

WATER DEMAND REPORT
FOR THE CITY OF STEAMBOAT SPRINGS, COLORADO
ANNEXATION APPLICATION

STEAMBOAT 700

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Introduction

This report has been prepared in support of the Steamboat 700 Annexation Application submittal to the City of Steamboat Springs, Colorado. The City has requested the report as part of its negotiations with the applicant, Steamboat 700, LLC, regarding water issues. Specifically, the City desires to determine whether there is an adequate water supply to serve the proposed development. This report is intended to provide a preliminary estimate of the projected water demands for the project at full buildout for the purpose of comparing these demands with the City's available supply.

Background

The Steamboat 700 Master Planned Community (Steamboat 700) is the result of over ten years of community planning for the area west of the current Steamboat Springs city boundary. The over-arching document guiding growth in the area is the 2006 West of Steamboat Springs Area Plan (WSSAP). The purpose of the WSSAP was to master plan the only remaining area adjacent to Steamboat Springs suitable for higher density, local resident-oriented development to help provide much needed housing for the community's working class. The working class is increasingly seeking housing relief by relocating to outlying communities, resulting in increased commuting times, road and infrastructure costs, increased pollution, reduced time for family and other social endeavors, and a higher cost of recruiting and maintaining work force.

Steamboat 700 is based on Traditional Neighborhood Design principles emphasized in the WSSAP and will be designed around the full time resident as opposed to the second home owner, offering a full range of housing choices. It is intended to be a transit-friendly community with employment, shopping, entertainment and recreation facilities connected by extensive, interconnected sidewalks, bike lanes and trails, and a parks and open space network. To promote affordability and sustainability, the land use plan has been designed to accommodate a compact design in a mixed use manner and will include a high proportion of multi-family and small detached single family lots (see Attachment A, Regulating Plan).

An Infrastructure Plan has been prepared for Steamboat 700 and was submitted to the City in support of the October 2008 Annexation Impact Report for the subject property. The plan is conceptual in nature and intended to provide review authorities with a general understanding of the proposed concepts for serving the site with transportation and drainage facilities, including streets, sidewalks, trails and stormwater management systems; as well as utilities such as water, sanitary sewer, natural gas, electric, telephone, cable television and internet access. It was prepared based on concepts presented in the WSSAP, our understanding of the available infrastructure, existing treated water and wastewater master plans prepared for the City, and numerous meetings with representatives of the various public utility companies. This plan has been modified for use with a preliminary water system pressure zone study, as part of the City's final annexation review process (see Attachment B, Preliminary Water System Pressure Zone Study).

Exhibit I of Steamboat 700 Annexation Agreement

An existing 12-inch diameter water trunk line traverses the project site from east to west to supplement the water demands of the Steamboat II Metropolitan District (District) consisting of the Steamboat II, Heritage Park and Silver Spur Estates neighborhoods. This trunk line also feeds the jointly owned City/District one-million gallon treated water storage tank, which provides fire flow, flow equalization and standby capacity for the District. Although significant portions of the trunk line will require replacement in order to accommodate the requirements of the Steamboat 700 land development plan, it will continue to serve as the backbone for expansion of the City's water distribution system into the West Steamboat Springs area. In order to meet anticipated fire flow requirements of the project site and provide for distribution system redundancy, new water mains will be extended throughout each neighborhood.

As identified in the City's Draft Treated Water Master Plan, the development area is located within the water service area for the City's proposed West Valley pressure zone. The West Valley Zone establishes the upper limit for structures at an elevation of approximately 6,770 feet. A new, offsite control valve station is required to hydraulically establish the West Valley Zone. To provide water line looping, a new water main will be constructed from the south entrance of the project site, east along US 40 for connection to an existing 12-inch line.

Water Demand & Consumptive Use

A Preliminary Estimate of Projected Water Demands spreadsheet was provided to the City April 8, 2008, for the conceptual land use plan included in the project's October 2007 Initial Submittal. This summary has now been updated to represent the current land use plan and has been expanded to present both demands and consumptive use in a format which includes monthly totals, as requested by the City. It is important to note that the 2008 demands summary was the source of the Steamboat 700 portion of the projected water demands included in the City's November 2008 Water Supply Master Plan. The numbers provided in the spreadsheets, and now incorporated into this report, have apparent inconsistencies when summing that can be explained by realizing that decimal places beyond those displayed are carried forward in calculations for the purposes of overall accuracy.

Figure 1 provides a preliminary estimate of the projected water demands and consumptive use for the types and number of uses represented at full buildout in the Steamboat 700 Land Use Program prepared by project planner Patten & Associates, Inc. (see Attachment C). The general location of these uses is indicated by the development pods, which are identified on the Regulating Plan (Attachment A). In estimating water demands, it is a generally accepted planning practice to utilize local use data if available. Alternatively, industry standards for typical unit flows may be applied. Once actual use data from the water supply becomes available, this may serve as a monitoring tool for updating planning estimates and thereby assuring that development does not outpace infrastructure capacity and water supply availability.

