Build-out Total With Bonus & Expansion	-	-	1,032,808	258,202	258,202	393,670
Scenario 2: Non-Residential Build-out Total Without Bonus & Expansion	-	-	619,685	154,921	154,921	290,389
Scenario 3: Mixed-Use Build-out Total With Bonus	355	88,862	379,146	94,787	183,649	322,117
Scenario 3: Mixed-Use Build-out Total Without Bonus	235	58,649	187,677	46,919	105,569	241,037
Scenario 3: Mixed-Use Build-out Total With Bonus & Expansion	387	96,826	413,123	103,281	200,106	335,574
Scenario 3: Mixed-Use Build-out Total Without Bonus & Expansion	256	63,905	204,496	51,124	115,029	250,497

*Existing Conditions include viable development such as current economically viable properties plus pending development reduced by 4 units and the non-residential space by approximately 200,000 square feet (i.e.; the outlets are no longer included) assuming redevelopment occurs. Existing conditions assumes that all existing development were connected to the public water system.

** Since the number of units and square footage of non-residential were changed, this number was calculated using the same method as each of the scenarios; the allocated flow for Kent Narrows is 135,468 gpd.

Unit calculations and square footage calculations reflect amount for new units as derived from Table 13 **Error! Reference source not found.** (Projected subtract from existing conditions).

Explanation of calculations: Column B = Column A unit count multiplied by 250 gpd
 Column D = Column C sq. ft multiplied by 0.25 gpd
 Column E = Sum of Columns B & D
 Column F = Existing Conditions (135,468) added to Column E (projected)

Refer to the Queen Anne's county, 2005 Comprehensive Water and Sewerage Plan.



Table 32: Sewer Needs is based on the projected number of housing units and projected square footage of non-residential space per build-out scenarios, and does not include current housing units or non-residential uses. The projection makes the following assumptions concerning sewer flow: the flow per dwelling unit equals 250 gallons per day (gpd); and, the flow for non-residential space equals 0.25 gallons per day per square foot (gpd/sqft). The non-residential flow value is the average of two recognized flows including Office at 0.09 gpd/sqft and Restaurant (sit-down) flow of 0.375 gpd/sqft.

Consideration for marina flows was not included in projections; however, the County has allocated an average daily flow of 15 gpd per commercial slip and 5 gpd per non-commercial slip. According to the marina summary there are approximately 1,438 slips (*1,276 commercial slips and 162 non-commercial/community slips*); therefore, average daily flow or daily useage for marina operations is estimated at 19,950 gpd.

Growth Area Expansion Tables- Water and Sewer Capacity Needs

The following section identifies water and sewer capacity needs for the large area expansion analysis and small area expansion analysis as previously described. (Tables 33 through 36)



Table 35: Water Needs (Small Area)

Kent Narrows Buildout Scenarios						
Year	Development / Addition / Utility Circuits	Description	Housing Units	Estimated Commercial Parking Spaces	Estimated Residential Spaces	Estimated Non-Residential Spaces (Square Feet)
2006	Kent Narrows Growth Area Modification to Base	City's Base Level Addition - Ocean Homes High-Rise Project	218	3,187	320	688,000
			28	137	81	74,450
			83	1,517	59	74,520
			254	3,314	382	705,430
			15	33	73	14,200
			46	20	15	21,200
			10	90	15	7,000
			34	242	128	14,200
			348	3,800	506	766,540
			5,070	6	253,670	
Future	Existing Utility Development		324	3,540	320	375,700
<p>Notes: 1. Existing Utility Development - Areas shown include reimagined roads and redeveloped blocks.</p>						

Water Needs Based on Projected Development						
Scenario	Projected Housing Units	Projected Water Needs per dwelling unit (in 2006 GPD)	Projected Non-Residential Space (Square Feet)	Projected Non-Residential Water Needs (in 2006 gpd)	Projected Development Water Needs (in 2006 gpd)	Total Water Needs (in 2006 gpd)
Scenario 1: Base Case Development (Actual)	348	87,240	305,290	305,290	37,042	514,332
Scenario 1: Base Case Development (Actual) Total	379	84,840	305,290	305,290	34,444	529,334
Scenario 2: Non-Residential Buildout Total With Bonus	379	84,840	305,290	305,290	238,044	464,454
Scenario 2: Non-Residential Buildout Total With Bonus (High-Rise)	379	84,840	305,290	305,290	142,100	464,454
Scenario 2: Non-Residential Buildout Total With Bonus (High-Rise & Expansion)	379	84,840	305,290	305,290	238,044	464,454
Scenario 3: Mixed-Use Buildout Total With Bonus	322	88,862	254,496	254,496	183,644	411,506
Scenario 3: Mixed-Use Buildout Total Without Bonus	226	84,840	182,177	182,177	130,044	333,191
Scenario 3: Mixed-Use Buildout Total Without Bonus (Expansion)	256	81,392	254,496	254,496	115,929	362,425

