



AGENDA

**TOWN OF FLOWER MOUND
SMARTGROWTH COMMISSION MEETING**

JUNE 27, 2011

**FLOWER MOUND TOWN HALL
2121 CROSS TIMBERS ROAD
FLOWER MOUND, TEXAS**

AN AGENDA INFORMATION PACKET IS AVAILABLE FOR PUBLIC INSPECTION
ONLINE AT WWW.FLOWER-MOUND.COM/AGENDA/AGENDA.PHP

A. CALL TO ORDER: 7:00 P.M.

B. INVOCATION AND PLEDGE OF ALLEGIANCE

C. CITIZEN'S COMMENTS

The purpose of this item is to allow citizens an opportunity to address the Commission on issues that are not the subject of a public hearing. Any item requiring a Public Hearing will allow citizens or visitors to speak at the time that item appears on this agenda.

D. COMMISSION MEMBER ANNOUNCEMENTS

Announcements and brief discussion regarding recent and upcoming civic and social events, board or commission issues, informational update on Town projects and/or proposed Town projects, reports about contacts with other groups and/or individuals about Town issues, projects, and/or proposed projects, and informational responses to questions and information sharing.

E. REGULAR ITEMS

1. *Minutes of April 25, 2011*

Consider approval of minutes from the April 25, 2011, SMARTGrowth Commission Regular Session.

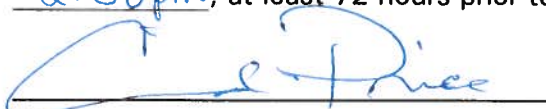
2. Presentation and discussion regarding the Police, Fire, and EMS components of the Town's SMARTGrowth Program.

F. ADJOURNMENT



Douglas S. Powell, AICP
Executive Director
Development Services

I do hereby certify that the Notice of Meeting was posted on the bulletin board in Town Hall of the Town of Flower Mound, Texas, a place convenient and readily accessible to the general public at all times, on the following date and time: June 23, 2011, at 2:50pm, at least 72 hours prior to the scheduled time of said meeting.



Cindi Price, Administrative Assistant

Pursuant to Section 551.071 of the Texas Government Code, the Commission reserves the right to consult in closed session with its attorney and to receive legal advice regarding any item listed on this agenda.

The Flower Mound Town Hall and Council Chambers are wheelchair accessible. Requests for accommodations or interpretive services must be made at least 48 hours prior to this meeting by contacting **Planning Services** at (972) 874-6350.

THE FLOWER MOUND SMARTGROWTH COMMISSION MEETING HELD ON THE 25TH DAY OF APRIL, 2011, IN THE FLOWER MOUND TOWN HALL, LOCATED AT 2121 CROSS TIMBERS ROAD IN THE TOWN OF FLOWER MOUND, COUNTY OF DENTON, TEXAS, AT 7:00 PM

The SMARTGrowth Commission met in a regular session with the following members present:

Nick Hollingshad	Chairman
Crystal Levonius	Commissioner, Place 2
Bjorn Vandug	Commissioner, Place 4
Dennis McKaige	Commissioner, Place 5
Mike McCall	Commissioner, Place 6
Jeff Whittaker	Commissioner, Place 7
Mellany Lamb	Commissioner, Place 8
Mark Glover	Representative of the Development Industry

Constituting a quorum with the following members absent:

Tom Goss	Vice Chairman
Jim Ward	Commissioner, Place 9
VACANT	Representative of the Real Estate Industry

And the following members of Town staff present:

Melissa Northern	Town Council Committee Member
Alan Lathrom	Town Attorney
Doug Powell	Executive Director of Development Services
Edith Marvin	Town Engineer
Tommy Dalton	Planning Manager
Cindi Price	Administrative Assistant

A. CALL TO ORDER – REGULAR SESSION

Chairman Hollingshad called the regular session to order at 10:01 p.m.

B. INVOCATION AND PLEDGE OF ALLEGIANCE

Commissioner Vandug led the invocation. Commissioner Levonius led the Pledge of Allegiance.

C. CITIZENS/VISITORS COMMENTS

There were none.

D. COMMISSION MEMBER ANNOUNCEMENTS

There were none.

E. REGULAR ITEMS

1. **Consider approval of the minutes of the February 28, 2011, SMARTGrowth Commission Regular Session.**

Commissioner Deliberation

Commissioner McKaige moved to approve the minutes of the February 28, 2011, SMARTGrowth Commission Regular Session as presented. Commissioner Vandug seconded the motion.

VOTE ON THE MOTION

AYES: Glover, Whittaker, McCall, Lamb, Hollingshad, Levonius, Vandug, McKaige

NAYS: None

ABSTAIN: None

ABSENT: Goss, Ward

The motion passed with a vote of 8-0.

2. **Presentation and discussion regarding the Adequate Public Infrastructure component of the Town's SMARTGrowth Program including, but not limited to, water supply, water pumping capacity, wastewater treatment capacity, wastewater lift station pumping capacity, and wastewater interceptor capacity.**

Staff Presentation

Edith Marvin, Town Engineer, said this was the third in a series of Commission-requested discussions on the basics of SMARTGrowth. She gave the following presentation:



