

CITY OF WESLACO

**A SPECIAL MEETING OF THE
PLANNING & ZONING
COMMISSION**

FEBRUARY 17, 2021, 5:30 P.M.

**LEGISLATIVE CHAMBERS AND
VIA ZOOM**

255 S. KANSAS AVENUE

David Hernandez, Chairman
Lonnie Berry, Vice-Chairman
Miles Bullion, PZ Commissioner
Randy Summers, PZ Commissioner
Adrian Torres, PZ Commissioner
Jose Treviño, PZ Commissioner
Jim Forward, PZ Commissioner



**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: February 17, 2021	Agenda Item No. (to be assigned by PCE): III.A.
From: Rebekah de la Fuente, Planning Director, on behalf of Orlando Cruz, P.E.	
Subject/Agenda Item: Discussion and consideration for the Preliminary Plat for Weslaco Public Services Subdivision—being 9.03 acres out of Farm Tract 54, Block 142, West Tract Subdivision, Weslaco, Hidalgo County, Texas located on Bridge Ave and Witmer St. Possible Action.	
Discussion/Overview: The proposed three (3) lot subdivision is inside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by City of Weslaco services through an 8" sewer line. The property is within a Flood Zone "C".	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission's Action: Staff recommends approval of Preliminary Plat.	
Additional Action Prompted: [X] Mayor's Signature [] Public Hearing [] Budget Amendment [] Resolution [] Ordinance – First Reading [] Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff's comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission's Action: Planning staff will advise applicant.	



SUBDIVISION PLATTING APPLICATION

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. Plat 000002-2021

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

STAFF USE ONLY

☐ Single Lot Variance ☐ Minor Plat ☐ Planned Unit Development ☐ Standard Subdivision

GENERAL INFORMATION

Name of Subdivision: WESLACO PUBLIC SERVICES SUBDIVISION

Location: WESLACO, TX

Legal Description: 9.03 ACRES TRACT OF LAND OUT OF FARM TRACT 54
BLOCK 142 OF WEST TRACT SUBDIVISION

Is subdivision inside city limits? ☒ YES ☐ NO

If subdivision is in the ETJ, indicate? ☐ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: INDUSTRIAL

Existing Land Use: Commercial Proposed Land Use: Commercial

Number of Lots Proposed: 3 Gross Acreage: 9.03 Acres

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: CITY OF WESLACO Telephone: 956-968-3181

Address: 255 S. KANSAS Fax: _____

City: WESLACO State: TX Zip: 78596 E-mail: _____

ENGINEER INFORMATION

Name: ORLANDO CRUZ, CRUZ HOGAN CONSULTANTS, INC Telephone: 956-854-4227

Address: 2290 W. PIKE BLVD., SUITE 102 Fax: -

City: WESLACO State: TX Zip: 78596 E-mail: ORLANDO.CRUZ@HOGAN.NET

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

UTILITY PROVISIONS

Will proposed subdivision connect to:

- ☒ YES ☐ NO Water Provision: _____
- ☒ YES ☐ NO Wastewater Provision: _____
- ☒ YES ☐ NO Electric Company: AEP

☒ YES ☐ NO Phone Utility _____	☐ YES ☐ NO Gas Utility	☒ YES ☐ NO Cable Utility
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Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>HCDD #1</u>	☒ YES ☐ NO Irrigation District <u>Irr. District No. 9</u>
--	--

Has the property been assessed as flat rate irrigable property: ☐ YES ☐ NO

Have Water Rights been conveyed to City/Water Supplier? ☐ YES ☐ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If **YES**, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR MINOR PLAT REVIEW

- _____ Two (2) sets of plats **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- _____ \$355.00 Planning Review fee
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements
 - _____ Contours
 - _____ Flood Zones
 - _____ Adjoiners
 - _____ Existing street names
- _____ Drainage plans and calculations with engineer's seal
 - _____ Elevations
 - _____ Flood directional arrows
 - _____ Detention areas
 - _____ Street names
- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full

SUBMITTALS REQUIRED FOR PRELIMINARY (P & Z)

- _____ Twelve (12) sets of preliminary plat **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- _____ \$350.00 (one time fee for preliminary and final plat)
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

- ☐ Contours
- ☐ Flood Zones
- ☐ Adjoiners
- ☐ Existing & Proposed street names
- ☐ Utility Layout
- ☐ Existing & Proposed Utilities
- ☐ Proposed Fire Hydrants
- ☐ Adjoiners
- ☐ Street names
- ☐ Drainage plans and calculations with engineer's seal
- ☐ Elevations
- ☐ Flood directional arrows
- ☐ Detention areas
- ☐ Street names
- ☐ Proof of ownership of the property
- ☐ If septic tank system required, submit soil evaluation report
- ☐ Water Rights associated with the property
- ☐ Tax Receipt for all taxing entities showing that taxes are paid in full
- ☐ Number of fire hydrants proposed for subdivision
- ☐ Trip Generation Worksheet

SUBMITTALS REQUIRED FOR FINAL (P & Z) **Will not apply to Single Lot Variance**

- ☒ **Twelve (12) sets of plans FOLDED & STAPLED (24 x 36) & PDF copy with all corrections**
- ☐ Plats to be sealed by Professional Engineer
- ☒ Approved Drainage Report
- ☒ Traffic Impact Analysis (If required)

SUBMITTALS REQUIRED FOR FINAL (City Commission)

- ☐ One set of 8 1/2 x 11 of plat and utilities with all corrections done

SUBMITTALS REQUIRED FOR PRE-CONSTRUCTION MEETING

- ☐ Seven (7) full sets of construction plans 24 x 36 and one (1) 11 x 17 with plan & profile.
- ☐ Engineering cost estimates for 3% geotechnical testing fees and 2% inspection fees
- ☐ Notice of Intent
- ☐ SW3P

SUBMITTALS REQUIRED FOR RECORDING OR HIDALGO COUNTY PLANNING

- ☐ Electronic file of final plat and as-builds
- ☐ Reproducible plat to be recorded with all required signatures
- ☐ 3% geotechnical testing fees or negotiated Material Testing fee by City, whichever is higher
- ☐ 2% inspection fee
- ☐ Park Fees
- ☐ Checks or Receipts: HCCID #9; HCDD #1; County Clerk
- ☐ Tax certificates
- ☐ Memo from engineering inspector releasing subdivision
- ☐ Water Rights associated with the property dedicated and assigned to City of Weslaco or payment of fees sufficient to meet the needs necessitated and attributable to development
- ☐ 30 Year Water and 30 Year Sewer Service Agreements
- ☐ Park dedication/Fees in lieu of

SUBMITTALS REQUIRED FOR RECORDING BY SECURITY

- ☐ Sealed engineering cost estimates
- ☐ Letter of Credit/Performance Bond/Escrow

** Any revisions requested would require resubmission of plats and reduced copy reflecting changes.

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: CITY OF WESLACO

Owner Signature: _____ Date: _____

_____ is the authorized agent

Authorized Agent Signature: [Signature] Date: 2-10-21

Authorized Agent Printed Name: ORLANDO CRUZ, P.E.

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid: _____

P & Z Commission Approval on Preliminary Plat: _____

P & Z Commission Approval on Final Plat: _____

City Commission Approval on Final Plat: _____

Preconstruction Meeting Date: _____

Date Recorded: _____ Instrument No. _____

General Comments: _____



CRUZ - HOGAN
ENGINEERS | PLANNERS

DRAINAGE REPORT
FOR
WESLACO PUBLIC SERVICES SUBDIVISION
WESLACO, TEXAS
REVISED - FEB. 8th 2021

PREPARED BY:

CRUZ-HOGAN CONSULTANTS, INC.
2290 W. PIKE BLVD STE. 102
WESLACO, TEXAS 78596
TBPE FIRM REGISTRATION No. F-4880



MDC 2/8/2021

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**DRAINAGE STATEMENT
WESLACO PUBLIC SERVICES SUBDIVISION
WESLACO, TEXAS**

PROJECT LOCATION

The proposed Weslaco Public Services Subdivision is a 9.07 acre tract of land situated in Hidalgo County, Texas, out of Farm Tract 54, Block 142 of West Tract Subdivision as per map recorded in Volume 2, Pages 34-37, of The Hidalgo County Map Records. The subdivision is physically located on Bridge Avenue and Witmer Street in Weslaco, Texas.

FLOOD PLAIN

Flood Zone Designation: Zone "C" (Un-shaded) Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Firm Community Panel Number 480349 0005B.

SOIL CONDITIONS

According to the soil survey report for Hidalgo County by the U.S.D.A. Soil Conservation Service, there is one type of soil. There is (68) Urban Land. The soil is well drained, surface runoff slow, and permeability is low and is within Hydrological Group D with natural slopes of 0 to 1 percent. This soil has a high runoff potential when thoroughly wet.

EXISTING CONDITIONS

Existing is Urban Land that was previously used for industrial commerce. The proposed subdivision is in the Southwest corner of Bridge Avenue and Witmer Street which is North of Businesses Highway 83 and lies in the city limits of Weslaco, Texas. To the west of this subdivision is Weslaco City Hall. The existing runoff for a 10-year storm $Q=4.89$ cfs. The site has a very small slope towards the east.

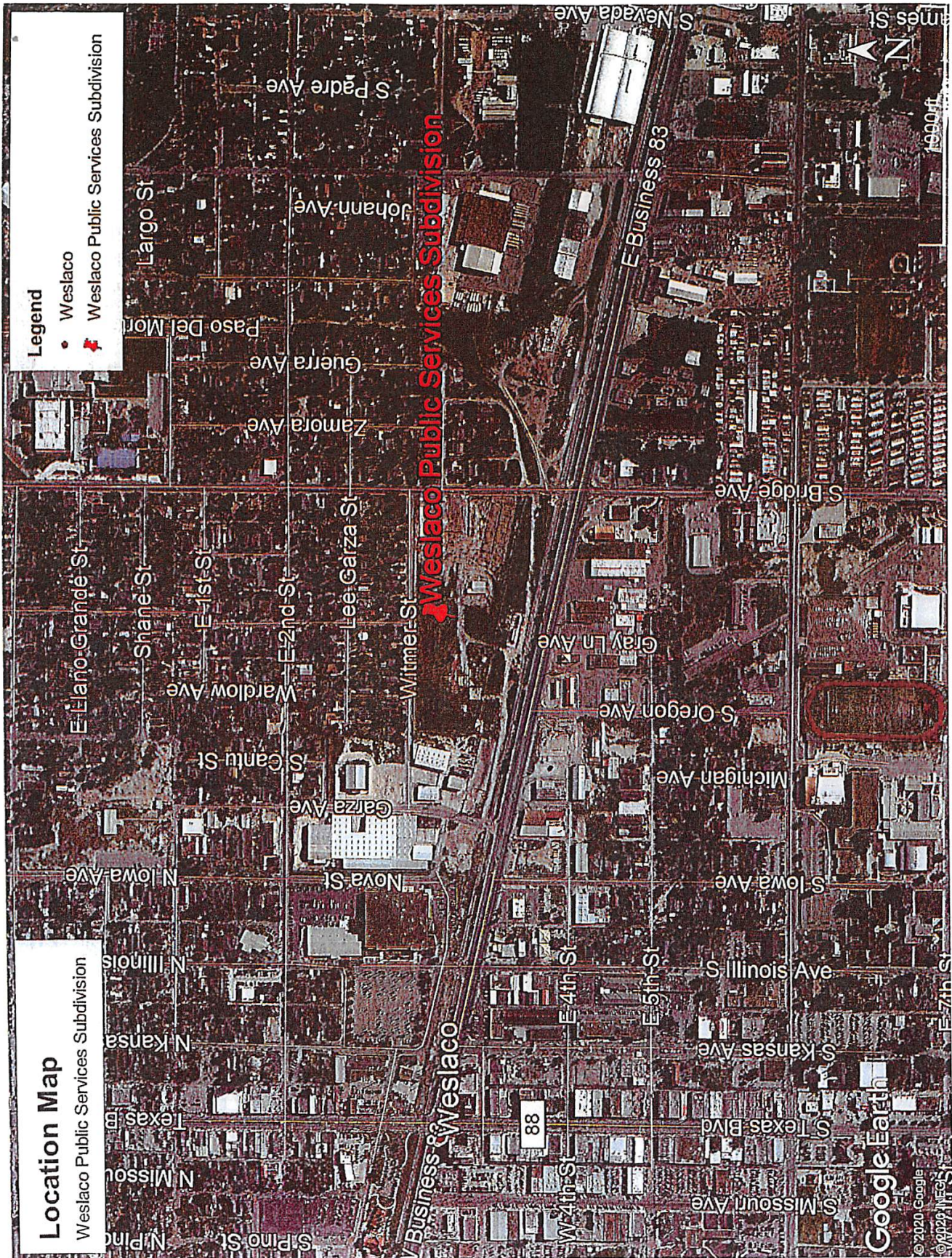
PROPOSED CONDITIONS (6.42 Acres into 3 Lots "Commercial")

After development, the runoff will increase to $Q=26.79$ cfs based on a 50-year storm. The detention required is $101,794 \text{ ft}^3$ or 2.34 AC-Ft. The Detention will be achieved by each of the 3 Lots based on the runoff of their area percentage.

Lot 1 will detain $39,700 \text{ ft}^3$ or 0.91 AC-Ft of runoff with a 39% area portion of the entire subdivision; Lot 2 will detain $21,377 \text{ ft}^3$ or 0.49 AC-Ft of runoff with a 21% area portion of the entire subdivision; Lot 3 will detain $40,718 \text{ ft}^3$ or 0.93 AC-Ft. of runoff with a 40% area portion. The proposed drainage area is for each lot to detain their portion of run-off by the installation of shallow detention ponds connected by 8" RCP, then conveyed with 18" – 24" RCP to the existing storm inlet on the northern side of the subdivision on Witmer Street.



2/8/2021



WESLACO PUBLIC SERVICE SUBDIVISION

Weslaco Texas

Date: Dec 3, 2020

EXISTING DATA

Total Area	9.070 ac
Intercept Coefficient - "k"	0.213 Table 3-2 *
"K _u "	3.28
Overland Flow Length - "L"	700.00 ft
Overland Slope - "S _p "	0.0500 ft/ft
Velocity - "V"	0.15 ft/s
Existing Time of Concentration - "T"	78 min.
Existing Runoff Coefficient - "C"	0.20
Intensity of Rainfall - "I"	2.70 in/hr (10 year event)
Existing - "Q _{10yr} "	4.89 ft ³ /s

PROPOSED IMPROVEMENTS

Proposed Runoff Coefficient - "C"	0.70 HCDD No.1 "C" Values
Velocity - "V"	0.20 ft/s
Proposed Time of Concentration - "T"	58 min.
Proposed Intensity - "I"	4.22 in/hr (50 year event)
Proposed - "Q _{50yr} "	26.79 ft ³ /s

IDF Coefficients For 50yr Storm

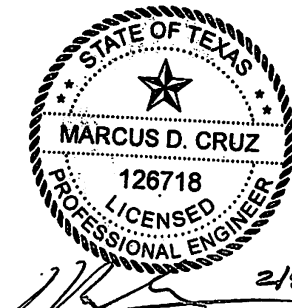
e=0.749
b=99.0
d=9.2

t= D/(60)
t= 58

Time		I _{50yr}	Q _{50yr} in	V in	Q _{10yr} out	V out	Req'd V	Req'd V
min	hr	in/hr	ft ³ /s	ft ³	ft ³ /s	ft ³	ft ³	ac-ft
58	0.97	4.22	26.79	93,778	4.89	17,115	76,663	1.76
78	1.31	3.47	22.06	103,693	4.89	20,048	83,645	1.92
98	1.64	2.98	18.91	111,575	4.89	22,982	88,593	2.03
118	1.97	2.62	16.64	118,164	4.89	25,916	92,248	2.12
138	2.31	2.35	14.92	123,857	4.89	28,850	95,007	2.18
158	2.64	2.14	13.57	128,888	4.89	31,784	97,104	2.23
178	2.97	1.96	12.47	133,410	4.89	34,718	98,692	2.27
198	3.31	1.82	11.56	137,527	4.89	37,652	99,875	2.29
218	3.64	1.70	10.79	141,314	4.89	40,586	100,728	2.31
238	3.97	1.60	10.13	144,825	4.89	43,520	101,306	2.33
258	4.31	1.50	9.56	148,104	4.89	46,454	101,650	2.33
278	4.64	1.43	9.05	151,182	4.89	49,388	101,794	2.34
298	4.97	1.36	8.61	154,086	4.89	52,322	101,764	2.34
318	5.31	1.29	8.21	156,837	4.89	55,255	101,581	2.33
338	5.64	1.24	7.85	159,452	4.89	58,189	101,263	2.32
358	5.97	1.19	7.53	161,947	4.89	61,123	100,823	2.31
378	6.31	1.14	7.24	164,332	4.89	64,057	100,275	2.30

PEAK

Retainage of Run-Off Per Lot			
	Area/Lot	Req'd V	Req'd V
	Percentage	ft ³	ac-ft
Lot 1	39%	39,700	0.91
Lot 2	21%	21,377	0.49
Lot 3	40%	40,718	0.93
Total	100%	101,794	2.34



<u>Type of Drainage Area</u>	<u>Runoff Coefficient, C</u>
Business:	
Downtown Areas	0.70 - 0.95
Neighborhood Areas	0.50 - 0.70
Residential:	
Single Family Areas	0.30 - 0.50
Multi-Units, Detached	0.40 - 0.60
Multi-Units Attached	0.60 - 0.75
Suburban	0.25 - 0.40
Apartment Dwelling Areas	0.50 - 0.70
Industrial:	
Light Areas	0.50 - 0.80
Heavy Areas	0.60 - 0.90
Parks, Cemeteries	0.10 - 0.25
Playgrounds	0.20 - 0.40
Railroad Yard Areas	0.20 - 0.40
Unimproved Areas	0.10 - 0.30
Lawns:	
Sandy Soil, flat, 2%	0.05 - 0.10
Sandy Soil, average, 2 - 7%	0.10 - 0.15
Sandy Soil, steep, 7%	0.15 - 0.20
Heavy Soil, flat, 2%	0.13 - 0.17
Heavy Soil, average, 2 - 7%	0.18 - 0.22
Heavy Soil, steep, 7%	0.25 - 0.35
Streets:	
Asphaltic	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Drives and Walks:	0.75 - 0.85
Roofs:	0.75 - 0.95

Table 3-3: Runoff Coefficients

Hidalgo County Drainage Distric No. 1 "C" - Values for Rational Method

Type of Drainage Area	Runoff Coefficient
Residential Districts:	
Single Family (Lots less than 1/4 acre)	0.35
Single Family (Lots 1/4 to 1/2 acre)	0.30
Single Family (Lots greater than 1/2 acre)	0.25
Multi-Family (Less than 20 DU/AC)	0.45
Multi-Family (Greater than 20 DU/AC)	0.55
Business District:	0.70
Industrial Districts:	
Light Areas	0.50
Heavy Areas	0.60
Railroad Yard Areas	0.20
Parks	0.10
Unimproved Areas:	
Bare Surface	0.30
Grassland	0.25
Cultivated Land	0.20
Woodlands	0.15
Streets:	
Asphalt	0.70
Concrete	0.75
Drives and Walks:	
Concrete	0.75

Land Cover / Flow Regime	k
Forrest w/ heavy ground litter; hay meadow (overland flow)	0.076
Trash fallow or minimum tillage cultivation; contour or strip cropped; woodland (overland flow)	0.152
Short grass pasture (overland flow)	0.213
Cultivated straight row (overland flow)	0.274
Nearly bare and untilled (overland flow); alluvial fans in western mountain regions	0.305
Grassed waterway (shallow concentrated flow)	0.457
Unpaved (shallow concentrated flow)	0.491
Paved Area (shallow concentrated flow); small upland gullies	0.619