Exhibit I of Steamboat 700 Annexation Agreement

In the case of the City of Steamboat Springs, actual water use records are available for both of its water purveyors, the City Water & Sewer Utilities and Mt. Werner Water & Sanitation District. The District prepared an evaluation of its winter (non-irrigation influenced) use records in 2003 and determined a domestic unit flow rate of 60 gallons per capita per day (gpcd). Multiplying this figure by a typical average residential occupancy of 3.5 people per residence results in a residential domestic unit flow of 210 gpd. This planning figure was utilized in determining the estimated domestic demand for each of the Residential Uses of Figure 1 as 3.5 people per residence is considered by the developers of Steamboat 700 to represent a reasonable average occupancy for the higher density nature of the proposed development. By comparison, the City's July 1, 2007 population estimates identified an average household size of 2.33 residents. Non-residential domestic unit flows are less readily available from local use data and have instead been incorporated into Figure 1 from standard per-acre figures provided in the American Water Works Association Handbook¹.

Irrigation unit flows in gallons per square foot per day (gal/ /d) are multiplied by landscaped areas of both the Residential and Non-Residential Uses of Figure 1 to generate estimates of irrigation demand. A six-month average unit flow of 1.33 inches per week was determined from an analysis of the Steamboat 700 October 2007 Initial Submittal land use plan by project landscape architect MGC Design, Inc., based upon typical area application rates. This analysis also included a summary of anticipated landscaped area square footage for each of the uses identified through site testing of similar types of development (see Attachment D). Public Facilities landscaped areas were assumed to represent a similar 5% portion of the total lot size as Mixed Use and multi-family residential units are assumed to be higher density, multi-story buildings typical of the Traditional Neighborhood Design and mixed use nature of the proposed development.

Unaccounted for Water constitutes the third and final component of projected water demands shown in Figure 1. This is represented by a typical planning rate of 10% of all uses, to account for water that is either physically lost through leaks and maintenance operations, such as system flushing through fire hydrants, or simply unaccounted for through service meter inaccuracies.

Consumptive uses are a measure of the amount of water use estimated to not be returned to the natural watershed. These are represented in Figure 1 as a uniform portion of both the domestic and irrigation components of the Residential and Non-Residential Uses. In the case of domestic uses, consumptive use is based upon a standard 5% factor commonly used for municipal systems, according to sample reports provided by City officials. The remainder of the domestic uses is assumed to be returned to the receiving waters of the Yampa River following treatment of all wastewater collected from the project site, which will be served entirely by the City's sewer system. Irrigation consumptive use is based upon an efficiency rate of 90% suggested by City officials for the anticipated amount of xeriscaping and drought-tolerant plantings of the proposed development.

¹ Referenced as Mays, W. Larry ed. Water Distribution Systems Handbook. New York: McGraw-Hill: 1999.

Exhibit I of Steamboat 700 Annexation Agreement

**Figure 1
Steamboat 700
Preliminary Estimate of Projected Water Demands & Consumptive Use**

Residential Uses	Unit areas and flowrates			Ultimate Buildout						
	Domestic unit flow (gpd)	Unit landscaped area (ft ²)	Irrigation unit flow (gal/ft ² /d)	Number of units	Domestic demand (gpd)	Irrigation demand (gpd)	Total water demand (gpd)	Domestic consumption (gpd)	Irrigation consumption (gpd)	Total water consumption (gpd)
Condominiums and Apartments	210	300	0.1184	768	161,280	27,279	188,559	8,064	24,551	32,615
Townhomes/Courtyard Homes	210	545	0.1184	490	102,900	31,619	134,519	5,145	28,457	33,602
Single Family, Small Lot	210	1340	0.1184	368	77,280	58,385	135,665	3,864	52,547	56,411
Single Family, Medium Lot	210	2360	0.1184	294	61,740	82,151	143,891	3,087	73,936	77,023
Single Family, Large Lot	210	3455	0.1184	80	16,800	32,726	49,526	840	29,453	30,293
Secondary Units	210		0.1184	371	77,910	-	77,910	3,896	-	3,896
RESIDENTIAL TOTAL				2,371	497,910	232,160	730,070	24,896	208,944	233,839
Non-Residential Uses	Domestic unit flow (gpad)	Total landscaped area (ft ²)	Irrigation unit flow (gal/ft ² /d)	Acreage	Domestic demand (gpd)	Irrigation demand (gpd)	Total water demand (gpd)	Domestic consumption (gpd)	Irrigation consumption (gpd)	Total water demand (gpd)
Mixed Use - Commercial/Retail/Office/Hotel	5,100	96,268	0.1184	44.2	225,420	11,398	236,818	11,271	10,258	21,529
Public Facilities	1,620	18,513	0.1184	8.5	13,770	2,192	15,962	689	1,973	2,661
Community Center	1,700	20,909	0.1184	1.2	2,040	2,476	4,516	102	2,228	2,330
Parks	400	1,215,324	0.1184	27.9	11,160	143,894	155,054	558	129,505	130,063
NON-RESIDENTIAL TOTAL					252,390	159,960	412,350	12,620	143,964	156,583
Unaccounted for Water							Total (gpd)			
Allowance for pipe losses, fire hydrant flushing, meter inaccuracies, etc. (10% of average annual water use)							94,636			
UNACCOUNTED FOR WATER TOTAL							94,636			

(The March 20, 2009 draft of this report, included a version of Figure 1 that was based upon an earlier draft of the Land Use Regulating Program – October 31, 2008 – as well as a unit landscaped area of 95 ft² for the Condominiums and Apartments residential use. These components of the figure have subsequently been updated to reflect the current Regulating Plan and Land Use Program and the review comments of the City, respectively. A Secondary Units residential use has also been added to address the potential water demand and consumption from units ancillary to a principal dwelling unit, equivalent to 50% of the total Single Family lots.)