WATER & WASTEWATER EVALUATION THROUGH SMARTGROWTH

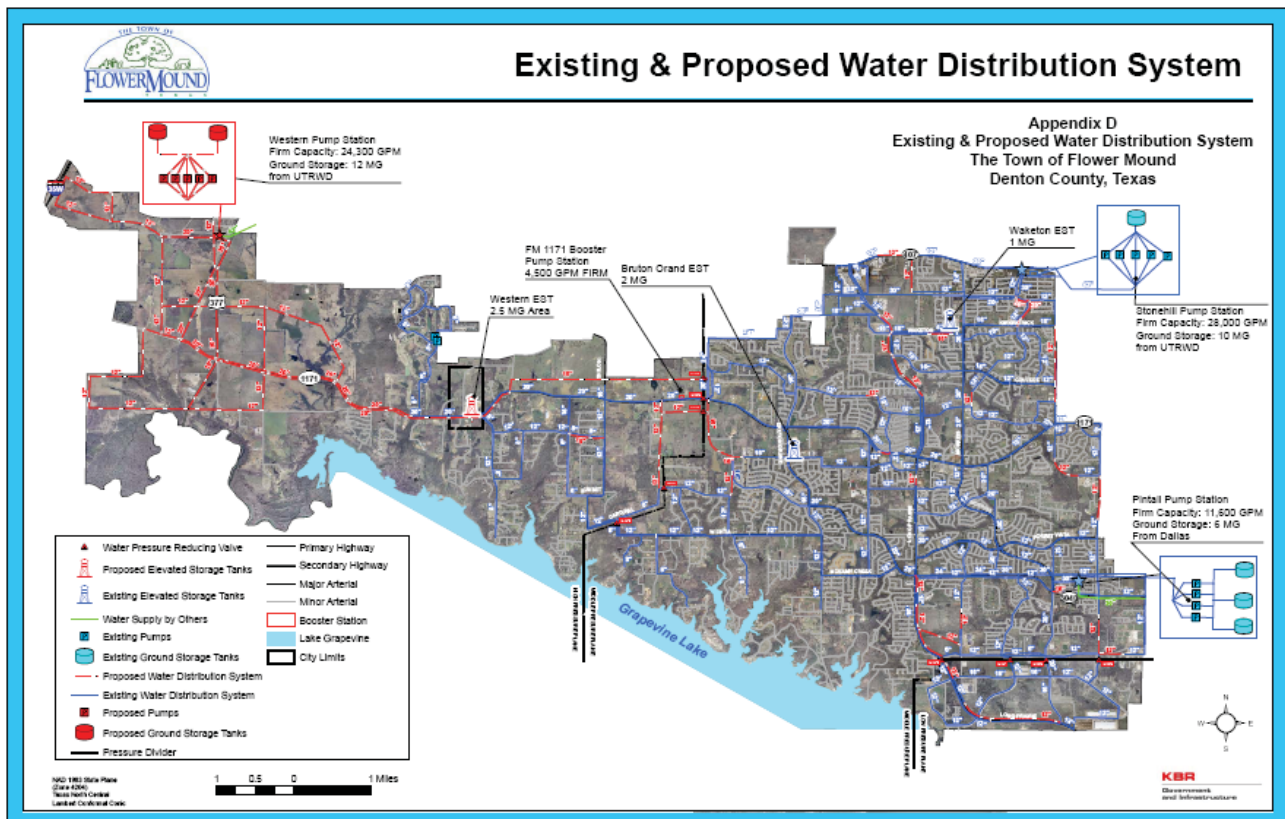
SMARTGrowth Commission
April 25, 2011

Introduction

- ❑ Topics of discussion:
 - ❑ Water Supply
 - ❑ Water Pumping Capacity
 - ❑ Wastewater Treatment Capacity
 - ❑ Wastewater Lift Station Pumping Capacity
 - ❑ Wastewater Interceptor Capacity
 - ❑ SMARTGrowth Fees
 - ❑ SMARTGrowth Process

Definitions and Acronyms

- ❑ Average Day Demand (ADD): Annual sewer flow divided by 365 days in a year. The number is reviewed and updated in January of each year.
- ❑ Maximum Day Demand (MDD): Water consumption used on the highest consumption day in a year. The number is reviewed and updated in January of each year.
- ❑ Peak Hour Demand (PHD): The maximum total one-hour water demand that the system experienced during the MDD. The number is reviewed and updated in January of each year.
- ❑ Firm Pumping Capacity: The total pumping capacity that a pump station can deliver with the largest pump out of service.
- ❑ Dallas Water Utilities (DWU)
- ❑ Upper Trinity Regional Water District (UTRWD)
- ❑ Trinity River Authority (TRA)
- ❑ Texas Commission on Environmental Quality (TCEQ)



Methodology

□ Water Supply:

- The total available supply = contracted and available treated water supply from DWU
 - + contracted and available treated water supply from UTRWD
 - + any treated water supply projected to be available from programmed capacity improvements
- The total projected demand = MDD for all existing lots
 - + MDD for approved but not constructed development
 - + MDD for the proposed development

For approval of the proposed development, the projected demand must not exceed the available supply less the reserve capacity.

Current Capacity

DWU	Contract (Pintail PS)	11 MGD
UTRWD	Original Contract (Stonehill PS)	<u>20 MGD</u>
<i>Subtotal Current Treated Water Supply Capacity</i>		31.0 MGD

Programmed Capacity ++

UTRWD Capacity Available January 2004 (Western PS)	<u>10 MGD</u>
<i>Subtotal Program Treated Water Supply Capacity</i>	41.0 MGD

Total Water Supply Capacity **41.0 MGD**

Reserved Capacity

5% Reserved for Economic Development, Civic, and Institutional	<u>2 MGD</u>
<i>Subtotal Reserved Treated Water Supply Capacity</i>	2.0 MGD

Total Available Water Treatment Capacity **39.0 MGD**

++ Programmed capacity includes capital infrastructure capacity improvements programmed for commencement of construction within the then current or the next fiscal year of the Town's adopted Five-Year Capital Improvement Program.