Table 3-2: Intercept Coefficients

HIDALGO COUNTY RAINFALL INTENSITY TABLES

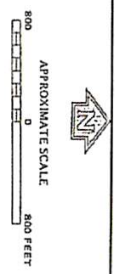
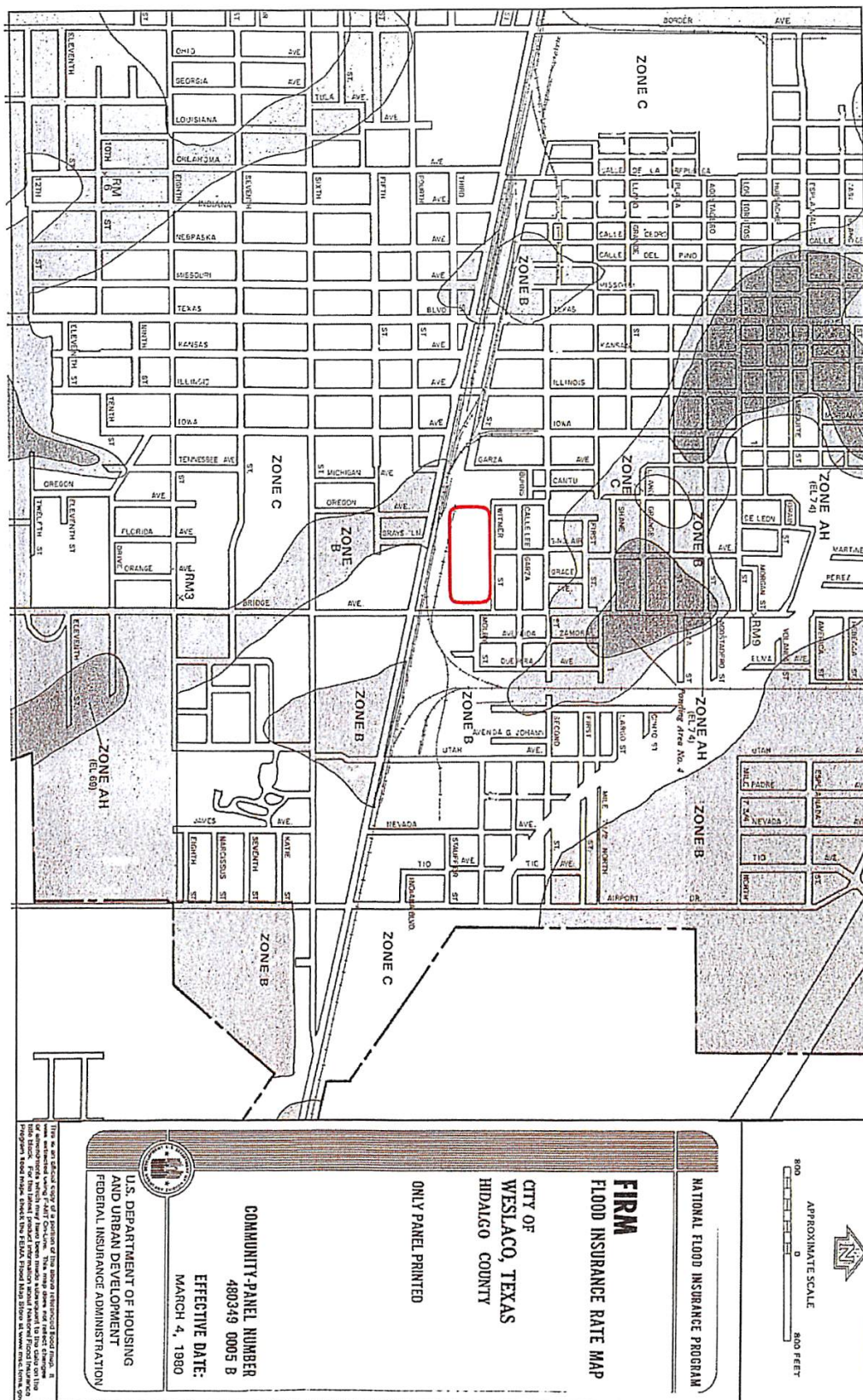
based on Weather Bureau (NWS) Technical Paper No. 40 "Rainfall Frequency Atlas of the United States"

$$\text{formula } I = b / (t + d)^c$$

TIME	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.	TIME	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.
1	10.404	12.626	14.283	16.353	17.386	17.952	36	3.095	3.866	4.486	5.189	5.701	6.098
2	9.653	11.721	13.281	15.215	16.210	16.793	37	3.040	3.799	4.410	5.103	5.608	6.001
3	9.012	10.950	12.426	14.244	15.204	15.797	38	2.986	3.735	4.337	5.019	5.519	5.908
4	8.458	10.286	11.687	13.405	14.333	14.929	39	2.935	3.673	4.267	4.939	5.433	5.817
5	7.974	9.706	11.042	12.671	13.570	14.165	40	2.886	3.614	4.199	4.861	5.350	5.730
6	7.546	9.194	10.472	12.023	12.895	13.487	41	2.838	3.557	4.134	4.786	5.270	5.646
7	7.167	8.740	9.966	11.447	12.294	12.881	42	2.793	3.501	4.071	4.714	5.193	5.565
8	6.827	8.334	9.512	10.930	11.755	12.336	43	2.748	3.448	4.010	4.644	5.118	5.487
9	6.520	7.968	9.103	10.464	11.268	11.841	44	2.706	3.396	3.951	4.577	5.046	5.411
10	6.243	7.636	8.732	10.042	10.825	11.391	45	2.665	3.346	3.895	4.511	4.976	5.337
11	5.990	7.334	8.394	9.656	10.421	10.979	46	2.625	3.298	3.840	4.448	4.908	5.266
12	5.758	7.058	8.084	9.303	10.051	10.601	47	2.586	3.251	3.786	4.387	4.843	5.197
13	5.546	6.804	7.799	8.978	9.710	10.252	48	2.549	3.206	3.735	4.328	4.779	5.130
14	5.350	6.569	7.536	8.678	9.395	9.928	49	2.513	3.162	3.685	4.270	4.717	5.065
15	5.169	6.353	7.293	8.400	9.102	9.628	50	2.477	3.120	3.636	4.215	4.658	5.002
16	5.000	6.151	7.067	8.142	8.831	9.348	51	2.443	3.078	3.589	4.161	4.600	4.941
17	4.843	5.964	6.856	7.902	8.577	9.087	52	2.410	3.038	3.543	4.108	4.543	4.881
18	4.697	5.789	6.659	7.677	8.340	8.842	53	2.378	2.999	3.499	4.057	4.488	4.824
19	4.560	5.625	6.475	7.466	8.117	8.612	54	2.347	2.962	3.456	4.007	4.435	4.767
20	4.432	5.472	6.302	7.268	7.908	8.396	55	2.317	2.925	3.414	3.959	4.383	4.713
21	4.311	5.327	6.139	7.082	7.711	8.192	56	2.288	2.889	3.373	3.912	4.333	4.659
22	4.198	5.191	5.985	6.906	7.525	8.000	57	2.259	2.854	3.333	3.867	4.284	4.608
23	4.090	5.062	5.840	6.740	7.349	7.817	58	2.231	2.821	3.295	3.822	4.236	4.557
24	3.989	4.941	5.703	6.583	7.183	7.644	59	2.204	2.788	3.257	3.779	4.189	4.508
25	3.893	4.825	5.572	6.434	7.025	7.480	60	2.178	2.756	3.220	3.737	4.144	4.460
26	3.802	4.716	5.449	6.293	6.875	7.324	65	2.056	2.607	3.050	3.541	3.933	4.237
27	3.715	4.612	5.331	6.158	6.732	7.176	70	1.948	2.475	2.899	3.368	3.745	4.038
28	3.633	4.513	5.220	6.030	6.596	7.034	75	1.852	2.358	2.765	3.212	3.577	3.860
29	3.554	4.419	5.113	5.908	6.467	6.899	80	1.765	2.252	2.643	3.073	3.426	3.699
30	3.480	4.329	5.011	5.792	6.343	6.769	85	1.688	2.156	2.533	2.946	3.289	3.554
31	3.408	4.244	4.914	5.680	6.224	6.646	90	1.617	2.069	2.434	2.831	3.164	3.421
32	3.340	4.161	4.821	5.574	6.111	6.527	95	1.552	1.990	2.342	2.726	3.050	3.299
33	3.275	4.083	4.732	5.472	6.002	6.413	100	1.493	1.917	2.258	2.629	2.944	3.187
34	3.212	4.008	4.646	5.374	5.897	6.304	105	1.439	1.850	2.181	2.540	2.847	3.083
35	3.152	3.935	4.564	5.280	5.797	6.199	110	1.389	1.788	2.109	2.457	2.757	2.988

where:	2yr	5yr	10yr
e=	0.831	0.795	0.778
b=	74	80	87
d=	9.6	9.2	9.2

25yr	50yr	100yr
0.771	0.749	0.740
98	99	103
9.2	9.2	9.6



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
WESLACO, TEXAS
HIDALGO COUNTY

ONLY PANEL PRINTED

COMMUNITY PANEL NUMBER
480349 0005 B
EFFECTIVE DATE:
MARCH 4, 1980

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

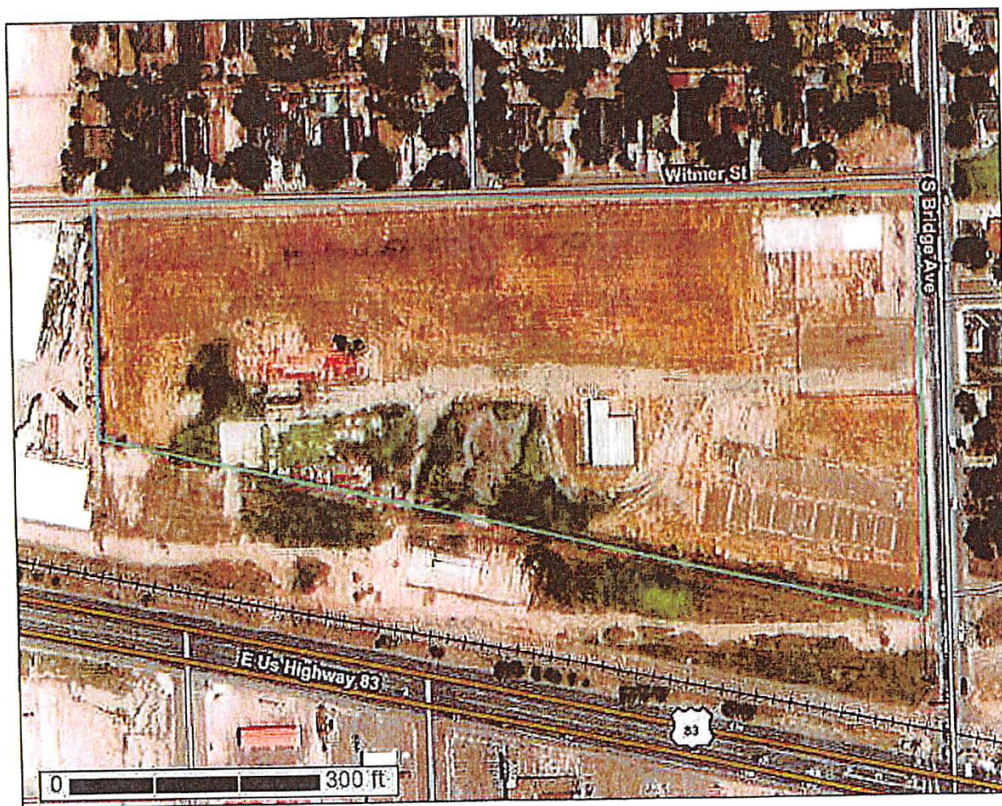
This is an official map of a portion of the State of Texas. It is not to be used for any other purpose. The map does not show and does not represent any other information. For the latest information about this map, please contact the Texas Flood Map Store at www.texasfloodmap.com.



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hidalgo County, Texas

Weslaco Public Services
Subdivision



November 5, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



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MAP LEGEND

Area of Interest (AOI) Area of Interest (AOI) Soils Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Special Point Features Blowout Borrow Pit Clay Spot Closed Depression Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot	Water Features Streams and Canals Transportation Rails Interstate Highways US Routes Major Roads Local Roads Background Aerial Photography
---	---

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.sc.egov.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 19, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 20, 2015—Nov 5, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
68	Urban land	8.6	100.0%
Totals for Area of Interest		8.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Custom Soil Resource Report

Hidalgo County, Texas

68—Urban land

Map Unit Setting

National map unit symbol: dbml
Elevation: 0 to 4,000 feet
Mean annual precipitation: 8 to 60 inches
Mean annual air temperature: 54 to 73 degrees F
Frost-free period: 180 to 310 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H1 - 0 to 40 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 15 percent
Hydric soil rating: No

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**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: February 17, 2021	Agenda Item No. (to be assigned by PCE): III. B.
From: Rebekah de la Fuente, Planning Director, on behalf of SWG Engineering, LLC.	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Pike District Subdivision– being 36.052 acres out of Farm Tract 163, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately the southeast corner of W. Pike Blvd and Milanos Rd. Possible Action.	
Discussion/Overview: The proposed One hundred nineteen (119) lot subdivision is inside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco services through a 6" sewer line. The property is within a Flood Zone "X".	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission's Action: Staff recommends approval of Final Plat.	
Additional Action Prompted: [X] Mayor's Signature [] Public Hearing [] Budget Amendment [] Resolution [] Ordinance – First Reading [] Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff's comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission's Action: Planning staff will advise applicant.	



SUBDIVISION PLATTING APPLICATION

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

STAFF USE ONLY

☐ Single Lot Variance ☐ Minor Plat ☐ Planned Unit Development ☐ Standard Subdivision

GENERAL INFORMATION

Name of Subdivision: Pike District Subdivision

Location: Southwest Corner of W. Pike Blvd. (Mile 8 North) and Milanos Rd (Mile 6 1/2 West Rd.)

Legal Description: A tract of land containing 36.092 Acres situated in the City of Weslaco, Hidalgo County, Texas being a part or portion of Farm Tract 163, Block 178, The West and Adams Tracts.

Is subdivision inside city limits? ☒ YES ☐ NO

If subdivision is in the ETJ, indicate? ☐ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: R-I

Existing Land Use: Vacant Proposed Land Use: One Family Dwelling

Number of Lots Proposed: 113 Gross Acreage: 36.092

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: ZAIDA LLC Telephone: (956) 647-8409

Address: 230 W. Pile Suite 105 Fax: _____

City: Weslaco State: Tx Zip: 78596 E-mail: _____

ENGINEER INFORMATION

Name: SWG Engineering LLC Telephone: (956) 968-2194

Address: 611 Bill Summers Intl. Blvd. Fax: (956) 968-8300

City: Weslaco State: Tx Zip: 78596 E-mail: jreyes@siglerwinstongreenwood.com

UTILITY PROVISIONS

Will proposed subdivision connect to:

- ☒ YES ☐ NO Water Provision: NAWSC
- ☒ YES ☐ NO Wastewater Provision: City of Weslaco
- ☒ YES ☐ NO Electric Company: AEP

☒ YES ☐ NO Phone Utility _____	☒ YES ☐ NO Gas Utility _____	☒ YES ☐ NO Cable Utility _____
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Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>HCDD#1</u>	☒ YES ☐ NO Irrigation District <u>HCCID#9</u>
---	--

Has the property been assessed as flat rate irrigable property: ☐ YES ☐ NO

Have Water Rights been conveyed to City/Water Supplier? ☐ YES ☐ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If **YES**, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR MINOR PLAT REVIEW

- _____ **Two (2)** sets of plats **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- _____ **\$355.00** Planning Review fee
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements
 - _____ Contours
 - _____ Flood Zones
 - _____ Adjoiners
 - _____ Existing street names
- _____ Drainage plans and calculations with engineer's seal
 - _____ Elevations
 - _____ Flood directional arrows
 - _____ Detention areas
 - _____ Street names
- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full

SUBMITTALS REQUIRED FOR PRELIMINARY (P & Z)

- ✓ _____ **Twelve (12)** sets of preliminary plat **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- ✓ _____ **\$350.00** (one time fee for preliminary and final plat)
- ✓ _____ One 11" X 17" reduced copy of plat
- ✓ _____ Plat Layout
 - ✓ _____ Existing & Proposed Easements
 - ✓ _____ Existing & Proposed ROW
 - ✓ _____ Existing & Proposed Drainage Easements

- ☒ Contours
- ☒ Flood Zones
- ☒ Adjoiners
- ☒ Existing & Proposed street names
- ☒ Utility Layout
 - ☒ Existing & Proposed Utilities
 - ☒ Proposed Fire Hydrants
 - ☒ Adjoiners
 - ☒ Street names
- ☒ Drainage plans and calculations with engineer's seal
 - ☒ Elevations
 - ☒ Flood directional arrows
 - ☒ Detention areas
 - ☒ Street names
- ☐ Proof of ownership of the property
- ☐ If septic tank system required, submit soil evaluation report
- ☐ Water Rights associated with the property
- ☐ Tax Receipt for all taxing entities showing that taxes are paid in full
- ☐ 7 Number of fire hydrants proposed for subdivision
- ☒ Trip Generation Worksheet

SUBMITTALS REQUIRED FOR FINAL (P & Z) **Will not apply to Single Lot Variance**

- ☐ Twelve (12) sets of plans **FOLDED & STAPLED** (24 x 36) & PDF copy **with all corrections**
- ☐ Plats to be sealed by Professional Engineer
- ☐ Approved Drainage Report
- ☐ Traffic Impact Analysis (If required)

SUBMITTALS REQUIRED FOR FINAL (City Commission)

- ☐ One set of 8 ½ x 11 of plat and utilities with all corrections done

SUBMITTALS REQUIRED FOR PRE-CONSTRUCTION MEETING

- ☐ Seven (7) full sets of construction plans 24 x 36 and one (1) 11 x 17 with plan & profile.
- ☐ Engineering cost estimates for 3% geotechnical testing fees and 2% inspection fees
- ☐ Notice of Intent
- ☐ SW3P

SUBMITTALS REQUIRED FOR RECORDING OR HIDALGO COUNTY PLANNING

- ☐ Electronic file of final plat and as-builds
- ☐ Reproducible plat to be recorded with all required signatures
- ☐ 3% geotechnical testing fees or negotiated Material Testing fee by City, whichever is higher
- ☐ 2% inspection fee
- ☐ Park Fees
- ☐ Checks or Receipts: HCCID #9; HCDD #1; County Clerk
- ☐ Tax certificates
- ☐ Memo from engineering inspector releasing subdivision
- ☐ Water Rights associated with the property dedicated and assigned to City of Weslaco or payment of fees sufficient to meet the needs necessitated and attributable to development
- ☒ 30 Year Water and 30 Year Sewer Service Agreements
- ☐ Park dedication/Fees in lieu of

SUBMITTALS REQUIRED FOR RECORDING BY SECURITY

- ☐ Sealed engineering cost estimates
- ☐ Letter of Credit/Performance Bond/Escrow

** Any revisions requested would require resubmission of plats and reduced copy reflecting changes.

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: _____

Owner Signature: _____ Date: _____

SWG Engineering LLC

is the authorized agent

Authorized Agent Signature: Jose G. Reyes, P.E. Date: January 27, 2021

Authorized Agent Printed Name: Jose G. Reyes, P.E.