The total daily water demand and consumption estimated for the ultimate buildout of the proposed Steamboat 700 project is summarized in Figure 2. It is important to note that this table provides a breakout of domestic and irrigation components of these totals for an easy comparison of the irrigation and non-irrigation seasons.

**Figure 2
Steamboat 700
Water Demand & Consumption Summary**

	Ultimate Buildout Demand (gpd)			Ultimate Buildout Consumption (gpd)		
	Domestic	Irrigation	Total	Domestic	Irrigation	Total
Residential Total	497,910	232,160	730,070	24,896	208,944	233,839
Non-Residential Total	252,390	159,960	412,350	12,620	143,964	156,583
Unaccounted for Water Total			94,636			-
TOTAL	750,300	392,120	1,237,056	37,515	352,908	390,423

Exhibit I of Steamboat 700 Annexation Agreement

In an effort to present the preliminary estimate of the projected water demands and consumptive use for the ultimate buildout of Steamboat 700 in a variety of other useful terms, a flowrate summary is provided in Figure 3. For the purposes of infrastructure supply availability planning, the Average Day Demand is shown for the irrigation season, the non-irrigation season and on an annual basis to range from 521 to 859 in units of gallons per minute (gpm) and 0.75 to 1.24 in units of million gallons per day (MGD). The annual average is based upon a six month irrigation season, using a relative application rate for June, July and August that is twice that of May, September and October as identified in the analyses found in Attachment D. The peak demand flowrates of Max Day and Peak Hour are based upon standard Average Day multiplication rates shown in the American Water Works Association Handbook² and range from 1,553 to 2,760 gpm and 2.24 to 3.97 MGD, respectively.

Monthly totals shown for demand and consumption in Figure 3 are useful for comparing with water supply and water rights availability in typical units of acre-feet (af). The monthly demand flowrates were developed by applying the assumed double application rate ratio for June, July and August compared to May, September and October, as identified in the analyses found in Attachment D, to the difference in irrigation and non-irrigation Average Day Demands for the purpose of presenting a reasonable monthly distribution of seasonal totals. The total annual water demand and consumption for the ultimate buildout of Steamboat 700 are estimated at 1,112 and 239 af, respectively.

**Figure 3
Steamboat 700
Water Flowrate Summary**

	Max Day/Avg Day ratio Peak Hour: Avg Day ratio	2.25 4.0	Ultimate Buildout Demand Flowrates			Ultimate Buildout Consumption (af)		
			gpm	MGD	af	Domestic	Irrigation	Total
Average Day Demand								
Irrigation Season			859	1.24				
Non-Irrigation Season			521	0.75				
Annual ⁵			690	0.99				
Max Day Demand ⁶			1,553	2.24				
Peak Hour Demand ⁷			2,760	3.97				
Monthly Totals								
January				0.75	71.4	3.6		3.6
February				0.75	64.5	3.2		3.2
March				0.75	71.4	3.6		3.6
April				0.75	69.1	3.5		3.5
May				1.08	102.4	3.6	22.2	25.7
June				1.39	127.6	3.5	42.9	46.3
July				1.39	131.8	3.6	44.3	47.9
August				1.39	131.8	3.6	44.3	47.9
September				1.08	99.1	3.5	21.4	24.9
October				1.08	102.4	3.6	22.2	25.7
November				0.75	69.1	3.5		3.5
December				0.75	71.4	3.6		3.6
Annual Total					1,111.7	42.0	197.3	239.3

The total annual water demand and consumption for the ultimate buildout of Steamboat 700 is broken down according to each of the proposed development areas, including Pods 1 through 11 and the central community park, in Figure 4. This figure provides a monthly breakdown of the expected total demand and consumption, for both irrigation and domestic use, within each of the development areas. The community park is shown separately as it does not lie within any of the pods. For the purposes of completing the breakdown, all other park acreage has been distributed to the encompassing pods in accordance with the Regulating Plan.

² Referenced as Mays, W. Larry ed. Water Distribution Systems Handbook. New York: McGraw-Hill: 1999.

Exhibit I of Steamboat 700 Annexation Agreement

**Figure 4
Steamboat 700
Water Demand and Consumption Breakdown by Development Area**

Ultimate Buildout Demand (af)													
Monthly Totals	Pod 1	Pod 2	Pod 3	Pod 4	Pod 5	Pod 6	Pod 7	Pod 8	Pod 9	Pod 10	Pod 11	Park	Total
January	0.26	6.28	21.21	4.46	3.73	0.14	3.26	6.24	13.59	7.08	4.50	0.62	71.37
February	0.23	5.67	19.16	4.03	3.36	0.13	2.94	5.64	12.27	6.39	4.06	0.56	64.44
March	0.26	6.28	21.21	4.46	3.73	0.14	3.26	6.24	13.59	7.08	4.50	0.62	71.37
April	0.25	6.08	20.53	4.32	3.61	0.14	3.15	6.04	13.15	6.85	4.35	0.60	69.07
May	0.71	9.67	23.13	6.94	6.32	0.31	5.26	11.02	14.60	9.86	6.74	7.95	102.37
June	0.57	12.05	28.82	8.65	7.87	0.39	6.55	13.73	18.19	12.28	8.40	9.90	127.54
July	0.73	12.45	29.78	8.94	8.13	0.40	6.77	14.19	18.80	12.69	8.68	10.23	131.79
August	0.73	12.45	29.78	8.94	8.13	0.40	6.77	14.19	18.80	12.69	8.68	10.23	131.79
September	0.55	9.36	22.39	6.72	6.11	0.30	5.09	10.67	14.13	9.54	6.53	7.69	99.08
October	0.57	9.67	23.13	6.94	6.32	0.31	5.26	11.02	14.60	9.86	6.74	7.95	102.37
November	0.25	6.08	20.53	4.32	3.61	0.14	3.15	6.04	13.15	6.85	4.35	0.60	69.07
December	0.26	6.28	21.21	4.46	3.73	0.14	3.26	6.24	13.59	7.08	4.50	0.62	71.37
Annual Total	5.4	102.3	280.9	73.2	64.7	2.9	54.7	111.3	178.5	108.3	72.0	57.6	1111.6