Town of Flower Mound - SMARTGrowth Criteria
Treated Water Supply Calculation Sheet

Case Number: DP 01-11 Name: Suncrest Phase 2 Date: April, 2011

Demand: Water supply demand is measured in Million Gallons per Day (MGD) for the Maximum Day Demand (MDD).

Calculation:

Historical MDD
August 2010 MDD = 29.42 MGD

Additional Existing Residential MDD
(Residential demand that increased since last historical demand mark)

27 x 500 gpd/unit x 1.91 Divided By 1,000,000 = 0.03 MGD
(Building Permits Issued Since Historical MDD) (Demand per Unit in Water Master Plan) (MDD/ADD 2009 Demand Factor)

Residential Inventory MDD

1,688 x 500 gpd/unit x 1.91 Divided By 1,000,000 = 1.61 MGD
(Approved by plat, however no Building Permit Issued; i.e., vacant approved lot) (Demand per Unit in Water Master Plan) (MDD/ADD 2009 Demand Factor)

Proposed Residential MDD

42 x 500 gpd/unit x 1.91 Divided By 1,000,000 = 0.04 MGD
(# of residential units proposed) (Demand per Unit in Water Master Plan) (MDD/ADD 2009 Demand Factor)

Additional Existing Non-Residential MDD (Multifamily is included)

Sum of approved Non-Residential demand where a building permit has been issued since Historical MDD plus demand for sites with approved site plan, but no building permit issued; i.e., vacant approved lot = 1.28 MGD

Proposed Non-Residential MDD (Multifamily is included)

MDD projected for Non-Residential use as calculated based on historical data provided by the applicant to the Town for a similar development. = 0.00 MGD

TOTAL DEMAND
(Sum of the Maximum Day Demand for Historical, Residential Inventory, Proposed Residential, Additional Existing Non-Residential, Non-Residential Inventory, and Proposed Non-Residential) 32.38

IF TOTAL TREATED WATER SUPPLY CAPACITY 39.00 MGD
IS GREATER THAN TOTAL DEMAND 32.38 MGD
DEVELOPMENT MAY PROCEED

2011 SMARTGROWTH DATA WORKSHEET

	Jan-11	Feb-11	Mar-11
1693			
3411			
Number of Residential Units in Inventory at Beginning of Month	1688	1683	1673
Subdivisions Approved During Month		0	0
Residential Lots Added During Month		0	0
Residential Building Permits Issued During Month	5	5	10
Building Permits Issued Since AUGUST 2000	3416	3421	3431

Methodology

□ Water Pumping Capacity:

- The total available pumping capacity = firm capacity of each pump station
 - + any pumping capacity projected to be available from programmed capacity improvements
 - + contributed capacity from elevated storage

- The total projected demand = PHD for all existing lots
 - + PHD for approved but not constructed development
 - + PHD for the proposed development

For approval of the proposed development, the projected demand must not exceed the available pumping capacity less the reserve capacity.

Existing Pumping Capacity

(equals Firm Name Plate Capacity)

Station	Pumps	Firm Capacity*
Pintail	2-5MGD, 2-7.2 MGD	17.2 MGD
Stonehill	5-10.08 MGD	40.3 MGD
<i>Subtotal Existing Firm Pumping Capacity</i>		57.5 MGD

*Firm Capacity: Determined with Largest Pump Out of Service

Existing Contribution from Elevated Storage

(shall be calculated as a 6 hour drain rate with 25% of storage reserved for fire protection)

Tank	Size	Capacity
Bruton Orand	2 MG	6.0 MGD
Waketon	1 MG	3.0 MGD
<i>Subtotal Existing Contributions from Elevated Storage</i>		9.0 MGD

Total Existing Pumping Capacity **66.5 MGD**

Programmed Pumping Capacity:

Western Pump Station **35.0 MGD**

Programmed Elevated Storage:

2.5MG Western Elevated Storage Tank **7.5 MGD**

Total Programmed Capacity Improvements **42.5 MGD**

Total Existing and Programmed Capacity **109.0 MGD**

Reserved Capacity

5% Reserved for Economic Development, Civic, and Institutional Purposes

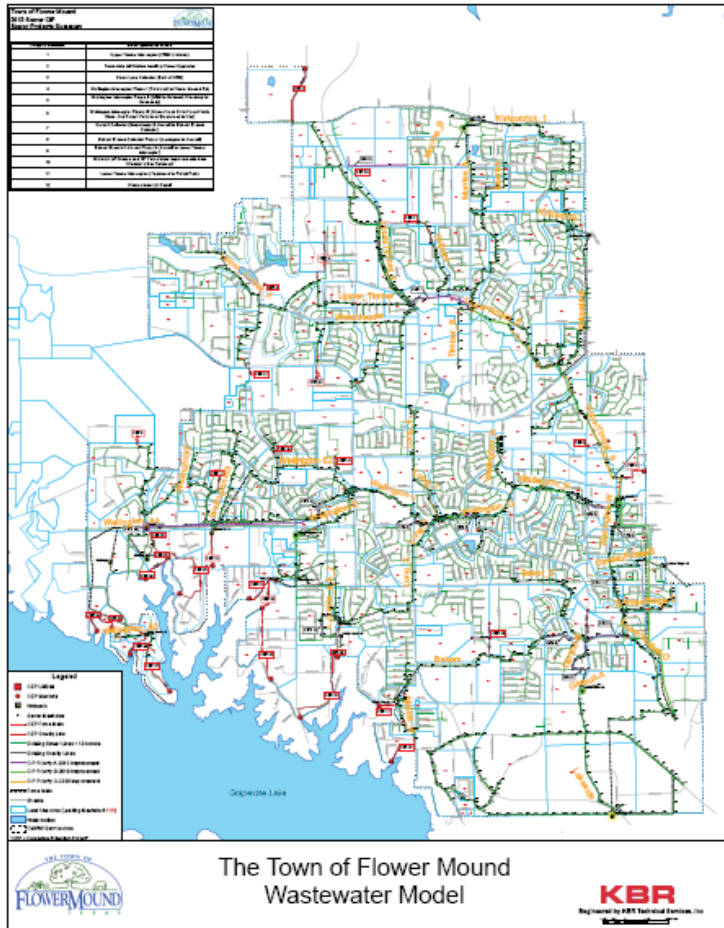
5.5 MGD

Subtotal Reserved Treated Water Supply Capacity **5.5 MGD**

TOTAL AVAILABLE PUMPING CAPACITY **103.5 MGD**

**Town of Flower Mound - SMARTGrowth Criteria
Water Pumping Capacity Calculation Sheet**

Case Number: DP 01-11	Name: Suncrest Phase 2	Date: April, 2011																											
Demand: Water supply demand is measured in Million Gallons per Day (MGD) for the Peak Hour Demand (PHD).																													
Calculation:																													
Historical PHD																													
August 2010 PHD	=	69.24 MGD																											
Additional Existing Residential PHD (Residential demand that increased since last historical demand mark)																													
<table border="0"> <tr> <td>27</td> <td>x</td> <td>500 gpd/unit</td> <td>x</td> <td>1.91</td> <td>x</td> <td>1.75</td> <td>Divided By 1,000,000</td> <td>=</td> <td>0.05 MGD</td> </tr> <tr> <td>(Building Permits issued since Historical PHD)</td> <td></td> <td>(Demand per Unit in Water Master Plan)</td> <td></td> <td>(MDD/ADD 2009 Demand Factor)</td> <td></td> <td>(PHD/MDD 2009 Demand Factor)</td> <td></td> <td></td> <td></td> </tr> </table>	27	x	500 gpd/unit	x	1.91	x	1.75	Divided By 1,000,000	=	0.05 MGD	(Building Permits issued since Historical PHD)		(Demand per Unit in Water Master Plan)		(MDD/ADD 2009 Demand Factor)		(PHD/MDD 2009 Demand Factor)												
27	x	500 gpd/unit	x	1.91	x	1.75	Divided By 1,000,000	=	0.05 MGD																				
(Building Permits issued since Historical PHD)		(Demand per Unit in Water Master Plan)		(MDD/ADD 2009 Demand Factor)		(PHD/MDD 2009 Demand Factor)																							
Residential Inventory PHD																													
<table border="0"> <tr> <td>1,688</td> <td>x</td> <td>500 gpd/unit</td> <td>x</td> <td>1.91</td> <td>x</td> <td>1.75</td> <td>Divided By 1,000,000</td> <td>=</td> <td>2.82 MGD</td> </tr> <tr> <td>(# of Residential Units in Inventory)</td> <td></td> <td>(Demand per Unit in Water Master Plan)</td> <td></td> <td>(MDD/ADD 2009 Demand Factor)</td> <td></td> <td>(PHD/MDD 2009 Demand Factor)</td> <td></td> <td></td> <td></td> </tr> </table>	1,688	x	500 gpd/unit	x	1.91	x	1.75	Divided By 1,000,000	=	2.82 MGD	(# of Residential Units in Inventory)		(Demand per Unit in Water Master Plan)		(MDD/ADD 2009 Demand Factor)		(PHD/MDD 2009 Demand Factor)												
1,688	x	500 gpd/unit	x	1.91	x	1.75	Divided By 1,000,000	=	2.82 MGD																				
(# of Residential Units in Inventory)		(Demand per Unit in Water Master Plan)		(MDD/ADD 2009 Demand Factor)		(PHD/MDD 2009 Demand Factor)																							
Proposed Residential PHD																													
<table border="0"> <tr> <td>42</td> <td>x</td> <td>500 gpd/unit</td> <td>x</td> <td>1.91</td> <td>x</td> <td>1.75</td> <td>Divided By 1,000,000</td> <td>=</td> <td>0.07 MGD</td> </tr> <tr> <td>(# of occupants within development)</td> <td></td> <td>(Demand per Unit in Water Master Plan)</td> <td></td> <td>(MDD/ADD 2009 Demand Factor)</td> <td></td> <td>(PHD/MDD 2009 Demand Factor)</td> <td></td> <td></td> <td></td> </tr> </table>	42	x	500 gpd/unit	x	1.91	x	1.75	Divided By 1,000,000	=	0.07 MGD	(# of occupants within development)		(Demand per Unit in Water Master Plan)		(MDD/ADD 2009 Demand Factor)		(PHD/MDD 2009 Demand Factor)												
42	x	500 gpd/unit	x	1.91	x	1.75	Divided By 1,000,000	=	0.07 MGD																				
(# of occupants within development)		(Demand per Unit in Water Master Plan)		(MDD/ADD 2009 Demand Factor)		(PHD/MDD 2009 Demand Factor)																							
Additional Existing Non-Residential PHD (Multifamily is included)																													
Sum of approved Non-Residential demand where a building permit has been issued since Historical MDD plus demand for sites with approved site plan, but no building permit issued; i.e., vacant approved lot	=	2.30 MGD																											
Proposed Non-Residential PHD (Multifamily is included)																													
PHD projected for Non-Residential use as calculated based on historical data provided by the applicant to the Town for a similar development.	=	0.00 MGD																											
TOTAL DEMAND (Sum of the Peak Hour Demand for Historical, Residential Inventory, Proposed Residential, Additional Existing Non-Residential, Non-Residential Inventory, and proposed Non-Residential)																													
		74.48																											
IF TOTAL AVAILABLE PUMPING CAPACITY		103.50																											
IS GREATER THAN TOTAL DEMAND		74.48																											
DEVELOPMENT MAY PROCEED																													