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid: _____

P & Z Commission Approval on Preliminary Plat: _____

P & Z Commission Approval on Final Plat: _____

City Commission Approval on Final Plat: _____

Preconstruction Meeting Date: _____

Date Recorded: _____ Instrument No. _____

General Comments: _____

SWG Engineering

Hidalgo County Drainage District No. 1

Drainage Report

Weslaco – Pike District Subdivision

Hidalgo County, Texas

Prepared By:

SWG Engineering, LLC

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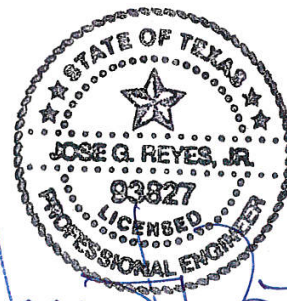
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1/14/2021



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JAN. 14. 2021

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**DRAINAGE REPORT
For
PIKE DISTRICT SUBDIVISION**

I. Project Location

This project involves the development of a 35.21 acre tract of land for residential use. The site is located in the city of Weslaco, Hidalgo County and lies on the southwest intersection of W Pike Blvd (Mile 8 North Rd.) and N Milano Rd (Mile 6 1/2 West Rd.) just outside of the city limits. The proposed subdivision is comprised of 113 lots for a total of a 35.21 acre tract out of West tract, Hidalgo County, Texas.

II. Flood Plain

The area is considered to be under an unincorporated area determined by FEMA Flood Insurance Rate Map, Community Panel No. 480334 0450 C, and Map Revised June 6, 2000. The project area is under Zone "X", which is described as "Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and areas protected by levees from 100-year flood".

III. Soil Conditions

According to the Soil Survey Report prepared for Hidalgo County by the U.S.D.A. Soil Conservation Service, the area is composed of three types of soil: Hidalgo fine sandy loam (0 to 1 percent slopes), Hidalgo fine sandy loam (1 to 3 percent slopes), and Hidalgo sandy clay loam (0 to 1 percent slopes). The predominant soil type being Hidalgo clay loam, is listed in Hydrological Group B. See attached Soil Survey of Hidalgo County, Texas.

IV. Existing Conditions

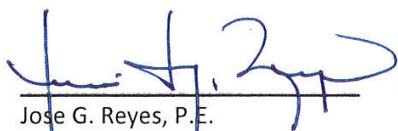
Existing runoff is by surface flow in a southwestern direction and has a runoff of **24.25 cfs** during the **10-yr** storm frequency as per attached calculations. The total impermeable area is approximately 0 square feet and the total permeable area is **1,533,748 sf²**. Due to no existing development, an existing weighted runoff coefficient of $C = 0.2$ was calculated.

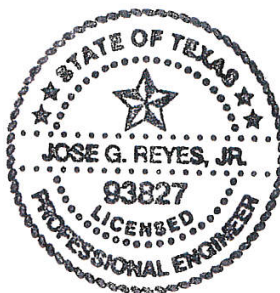
V. Proposed Conditions

Subject tract of land will be developed into 113 lots that will serve as a residential subdivision. One of the lots will be dedicated for a detention pond. Proposed runoff after development is **114.9 cfs**, during the **50-year** storm frequency, which is an increase of **90.65 cfs**. The proposed drainage for Pike District Subdivision consists of surface runoff from future development into the street and green areas. The total impermeable area is approximately **1,454,904 sf²** and the total permeable area is **78,408 ft²**. A

weighted runoff coefficient of $C = 0.59$ was calculated. For a **50-year storm frequency**, a peak detention volume is approximately **253,831 ft³ or 5.83 Acre-ft**. Please refer to attached drainage calculations. At time of improvements the storm water runoff from the improved area shall be discharged in a southwestern direction where it will be discharged into a proposed detention pond on the southeast corner of subdivision. The runoff shall be directed into an existing manhole along Milano's Rd. (Mile 6 ½ West Rd.), via 24" RCP, connected to an existing storm system, that will carry the storm water via 42" RCP to drain ditch 37D1, owned by HCCID#9. The detention pond is designed in order to detain a volume of **363,290 ft³**, which will be able to hold a 100 year frequency.

The drainage calculations are attached.


Jose G. Reyes, P.E.
January 14, 2021



Weslaco – Pike District Subdivision

Hidalgo County Drainage District No. 1
“C” Values for Rational Method

Type of Drainage Area	Runoff Coefficient
Residential Districts:	
Single Family (Lots less than ¼ acre)	0.30 – 0.50
Multi - Family (Less than 20 DU/AC)	0.40 – 0.60
Multi - Family (Greater than 20 DU/AC)	0.60 – 0.75
Business District:	
Downtown areas	0.70 – 0.95
Neighborhood areas	0.30 – 0.70
Industrial Districts:	
Light Areas	0.30 – 0.80
Heavy Areas	0.60 – 0.90
Railroad Yard Areas:	0.30 – 0.40
Park:	0.10 – 0.25
Unimproved Areas:	
Sand or sandy loam soil, 0-3%	0.15 – 0.20
Sand or sandy loam soil, 3-5%	0.20 – 0.25
Black or loessial soil, 0-3%	0.18 – 0.25
Black or loessial soil, 3-5%	0.25 – 0.30
Black or loessial soil, >5%	0.70 – 0.80
Deep sand area	0.05 – 0.15
Steep grassed slopes	0.70
Street:	
Asphalt	0.85 – 0.95
Concrete	0.90 – 0.95
Drives & Walks:	
Concrete	0.75 – 0.95

Last Updated: 1/13/2021

Detention Calculator

10-yr release
e= 0.8599
b= 116.24
d= 14.33

50 yr Storm
Title: SWG# 20-135
35.21 Ac Mitigation Area
City of Weslaco, TX

Required Volume:
Req'd Volume 5.83 ac.ft

EXISTING DATA

Total Area 35.21 acre
Overland Flow Length - "L" 1100.00 LF

Existing Time of Concentration - "Tov" (grass)	45.55	% composition?	100%
Existing Time of Concentration - "Tov" (pavmt)	0.00	% composition?	0%
Total Existing Time of Concentration - "Tov"	45.55 minutes		
Existing Runoff Coefficient - "C"	0.20		
Intensity of Rainfall - "I"	3.44 in/hr		
Existing - "Q"	24.25 cfs		

e= 0.8613
b= 170.66
d= 16.71

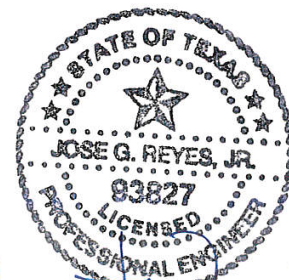
PROPOSED IMPROVEMENTS

Total Area 35.21 acre
Overland Flow Length - "L" 1100.00 LF

Proposed Time of Concentration - "Tov" (grass)	33.71	% composition?	74%
Proposed Time of Concentration - "Tov" (pavmt)	2.92	% composition?	26%
Total Proposed Time of Concentration - "Tov"	36.63 minutes		
Proposed Runoff Coefficient - "C"	0.59		
Intensity of Rainfall - "I"	5.55 in/hr		
Proposed - "Q"	114.90 cfs		

Time		I	Q in	V in	Q out	V out	Req'd V	Req'd V
min	hr	in/hr	ft ³ /s	ft ³	ft ³ /s	ft ³	ft ³	ac-ft
36.63	0.61	5.55	114.90	252549	24.25	53306	199243	4.57
46.63	0.78	4.79	99.09	277264	24.25	60581	216683	4.97
56.63	0.94	4.22	87.34	296783	24.25	67857	228927	5.26
66.63	1.11	3.78	78.24	312786	24.25	75132	237654	5.46
76.63	1.28	3.43	70.96	326277	24.25	82408	243870	5.60
86.63	1.44	3.14	65.01	337898	24.25	89683	248215	5.70
96.63	1.61	2.90	60.03	348079	24.25	96959	251120	5.76
106.63	1.78	2.70	55.82	357122	24.25	104234	252888	5.81
116.63	1.94	2.52	52.19	365247	24.25	111510	253737	5.83
126.63	2.11	2.37	49.04	372616	24.25	118785	253831	5.83
136.63	2.28	2.24	46.27	379354	24.25	126061	253294	5.81
146.63	2.44	2.12	43.82	385558	24.25	133336	252222	5.79
156.63	2.61	2.01	41.64	391305	24.25	140612	250693	5.76
166.63	2.78	1.92	39.67	396655	24.25	147887	248768	5.71
176.63	2.94	1.83	37.90	401660	24.25	155163	246498	5.66
186.63	3.11	1.75	36.29	406361	24.25	162438	243923	5.60
196.63	3.28	1.68	34.82	410793	24.25	169714	241079	5.53
206.63	3.44	1.62	33.47	414984	24.25	176989	237995	5.46

High Point



[Signature] P.E.
Jan. 14, 2021

Existing Runoff Coef. Calculation:

Total Area =		35.2 acres	<u>0.20</u>
Impermeable Area =	0%	0.0 acres	0.9
Pavement Area =	0%	0.0 acres	0.95
Permeable Area =	100%	35.2 acres	0.2

Future Runoff Coef. Calculation:

Total Area =		35.2 acres	<u>0.59</u>
Impermeable Area =	26%	9.1 acres	0.9
Permeable Area =	5%	1.8 acres	0.2
Residential Area =	69%	24.3 acres	0.5

Elevations:

High =	88.68 ft
Low =	81.5 ft

Average Slope (Adjusted) = 0.00703

K= 0.828 *std coefficient*

N grass= 0.4 *unitless*

N pavement= 0.02 *unitless*

Rainfall Intensity-Duration-Frequency Coefficients for Texas

Based on United States Geological Survey (USGS) Scientific Investigations Report 2004-5041
"Atlas of Depth-Duration Frequency of Precipitation Annual Maxima for Texas"

1. Select English or SI Units

2. Select or Enter a County

3. Enter a Time of Conc.

Select Units

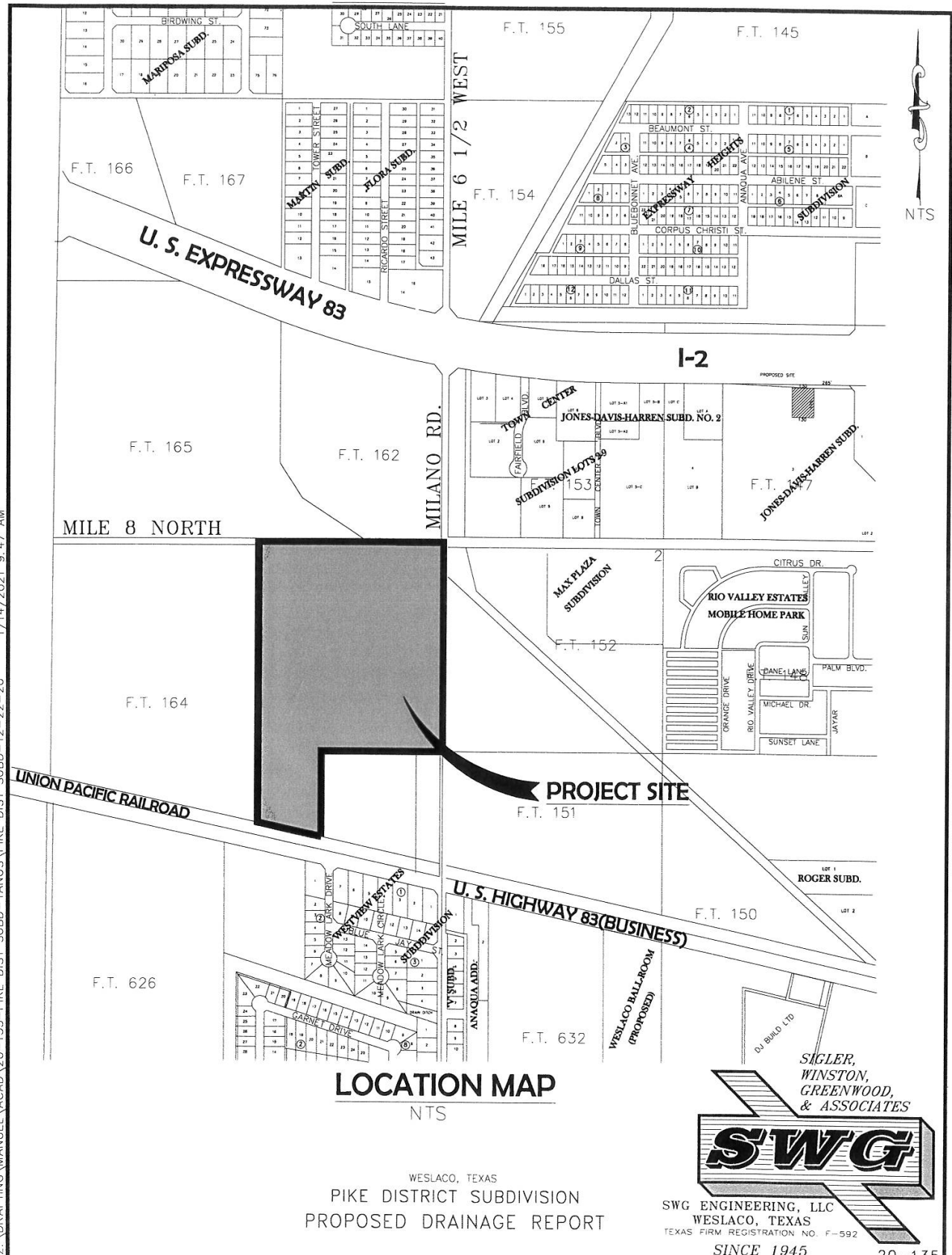
Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)
e	0.8645	0.8647	0.8599	0.8572	0.8613	0.8619
b (in.)	72.40	100.21	116.24	140.47	170.66	201.07
d (min)	12.92	13.90	14.33	15.32	16.71	18.00

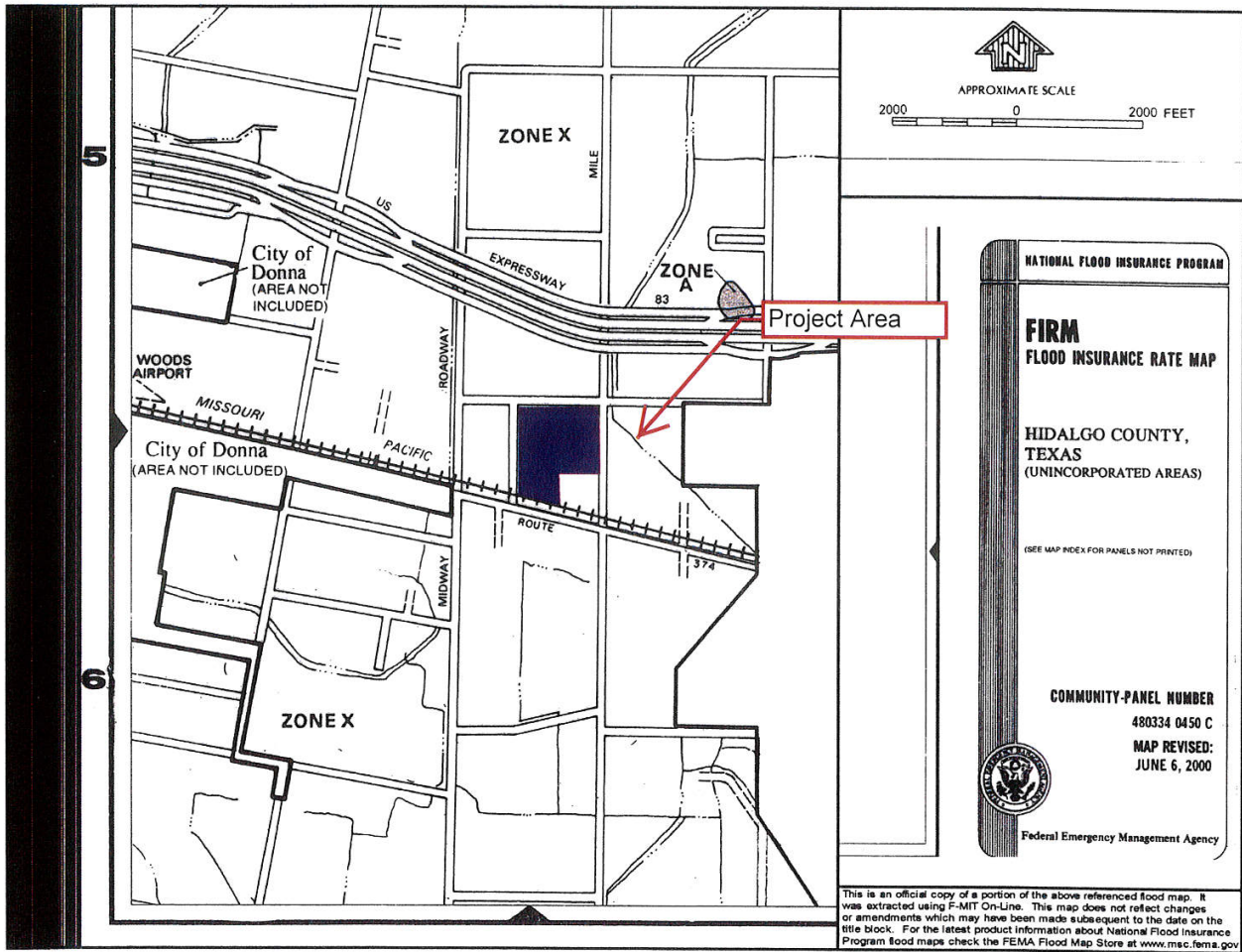
Intensity (in./hr) 2.49 3.39 3.98 4.78 5.58 6.43

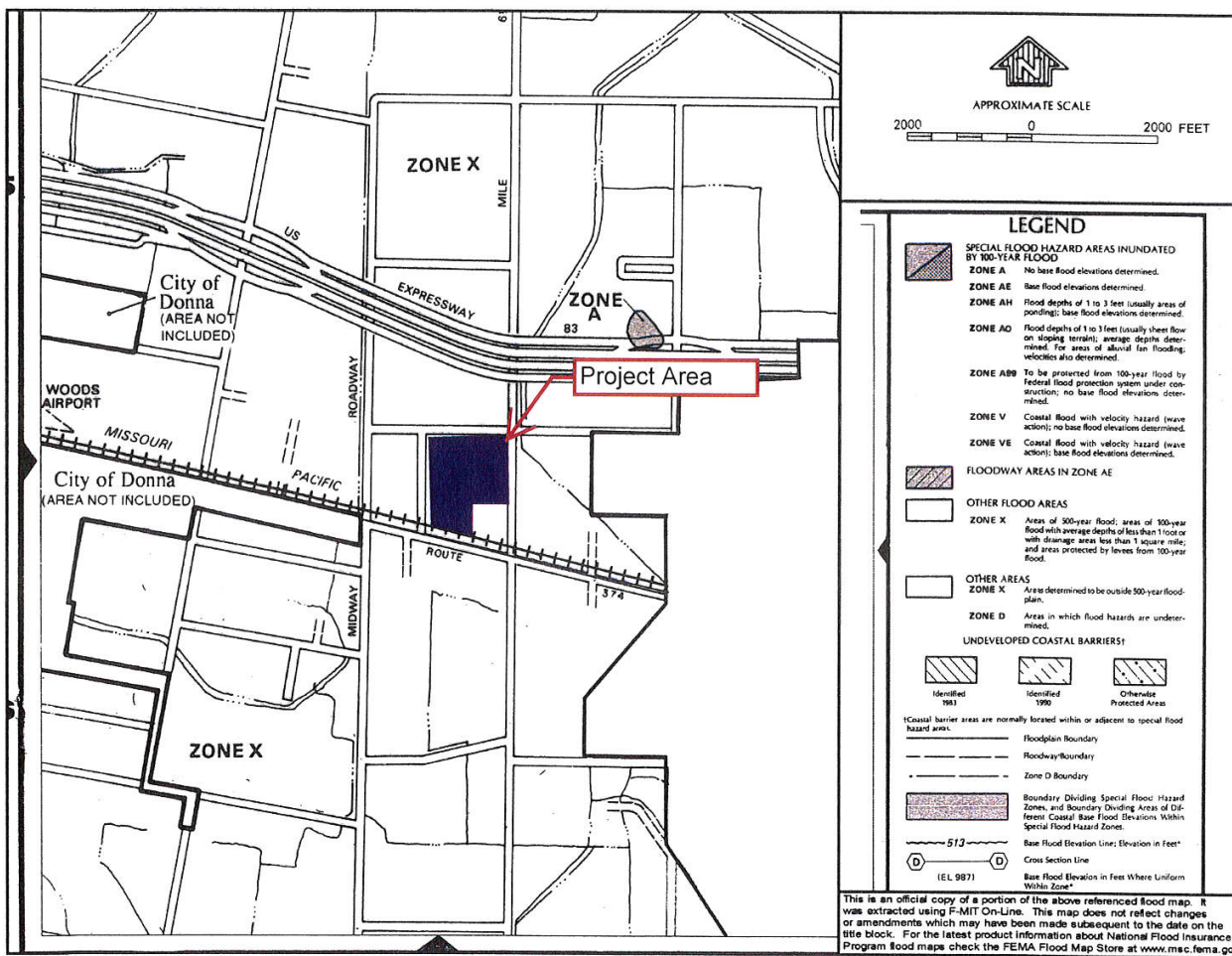
(Spreadsheet Release Date: August 31, 2015; data table reshuffle by Asquith July 14, 2016)