Ultimate Buildout Consumption (af)																											
Monthly Totals	Domestic												Irrigation														
	Pod 1	Pod 2	Pod 3	Pod 4	Pod 5	Pod 6	Pod 7	Pod 8	Pod 9	Pod 10	Pod 11	Park	Sub-Total	Pod 1	Pod 2	Pod 3	Pod 4	Pod 5	Pod 6	Pod 7	Pod 8	Pod 9	Pod 10	Pod 11	Park	Sub-Total	Total
January	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56														3.56
February	0.01	0.28	0.96	0.20	0.17	0.01	0.15	0.28	0.61	0.32	0.20	0.03	3.22														3.22
March	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56														3.56
April	0.01	0.30	1.03	0.22	0.18	0.01	0.16	0.30	0.66	0.34	0.22	0.03	3.46														3.46
May	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56	0.21	2.38	1.84	1.74	1.79	0.12	1.39	3.28	1.04	2.01	1.59	4.78	22.17	25.73
June	0.01	0.30	1.03	0.22	0.18	0.01	0.16	0.30	0.66	0.34	0.22	0.03	3.46	0.40	4.61	3.57	3.36	3.47	0.22	2.70	6.35	2.01	3.88	3.07	9.25	42.89	46.35
July	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56	0.42	4.76	3.69	3.47	3.58	0.23	2.79	6.56	2.08	4.01	3.17	9.56	44.32	47.88
August	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56	0.42	4.76	3.69	3.47	3.58	0.23	2.79	6.56	2.08	4.01	3.17	9.56	44.32	47.88
September	0.01	0.30	1.03	0.22	0.18	0.01	0.16	0.30	0.66	0.34	0.22	0.03	3.46	0.20	2.30	1.78	1.68	1.73	0.11	1.35	3.18	1.01	1.94	1.53	4.63	21.44	24.90
October	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56	0.21	2.38	1.84	1.74	1.79	0.12	1.39	3.28	1.04	2.01	1.59	4.78	22.17	25.73
November	0.01	0.30	1.03	0.22	0.18	0.01	0.16	0.30	0.66	0.34	0.22	0.03	3.46														3.46
December	0.01	0.31	1.06	0.22	0.19	0.01	0.16	0.31	0.68	0.35	0.23	0.03	3.56														3.56
Annual Total	0.1	3.7	12.5	2.6	2.2	0.1	1.9	3.7	8.0	4.1	2.7	0.4	42.0	1.9	21.2	16.4	15.5	15.9	1.0	12.4	29.2	9.3	17.9	14.1	42.6	197.3	239.3

Sufficiency of Supply to Meet Expected Demand

Although the total annual water demand for the ultimate buildout of Steamboat 700 exceeds by 184 af (1,112 less 928) the previous 2008 figure used in the City’s November 2008 Water Supply Master Plan, it is our professional opinion that the City’s supply is sufficient to meet the expected demand of Steamboat 700 at full buildout. Section 5.1.3 of the Master Plan concluded that the combined 2027 Projected Demand for the City and the Mt. Werner Water & Sanitation District is 7,206 af/yr. The total Firm Yield/Supply for the available sources of the Fish Creek Basin and the Yampa River Wells (not including the conditional Elk River Right) is also indicated to be between 9,000 and 10,500 af/yr. Adding to the combined 2027 Projected Demand the additional 184 af/yr identified in this report results in a revised figure of 7,390 af/yr, still well below the total Firm Yield/Supply range.

Water Conservation and Drought Mitigation Plans

It is our professional opinion that this report represents a reasonable approach to quantifying demands at this conceptual level of the Steamboat 700 development planning. However, we believe that there are opportunities for reduction of these water demands, as well as water demands throughout the City, by implementation of the project’s Sustainability Master Plan (see Attachment E), development of a city-wide Water Conservation Plan concepts and generally accepted municipal water conservation measures by, and implementation of the following strategies and policies:

- Minimize the amount of water needed on the property by designing public green spaces, streetscapes and commercial areas to incorporate xeriscaping techniques, low water use landscapes, and drought-resistant vegetation.
- Issue design guidelines in order to limit the amount of turf areas allowed in public landscapes and allow bluegrass turf only where necessary in recreational areas.