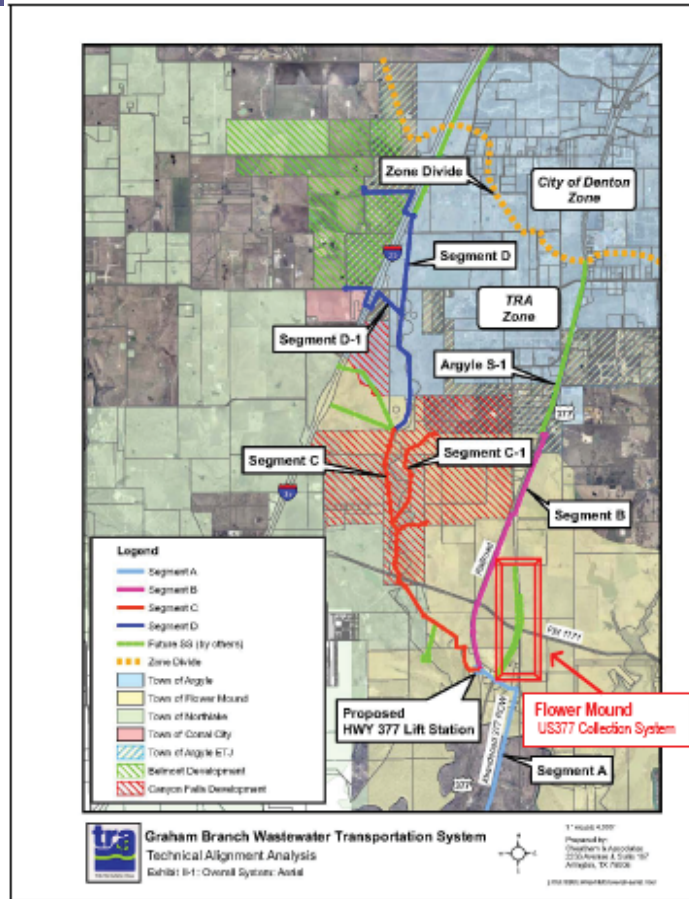


Figure 2 – TRA System (serving Denton Creek District)

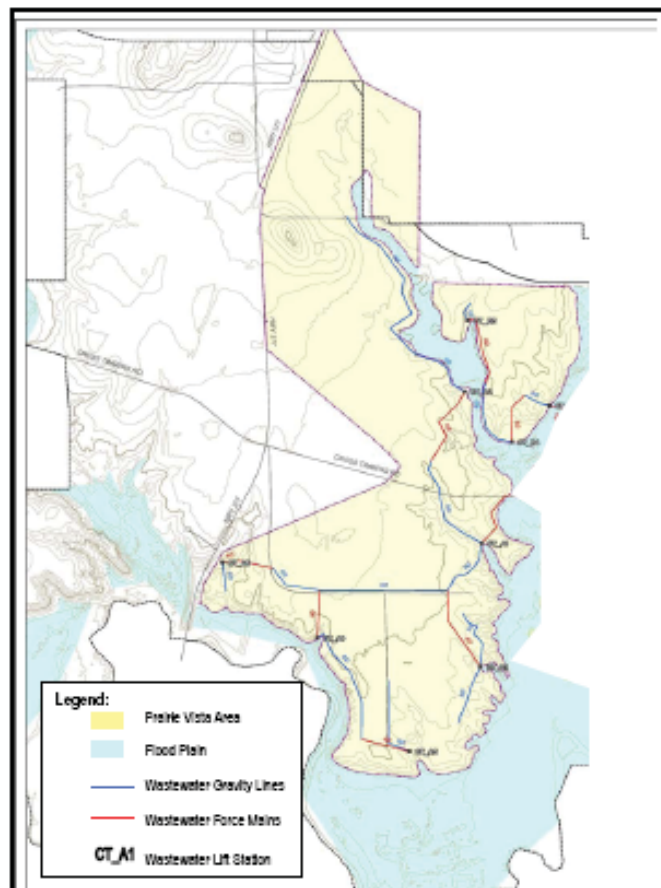


Figure 3 – Prairie Vista Conceptual Collection System

Methodology

□ Wastewater Treatment Capacity:

- The total available capacity for Long Prairie and Lakeside Districts
 - = TCEQ permitted discharge flow from the treatment plant
 - + any treatment capacity projected to be available from programmed capacity improvements
- The total available capacity for Denton Creek and Prairie Vista Districts
 - = TRA contractual and available capacity into the regional system
 - + any treatment capacity projected to be available from programmed capacity improvements
- The total projected demand = ADD for all existing lots
 - + ADD for approved but not constructed development
 - + ADD for the proposed development

For approval of the proposed development, the projected demand must not exceed the available treatment capacity less the reserve capacity.

Long Prairie and Lakeside Districts:

Current Capacity

TCEQ Permit 10 MGD

Total Wastewater Treatment Capacity 10 MGD

Reserved Capacity

5% Reserved for Economic Development
Civic and Institutional 0.5 MGD

Total Available Wastewater Treatment Capacity 9.5 MGD

TRA contractual 20-year projected flows from Denton Creek and Prairie Vista Districts = 12.72 MGD

**Town of Flower Mound - SMARTGrowth Criteria
Wastewater Treatment Capacity Calculation Sheet**

Case Number: DP 01-11 **Name:** Suncrest Phase 2 **Date:** April, 2011

Demand: Wastewater treatment demand is measured in Million Gallons per Day (MGD) for the Annual Average Day Demand (ADD).