Attachments

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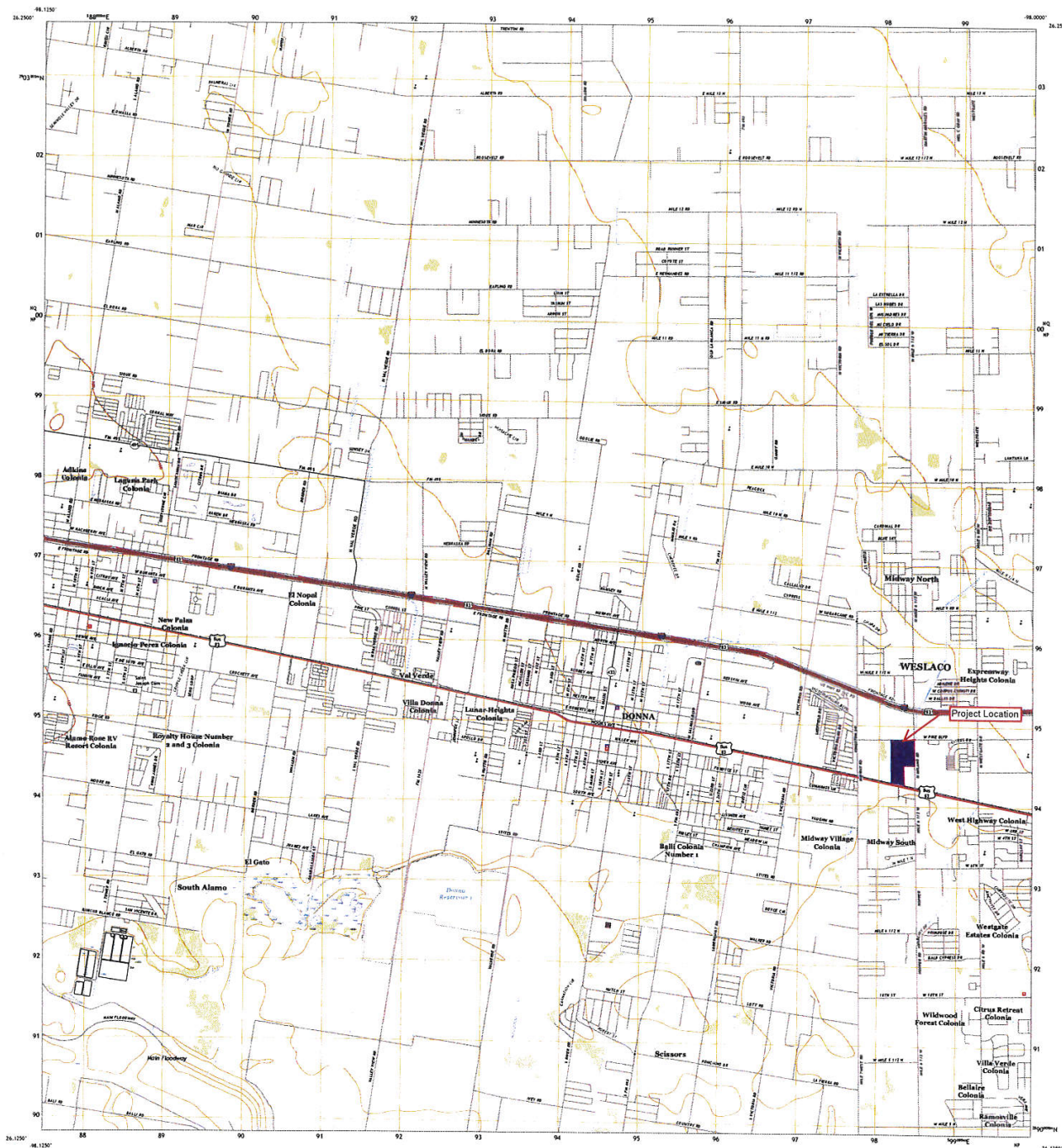
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

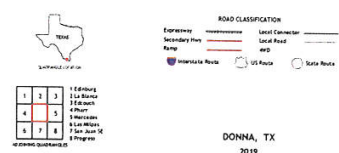
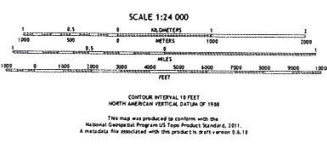
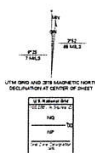


DONNA QUADRANGLE
TEXAS - HIDALGO COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey

Donna, Texas, 1910
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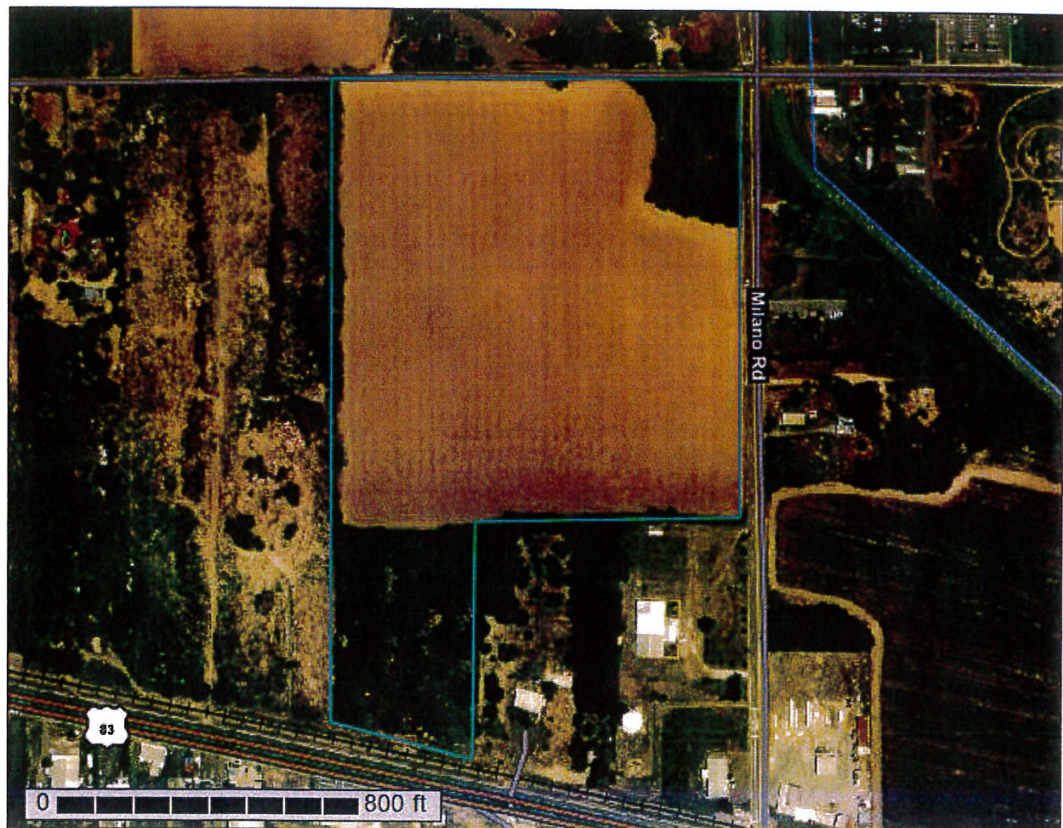
DONNA, TX
2019



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hidalgo County, Texas

Pike District Subdivision



December 28, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

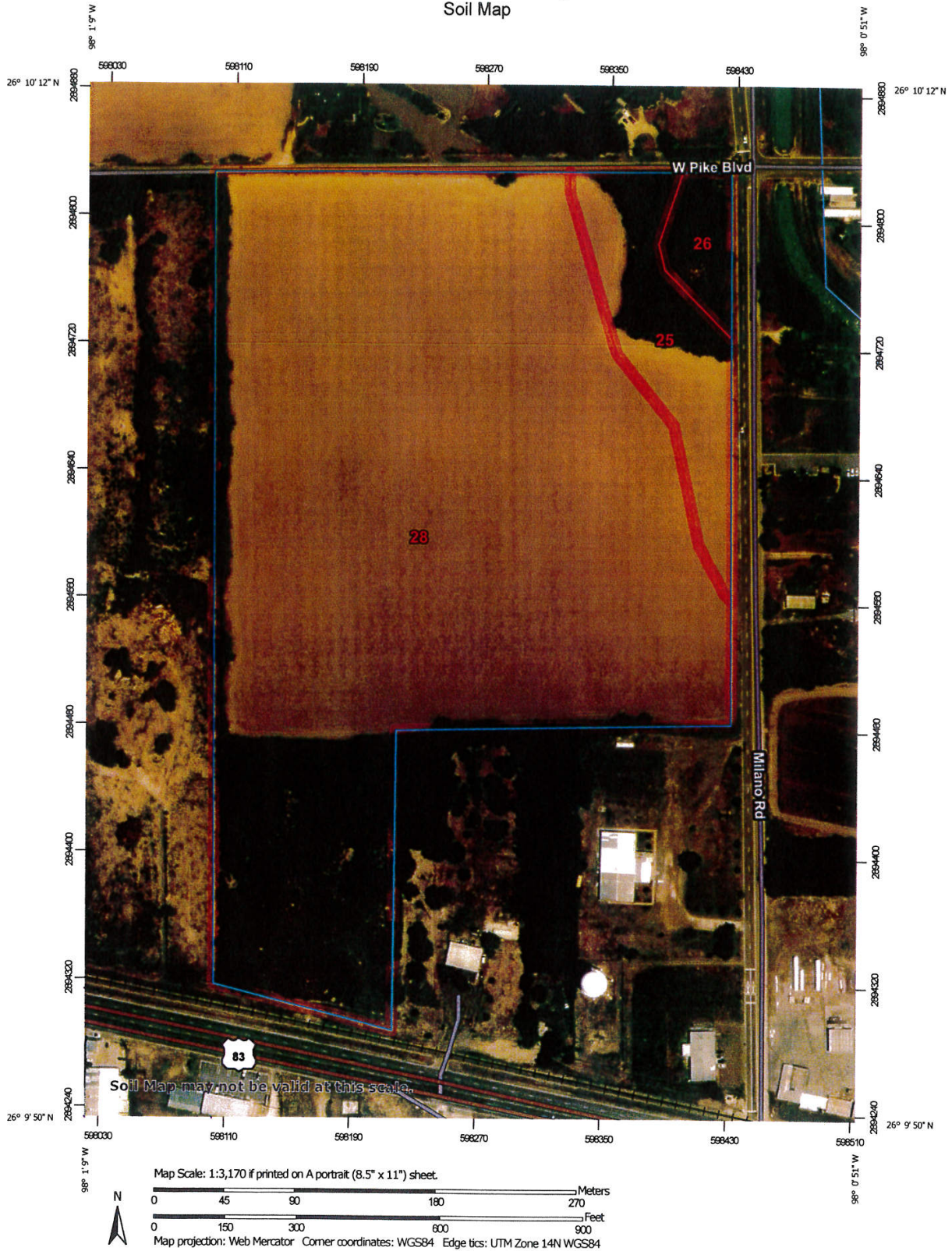
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

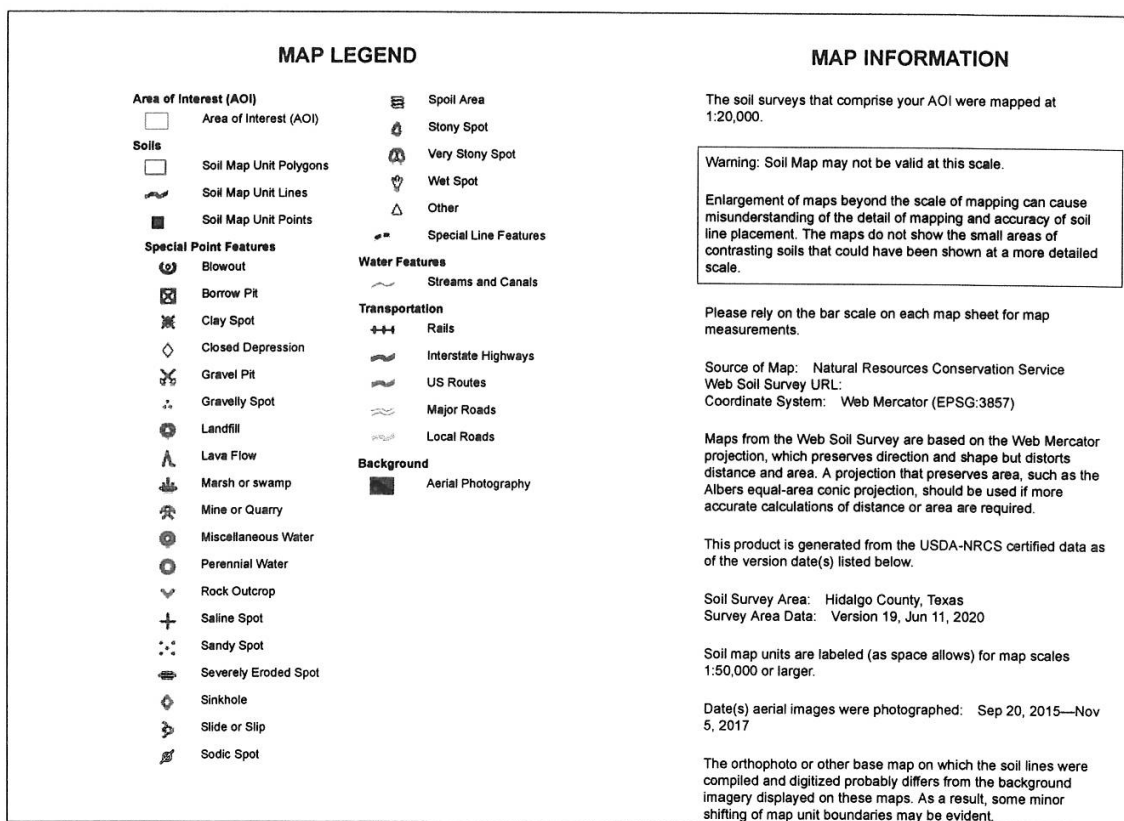
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Hidalgo fine sandy loam, 0 to 1 percent slopes	2.9	8.8%
26	Hidalgo fine sandy loam, 1 to 3 percent slopes	0.8	2.5%
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	29.8	88.7%
Totals for Area of Interest		33.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Custom Soil Resource Report

Hidalgo County, Texas

25—Hidalgo fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sxn
Elevation: 20 to 500 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hidalgo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hidalgo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 17 inches: fine sandy loam
Bk1 - 17 to 28 inches: sandy clay loam
Bk2 - 28 to 38 inches: clay loam
Ck - 38 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: R083DY019TX - Gray Sandy Loam
Hydric soil rating: No

Custom Soil Resource Report

Minor Components

Willacy

Percent of map unit: 10 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Brennan

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083EY023TX - Sandy Loam
Hydric soil rating: No

26—Hidalgo fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2sxvp
Elevation: 20 to 500 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hidalgo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hidalgo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 17 inches: fine sandy loam
Bk1 - 17 to 28 inches: sandy clay loam
Bk2 - 28 to 38 inches: clay loam
Ck - 38 to 80 inches: clay loam

Custom Soil Resource Report

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: R083DY019TX - Gray Sandy Loam
Hydric soil rating: No

Minor Components

Willacy

Percent of map unit: 10 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Brennan

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R083EY023TX - Sandy Loam
Hydric soil rating: No

28—Hidalgo sandy clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sxxv
Elevation: 20 to 500 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 300 to 365 days
Farmland classification: All areas are prime farmland

Custom Soil Resource Report

Map Unit Composition

Hidalgo and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hidalgo

Setting

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 17 inches: sandy clay loam

Bk1 - 17 to 28 inches: sandy clay loam

Bk2 - 28 to 38 inches: clay loam

Ck - 38 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Negligible

*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)*

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 35 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 10.0

Available water capacity: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 2c

Hydrologic Soil Group: B

Ecological site: R083DY019TX - Gray Sandy Loam

Hydric soil rating: No

Minor Components

Raymondville

Percent of map unit: 7 percent

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R083DY025TX - Clay Loam

Hydric soil rating: No

Racombes

Percent of map unit: 6 percent

Landform: Terraces

Custom Soil Resource Report

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Willacy

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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Custom Soil Resource Report

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Hidalgo County, Texas

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TABLE 16.--ENGINEERING INDEX PROPERTIES
[Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	<u>In</u>								<u>Pct</u>	
1.* Arents										
2----- Benito	0-7 7-65	Clay----- Clay-----	CH CH	A-7-6 A-7-6	100 100	100 100	100 100	95-100 95-100	75-94 75-94	48-64 48-64
3, 4----- Brennan	0-13 13-65	Fine sandy loam Sandy clay loam, loam.	SM, SM-SC, SC, CL	A-2-4, A-4 A-2-6, A-4, A-6	100 95-100	98-100 90-100	70-100 60-100	20-45 30-59	<30 22-39	NP-9 8-22
5----- Camargo	0-8 8-65	Silt loam----- Stratified silty clay loam to very fine sandy loam.	CL, CL-ML CL	A-6, A-4 A-6, A-7-6	100 100	100 100	95-100 95-100	70-100 70-100	20-35 30-45	4-16 11-25
6----- Camargo	0-8 8-65	Silty clay loam Stratified silty clay loam to very fine sandy loam.	CL CL	A-6, A-7-6 A-6, A-7-6	100 100	100 100	95-100 95-100	70-100 70-100	30-45 30-45	11-25 11-25
7----- Cameron	0-30 30-65	Silty clay----- Silt loam, loam	CH, CL CL	A-7-6 A-4, A-6	100 100	100 95-100	100 90-100	90-100 70-95	48-68 25-35	25-41 8-15
8----- Comitas	0-28 28-80	Loamy fine sand Fine sandy loam, sandy clay loam.	SM, SM-SC SM, SC, SM-SC	A-2-4 A-2-4, A-2-6, A-4, A-6	95-100 95-100	95-100 90-100	85-100 80-100	15-25 23-50	<25 <34	NP-4 NP-14
9----- Delfina	0-13 13-34 34-72	Loamy fine sand Sandy clay loam, clay loam. Sandy clay loam, fine sandy loam.	SM, SM-SC SC, CL SC	A-2-4, A-4 A-6, A-7-6 A-6, A-7-6	100 100 90-100	100 95-100 75-98	85-100 90-100 70-97	20-45 40-55 36-50	<25 31-48 30-46	NP-7 18-35 16-31
10, 11----- Delfina	0-13 13-34 34-72	Fine sandy loam Sandy clay loam, clay loam. Sandy clay loam, fine sandy loam.	SM-SC, SC, SM SC, CL SC	A-2-4, A-4 A-6, A-7-6 A-6, A-7-6	100 100 90-100	100 95-100 75-98	90-100 90-100 70-97	25-50 40-55 36-50	19-30 31-48 30-46	3-10 18-35 16-31
12----- Delmita	0-13 13-34 34-60	Loamy fine sand Sandy clay loam, fine sandy loam. Indurated-----	SM, SM-SC, SP-SM SC ---	A-2-4 A-2-4, A-2-6, A-4, A-6 ---	100 100 ---	95-100 100 ---	85-100 90-100 ---	11-25 30-50 ---	<25 27-39 ---	NP-7 8-18 ---
13.* Delmita-----	0-13 13-34 34-60	Fine sandy loam Sandy clay loam, fine sandy loam. Indurated-----	SM, SM-SC SC ---	A-2-4 A-2-4, A-2-6, A-4, A-6 ---	100 100 ---	100 100 ---	90-100 90-100 ---	20-35 30-50 ---	<27 27-39 ---	NP-7 8-18 ---

See footnote at end of table.