Exhibit I of Steamboat 700 Annexation Agreement

- Issue design guidelines in order to specify the use of high efficiency irrigation systems and evapotranspiration controllers in all irrigated areas.
- Issue design guidelines in order to stipulate water-efficient fixtures and appliances, including toilets, urinals, showerheads, and faucets in both commercial and residential buildings.
- Pursue options for the development and operation of a separate untreated raw water source for irrigation supply that could reduce the development's irrigation demand on public landscapes and parks, thereby potentially reducing the annual consumptive amount of water needed from the City's treated water supply by as much as 197 af.
- Support water main distribution and service line leak identification.
- Support dissemination of information regarding water use efficiency measures, through public education, customer water audits, and water-saving demonstrations.
- Support water rate structures and billing systems designed to encourage water conservation.
- Support regulatory measures designed to encourage water conservation.
- Support incentives to implement water conservation techniques, including rebates to customers to encourage the installation of water conservation measures.
- Support steps to develop, implement, monitor, review, and revise a City-wide Water Conservation Plan that outlines how the City will improve water efficiency over the long-term.
- As suggested in the Steamboat 700 Sustainability Master Plan commit to creating a "Climate Ready" Community through such measures as planning and designing for a general increase in drought and flooding by reducing water use, minimizing the need for irrigation and promoting effective stormwater management.
- Support steps to develop, implement, monitor, review, and revise a City-wide Drought Mitigation Plan that addresses the curtailment measures and actions needed in an emergency to prepare, monitor, and mitigate the effects of a forecasted or existing drought; or equipment malfunction.
- Support establishment of a Drought Planning Advisory group that combines entities and stakeholders that can influence preparation and implementation.
- Support development of an on-going public education and awareness program related to water supply, water conservation and drought preparedness.

Exhibit I of Steamboat 700 Annexation Agreement

ATTACHMENT A
STEAMBOAT 700
REGULATING PLAN

Steamboat 700

Regulating Plan

September 22, 2009

LEGEND

Transects

- T5-TC: Town Core
- T4-NC: Neighborhood Center
- T3-NG2: Neighborhood General Medium
- T3-NG1: Neighborhood General Low
- T2-NE: Neighborhood Edge
- SD: Special District
- Use Overlay-Large Format Retail Alternative
- Parks
- Natural Open Space

- primary street corridor
- annexation boundary see annexation plat
- primary trail
- secondary trail trail alignments are approximate
- soft surface trail
- trail underpass
- improved transit stop location conceptual

- illustrative of minimum required inter-pod & primary road connections (final locations tbd at preliminary plat)
- conditional road connection see note #6
- wetlands
- potential future road connections approx. location

PRIMARY STREET TYPES

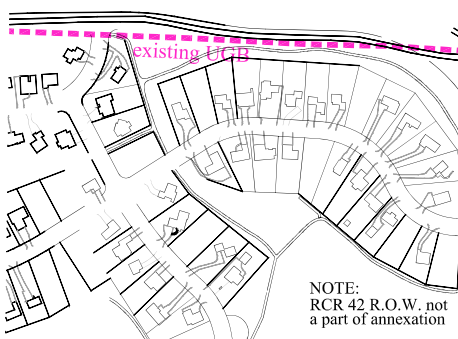
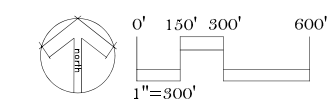
- Boulevard (Out-of-Town)
- Boulevard (In-Town)
- Parkway (In-Town)
- Parkway (Out-of-Town)
- Slate Creek Connector (In-Town)
- Slate Creek Connector (Out-of-Town)
- Drive (In-Town)
- Drive (Out-of-Town)
- Neighborhood Street 1

NOTES

1. This Regulating Plan is subject to the provisions of, and shall be interpreted and applied, in accordance with the terms and provisions of the Steamboat 700 Annexation Agreement adopted by the Steamboat Springs City Council by Ordinance No. _____ on October 13, 2009 ("Annexation Agreement").
2. The recording of any final plat within Pod 3 is subject to the provisions of Section III. K of the Annexation Agreement regarding reservation of land for a grocery store.
3. The designation of any property shown on this Regulating Plan as Parks or Natural Open Space shall not prohibit the approval or construction by the City of roadways within such property. Final design and platting of such Natural Open Space Parcels shall accommodate primary street corridors depicted on this plan.
4. Steamboat 700 roads and trails shall be designed to make logical connections to existing off site roads and trails.
5. Development in Pod 3a, 3b, and 3d is not subject to CDC skyline regulations.
6. Development in the southern portion of Pod 3 within the floodplain will need to design the lowest structure elevation to be one foot above the base flood elevation of 6131.6 feet; and/or the capacity of the culvert under US 40 could be increased with a revised evaluation of the floodplain impacts including completion of CLOMR or LOMR as appropriate with a preliminary plat and/or Certificate of Occupancy.
7. Based on preliminary skyline analysis, building heights in all or portions of Pods 3c and 4b may have to be limited to a maximum of 25 feet to conform with CDC skyline standards. Additional skyline analysis will be required for Pods 3c and 4b at the time of Preliminary Plat.
8. Conditional road connections may be required by City, based on further review of site constraints and connectivity requirements, at time of preliminary plat.

Transect:	Required Transect Density Range	
	Target Density-Low: (Dwelling Units/Acre)	Target Density-High: (Dwelling Units/Acre)
T2-NE	1.0	2.0
T3-NG1	3.0	4.0
T3-NG2	6.0	16.0
T4-NC	9.0	12.0
T5-TC	12.0	20.0
SD	0.0	0.0

Note: This chart represents the required average density range for each preliminary subdivision plat. This restriction shall not prevent areas within a preliminary plat from exceeding the allowable density range provided the average density of the preliminary plat meets the requirement.