Calculation:

Historical Flows (From TCEQ Reports)

Average Day Demand for Previous 12 Months 2007 = 4.83 MGD

Additional Existing Residential Flow

(Residential demand that increased since Historical ADD)

346 x 240 gpd/unit Divided By 1,000,000 = 0.08 MGD
(Building Permits issued since Historical ADD) (Flow per Unit in Wastewater Master Plan)

Residential Inventory ADD

1,688 x 240 gpd/unit Divided By 1,000,000 = 0.41 MGD
(# of Residential Units in Inventory) (Flow per Unit in Wastewater Master Plan)

Proposed Residential ADD

42 x 240 gpd/unit Divided By 1,000,000 = 0.01 MGD
(# of Residential Units Proposed) (Flow per Unit in Wastewater Master Plan)

Additional Existing Non-Residential ADD (Multi-family is

Sum of approved Non-Residential demand where a building permit has been issued since Historical ADD plus demand for sites with approved site plan, but no building permit issued; i.e., vacant approved lot **0.92** MGD

Proposed Non-Residential ADD (Multi-family is

ADD projected for Non-Residential use as calculated based on historical data provided by the applicant to the Town for a similar development. = **0** MGD

TOTAL DEMAND

(Sum of the Average Day Demand for Historical, Residential Inventory, Proposed Residential, Addition Existing Non-Residential, Non-Residential Inventory, and Proposed Non-Residential) **6.25**

IF TOTAL WASTEWATER TREATMENT CAPACITY 9.50

IS GREATER THAN TOTAL DEMAND 6.25

DEVELOPMENT MAY PROCEED

Methodology

Wastewater Lift Station Pumping Capacity:

- The lift station is evaluated in the model utilizing the lift station design for firm pumping capacities and construction data on record, in accordance with SMARTGrowth methodology.

Wastewater Interceptor Capacity:

- The wastewater interceptors are evaluated in the model, starting from the proposed development then downstream to the treatment plant, in accordance with SMARTGrowth methodology. Results are included in a memo with the Commission packets.

For approval of the proposed development, the projected demand must not exceed the capacity of the lift station and/or the sewer interceptors less the reserve capacity.

MEMORANDUM

TO: Doug Powell, Executive Director of Development Services
FROM: Cynthia Pierce P.E., Senior Project Engineer
DATE: April 6, 2010
RE: Terracina, MPA 06-09, ZPD 03-09

- SMARTGrowth Program criteria requires an analysis to determine that not less than 95% capacity of wastewater lift station(s) and wastewater interceptor capacity remains after the addition of flows generated from a proposed development.
- If adequate capacities exist, then the project meets established criteria and is approvable.
- If insufficient lift station(s) or interceptors exist but are scheduled to start construction in the current or next fiscal year, then the project will meet established criteria and be approvable.
- If capacities do not exist at the time of evaluation and are not scheduled for improvements within the current or next fiscal year, then the project fails the analysis and is not approvable.

In accordance with the SMARTGrowth Program, the above referenced project has been evaluated for criteria established for:

Section 3.01.1 (d), (5), (a), 4. of the Land Development Code, Wastewater Lift Station Pumping Capacity
Meets established criteria

Section 3.01.1 (d), (5), (a), 5. of the Land Development Code, Wastewater Interceptor Capacity
Meets established criteria

**Town of Flower Mound - SMARTGrowth Analysis
 Wastewater Lift Station Pumping Calculation Sheet**

Demand: Wastewater flow is measured in Million Gallons per Day (MGD) for the Peak Hour Wet Weather Flow Demands (PHD)

Calculation:

Historical Peak Flow

Most Updated Measurement for lift stations served by proposed development

= MGD

Additional Existing Residential PHD

(Residential demand that increased since last historical demand mark)

$$0 \times 240 \text{ gpd/unit} \times 1.9 + \frac{970}{\text{gpd/acre}} \times 0 \text{ Acres of Development} \text{ Divided By } 1,000,000 = 0 \text{ MGD}$$

(Building Permits Issued Since Historical Peak) (Flow per Unit in Wastewater Master Plan) (Peak Flow Factor) (Peak I/II Rate) (Acres of Development From Building Permits)

Residential Inventory PHD

$$0 \times 240 \text{ gpd/unit} \times 1.9 + \frac{970}{\text{gpd/acre}} \times 0 \text{ Acres of Development} \text{ Divided By } 1,000,000 = 0 \text{ MGD}$$

(# of Residential Units in Inventory) (Flow per Unit in Wastewater Master Plan) (Peak Flow Factor) (Peak I/II Rate) (Acres of Development From Building Permits)

Proposed Residential PHD

$$0 \times 240 \text{ gpd/unit} \times 1.9 + \frac{970}{\text{gpd/acre}} \times 0 \text{ Acres of Development} \text{ Divided By } 1,000,000 = 0 \text{ MGD}$$

(# of Residential Units in Proposed) (Flow per Unit in Wastewater Master Plan) (Peak Flow Factor) (Peak I/II Rate) (Acres of Development From Building Permits)

Additional Existing Non-Residential PHD (Multifamily is included)

Sum of approved Non-Residential demand where a building permit has been issued since Historical Peak plus demand for sites with approved site plan, but no building permit issued; i.e., vacant approved lot = 0 MGD

Proposed Non-Residential PHD (Multifamily is included)

PHD projected for Non-Residential use as calculated based on peak historical data provided by the applicant to the Town for a similar development plus 970 gallons per day per acre for peak Infiltration/Inflow rate. = 0 MGD

TOTAL DEMAND MGD

(Sum of the Peak Hour Demand for historical, Residential Inventory, Proposed residential, Additional Existing Non-Residential Inventory, and Proposed Non-Residential)

IF TOTAL AVAILABLE PUMPING CAPACITY MGD

IS GREATER THAN TOTAL DEMAND MGD

DEVELOPMENT MAY PROCEED

NOTE: A computer program has been developed which will perform the calculations to determine compliance with the wastewater lift station pumping criterion.

