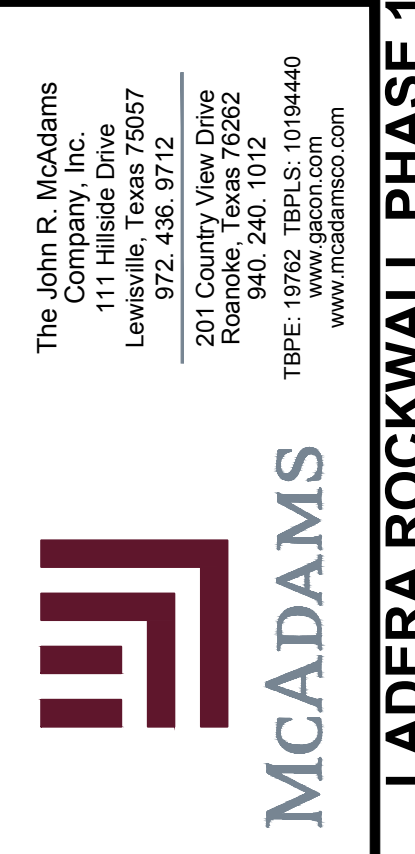


**CALCULATIONS SHEET**  
**HYDRAULIC CALCULATIONS FOR STORM DRAINS**  
**STORM DRAIN HYDRAULIC CALCULATIONS TABLE - PROPOSED CONDITIONS**

STORM LINE NETWORK	FROM	TO	PIPE LENGTH feet	DRAINAGE AREA			Runoff "C"	Runoff "CF"	Runoff "C'CF"	Incr. C'CF/A	Total C'CF/A	Tc			I <sub>100</sub>	Q <sub>100</sub>	Q <sub>100</sub>	Q <sub>100</sub> to Inlet	Inlet Capture	Inlet Bypass	Q <sub>100</sub> in System	Pipe Size	K Conveyance Coefficient	Pipe Slope	Sf	"Q" Cap	HEAD LOSS CALCULATIONS										Design HGL	Top of Struct	Invert Elev.		Depth	COMMENTS		
				Incremental No.	Area	Total Area						Inlet min.	Travel min.	Total min.													HGL U/S Elev.	HGL D/S Elev.	V1 (in)	V2 (out)	V1 <sup>2</sup> /2G	V2 <sup>2</sup> /2G	Struct. Type	Kj	Kj/V1 <sup>2</sup> /2G	Hk			Elev.	ft.			Elev.	ft.
ST-1	13+22.15	12+63.48	58.7	A1	1.31	1.30	0.80	1.00	0.80	1.0	1.0	10.0	0.10	10.10	9.80	10.3	10.3	10.3	10.0	0.3	10.0	18	113.8	2.50	0.0082	18.0	515.32	515.85	10.5	10.5	1.7	1.7	INLET BEG	1.25	2.1	2.10	517.42	521.43	514.52	513.05	0.8			

Inlet ID	Location	Station	Offset	Design Freq. (yr)	Area Runoff										Upstream Bypass C'A	Total Gutter Flow Qa	Gutter Flow										Inlets Capacity															
					C	Area ID	Tc (min)	I (in/hr)	Area A (acres)	Runoff Q (cfs)	Tc (min)	I (in/hr)	Area A (acres)	Runoff Q (cfs)			Thoroughfare Type	On-Grade/Sag	Manning's n	Long Slope S (ft/ft)	Crown Type	Cross Slope Sx (ft/ft)	Depression		Ponding Spread		Depth of Gutter Flow		Depressed Gutter Section		Section Beyond Depression		Conveyance		Eo	Se	Inlet Length		Qc	Qbypass	C'A	To Inlet ID
																							Depth (a)	Width (w)	Tallow	Tactual	Yellow	Yactual	Area	Wetted Perimeter	Area	Wetted Perimeter	Kw	Ko			Leg'd	Lactual				
ST-1-1	Rio Vista Ln	3+73.84	13.00' RT	100yr	0.8	A1	10	9.8	1.31	10.3	0.00	10.3	Local	On-Grade	0.0175	0.0275	NONE	0.02	0.5	2.0	25.0	14.7	0.50	0.29	41.79	1.0	2.1	1.6	12.7	56.6	34.9	0.62	0.17	17.5	15.0	7.09	0.3	0.03	ST-1-2			



**McADAMS**  
**LADERA ROCKWALL PHASE 1**  
 Lot 1, Block A & Lot 1, Block B  
**LADERA ROCKWALL**  
 47,694 Acres  
 M. JONES SURVEY, ABSTRACT NO. 122  
 CITY OF ROCKWALL  
 ROCKWALL COUNTY, TEXAS

**HYDRAULIC CALCULATIONS**

Drawn By: MD  
 Date: 02/23/2018  
 Scale: N.T.S.  
 Revisions:  
 04/23/2018  
 07/16/2018  
 09/06/2018  
 01/28/2019  
 02/11/2019  
 03/11/2019 Signed  
 05/15/2019

**MCADAMS**  
 TBPE: 19762

**MICHAEL D. DUVAL**  
 133095  
 LICENSED PROFESSIONAL ENGINEER

**OWNER/DEVELOPER**  
**RW LADERA, LLC**  
 381 W. BYRON NELSON BLVD, STE 104  
 ROANOKE, TX 76262  
 Ph. 817.450.3318  
 Contact: John Dahn

**17191**

**C58**