NOTE: RCR 42 R.O.W. not a part of annexation

conditional road connection approx. location

NOTE: future at grade protected crossing approx. location

potential future road connection approx. location

NOTE: building height limited to 35' in this area

potential future road connection approx. location

NOTE: no additional height limits in this area

VESTING NOTE

1. Approval of this annexation agreement constitutes approval of a site specific development plan that creates vested property rights and a development agreement that extends the term of the vested property rights for a period of more than three years, pursuant to article 68, Title 24, C.R.S., as amended.

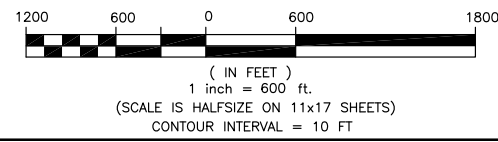
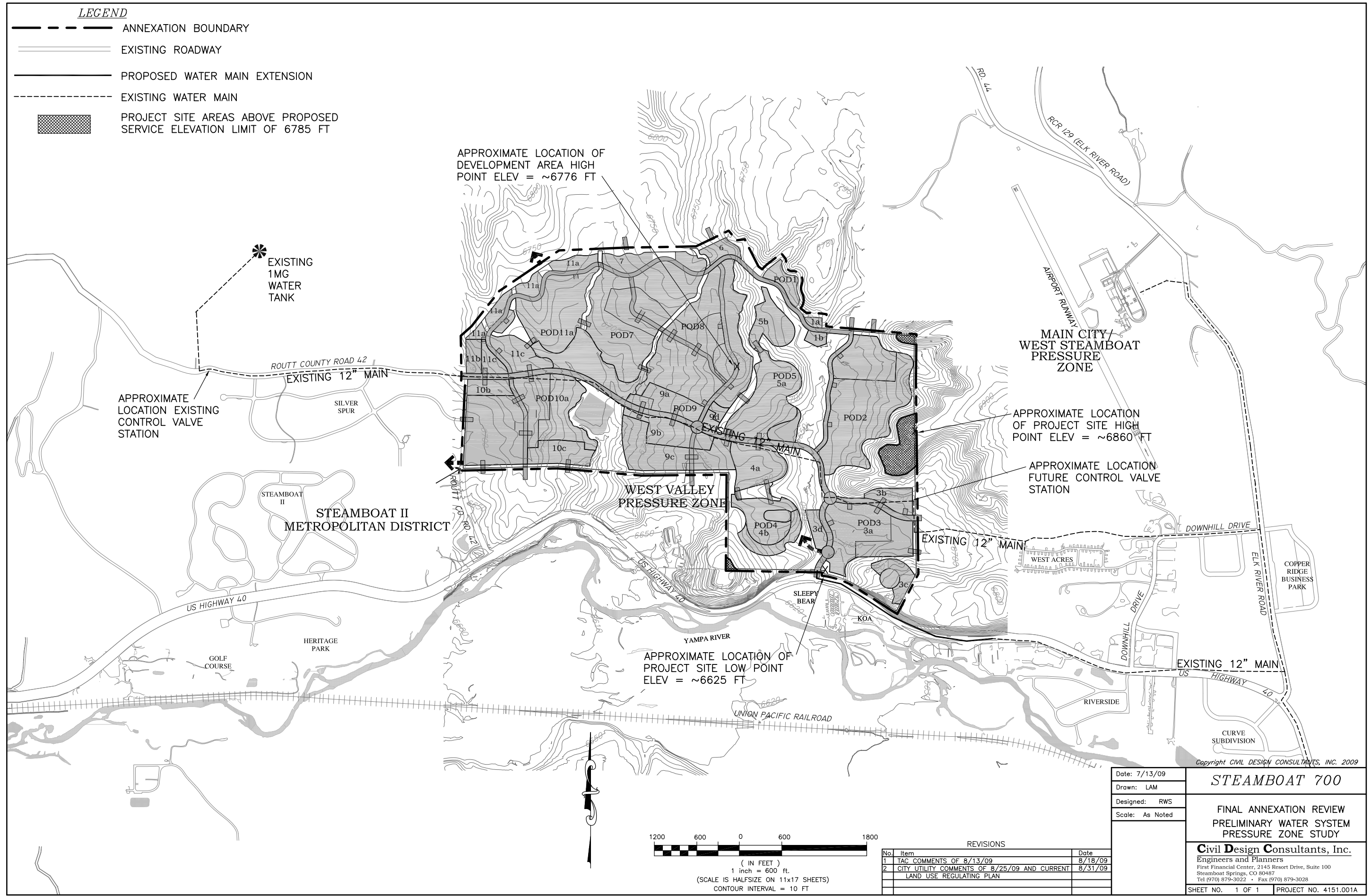
Exhibit I of Steamboat 700 Annexation Agreement

ATTACHMENT B

STEAMBOAT 700
PRELIMINARY WATER SYSTEM PRESSURE ZONE STUDY

Exhibit I of Steamboat 700 Annexation Agreement

I:\4151-001A Stmbt 700 Property\Planning-Prelim Design\Annexation Plan\082709 Final Annexation Application Submittal\pressure zone study.dwg, WATER SYSTEM PRESSURE ZONE STUDY, 8/27/2009 5:18:42 PM, Tablet