**Town of Flower Mound- SMARTGrowth Analysis
Wastewater Interceptor Calculation Sheet**

Demand: Wastewater flow is measured in Million Gallons per Day (MGD) for the Peak Hour Wet Weather Flow Demands (PHD).

Calculation:

Historical Park Flow

Most Updated measurement for interceptors served by proposed development = MGD

Additional Existing Residential PHD

(Residential demand that increased since last historical demand mark)

$$0 \times 240 \text{ gpd/unit} \times 1.9 + \frac{970}{\text{gpd/acre}} \times 0 \text{ Acres of Development} \text{ Divided By } 1,000,000 = \text{MGD}$$

(Building Permits Issued Since Historical Peak (Flow per Unit in Wastewater Master Plan) (Peak Flow Factor) (Peak I/II Rate) From Building Permits)

Residential Inventory PHD

$$0 \times 240 \text{ gpd/unit} \times 1.9 + \frac{970}{\text{gpd/acre}} \times 0 \text{ Acres of Development} \text{ Divided By } 1,000,000 = 0.0 \text{ MGD}$$

(# of Residential Units in Inventory) (Flow per Unit in Wastewater Master Plan) (Peak Flow Factor) (Peak I/II Rate) From Building Permits

Proposed Residential PHD

$$0 \times 240 \text{ gpd/unit} \times 1.9 + \frac{970}{\text{gpd/acre}} \times 0 \text{ Acres of Development} \text{ Divided By } 1,000,000 = \text{MGD}$$

(# of Residential Units in Proposed) (Flow per Unit in Wastewater Master Plan) (Peak Flow Factor) (Peak I/II Rate) From Building Permits

Additional Existing Non-Residential PHD

(Multifamily is included)

Sum of approved Non-Residential demand where a building permit has been issued since Historical Peak plus demand for sites with approved site plan, but no building permit issued, i.e., vacant approved lot = 0.0 MGD

Proposed Non-Residential PHD

(Multifamily is included)

PHD projected for Non-Residential use as calculated based on historical data provided by the applicant to the Town for a similar development plus 970 gallons per day per acre for peak infiltration/inflow rate. = 0.0 MGD

TOTAL DEMAND

(Sum of the Peak Hour Demand for historical, Residential Inventory, Proposed residential, Additional Existing Non-Residential Inventory, and Proposed Non-Residential)

MGD

IF TOTAL AVAILABLE INTERCEPTOR CAPACITY

MGD

IS GREATER THAN TOTAL DEMAND

MGD

DEVELOPMENT MAY PROCEED

NOTE: A computer program has been developed which will perform the calculations to determine compliance with the Wastewater interceptor capacity criterion.

SMARTGrowth Fees

- ❑ \$550 each for water and wastewater model update
- ❑ Varies for individual study, the need for which is usually driven by a density increase or redirection of flows – some recent examples:
 - ❑ The Preserve – water \$3,000; wastewater \$3,500
 - ❑ Canyon Falls (200 units) – water \$4,300
 - ❑ FM 2499 Assisted Living – wastewater \$2,100
 - ❑ Rockbrook Montessori – wastewater \$3,000
 - ❑ First Korean Church – wastewater \$2,100
 - ❑ Ridge Bluff Estates – wastewater \$3,200

SMARTGrowth Process

- ❑ Assessed at Master Plan, Zoning Amendment, Development Plan, Record Plat, and Site Plan.
- ❑ Information provided by Applicant
 - ❑ Residential development units or lots for water and wastewater flows.
 - ❑ Non-residential projected flows based on type of use or historical data.
 - ❑ Proposed Phasing
- ❑ Determination of Exemption
 - ❑ Economic Development
 - ❑ Civic or Institutional Use
 - ❑ Residential replats of 4 lots or less

SMARTGROWTH CRITERION MATRIX
RESIDENTIAL

	Master Plan	Zoning Amendment	Development Plan	Record Plat
ADEQUATE PUBLIC INFRASTRUCTURE				
Water Supply	X	X	X	X
Water Pumping Capacity	X	X	X	X
Wastewater Treatment Capacity	X	X	X	X
Wastewater Lift Station Pumping Capacity	X	X	X	X
Wastewater Interceptor Capacity	X	X	X	X
Trans. - Town Arterial & Collector Links	X	X	X	X
Trans. - Town Arterial & Collector Intersections	X	X	X	X

SMARTGROWTH CRITERION MATRIX
NONRESIDENTIAL

	Master Plan	Zoning Amendment	Development Plan	Record Plat	Site Plan
ADEQUATE PUBLIC INFRASTRUCTURE					
Water Supply	X	X	X	X	X
Water Pumping Capacity	X	X	X	X	X
Wastewater Treatment Capacity	X	X	X	X	X
Wastewater Lift Station Pumping Capacity	X	X	X	X	X
Wastewater Interceptor Capacity	X	X	X	X	X
Trans. - Town Arterials & Collector Links	X	X	X	X	X
Trans. - Town Arterials & Collector Inter.	X	X	X	X	X