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Soil survey

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	<u>In</u>								<u>Pct</u>	
13:*										
Randado-----	0-9	Fine sandy loam	SM, SM-SC	A-2-4	75-100	70-100	70-100	20-35	<25	NP-7
	9-16	Fine sandy loam, sandy clay loam.	SC, SM-SC, GC	A-2-4, A-2-6, A-4, A-6	65-100	60-100	60-100	25-50	25-34	7-14
	16-60	Cemented-----	---	---	---	---	---	---	---	---
14-----										
Falfurrias	0-80	Fine sand-----	SP-SM, SM	A-2-4, A-3	100	100	75-100	5-25	<25	NP-3
15-----										
Grulla	0-7	Clay-----	CL, CH	A-7-6	100	100	100	90-100	41-55	20-30
	7-65	Silty clay, clay	CH	A-7-6	100	100	100	90-100	52-66	28-39
16, 17, 18-----										
Hargill	0-18	Fine sandy loam	SC, SM-SC, SM	A-2-4	100	95-100	95-100	17-35	<30	NP-8
	18-63	Sandy clay loam	SC, CL	A-6	100	95-100	95-100	40-55	30-40	11-20
	63-80	Sandy clay loam	SC	A-2-4, A-2-6, A-4, A-6	85-100	80-100	75-100	34-50	28-39	9-18
19, 20-----										
Harlingen	0-8	Clay-----	CH	A-7-6	100	100	100	90-100	51-85	32-60
	8-35	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
	35-72	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
21:*										
Harlingen-----	0-8	Clay-----	CH	A-7-6	100	100	100	90-100	51-85	32-60
	8-35	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
	35-72	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
Urban land.										
22, 23, 24-----										
Hebbronville	0-17	Sandy loam-----	SM	A-2-4	100	100	75-100	13-24	<25	NP-4
	17-58	Fine sandy loam, loam.	SM, SM-SC	A-2-4	100	100	90-100	20-30	<30	NP-7
	58-65	Fine sandy loam, loam.	SM-SC, SC	A-2-4, A-4, A-2-6, A-6	95-100	90-100	90-100	20-40	20-30	4-13
25, 26, 27-----										
Hidalgo	0-17	Fine sandy loam	SC, SM-SC	A-4, A-6	100	95-100	90-100	36-50	20-30	4-11
	17-28	Sandy clay loam, clay loam.	SC, CL	A-6	100	95-100	90-100	36-80	30-40	11-20
	28-80	Clay loam, sandy clay loam.	CL, SC	A-6, A-7-6	90-100	80-100	75-99	44-80	30-44	11-23
28, 29, 30-----										
Hidalgo	0-17	Sandy clay loam	SC, CL	A-6	100	95-100	90-100	36-55	29-40	11-20
	17-28	Sandy clay loam, clay loam.	SC, CL	A-6	100	95-100	90-100	36-80	30-40	11-20
	28-80	Clay loam, sandy clay loam.	CL, SC	A-6, A-7-6	90-100	80-100	75-99	44-80	30-44	11-23
31:*										
Hidalgo-----	0-17	Sandy clay loam	SC, CL	A-6	100	95-100	90-100	36-50	29-40	11-20
	17-28	Sandy clay loam, clay loam.	SC, CL	A-6	100	95-100	90-100	36-80	30-40	11-20
	28-80	Clay loam, sandy clay loam.	CL, SC	A-6, A-7-6	90-100	80-100	75-99	44-80	30-44	11-23
Urban land.										

See footnote at end of table.

Hidalgo County, Texas

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TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth <u>In</u>	USDA texture	Classification		Percentage passing sieve number--				Liquid limit <u>Pct</u>	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
32:* Jimenez-----	0-8	Very gravelly loam.	GC, GM-GC	A-1, A-2-4, A-2-6	30-58	15-40	15-35	15-30	22-35	5-15
	8-10	Cemented-----	---	---	---	---	---	---	---	---
	10-60	Variable-----	---	---	---	---	---	---	---	---
Quemado-----	0-6	Very gravelly sandy loam.	GM, GC, GM-GC	A-1, A-2	30-50	20-50	15-35	15-30	<25	NP-10
	6-12	Very gravelly sandy loam, very gravelly loam, very gravelly sandy clay loam.	GM, GC, GM-GC	A-1, A-2	30-50	20-50	15-35	15-30	18-28	2-10
	12-18	Cemented-----	---	---	---	---	---	---	---	---
	18-60	Variable-----	---	---	---	---	---	---	---	---
33----- Laredo	0-14	Silty clay loam	CL	A-6, A-7-6, A-4	100	100	90-100	85-100	28-44	9-22
	14-65	Silty clay loam, silt loam, very fine sandy loam.	CL	A-6, A-7-6, A-4	100	95-100	90-100	70-95	28-43	9-21
34----- Matamoros	0-65	Silty clay, stratified silt loam to clay.	CH	A-7-6	100	100	100	95-100	51-65	30-41
35, 36, 37----- McAllen	0-14	Fine sandy loam	CL, SC, CL-ML, SM-SC	A-4, A-6	100	100	95-100	36-55	21-30	4-11
	14-72	Sandy clay loam, clay loam, fine sandy loam.	CL, SC	A-6	95-100	90-100	85-100	45-70	28-40	11-20
38----- McAllen	0-14	Sandy clay loam	CL, SC,	A-6	100	100	95-100	36-55	29-40	11-20
	14-72	Sandy clay loam, clay loam, fine sandy loam.	CL, SC	A-6	95-100	90-100	85-100	45-70	28-40	11-20
39, 40, 41----- Mercedes	0-19	Clay-----	CH	A-7-6	85-100	80-100	80-100	75-95	55-76	32-49
	19-57	Clay-----	CH, CL-CH	A-7-6	85-100	80-100	80-100	75-95	50-76	32-49
	57-65	Clay-----	CH, CL	A-7-6	85-100	80-100	80-100	75-95	48-76	32-49
42----- Nueces	0-29	Fine sand-----	SP-SM, SM, SM-SC	A-2-4, A-3	100	95-100	90-100	8-35	<25	NP-6
	29-72	Sandy clay loam, sandy loam.	SC	A-2-6, A-6	90-100	90-100	80-100	20-50	25-40	11-20
43:* Nueces-----	0-29	Fine sand-----	SP-SM, SM, SM-SC	A-2-4, A-3	100	95-100	90-100	8-35	<25	NP-6
	29-72	Sandy clay loam, sandy loam.	SC	A-2-6, A-6	90-100	90-100	80-100	20-50	25-40	11-20
Sarita-----	0-48	Fine sand-----	SM-SC, SP-SM, SM	A-2-4, A-3	100	100	65-100	9-35	<25	NP-7
	48-80	Sandy clay loam, fine sandy loam.	SC	A-2-6, A-6	100	100	80-100	30-50	28-40	11-22
44----- Olmito	0-47	Silty clay-----	CH	A-7-6	100	100	100	90-100	51-70	28-44
	47-65	Silty clay, silty clay loam.	CH	A-7-6	95-100	90-100	85-100	85-100	51-70	28-44

See footnote at end of table.

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Soil survey

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth <u>In</u>	USDA texture	Classification		Percentage passing sieve number--				Liquid limit <u>Pct</u>	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
45,* 46,* 47.* Pits										
48, 49----- Racombes	0-13 13-49 49-72	Sandy clay loam Sandy clay loam, clay loam. Sandy clay loam, clay loam.	CL, SC CL, SC CL, SC	A-4, A-6 A-6, A-7 A-6	100 100 90-100	100 95-100 80-100	95-100 90-100 80-95	45-65 45-65 40-65	27-35 34-43 30-40	8-15 15-22 11-20
50----- Ramadero	0-21 21-65	Sandy clay loam Sandy clay loam, clay loam.	CL, SC CL, SC	A-6, A-4 A-6, A-7	100 100	100 95-100	95-100 90-100	45-65 45-65	27-39 32-42	9-18 13-21
51: * Randado-----	0-9 9-16 16-60	Fine sandy loam Fine sandy loam, sandy clay loam. Cemented-----	SM, SM-SC SC, SM-SC, GC ---	A-2-4 A-2-4, A-2-6, A-4, A-6 ---	75-100 65-100 ---	70-100 60-100 ---	70-100 60-100 ---	20-35 25-50 ---	<25 25-34 ---	NP-7 7-14 ---
Cuevitas-----	0-8 8-60	Fine sandy loam Cemented-----	SM, SM-SC, SC ---	A-2-4 ---	80-100 ---	80-100 ---	80-100 ---	20-35 ---	<28 ---	NP-9 ---
52, 53----- Raymondville	0-15 15-43 43-65	Clay loam----- Clay, clay loam Clay, clay loam	CL CL, CH CL, CH	A-6, A-7-6 A-6, A-7-6 A-7-6	100 100 100	100 95-100 85-100	95-100 95-100 80-100	51-85 75-95 75-95	37-50 38-55 40-53	18-30 19-35 20-30
54: * Raymondville----	0-15 15-43 43-65	Clay loam----- Clay, clay loam Clay, clay loam	CL CL, CH CL, CH	A-6, A-7-6 A-6, A-7-6 A-7-6	100 100 100	100 95-100 85-100	95-100 95-100 80-100	51-85 75-95 75-95	37-50 38-55 40-53	18-30 19-35 20-30
Urban land.										
55, 56----- Reynosa	0-15 15-48 48-65	Silty clay loam Silty clay loam, silt loam. Stratified silty clay loam to silt loam.	CL, CL-ML CL CL, CL-ML	A-6, A-4, A-7-6 A-6, A-4, A-7-6 A-6, A-4, A-7-6	100 100 100	100 100 100	95-100 95-100 90-100	80-100 80-100 70-100	25-45 28-44 20-49	7-25 9-23 4-29
57: * Reynosa-----	0-15 15-48 48-65	Silty clay loam Silty clay loam, silt loam. Stratified silty clay loam to silt loam.	CL, CL-ML CL CL, CL-ML	A-6, A-4, A-7-6 A-6, A-4, A-7-6 A-6, A-4, A-7-6	100 100 100	100 100 100	95-100 95-100 90-100	80-100 80-100 70-100	25-45 28-44 20-49	7-25 9-23 4-29
Urban land.										
58, 59----- Rio	0-12 12-38 38-63	Fine sandy loam Clay loam, clay Clay loam, sandy clay, sandy clay loam.	SC, SM-SC CL, CH CL	A-2-4, A-4 A-7-6 A-7-6	95-100 95-100 95-100	95-100 95-100 95-100	95-100 95-100 85-95	30-48 75-95 55-80	<30 43-57 41-50	5-10 21-32 20-27

See footnote at end of table.

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TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	<u>In</u>								<u>Pct</u>	
60, 61----- Rio	0-12 12-38 38-63	Clay loam----- Clay loam, clay Clay loam, sandy clay, sandy clay loam.	CL CL, CH CL	A-6, A-7 A-7-6 A-7-6	95-100 95-100 95-100	95-100 95-100 95-100	95-100 95-100 85-95	70-80 75-95 55-80	35-45 43-57 41-50	15-22 21-32 20-27
62----- Rio Grande	0-8 8-65	Silt loam----- Stratified silt loam to loamy very fine sand.	CL, CL-ML CL, CL-ML	A-4, A-6 A-4, A-6	100 100	100 100	95-100 95-100	70-95 70-100	20-30 20-33	4-12 4-12
63----- Rio Grande	0-8 8-65	Silty clay loam Stratified silt loam to loamy very fine sand.	CL CL, CL-ML	A-6, A-7 A-4, A-6	100 100	100 100	95-100 95-100	80-100 70-100	30-43 20-33	11-18 4-12
64, 65----- Runn	0-55 55-65	Silty clay----- Silty clay, silty clay loam, silt loam.	CH, CL CH, CL, CL-ML	A-7-6 A-6, A-7-6, A-4	100 100	100 95-100	95-100 90-100	85-98 70-98	43-62 21-62	21-36 4-36
66----- Sarita	0-48 48-80	Fine sand----- Sandy clay loam, fine sandy loam.	SM-SC, SP-SM, SM SC	A-2-4, A-3 A-2-6, A-6	100 100	100 100	65-100 80-100	9-35 30-50	<25 28-40	NP-7 11-22
67----- Tiocano	0-65	Clay-----	CH	A-7-6	100	100	95-100	85-100	56-76	33-49
68.* Urban land										
69.* Ustorthents										
70, 71----- Willacy	0-14 14-80	Fine sandy loam Sandy clay loam, fine sandy loam.	SC, SM-SC SC, CL	A-2-4, A-4 A-4, A-6	100 95-100	100 90-100	95-100 90-100	30-45 36-65	20-30 28-40	5-10 9-20
72:* Willacy----- Urban land.	0-14 14-80	Fine sandy loam Sandy clay loam, fine sandy loam.	SC, SM-SC SC, CL	A-2-4, A-4 A-4, A-6	100 95-100	100 90-100	95-100 90-100	30-45 36-65	20-30 28-40	5-10 9-20
73----- Zalla	0-9 9-65	Loamy fine sand Loamy fine sand, fine sand, sand.	SP-SM, SM, SM-SC SP-SM, SM, SM-SC	A-2-4 A-2-4	95-100 95-100	95-100 95-100	70-85 70-85	10-25 10-25	<25 <25	NP-7 NP-7
74----- Zalla	0-9 9-65	Silt loam----- Loamy fine sand, fine sand, sand.	CL, CL-ML, ML SP-SM, SM, SM-SC	A-4, A-6 A-2-4	100 95-100	100 95-100	90-100 70-85	70-80 10-25	<30 <25	NP-11 NP-7

* See description of the map unit for composition and behavior characteristics of the map unit.

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TABLE 18.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol > means more than. Absence of an entry indicates that the feature is not a concern]

Map symbol and soil name	Hydro-logic group	Flooding			High water table			Cemented pan		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Uncoated steel	Concrete
1.* Arents					Ft			In			
2----- Benito	D	Occasional	Long-----	Sep-May	4.0-6.0	Apparent	Sep-May	---	---	High-----	Low.
3, 4----- Brennan	B	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
5, 6----- Camargo	B	Rare-----	Brief-----	Sep-May	>6.0	---	---	---	---	Moderate	Low.
7----- Cameron	D	None-----	---	---	5.0-6.0	Apparent	Sep-May	---	---	High-----	Low.
8----- Comitas	A	None-----	---	---	>6.0	---	---	---	---	Low-----	Low.
9, 10, 11----- Delfina	B	None-----	---	---	2.5-5.0	Apparent	Sep-May	---	---	High-----	Low.
12----- Delmita	C	None-----	---	---	>6.0	---	---	20-40	Thin	Moderate	Low.
13:* Delmita-----	C	None-----	---	---	>6.0	---	---	20-40	Thin	Moderate	Low.
Randado-----	C	None-----	---	---	>6.0	---	---	8-20	Thin	Moderate	Low.
14----- Falfurrias	A	None-----	---	---	>6.0	---	---	---	---	Low-----	Low.
15**----- Grulla	D	Frequent----	Very long	Sep-May	+2-6.0	Apparent	Sep-May	---	---	High-----	Low.
16, 17, 18----- Hargill	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
19----- Harlingen	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
20----- Harlingen	D	None-----	---	---	5.0-6.0	---	---	---	---	High-----	Moderate.
21:* Harlingen-----	D	None to rare	---	---	>6.0	---	---	---	---	High-----	Low.
Urban land.											
22, 23, 24----- Hebbronville	B	None-----	---	---	>6.0	---	---	---	---	Low-----	Low.
25, 26, 27, 28, 29----- Hidalgo	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
30----- Hidalgo	B	None-----	---	---	2.5-5.0	Apparent	Sep-May	---	---	High-----	Low.
31:* Hidalgo-----	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
Urban land.											
32:* Jimenez-----	C	None-----	---	---	>6.0	---	---	7-20	Thin	High-----	Low.

See footnotes at end of table.

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TABLE 18.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Flooding			High water table			Cemented pan		Risk of corrosion	
		Frequency	Duration	Months	Depth Ft	Kind	Months	Depth In	Hard- ness	Uncoated steel	Concrete
32:* Quemado-----	C	None-----	---	---	>6.0	---	---	10-20	Thin	Moderate	Low.
33----- Laredo	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
34----- Matamoros	C	Occasional	Long-----	Sep-May	>6.0	---	---	---	---	High-----	Low.
35, 36, 37, 38---- McAllen	C	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
39, 40, 41----- Mercedes	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
42----- Nueces	C	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
43:* Nueces-----	C	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
Sarita-----	A	None-----	---	---	>6.0	---	---	---	---	Low-----	Low.
44, 44----- Olmito	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
45,* 46,* 47.* Pits											
48----- Racombe	B	Rare-----	---	---	>6.0	---	---	---	---	High-----	Low.
49----- Racombe	B	Rare-----	---	---	1.5-4.5	Apparent	Sep-May	---	---	High-----	Low.
50----- Ramadero	B	Common-----	Brief-----	Sep-May	>6.0	---	---	---	---	High-----	Low.
51:* Randado-----	C	None-----	---	---	>6.0	---	---	8-20	Thin	Moderate	Low.
Cuevitas-----	D	None-----	---	---	>6.0	---	---	8-14	Thin	Moderate	Low.
52----- Raymondville	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
53----- Raymondville	D	None-----	---	---	2.5-4.5	Apparent	Sep-May	---	---	High-----	Low.
54:* Raymondville-----	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
Urban land.											
55----- Reynosa	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
56----- Reynosa	B	None-----	---	---	1.5-4.5	Apparent	Sep-May	---	---	High-----	Low.
57:* Reynosa-----	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
Urban land.											
58**----- Rio	D	Frequent-----	Long-----	Sep-May	+2-6.0	Apparent	Sep-May	---	---	High-----	Low.
59**----- Rio	D	Frequent-----	Long-----	Sep-May	+2-4.5	Apparent	Sep-May	---	---	High-----	Low.

See footnotes at end of table.

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TABLE 18.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Flooding			High water table			Cemented pan		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard- ness	Uncoated steel	Concrete
					<u>Ft</u>			<u>In</u>			
60**----- Rio	D	Frequent-----	Long-----	Sep-May	+2-6.0	Apparent	Sep-May	---	---	High-----	Low.
61**----- Rio	D	Frequent-----	Long-----	Sep-May	+2-4.5	Apparent	Sep-May	---	---	High-----	Low.
62, 63----- Rio Grande	B	Rare-----	Brief-----	Sep-May	>6.0	---	---	---	---	High-----	Low.
64----- Runn	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
65----- Runn	D	None-----	---	---	2.5-5.0	Apparent	Sep-May	---	---	High-----	Low.
66----- Sarita	A	None-----	---	---	>6.0	---	---	---	---	Low-----	Low.
67**----- Tiocano	D	Frequent-----	Long-----	Sep-May	+3-6.0	Perched	Sep-May	---	---	High-----	Low.
68.* Urban land											
69.* Ustorthents											
70, 71----- Willacy	B	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
72:* Willacy----- Urban land.	B	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
73----- Zalla	A	Occasional	Brief-----	Sep-May	>6.0	---	---	---	---	High-----	Low.
74----- Zalla	A	Rare-----	Brief-----	Sep-May	>6.0	---	---	---	---	High-----	Low.