REVISIONS		
No	Item	Date
1	TAC COMMENTS OF 8/13/09	8/18/09
2	CITY UTILITY COMMENTS OF 8/25/09 AND CURRENT LAND USE REGULATING PLAN	8/31/09

Date: 7/13/09	STEAMBOAT 700
Drawn: LAM	
Designed: RWS	
Scale: As Noted	FINAL ANNEXATION REVIEW PRELIMINARY WATER SYSTEM PRESSURE ZONE STUDY
Civil Design Consultants, Inc. Engineers and Planners First Financial Center, 2145 Resort Drive, Suite 100 Steamboat Springs, CO 80487 Tel (970) 879-3022 • Fax (970) 879-3028	
SHEET NO. 1 OF 1	PROJECT NO. 4151.001A

ATTACHMENT C
STEAMBOAT 700
LAND USE PROGRAM

Steamboat 700 Land Use Program September 22, 2009

Residential Uses	% of Total	Total	Pod 1			Pod 2	Pod 3				Pod 4		Pod 5		Pod 6	Pod 7	Pod 8	Pod 9				Pod 10			Pod 11			Totals:	
			Pod 1a	Pod 1b	Pod 1c	Pod 2	Pod 3a	Pod 3b	Pod 3c	Pod 3d	Pod 4	Pod 4b	Pod 5a	Pod 5b	Pod 6	Pod 7	Pod 8	Pod 9a	Pod 9b	Pod 9c	Pod 9d	Pod 10a	Pod 10b	Pod 10c	Pod 11a	Pod 11b	Pod 11c		
Apartments	21%	266	0	0	0	0	65	0	0	10	67	0	0	0	0	0	0	43	38	34	9	0	0	0	0	0	0	0	266
Condominiums	25%	502	0	0	0	0	216	0	0	30	0	0	0	0	0	47	25	10	44	57	8	0	0	0	23	0	0	502	
Townhomes/Courtyard Homes	25%	490	0	0	0	46	24	45	42	3	0	0	140	21	0	0	110	0	16	35	0	8	0	0	0	0	0	490	
Single Family - Small Lot (4,500-7,999 SF)	18%	368	0	0	0	141	0	0	0	0	16	43	0	0	0	39	0	0	0	0	0	83	0	0	46	0	0	368	
Single Family - Medium Lot (8,000-19,999)	15%	294	0	0	0	36	0	0	0	0	0	44	12	0	0	31	72	0	0	0	0	54	0	0	45	0	0	294	
Single Family - Larger Lot (20,000 + SF)	4%	80	1	2	6	0	0	0	0	0	0	0	0	1	5	6	43	0	0	0	0	0	0	16	0	0	80		
Total	108%	2,000	1	2	6	223	305	45	42	43	83	87	152	22	5	5	123	250	53	98	126	17	145	42	0	107	23	0	2000
Pod Total			9			223		435			170		174		5	123	250		294		126		187		130		2000		
Notes:	1. ALL NUMBERS ARE APPROXIMATE.																												

Exhibit I of Steamboat 700 Annexation Agreement

ATTACHMENT D

STEAMBOAT 700
LANDSCAPE IRRIGATION WATER USAGE

Exhibit I of Steamboat 700 Annexation Agreement

Steamboat 700
Water Usage for Outside/Landscape Purposes

	<u>gal/week</u>	<u>gal/month</u>
6-month avg. = 1.33"	May 1"/week	2,145,431 8,581,724
	June 1.5"/week	3,231,071 12,924,284
	July 1.5"/week	3,231,071 12,924,284
	August 2"/week	4,290,862 17,163,448
	September 1"/week	2,145,431 8,581,724
	October 1"/week	2,145,431 <u>8,581,724</u>
Total 6 month season		68,757,188

Exhibit I of Steamboat 700 Annexation Agreement

**Steamboat 700
Landscape Irrigation Water Usage - 1" / week
4/1/2008**

<u>CONDO/APT</u>	<u>Acres</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>				
	7.5	20%	65,340	0.083	5,423	40,566				
			Avg. = 65,340/688 = 95 SF/Unit							
<u>TOWNHOME</u>	<u>Acres</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>				
	16.55	20%	144,184	0.083	11,967	89,515				
			Avg. = 144,184/266 = 542 SF/Unit							
<u>DUPLEX</u>	<u>Acres</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>				
	6.3	20%	54,886	0.083	4,556	34,075				
			Avg. = 54,886/93 = 590 SF/Unit							
<u>SINGLE FAMILY</u>	<u>Lot size SF</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>	<u># of lots</u>	<u>gal/week</u>		
Large	90,000	5%	Weighted	4,500	0.083	374	2,794	Total = 106	15	41,907
	65,000	5%	Avg. =	3,250	0.083	270	2,018		37	74,656
	33,000	10%	3,452	3,300	0.083	274	2,049		54	110,634
Medium	20,000	15%	Weighted	3,000	0.083	249	1,863	Total = 307	43	80,088
	12,000	20%	Avg. =	2,400	0.083	199	1,490		168	250,323
	10,000	20%	2,359	2,000	0.083	166	1,242		96	119,201
Small	8,000	20%	Weighted Avg. = 1,340	1,600	0.083	133	993	Total = 673	178	176,815
	6,500	20%		1,300	0.083	108	807		170	137,206
	5,500	25%		1,375	0.083	114	854		122	104,146
	4,500	25%		1,125	0.083	93	698		203	141,784
<u>MIXED USE</u>	15	5%		32,670	0.083	2,712			20,283	
<u>PUBLIC</u>	8.7	40%		151,589	0.083	12,582			94,112	
<u>PARKS</u>	23.3	100%		1,014,948	0.083	84,241			630,120	
<u>TOTAL</u>									<u>2,145,431</u>	