SMARTGrowth Process Continued

- ❑ Information provided to consultant for the bi-annual model update
 - ❑ Approved Site Plans or Plats
 - ❑ Study year - Project Phasing (large development only)
 - ❑ Flow data as calculated or provided (for comparison)
 - ❑ CIP infrastructure projects completed since last update
 - ❑ Programmed capacity - provided by the Town
 - ❑ capital infrastructure improvements programmed to start within the current or next fiscal year on the adopted Five-Year Capital Improvement Program

SMARTGrowth Process Continued

- ❑ Information provided to consultant for an individual study (usually driven by a density increase or redirection of flows):
 - ❑ Proposed plan (residential or non-residential)
 - ❑ Proposed number of residential units and/or type of non-residential use and/or historical flow data from a similar use
 - ❑ Study year - Project Phasing (large development only)
 - ❑ Direction of sewer flows from the proposed development
 - ❑ Programmed capacity - provided by the Town
 - ❑ capital infrastructure improvements programmed to start within the current or next fiscal year on the adopted Five-Year Capital Improvement Program

Conclusion

- ❑ SMARTGrowth Water and Wastewater
 - ❑ Water Supply
 - ❑ Water Pumping Capacity
 - ❑ Wastewater Treatment Capacity
 - ❑ Wastewater Lift Station Pumping Capacity
 - ❑ Wastewater Interceptor Capacity
 - ❑ SMARTGrowth Fees
 - ❑ SMARTGrowth Process



Questions?

Questions and Answers

Commissioner McKaige asked how the Hines Hotel, for example, would be handled in the calculations. They had no history.

Ms. Marvin said for water calculations they had pretty good charts, and also the SMARTGrowth manual explained how to calculate the water use for any given development. Now if it was not on the chart, they deferred to the developer and asked what historical number they had for that use. Sewer was always that way.

Commissioner McKaige said, so approved site plans not yet built found their way into the system.

Ms. Marvin said yes.

Commissioner Vandug asked if before the western pump station came on line, they had a lot more capacity than they could pump.

Ms. Marvin said yes. The way SMARTGrowth worked, they counted any programmed capacity that was on their CIP for the then current or next fiscal year. Western was scheduled for next fiscal year. They were waiting on development out there to get it constructed, but got to count it as programmed capacity in the spreadsheets.

Commissioner Glover asked if they considered things on a regional basis.

Ms. Marvin said they did in wastewater, but not in water. There were different zones or pressure planes they were preparing to set up for the water supply. Once they divided it up, they could look at it on a pressure plane basis, but right now they were not set up that way. After they put in the tank, their next goal would be to start looking at where they could put pressure reducing valves, so they could start separating that off as a plane, but until they built Western Pump Station, they did not want to divide that tank off from everything else. It was just a matter of time.

Commissioner Glover asked when the TRA system was going to be online.

Ms. Marvin said they were building it right now, so she guessed one or two years.

Commissioner Glover asked if it would be built in phases.

Ms. Marvin said it was being built from downstream up, so the force main down to the treatment plant in Roanoke had to go in first. Then the lift station that collected everything and lifted it into that force main went in next, so that was being constructed now. Construction had also started on the gravity segments that spider-webbed out into the area. So, if a development came in for the Prairie Vista District, they would be able to get that developer to branch over and go into those trunk lines, because that was calculated in the capacity they had reserved with them through their contract. So, they were going to build the trunk lines that were shown over time, starting with the lower

ones, and then any development in Flower Mound could always build additional lines and tie into that system.

Commissioner McKaige asked if they approved a substantial project that generated some volume, and there was a weak link in the system they were not aware of, how that got identified. He said he assumed Engineering saw that somehow, reacted to it, and it wound up as a funded CIP.

Ms. Marvin said if it was a big development, it would be run through the system, whether because of increased density or because of a change in direction of flows. They would pay their consultant to run the flows through the model and evaluate it. They were pretty familiar with which lines were near capacity and which were not. Those were identified in the master plan update that occurred in 2009, which looked at the whole system town-wide. But, if a development came through and a line segment was not adequate to handle those flows, one of two things would happen: 1) if it was a development that increased density, it would fall on the developer to be responsible for increasing the size of the lines or redirecting the flows; or 2) if it was a development that fell under the normal land use plan, and it was identified in the master plan as a line approaching the 90% mark and already programmed on the CIP, they would look to see whether they could move that ahead of other projects to accommodate the development.

Chairman Hollingshad said this was important. This kind of detail was what had contributed to the success the Town had had under SMARTGrowth. He thanked her for her explanation.

F. ADJOURNMENT - REGULAR SESSION

Commissioner Whittaker made a motion to adjourn the regular meeting, and Commissioner McCall seconded the motion. All were in favor.

Chairman Hollingshad adjourned the meeting at 10:56 p.m.

TOWN OF FLOWER MOUND, TEXAS

DOUGLAS S. POWELL, AICP
Executive Director
Development Services

ATTEST:

Cindi Price, Administrative Assistant



**DEVELOPMENT SERVICES
PLANNING SERVICES DIVISION
Memorandum**

DATE: June 23, 2011

TO: SMARTGrowth Commission

FROM: Tommy Dalton, Planning Manager 

SUBJECT: Agenda Item 2

As a continuing follow-up to the SMARTGrowth (SG) 10th Anniversary presentation, the Chair and Vice Chair have asked staff to conduct work sessions on the various components of SG that are evaluated on a pass / fail metric. This presentation is the final in that series of work sessions.

The purpose of this item is to provide a presentation on implementation of the Police, Fire and EMS criteria. Aside from a brief walkthrough of the calculation sheets, staff will provide a "behind the scenes" look at what goes into the various analyses. The presentation should cover not only the requirements, but some of the case histories of where it's been done, the specific rationale, and the outcomes.

There is not an official report or need for official action on this item.