* See description of the map unit for composition and behavior characteristics of the map unit.
** In the "High water table--Depth" column, a plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

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TABLE 15.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated]

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
1.* Arents						
2----- Benito	Moderate: seepage.	Moderate: hard to pack, excess salt.	Percs slowly, excess salt.	Slow intake, percs slowly, excess salt.	Percs slowly---	Excess salt, percs slowly.
3, 4----- Brennan	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
5, 6----- Camargo	Moderate: seepage.	Moderate: piping.	Floods-----	Erodes easily	Erodes easily	Erodes easily.
7----- Cameron	Severe: seepage.	Moderate: piping.	Favorable-----	Slow intake---	Favorable-----	Favorable.
8----- Comitas	Severe: seepage.	Moderate: seepage, piping.	Cutbanks cave	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
9----- Delfina	Moderate: seepage.	Moderate: wetness.	Favorable-----	Wetness, droughty, fast intake.	Soil blowing---	Favorable.
10, 11----- Delfina	Moderate: seepage.	Moderate: wetness.	Favorable-----	Wetness-----	Favorable-----	Favorable.
12----- Delmita	Severe: seepage.	Moderate: thin layer.	Cemented pan---	Soil blowing, cemented pan.	Cemented pan, soil blowing.	Cemented pan.
13.* Delmita-----	Severe: seepage.	Moderate: thin layer.	Cemented pan---	Soil blowing, cemented pan.	Cemented pan, soil blowing.	Cemented pan.
Randado-----	Severe: cemented pan, seepage.	Severe: thin layer.	Cemented pan---	Cemented pan---	Cemented pan---	Cemented pan.
14----- Falfurrias	Severe: seepage.	Severe: seepage, piping.	Cutbanks cave	Droughty, fast intake.	Too sandy-----	Droughty.
15----- Grulla	Slight-----	Severe: hard to pack, ponding.	Ponding, percs slowly, floods.	Ponding, slow intake, percs slowly.	Ponding, percs slowly.	Wetness, percs slowly.
16, 17----- Hargill	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
18----- Hargill	Moderate: seepage, slope.	Moderate: piping.	Slope-----	Slope-----	Favorable-----	Favorable.
19----- Harlingen	Slight-----	Severe: hard to pack.	Percs slowly---	Slow intake, percs slowly.	Percs slowly---	Excess salt, percs slowly.
20----- Harlingen	Slight-----	Moderate: hard to pack, excess salt.	Percs slowly, excess salt.	Droughty, slow intake, percs slowly.	Percs slowly---	Excess salt, droughty, percs slowly.
21.* Harlingen-----	Slight-----	Severe: hard to pack.	Percs slowly---	Slow intake, percs slowly.	Percs slowly---	Excess salt, percs slowly.
Urban land.						

See footnote at end of table.

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Soil survey

TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
22, 23, 24----- Hebbronville	Severe: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Soil blowing---	Favorable.
25, 26----- Hidalgo	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
27----- Hidalgo	Moderate: seepage, slope.	Moderate: piping.	Slope-----	Slope-----	Favorable-----	Favorable.
28, 29----- Hidalgo	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
30----- Hidalgo	Moderate: seepage.	Moderate: piping, wetness, excess salt.	Excess salt---	Wetness, excess salt.	Wetness-----	Excess salt, droughty.
31: * Hidalgo	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
Urban land.						
32: * Jimenez	Severe: cemented pan.	Severe: thin layer.	Cemented pan---	Droughty, cemented pan, slope.	Large stones, cemented pan.	Large stones, droughty.
Quemado-----	Severe: cemented pan.	Severe: seepage.	Cemented pan---	Droughty, cemented pan, slope.	Large stones, cemented pan.	Large stones, droughty, cemented pan.
33----- Laredo	Severe: seepage.	Moderate: piping.	Favorable-----	Erodes easily	Erodes easily	Erodes easily.
34----- Matamoros	Slight-----	Moderate: hard to pack.	Peres slowly, floods.	Slow intake, peres slowly, floods.	Peres slowly---	Peres slowly.
35, 36, 37, 38---- McAllen	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
39----- Mercedes	Slight-----	Severe: hard to pack.	Peres slowly---	Slow intake, peres slowly.	Peres slowly---	Peres slowly.
40----- Mercedes	Slight-----	Severe: hard to pack.	Peres slowly---	Slow intake, peres slowly, excess salt.	Peres slowly---	Excess salt, droughty, peres slowly.
41----- Mercedes	Slight-----	Severe: hard to pack.	Peres slowly---	Slow intake, peres slowly.	Peres slowly---	Peres slowly.
42----- Nueces	Moderate: seepage.	Severe: seepage, piping.	Cutbanks cave	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
43: * Nueces	Moderate: seepage.	Severe: seepage, piping.	Cutbanks cave	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Sarita-----	Severe: seepage.	Severe: seepage, seepage.	Cutbanks cave	Droughty, fast intake.	Too sandy-----	Droughty.
44----- Olmito	Slight-----	Moderate: hard to pack.	Peres slowly---	Slow intake, peres slowly.	Peres slowly---	Peres slowly.

See footnote at end of table.

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TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
45,* 46,* 47.* Pits						
48----- Racombes	Moderate: seepage.	Slight-----	Favorable-----	Favorable-----	Favorable-----	Favorable.
49----- Racombes	Moderate: seepage.	Severe: wetness, excess salt.	Excess salt----	Wetness, droughty, excess salt.	Wetness-----	Excess salt, droughty.
50----- Ramadero	Moderate: seepage.	Moderate: piping.	Floods-----	Floods-----	Favorable-----	Favorable.
51:* Randado-----	Severe: cemented pan, seepage.	Severe: thin layer.	Cemented pan---	Cemented pan---	Cemented pan---	Cemented pan.
Cuevitas-----	Severe: cemented pan, seepage.	Severe: thin layer.	Cemented pan---	Cemented pan---	Cemented pan---	Cemented pan.
52----- Raymondville	Slight-----	Moderate: hard to pack.	Peres slowly---	Slow intake, peres slowly.	Peres slowly---	Peres slowly.
53----- Raymondville	Slight-----	Severe: excess salt.	Peres slowly, excess salt.	Wetness, droughty, excess salt.	Wetness, peres slowly.	Excess salt, droughty, peres slowly.
54:* Raymondville----	Slight-----	Moderate: hard to pack.	Peres slowly---	Slow intake, peres slowly.	Peres slowly---	Peres slowly.
Urban land.						
55----- Reynosa	Severe: seepage.	Moderate: thin layer, piping.	Favorable-----	Erodes easily	Erodes easily	Erodes easily.
56----- Reynosa	Severe: seepage.	Moderate: piping, wetness, excess salt.	Excess salt----	Wetness, excess salt, erodes easily.	Erodes easily, wetness.	Excess salt, erodes easily, droughty.
57:* Reynosa-----	Severe: seepage.	Moderate: thin layer, piping.	Favorable-----	Erodes easily	Erodes easily	Erodes easily.
Urban land.						
58----- Rio	Slight-----	Severe: ponding.	Ponding, peres slowly, floods.	Ponding, peres slowly, floods.	Ponding, peres slowly.	Wetness, peres slowly.
59----- Rio	Slight-----	Severe: ponding, excess salt.	Ponding, peres slowly, floods.	Ponding, droughty, peres slowly.	Ponding, peres slowly.	Wetness, excess salt, droughty.
60----- Rio	Slight-----	Severe: ponding.	Ponding, peres slowly, floods.	Ponding, peres slowly, floods.	Ponding, peres slowly.	Wetness, peres slowly.
61----- Rio	Slight-----	Severe: ponding, excess salt.	Ponding, peres slowly, floods.	Ponding, droughty, peres slowly.	Ponding, peres slowly.	Wetness, excess salt, droughty.
62, 63----- Rio Grande	Severe: seepage.	Severe: piping.	Floods-----	Erodes easily, floods.	Erodes easily	Erodes easily.

See footnote at end of table.

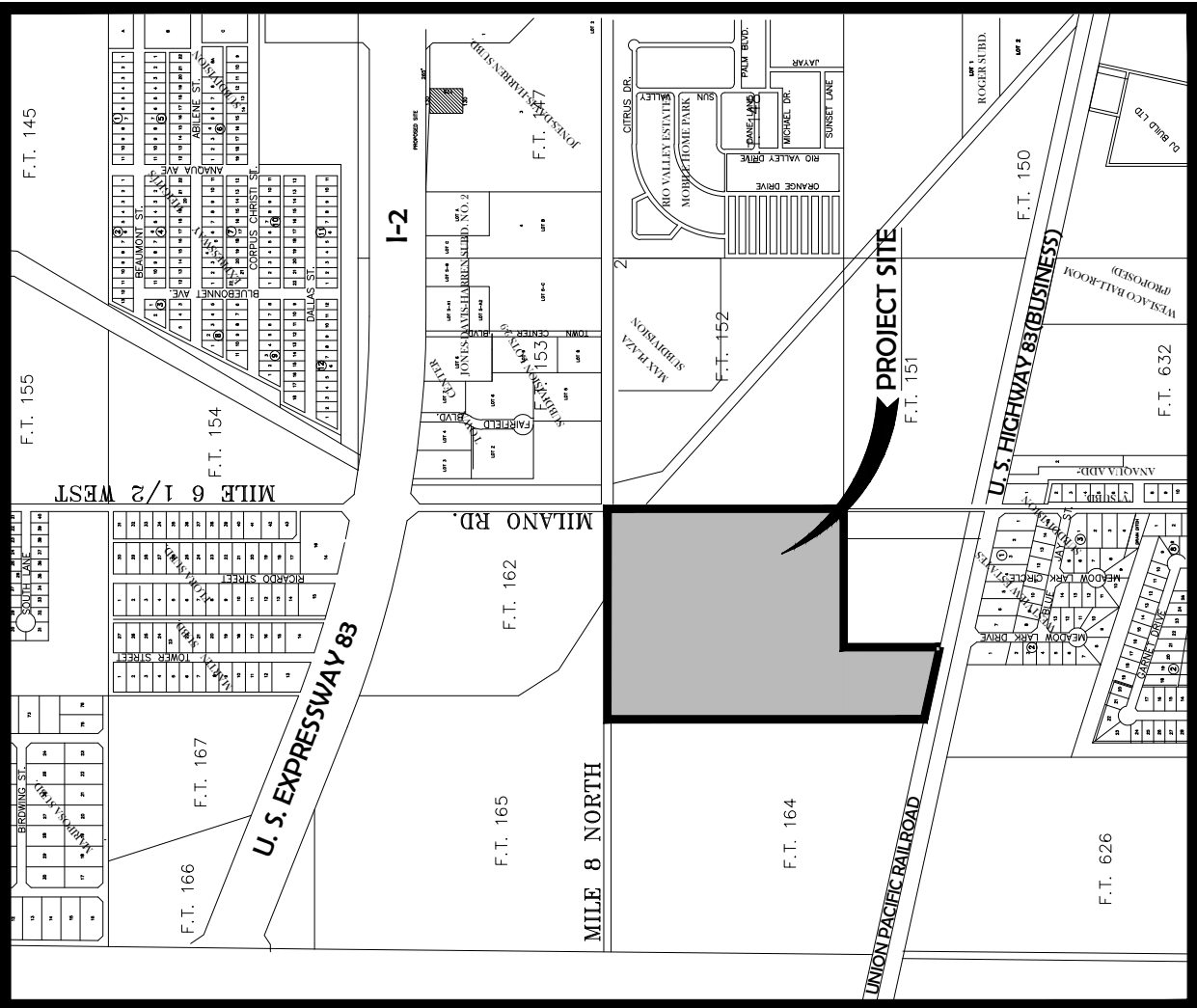
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TABLE 15.--WATER MANAGEMENT--Continued

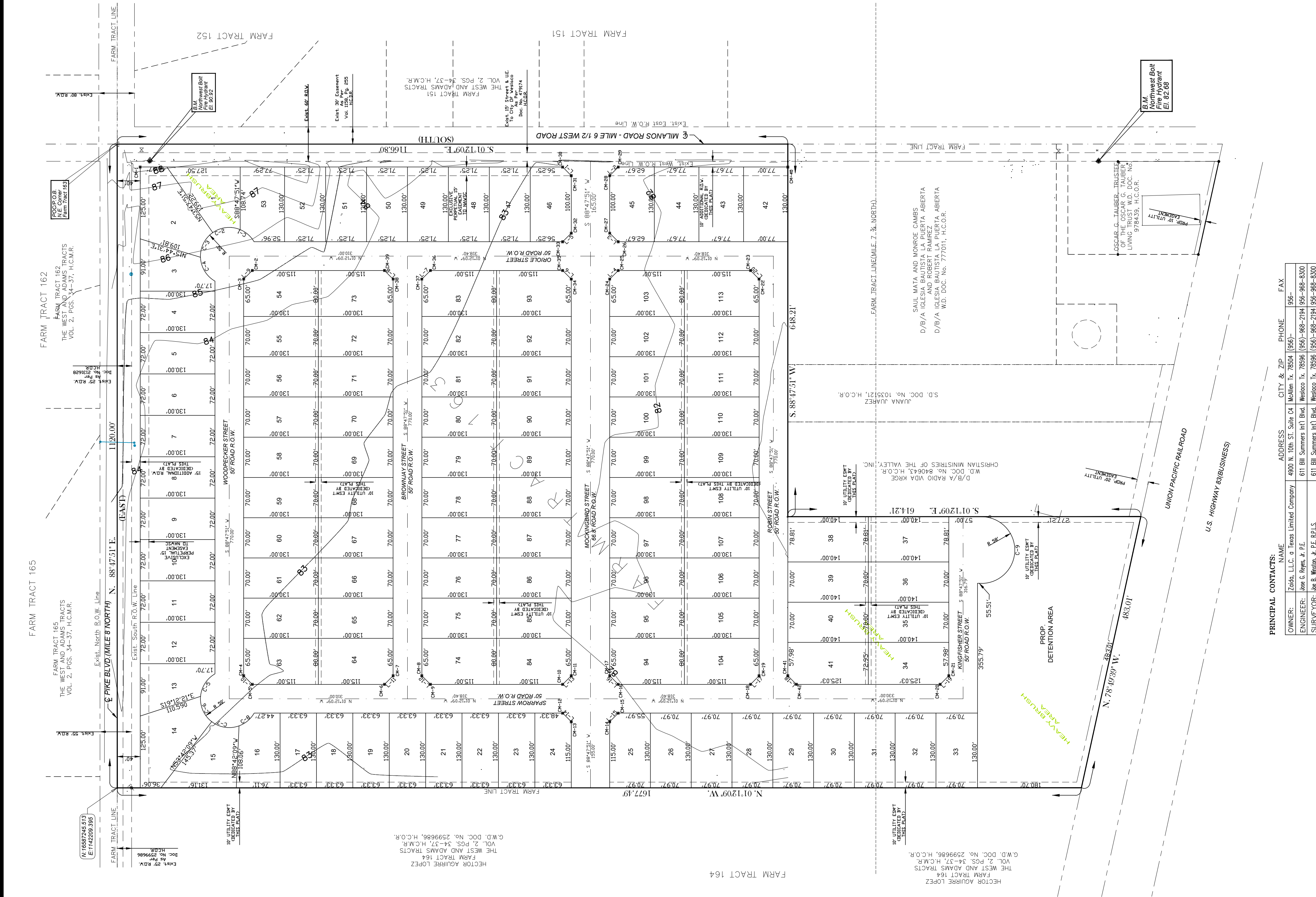
Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
64----- Runn	Moderate: seepage.	Moderate: hard to pack.	Percs slowly---	Slow intake, percs slowly, excess salt.	Percs slowly---	Percs slowly.
65----- Runn	Moderate: seepage.	Moderate: hard to pack, wetness, excess salt.	Percs slowly, excess salt.	Slow intake, percs slowly, excess salt.	Wetness, percs slowly.	Excess salt, erodes easily, percs slowly.
66----- Sarita	Severe: seepage.	Severe: seepage, seepage.	Cutbanks cave	Droughty, fast intake.	Too sandy-----	Droughty.
67----- Tlocano	Slight-----	Severe: hard to pack, ponding.	Ponding, percs slowly, floods.	Ponding, slow intake, percs slowly.	Ponding, percs slowly.	Wetness, percs slowly.
68.* Urban land						
69.* Ustorthents						
70, 71----- Willacy	Moderate: seepage.	Slight-----	Favorable-----	Favorable-----	Favorable-----	Favorable.
72.* Willacy----- Urban land.	Moderate: seepage.	Slight-----	Favorable-----	Favorable-----	Favorable-----	Favorable.
73, 74----- Zalla	Severe: seepage.	Severe: seepage, piping.	Floods-----	Droughty, fast intake.	Too sandy-----	Droughty.

* See description of the map unit for composition and behavior characteristics of the map unit.



LOCATION MAP
SCALE 1" = 1000'

- LEGEND
- POINT OF BEGINNING
 - BENCH MARK
 - RIGHT OF WAY
 - H.C.O.R.: HIDALGO COUNTY ORIGINAL RECORDS
 - H.C.O.R.: HIDALGO COUNTY DEED RECORDS
 - W.D.: WARRANTY DEED
 - NAWSIC: NORTH ALAMO WATER SUPPLY CORP.
 - SET CONCRETE MONUMENT WITH ELEVATION(CM+0)
 - SET 1/2" REBAR
 - SET 3/4" REBAR FOUND
 - EASEMENT LINE
 - PROPERTY LINE
 - R.O.W. LINE
 - CENTERLINE



LINE TABLE			
LINE	BEARING	DISTANCE	
1	S 43°47'09" E	21.21'	
2	N 46°12'09" E	21.21'	
3	N 43°47'51" E	21.21'	
4	N 46°12'09" E	21.21'	
5	N 46°12'09" W	21.21'	
6	S 43°47'51" W	21.21'	
7	S 46°12'09" E	21.21'	
8	S 43°47'51" W	21.21'	
9	S 46°12'09" E	21.21'	
10	N 43°47'51" E	21.21'	
11	N 46°12'09" E	21.21'	
12	N 43°47'51" E	21.21'	
13	N 46°12'09" W	21.21'	
14	S 43°47'51" W	21.21'	
15	N 46°12'09" E	21.21'	
16	N 43°47'51" E	21.21'	
17	N 46°12'09" W	21.21'	
18	N 43°47'51" E	21.21'	
19	N 46°12'09" W	21.21'	
20	S 43°47'51" W	21.21'	

CURVE TABLE			
CURVE	RADIUS	ARC LENGTH	CHORD BEARING
C-1	50.00'	32.90'	N 39°56'43" E
C-2	50.00'	50.00'	N 07°33'17" E
C-3	50.00'	50.00'	N 64°51'01" W
C-4	50.00'	50.36'	S 57°38'59" W
C-5	50.00'	48.17'	N 58°48'17" W
C-6	50.00'	50.00'	S 64°56'43" W
C-7	50.00'	50.00'	S 07°38'59" W
C-8	50.00'	35.08'	S 41°06'01" E
C-9	58.00'	162.21'	N 68°47'51" E

CONCRETE MONUMENT			
CM	NORTHING	EASTING	ELEVATION
CM-1	16587728.3324	1143193.0807	0
CM-2	16587029.5979	1143114.2127	0
CM-3	16587014.2798	1143098.9012	0
CM-4	16587029.7994	1142409.0531	0
CM-5	16587014.4579	1142394.3712	0
CM-6	16586784.5386	1142399.1980	0
CM-7	16586769.8567	1142415.5095	0
CM-8	16586719.8677	1142415.5988	0
CM-9	16586704.5562	1142400.9769	0
CM-10	16586699.9249	1142400.9769	0
CM-11	16586699.9249	1142401.0152	0
CM-12	165866473.5605	1142355.7146	0
CM-13	16586458.2490	1142341.6538	0
CM-14	16586391.4841	1142342.4346	0
CM-15	16586376.7788	1142357.7461	0
CM-16	16586377.8282	1142407.7351	0
CM-17	16586393.1396	1142422.4170	0
CM-18	16586147.8788	1142412.5619	0
CM-19	16586135.1969	1142427.6794	0
CM-20	16586135.1969	1142427.6794	0
CM-21	16586503.5958	1142435.7995	0
CM-22	16586147.6773	1143117.7215	0
CM-23	16586162.9888	1143132.4034	0
CM-24	16586407.6200	1143112.2651	0
CM-25	16586392.9381	1143127.5766	0
CM-26	16586393.9874	1143177.5656	0
CM-27	16586409.2989	1143192.2475	0
CM-28	16586396.7750	1143307.5369	0
CM-29	16586411.3973	1143292.2294	0
CM-30	16586411.3973	1143292.2294	0
CM-31	16586478.1928	1143292.8236	0
CM-32	16586476.0842	1143180.8456	0
CM-33	16586490.7661	1143175.5341	0
CM-34	1658674.4053	1143110.8632	0
CM-35	16586489.7168	1143125.5471	0
CM-36	16586719.6661	1143120.7183	0
CM-37	16586734.3480	1143105.4068	0
CM-38	16586784.3370	1143104.4034	0
CM-39	16586795.6465	1143119.0394	0
CM-40	16586795.6465	1143119.0394	0
CM-41	16586083.2086	1142424.9560	0
CM-42	16586067.8971	1142414.8952	0

STATE OF TEXAS
COUNTY OF HIDALGO

ENGINEER'S CERTIFICATION
I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THE ABOVE PLAT AND DESCRIPTION OF THE OLD PECAN GROVE SUBDIVISION, WAS PREPARED FROM A SURVEY OF THE PROPERTY MADE ON THE GROUND BY ME OR UNDER MY SUPERVISION, AND THAT THE SAME IS A TRUE AND ACCURATE REPRESENTATION OF THIS PLAT AND OF THE GROUND.