Exhibit I of Steamboat 700 Annexation Agreement

**Steamboat 700
Landscape Irrigation Water Usage - 1.5"/ week
4/1/2008**

<u>CONDO/APT</u>	<u>Acres</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>				
	7.5	20%	65,340	0.125	8,168	61,093				
			Avg. = 65,340/688 = 95 SF/Unit							
<u>TOWNHOME</u>	<u>Acres</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>				
	16.55	20%	144,184	0.125	18,023	134,812				
			Avg. = 144,184/266 = 542 SF/Unit							
<u>DUPLEX</u>	<u>Acres</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>				
	6.3	20%	54,886	0.125	6,861	51,318				
			Avg. = 54,886/93 = 590 SF/Unit							
<u>SINGLE FAMILY</u>	<u>Lot size SF</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>	<u># of lots</u>	<u>gal/week</u>		
Large	90,000	5%	Weighted	4,500	0.125	563	4,208	Total = 106	15	63,113
	65,000	5%	Avg. =	3,250	0.125	406	3,039		37	112,434
	33,000	10%	3,452	3,300	0.125	413	3,086		54	166,617
Medium	20,000	15%	Weighted	3,000	0.125	375	2,805	Total = 307	43	120,615
	12,000	20%	Avg. =	2,400	0.125	300	2,244		168	376,992
	10,000	20%	2,359	2,000	0.125	250	1,870		96	179,520
Small	8,000	20%	Weighted	1,600	0.125	200	1,496	Total = 673	178	266,288
	6,500	20%	Avg. =	1,300	0.125	163	1,216		170	206,635
	5,500	25%	1,340	1,375	0.125	172	1,286		122	156,846
	4,500	25%		1,125	0.125	141	1,052		203	213,531
<u>MIXED USE</u>	15	5%		32,670	0.125	4,084				30,546
<u>PUBLIC</u>	8.7	40%		151,589	0.125	18,949				141,736
<u>PARKS</u>	23.3	100%		1,014,948	0.125	126,869				948,976
<u>TOTAL</u>										<u>3,231,071</u>

Exhibit I of Steamboat 700 Annexation Agreement

**Steamboat 700
Landscape Irrigation Water Usage - 2" / week
4/1/2008**

<u>CONDO/APT</u>	<u>Acres</u> 7.5	<u>% landscape</u> 20%	<u>Landscape area SF</u> 65,340	<u>ft/week</u> 0.166	<u>cu. ft.</u> 10,846		<u>gal/week</u> 81,131			
			Avg. = 65,340/688 = 95 SF/Unit							
<u>TOWNHOME</u>	<u>Acres</u> 16.55	<u>% landscape</u> 20%	<u>Landscape area SF</u> 144,184	<u>ft/week</u> 0.166	<u>cu. ft.</u> 23,934		<u>gal/week</u> 179,030			
			Avg. = 144,184/266 = 542 SF/Unit							
<u>DUPLEX</u>	<u>Acres</u> 6.3	<u>% landscape</u> 20%	<u>Landscape area SF</u> 54,886	<u>ft/week</u> 0.166	<u>cu. ft.</u> 9,111		<u>gal/week</u> 68,150			
			Avg. = 54,886/93 = 590 SF/Unit							
<u>SINGLE FAMILY</u>	<u>Lot size SF</u>	<u>% landscape</u>	<u>Landscape area SF</u>	<u>ft/week</u>	<u>cu. ft.</u>	<u>gal/week</u>	<u># of lots</u>	<u>gal/week</u>		
Large	90,000	5%	Weighted	4,500	0.166	747	5,588	Total = 106	15	83,813
	65,000	5%	Avg. =	3,250	0.166	540	4,035		37	149,312
	33,000	10%	3,452	3,300	0.166	548	4,098		54	221,267
Medium	20,000	15%	Weighted	3,000	0.166	498	3,725	Total = 307	43	160,177
	12,000	20%	Avg. =	2,400	0.166	398	2,980		168	500,645
	10,000	20%	2,359	2,000	0.166	332	2,483		96	238,403
Small	8,000	20%	Weighted Avg. = 1,340	1,600	0.166	266	1,987	Total = 673	178	353,630
	6,500	20%		1,300	0.166	216	1,614		170	274,411
	5,500	25%		1,375	0.166	228	1,707		122	208,292
	4,500	25%		1,125	0.166	187	1,397		203	283,569
<u>MIXED USE</u>	15	5%		32,670	0.166	5,423				40,566
<u>PUBLIC</u>	8.7	40%		151,589	0.166	25,164				188,225
<u>PARKS</u>	23.3	100%		1,014,948	0.166	168,481				1,260,241
<u>TOTAL</u>										<u>4,290,862</u>

Exhibit I of Steamboat 700 Annexation Agreement

ATTACHMENT E
STEAMBOAT 700
SUSTAINABILITY MASTER PLAN