JOSE G. REYES, JR.
REGISTERED PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO. 93827

DATE

STATE OF TEXAS
COUNTY OF HIDALGO

SURVEYOR'S AND ENGINEER'S CERTIFICATION
I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL LAND SURVEYOR AND REGISTERED PROFESSIONAL ENGINEER, IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THE ABOVE PLAT AND DESCRIPTION OF THE OLD PECAN GROVE SUBDIVISION, WAS PREPARED FROM AN ACTUAL SURVEY ON THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND.

JOSE B. WINSTON, JR.
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 31109

DATE

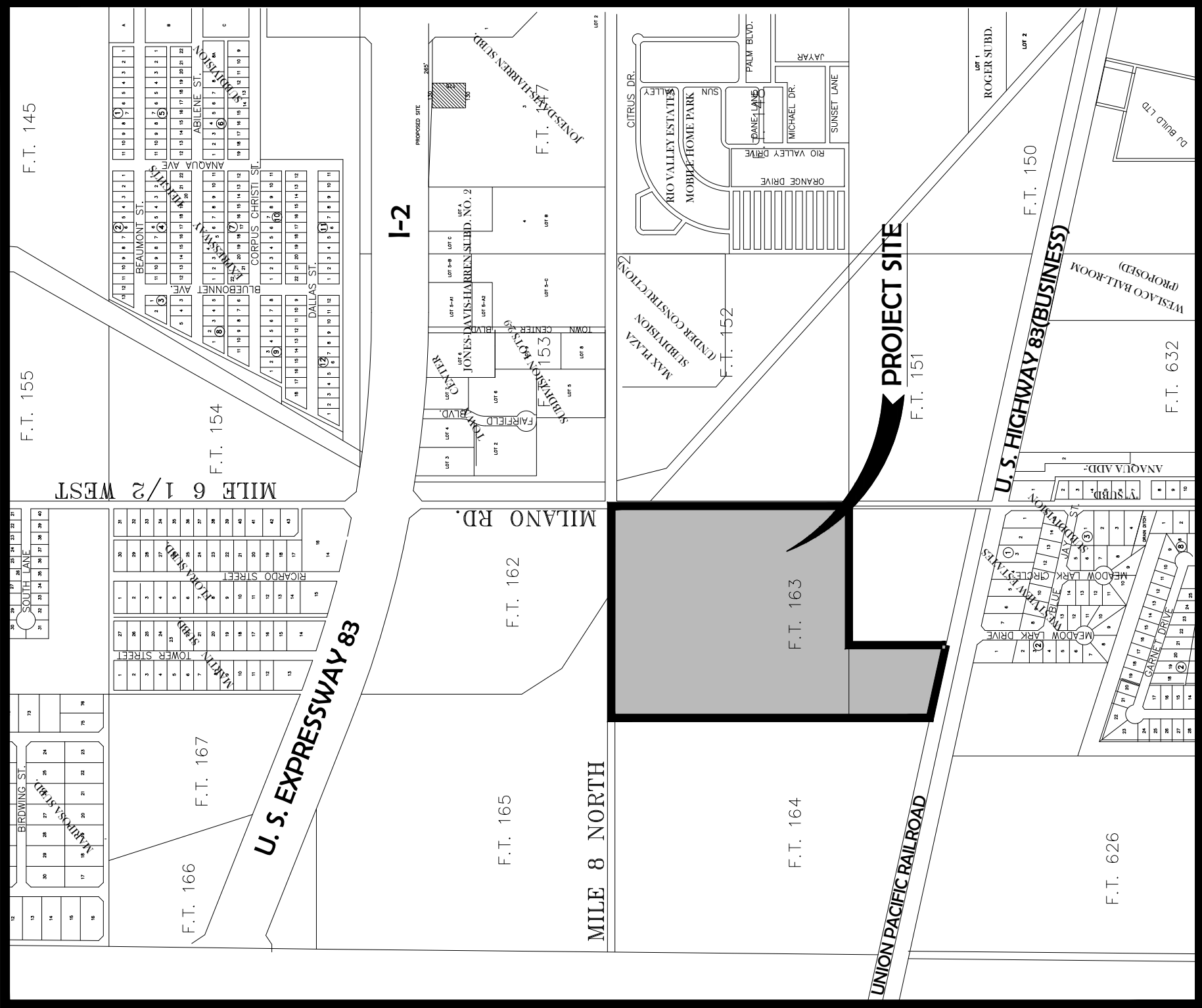
PRELIMINARY
FOR REVIEW ONLY

PIKE DISTRICT SUBDIVISION



SWG ENGINEERING, LLC
WESLACO, TEXAS
TEXAS FIRM REGISTRATION NO. F-592
(956) 968-2194
SINCE 1945

DATE OF PREPARATION
FEBRUARY 17, 2021



LOCATION MAP

PRELIMINARY
FOR REVIEW ONLY

REV	DATE	DESCRIPTION	BY

PIKE DISTRICT SUBDIVISION SITE PLAN	
SIGLER, WINSTON, GREENWOOD AND ASSOCIATES SWG ENGINEERING, LLC TEXAS FIRM REGISTRATION NO. F-592 WESLACO, TEXAS	
DATE: DEC., 2020	CHECKED: JGR, JCF.
NO. 1	OF 1
20-135-	





**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: February 17, 2021	Agenda Item No. (to be assigned by PCE): III. C.
From: Rebekah de la Fuente, Planning Director, on behalf of Ruben Alfaro.	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Gonzalez-Vasquez Subdivision– being 2.24 acres out of Lot 1, Kevin Subdivision, Weslaco, Hidalgo County, Texas located approximately 733 FT west of Westgate drive on mile 10. Possible Action.	
Discussion/Overview: The proposed two (2) lot subdivision is outside the City of Weslaco. This subdivision is being serviced with water by the North Alamo Water Supply Company through an 8” waterline and sewer by OSSF. The property is within a Flood Zone “X”. Applicant is requesting a variance for OSSF.	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission’s Action: Staff recommends approval of Final Plat and compliance with the ordinance on the variance.	
Additional Action Prompted: ☒ Mayor’s Signature ☐ Public Hearing ☐ Budget Amendment ☐ Resolution ☐ Ordinance – First Reading ☐ Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff’s comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission’s Action: Planning staff will advise applicant.	



SUBDIVISION PLATTING APPLICATION

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

STAFF USE ONLY

☐ Single Lot Variance ☐ Minor Plat ☐ Planned Unit Development ☐ Standard Subdivision

GENERAL INFORMATION

Name of Subdivision: Gonzalez-Vasquez Subdivision

Location: _____

Legal Description: _____

Is subdivision inside city limits? ☐ YES ☒ NO

If subdivision is in the ETJ, indicate? ☐ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: Residential

Existing Land Use: Residential Proposed Land Use: Residential

Number of Lots Proposed: 2 Gross Acreage: 2.24

Title Report Submitted: ☐ YES ☐ NO

OWNER INFORMATION

Owner's Name: Roberto Gonzalez Telephone: 956 280 7347

Address: RT 6 Box 279 E Fax: _____

City: Weslaco State: TX Zip: 78596 E-mail: _____

ENGINEER INFORMATION

Name: Ruben Alfaro Telephone: 956 207 6072

Address: 7800 N. Ft St. Fax: _____

City: McAllen State: TX Zip: 78504 E-mail: ruben.alfaro@acho-engineering.com

UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: NAWSC
☐ YES ☒ NO Wastewater Provision: Septic Tank
☒ YES ☐ NO Electric Company: _____

☒ YES ☐ NO Phone Utility _____	☐ YES ☒ NO Gas Utility	☒ YES ☐ NO Cable Utility
---	---	---

Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>HCCD No. 1</u>	☒ YES ☐ NO Irrigation District <u>HCCID No. 9</u>
---	--

Has the property been assessed as flat rate irrigable property: ☐ YES ☒ NO

Have Water Rights been conveyed to City/Water Supplier? ☒ YES ☐ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If **YES**, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR MINOR PLAT REVIEW

- _____ **Two (2)** sets of plats **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- _____ **\$355.00** Planning Review fee
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements
 - _____ Contours
 - _____ Flood Zones
 - _____ Adjoiners
 - _____ Existing street names
- _____ Drainage plans and calculations with engineer's seal
 - _____ Elevations
 - _____ Flood directional arrows
 - _____ Detention areas
 - _____ Street names
- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full

SUBMITTALS REQUIRED FOR PRELIMINARY (P & Z)

- _____ ☒ **Twelve (12)** sets of preliminary plat **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- _____ **\$350.00** (one time fee for preliminary and final plat)
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

- _____ Contours
- _____ Flood Zones
- _____ Adjoiners
- _____ Existing & Proposed street names
- _____ Utility Layout
- _____ Existing & Proposed Utilities
- _____ Proposed Fire Hydrants
- _____ Adjoiners
- _____ Street names
- _____ Drainage plans and calculations with engineer's seal
- _____ Elevations
- _____ Flood directional arrows
- _____ Detention areas
- _____ Street names
- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full
- _____ Number of fire hydrants proposed for subdivision
- _____ Trip Generation Worksheet

SUBMITTALS REQUIRED FOR FINAL (P & Z) **Will not apply to Single Lot Variance**

- _____ **Twelve (12) sets of plans FOLDED & STAPLED (24 x 36) & PDF copy with all corrections**
- _____ Plats to be sealed by Professional Engineer
- _____ Approved Drainage Report
- _____ Traffic Impact Analysis (If required)

SUBMITTALS REQUIRED FOR FINAL (City Commission)

- _____ One set of 8 ½ x 11 of plat and utilities with all corrections done

SUBMITTALS REQUIRED FOR PRE-CONSTRUCTION MEETING

- _____ Seven (7) full sets of construction plans 24 x 36 and one (1) 11 x 17 with plan & profile.
- _____ Engineering cost estimates for 3% geotechnical testing fees and 2% inspection fees
- _____ Notice of Intent
- _____ SW3P

SUBMITTALS REQUIRED FOR RECORDING OR HIDALGO COUNTY PLANNING

- _____ Electronic file of final plat and as-builds
- _____ Reproducible plat to be recorded with all required signatures
- _____ 3% geotechnical testing fees or negotiated Material Testing fee by City, whichever is higher
- _____ 2% inspection fee
- _____ Park Fees
- _____ Checks or Receipts: HCCID #9; HCDD #1; County Clerk
- _____ Tax certificates
- _____ Memo from engineering inspector releasing subdivision
- _____ Water Rights associated with the property dedicated and assigned to City of Weslaco or payment of fees sufficient to meet the needs necessitated and attributable to development
- _____ 30 Year Water and 30 Year Sewer Service Agreements
- _____ Park dedication/Fees in lieu of

SUBMITTALS REQUIRED FOR RECORDING BY SECURITY

- _____ Sealed engineering cost estimates
- _____ Letter of Credit/Performance Bond/Escrow

** Any revisions requested would require resubmission of plats and reduced copy reflecting changes.

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: Roberto Gonzalez

Owner Signature: [Signature] Date: 01-26-21

Ruben Alfaro is the authorized agent

Authorized Agent Signature: [Signature] Date: 01-26-21

Authorized Agent Printed Name: Ruben Alfaro

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid: _____

P & Z Commission Approval on Preliminary Plat: _____

P & Z Commission Approval on Final Plat: _____

City Commission Approval on Final Plat: _____

Preconstruction Meeting Date: _____

Date Recorded: _____

General Comments: _____

CITY OF WESLACO
956-968-3181

REC#: 02714981 1/27/2021 9:40 AM
OPER: KAREV TERM: 041
REF#: 121
PAID BY:

TRAN: 203.0000 SUBDIVISION INSPECT
gonzalez-vasquez subdivision
101-400-1025
SUBDIVISION INSPECT 355.00CR

TRAN: 115.0000 FIRE MARSHAL INSPECT
PLAN REVIEW
101-400-3110
FIRE MARSHALL INSPE 75.00CR

TENDERED: 75.00 CHECK
355.00 CHECK
APPLIED: 430.00-

CHANGE: 0.00 WWW.WESLACOTX.GOV



SUBDIVISION REVIEW APPLICATION

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

GENERAL INFORMATION

Name of Subdivision: GONZALEZ-VASQUEZ SUBDIVISION

Location: 1928 W. MILE 10 N WESLACO, TX 78596

Legal Description: A 2.24-ACRE TRACT OF LAND INCLUDING ALL OF LOT 1 OF KEVIN SUBDIVISION AS RECORDED IN VOLUME 38 PAGE 38 OF HIDALGO COUNTY MAP RECORDS.

Is subdivision inside city limits? ☐ YES ☒ NO

If subdivision is in the ETJ, indicate? ☒ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: RESIDENTIAL

Existing Land Use: RESIDENTIAL Proposed Land Use: RESIDENTIAL

Number of Lots Proposed: 2 Gross Acreage: 2.24

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: ROBERTO GONZALEZ Telephone: (956) 280-7347

Address: 1928 W. MILE 10 N Fax: _____

City: WESLACO State: TX Zip: 78596 E-mail: _____

ENGINEER INFORMATION

Name: RUBEN ALFARO Telephone: (956) 207-6072

Address: 7800 N. 1ST ST. Fax: _____

City: MCALLEN State: TX Zip: 78504 E-mail: ruben.alfaro@achc-engineering.com

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-8285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■

UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: North Alamo Water Supply Corporation

☐ YES ☒ NO Wastewater Provision: Septic Tank to be used

☒ YES ☐ NO Electric Company: MVEC/AEP

☐ YES ☐ NO Phone Utility _____	☐ YES ☐ NO Gas Utility _____	☐ YES ☐ NO Cable Utility _____
--	--	--

Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>HCDD No. 1</u>	☒ YES ☐ NO Irrigation District <u>HCCID No. 9</u>
---	--

Has the property been assessed as flat rate irrigable property: ☐ YES ☐ NO

Have Water Rights been conveyed to City/Water Supplier? ☐ YES ☐ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If YES, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR SUBDIVISION REVIEW

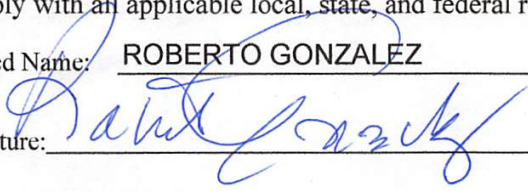
- _____ Seven (7) sets of preliminary plat folded and stapled (24 x 36) and forward a copy in PDF format to _____ & _____
- _____ \$55.00 Subdivision Review fee
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements
 - _____ Contours
 - _____ Flood Zones
 - _____ Adjoiners
 - _____ Existing & Proposed street names
- _____ Utility Layout
 - _____ Existing & Proposed Utilities
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 - _____ Flood directional arrows
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- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full
- _____ Number of fire hydrants proposed for subdivision
- _____ Trip Generation Worksheet

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: ROBERTO GONZALEZ

Owner Signature:  Date: 10/27/20

RUBEN ALFARO is the authorized agent

Authorized Agent Signature:  Date: 10/27/20

Authorized Agent Printed Name: RUBEN ALFARO

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid: _____

Preliminary Subdivision Review Date: _____

General Comments: _____

**Proposed
Gonzalez-Vasquez Subdivision
Hidalgo County, Texas**

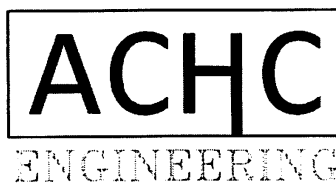
DRAINAGE REPORT

Prepared For:

**Hidalgo County Drainage District
902 N. Doolittle
Edinburg, Texas, 78541**

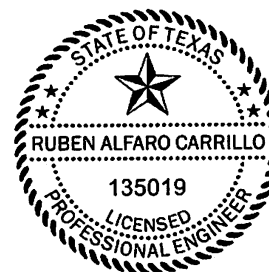
Prepared By:

Ruben Alfaro, P.E.



Reg. Engineering No. F-21299

**7800 N. 1st Street
McAllen, Texas 78504
(956) 207-6072**



January 2021

TABLE OF CONTENTS

DRAINAGE REPORT

ATTACHMENTS

LOCATION MAP

SUBDIVISION PLAT

SITE PLAN

FLOOD INSURANCE RATE MAP

DRAINAGE CALCULATIONS

RUNOFF CALCULATIONS

DETENTION STORAGE CALCULATIONS

SOIL PROPERTIES

SOIL MAP

MAP UNIT DESCRIPTION

PHYSICAL SOIL PROPERTIES

ENGINEERING PROPERTIES

DRAINAGE REPORT
Gonzalez-Vasquez Subdivision
Hidalgo County, Texas

Introduction:

The proposed Gonzalez-Vasquez Subdivision (intended for residential use) is a 2.24 acre two lot subdivision out of lot 1 of Kevin Subdivision in Hidalgo County, Texas. This report is intended to fulfill the drainage requirements of Gonzalez-Vasquez Subdivision. Please see the attached Plat for more details.

This property is located along Mile 10 north between mile 6 and mile 6 and a half roads, IN Hidalgo County within the ETJ limits of Weslaco, Texas. Currently, there is a single family home located on the site. Residential developments are adjacent to the subdivision to the East, West and North and a vacant/agricultural lot to the South. Please see the attached Location Map and Plat for reference.

FEMA:

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the subdivision is located in "*Zone B*" *Community Panel Number 480349 0005 B Map Effective March 4, 1980*. "*Zone B*" are areas between limits of the 100-year flood and 500year flood or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile. Please see the attached FEMA Maps for reference. The QUAD Maps has also been included in Attachments.

Soil:

According to the Soil Survey Report prepared for this Subdivision in Hidalgo County by the U.S.D.A. Soil Conservation Services, the site consists of two soil types; about 40% is composed of (25)-Hidalgo fine sandy loam, with 0 to 1 percent slopes and about 60% is composed of (48)-Hidalgo sandy clay loam with 0 to 1 percent slopes. Both Soil types belong to soil group B; ***Soil Group B*** defined as soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Existing Drainage Conditions:

Existing storm runoff within this property currently flows overland in a southeasterly direction. Runoff is currently retained in the existing green areas along the residential property and no additional volume is outfalling to existing Mile 10 N. road.

Drainage Requirements:

The pre-developed peak runoff from a 10-year storm determined using the rational method is 2.30 cfs and the anticipated peak runoff after development is calculated to be 3.53 cfs for a 50-year return frequency.

In accordance with the County's drainage requirements of not increasing the amount of existing runoff, we have calculated that 3,079 cubic feet of storm runoff to be retained within the property through seepage into the existing green areas.



A handwritten signature in black ink, appearing to read "Ruben Alfaro", written over a horizontal line.

Ruben Alfaro, P.E.

ACHC Engineering F#-21299



1. A 2.34 ACRE TRACT OF LAND INCLUDING ALL OF LOT 1 OF KEYWAY SUBDIVISION
AS SHOWN ON REQUISITION NO. 2008-7729 IN VOLUME 26 PAGE 30
OF THE PUBLIC CITY OF ST. LOUIS, MISSOURI.

[illegible]

2004/2005

ALL MEASUREMENTS AND DISTANCES ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). TEXAS STATE PLANE, SOUTH ZONE.

ALL HORIZONTAL CONTROL ON THIS PROJECT WAS ESTABLISHED UTILIZING THE GPS METHOD.

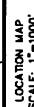
ELEVATIONS ON THIS PROJECT ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

○ - SET NO. 4 REGALS
 ● - FOUND 1/2" SHOT ROD
 S.O.R. - SORT OF BAY
 P.O.C. - POINT OF CONNECTION
 P.O.B. - POINT OF BEGINNING

[illegible]

NAME	ROBERTO DOMINIZ
ADDRESS	AVENIDA ALFARO CARRILLO
CITY	BOGOTA D.C. GUINERIZ
TELEPHONE	
PRINCIPAL CONTACTS:	

DATE	DESCRIPTION	DATE	APPROVAL



VALUES AND BOUNDS

SEND ALL OF LOT 1 (12.6-ACRE TRACT), E7TH SUBDIVISION, VOLUME 38, PAGE 38, CITY OF MELBOURNE, HIGHLAND COUNTY MAP RECORD, HIGHLAND COUNTY, TEXAS, BEING MORE PARTICULARLY DESCRIBED BY NOTES AND BOUNDS AS FOLLOWS

THE POINT OF COMMENCEMENT (P.O.C.) POINT OF BEGINNING (P.O.B.) AT A NO. 4 ACRES PLDGD FOR THE SOUTHWEST CORNER OF SAID LOT 1, BEING AT THE APPARENT NORTH NORTH-WAY LINE OF SAID 13 NORTH ROAD AND THE SOUTHEAST CORNER OF LOT 1, SAID MEADOWS ESTATES SUBDIVISION (VOLUME 61, PAGE 28, MAP RECORD, SAID COUNTY, TEXAS).

WHEEL NORTH, WITH THE WEST LINE OF SAID LOT 1 (234-408 TRACT) HEREIN DESCRIBED, AND THE SOUTHWESTMOST EAST LINE OF SAID SAW MEADOWS ESTATES SUBDIVISION, A DISTANCE OF FIFTY FEET TO A NO. 6 STEEL REBAR SET WITH PLASTIC CAP STOPPED 1771. FOR THE SOUTHWEST CORNER OF LOT 7, OF SAID SAW MEADOWS ESTATES SUBDIVISION, THE CORNER OF SAID LOT 1, (234-408 TRACT), HEREIN DESCRIBED, AND THE

MONKEY, EAST, WITH THE NORTH LINE S40 LOT 1 (2.24-ACRE TRACT) MOORE DECEDD, AND THE SOUTH LINE OF S40 LOT 2, A DISTANCE OF 18.00 FEET TO A NO. 4 REBAR SET WITH PLASTIC CAP STUMPED 2 FT., FOR THE SOUTHWEST CORNER OF S40 LOT 7, AND THE NORTHWEST CORNER OF A TRACT NOTED IN RECORD 172.

PROPERTY LOCATIONS, AND THE NORTHEAST CORNER OF SAO LOT 1 (2.34-ACRE TRACT) NEARLY ADJACENT, BOUND WITH THE NORTHEAST CORNER OF SAO LOT 1 (2.34-ACRE TRACT) NEARLY ADJACENT, AND THE WEST LINE OF SAO TRACT VESTED IN ROW-AND 172, A DISTANCE OF 474.94 FEET TO A NO. 4 NEAR BY WITH LITTLE CAN STAMPEL 1701. FOR THE NORTHEAST CORNER OF LOT 1, 172 FROM SUBDIVISION OF SAO LOT 1 (2.34-ACRE TRACT) NEARLY ADJACENT, AND THE NORTHEAST CORNER OF SAO LOT 1 (2.34-ACRE TRACT) NEARLY ADJACENT.

[illegible]

THE WEST LINE OF SAID LOT 2, A DISTANCE OF 193.26 FEET TO A NO. 4 REBAR SET WITH PLASTER CAP FINISHED
NORTH, WITH THE SOUTHWESTMOST EAST LINE OF SAID LOT 1 (2.24-ACRE TRACT) NORTH DESCRIBED, AND
THE WEST LINE OF SAID LOT 2, A DISTANCE OF 193.26 FEET TO A NO. 4 REBAR SET WITH PLASTER CAP FINISHED

AND THE SOUTHWEST CORNER OF SAID LOT 1 (2.314-ACRE TRACT) HEREIN DESCRIBED, ON THE NORTH RIGHT-OF-WAY LINE OF MALE IS NORTH ROAD, FOR THE SOUTHWEST CORNER OF SAID LOT 2.

SUBJECT TRACT OF LAND BEING PART OF A BLANKET FLOOD FOR THE
COURTNEY CORNER OF SAID LOT 1 AND THE SOUTHWEST CORNER OF SAID LOT 1, SAN MEADOWS ESTATES
UNDIVISION, AND THE POINT OF BEGINNING, SAID TRACT CONTAINING 2.8 ACRES TRACT OF LAND MORE OR LESS

STATE OF TEXAS

COUNTY OF HIDALGO
SHOW ALL MEN BY THEIR FRIENDS

THE
CITY OF
SAN FRANCISCO
OFFICE OF THE
SUPERVISOR
RECEIVED
JUN 10 1964

FOR THE DIRECTOR

STATE OF TEXAS
COUNTY OF HIDALGO

THE UNDERSIGNED, ELMER ALVARO CASTELLO, A REGISTERED PROFESSIONAL ENGINEER
IN THE STATE OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING COORDINATION
HAS BEEN GIVEN TO THIS PLAN.

DATE _____

REPORT ON T.F. WITTING CIVIL RIGHTS

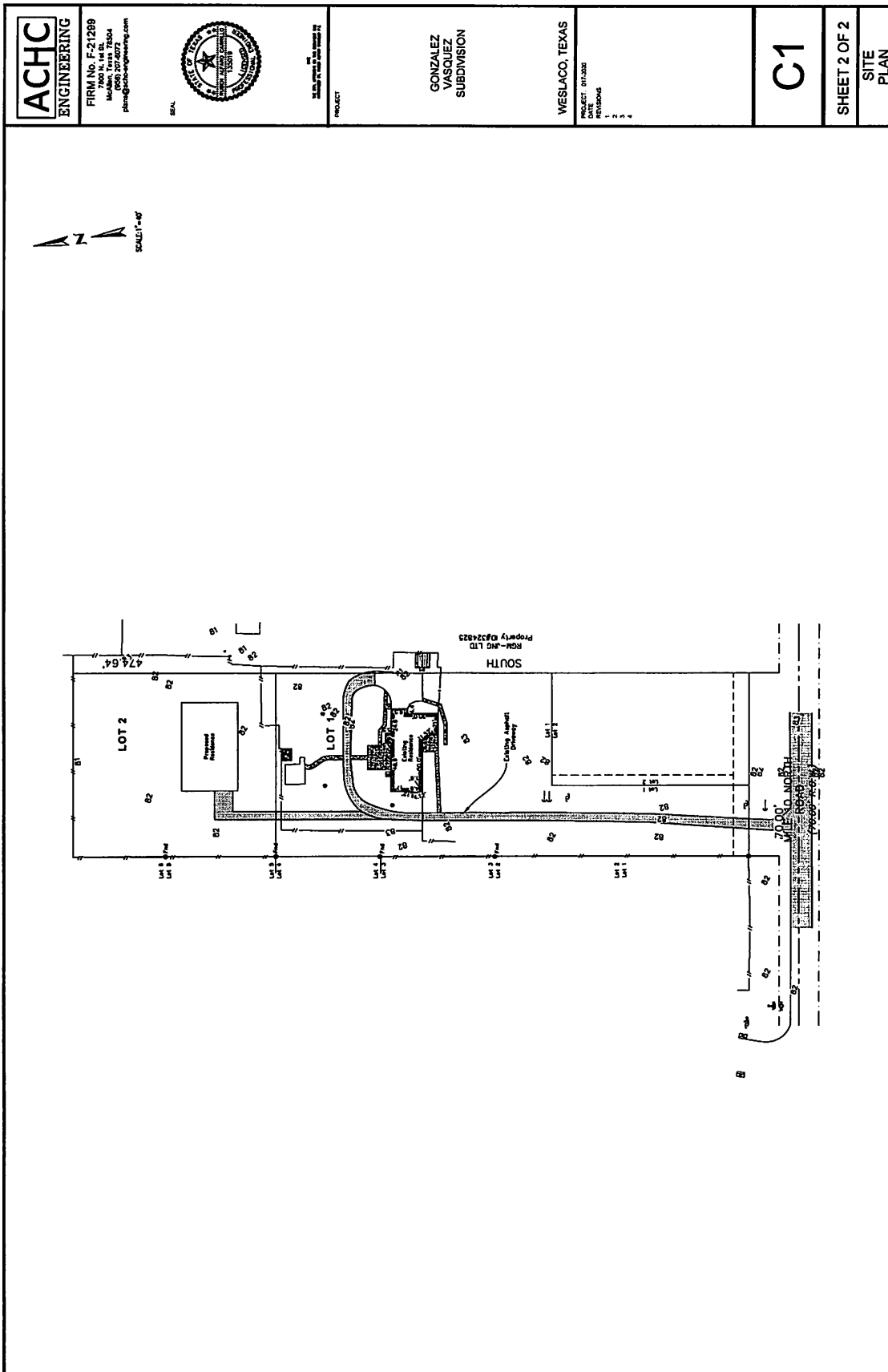


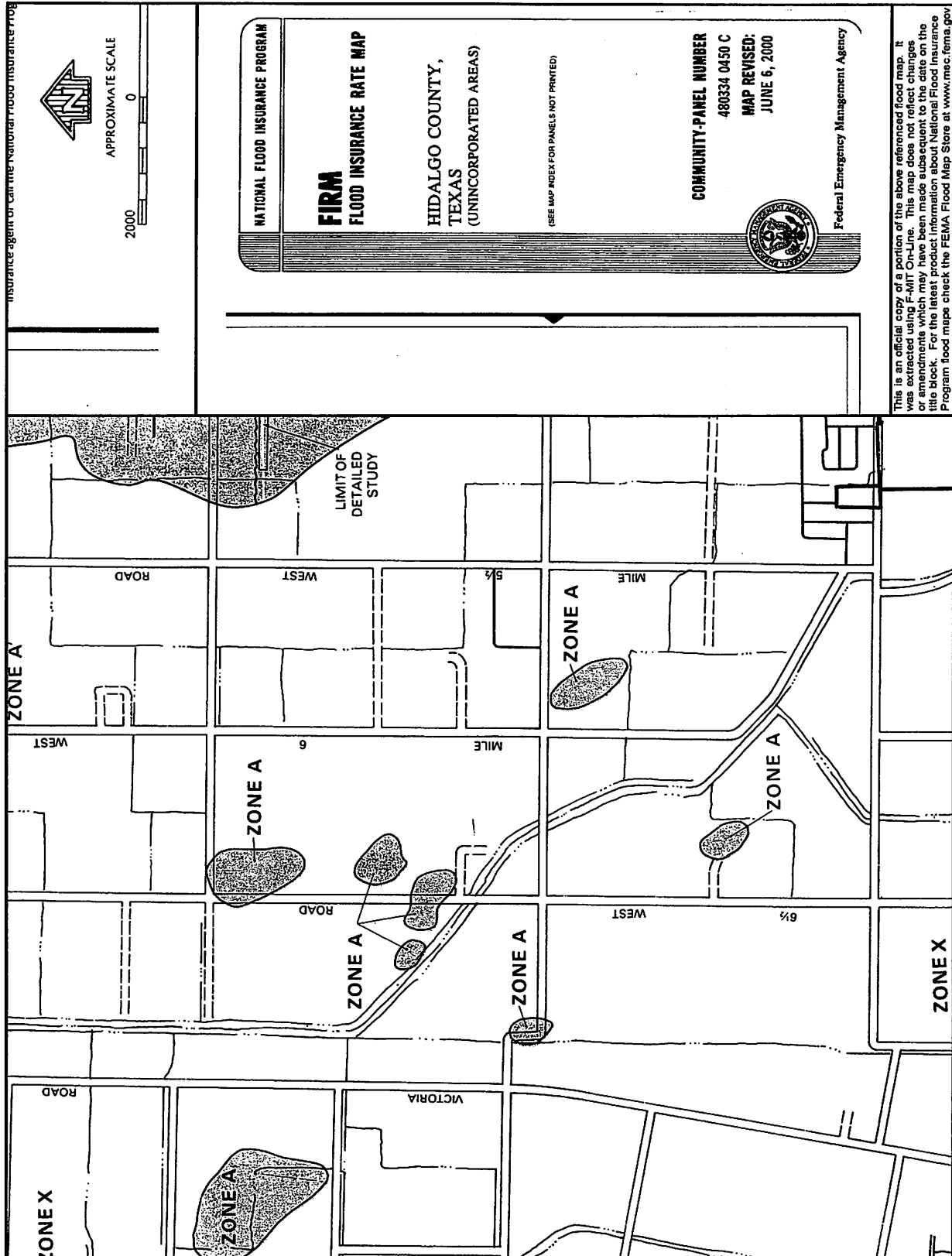
DATE OF PREPARATION: 10/20/2003

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EXHIBIT A
Drainage Calculations, Area 1

Project Name: Gonzalez-Vasquez Subdivision Hidalgo County, TX
Project No.: 017-2020

I. General Information

1. Governing Equation: $Q=CIA$ (Ratnl. Method), TxDOT IDF Curves for **Hidalgo County** & Mannings Equation (normal depth calculations)

2. TxDOT Intensity Constants for $I=b/(Tc+d)^e$

Velocity Constants

Undeveloped	Developed	Slope =	%	proposed	Length =	ft	Drop =	in
10 year storm	50 year storm	0.15	%	existing	670	ft	12	in
b= 87	b= 99	Slope = 0.15	%	existing	Length = 670	ft	Drop = 12	in
e= 0.778	e= 0.749	k = 0.213	grassed waterway					
d= 9.2	d= 9.2	k = 0.213	grassed waterway					
		Ku = 3.28						

where Tc, is calculated with an average overland flow velocity (0-10% slopes):

$$V = (Ku)(k)(Sp)^{1/2}$$

- a) existing unimproved conditions:
b) proposed residential conditions:

vel = 0.27 ft/sec
vel = 0.27 ft/sec

3) Accepted Runoff Coefficients

- a) Building/Roofs
b) Asphalt
c) Detention/Trench Trough
d) Concrete
e) Unimproved area (grass)

c = 0.90
c = 0.90
c = 0.20
c = 0.90
c = 0.20

Runoff Description
Coeff.

4) Total Area =	2.240 ac
Area 1	0.114 ac
Area 2	0.207 ac
Area 3	1.919 ac

0.30	Cumulative Areas
0.90	Building/Roofs
0.90	Asphalt
0.20	Unimproved area (grass)

II. Existing Conditions

A) Drainage area

Length of runoff = 670 ft

$$Tc = 670 / (V \text{ ft/sec} \times 60 \text{ sec}) =$$

$$I (10 \text{ yr}) = b/(Tc+d)^e =$$

$$Q=CIA= 0.25 \times 4.11 \times 2.24 =$$

41.4 min.
4.11 in/hr
2.30 cfs

Use 10.0 min

If Tc < than 10

III. Ultimate Developed Conditions

Weighted Runoff Coefficient

$$C= (C1A1+C2A2+C3A3+C4A4+...)/A_{total}=$$

0.30

A) Drainage area

Length of runoff = 670 ft

Drainage area = 2.24 ac.

$$Tc = 670 / (V \text{ ft/sec} \times 60 \text{ sec}) =$$

$$I (50 \text{ yr}) = b/(Tc+d)^e =$$

$$Q=CIA= 0.30 \times 5.24 \times 2.24 =$$

41.4 min.
5.24 in/hr
3.53 cfs

Use 10.0 min

If Tc < than 10

IV. Comments

Qdev = 3.53 cfs
Qexist = 2.30 cfs
Difference = 1.22 cfs

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Exhibit B Detention Storage Requirements

PROJECT NAME: GONZALEZ-VASQUEZ SUBDIVISION
HIDALGO COUNTY, TEXAS

Prop. Runoff C = 0.3 Exist Runoff C = 0.25
Area = 2.24 Exist. Intensity = 4.11
Post Dev. Tc = 41.4 min

Time (minutes)	I 50 yrs (in./hr.)	Q (c.f.s.)	Vol. (c.f.)	Qexist. (c.f.s.)	Vol. exist. (c.f.)	Vol. stored (c.f.)
5	13.57	9.12	2,736	2.30	3,204	(468)
10	10.83	7.27	4,365	2.30	3,549	816
15	9.10	6.12	5,505	2.30	3,894	1,611
20	7.91	5.31	6,377	2.30	4,240	2,137
25	7.03	4.72	7,081	2.30	4,585	2,496
30	6.34	4.26	7,672	2.30	4,930	2,742
35	5.80	3.90	8,181	2.30	5,275	2,906
40	5.35	3.60	8,628	2.30	5,621	3,008
45	4.98	3.34	9,028	2.30	5,966	3,062
50	4.66	3.13	9,390	2.30	6,311	3,079
55	4.38	2.95	9,720	2.30	6,656	3,064
60	4.14	2.78	10,025	2.30	7,001	3,023
65	3.93	2.64	10,307	2.30	7,347	2,960
70	3.75	2.52	10,571	2.30	7,692	2,879
75	3.58	2.40	10,818	2.30	8,037	2,781
80	3.43	2.30	11,052	2.30	8,382	2,669
85	3.29	2.21	11,272	2.30	8,728	2,545
90	3.16	2.13	11,482	2.30	9,073	2,409
95	3.05	2.05	11,681	2.30	9,418	2,263
100	2.94	1.98	11,872	2.30	9,763	2,109
105	2.85	1.91	12,055	2.30	10,109	1,946
110	2.76	1.85	12,230	2.30	10,454	1,776
115	2.67	1.80	12,398	2.30	10,799	1,599
120	2.60	1.74	12,560	2.30	11,144	1,416



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Hidalgo County, Texas**

Gonzalez-Vasquez Subdivision



December 1, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



MAP LEGEND

	Area of Interest (AOI)		Soil Map Unit Polygons
	Area of Interest (AOI)		Soil Map Unit Lines
	Soil Map Unit Points		Special Line Features
	Blowout		Water Features
	Borrow Pit		Streams and Canals
	Clay Spot		Transportation
	Closed Depression		Rails
	Gravel Pit		Interstate Highways
	Gravelly Spot		US Routes
	Landfill		Major Roads
	Lava Flow		Local Roads
	Marsh or swamp		Background
	Mine or Quarry		Aerial Photography
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 19, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 20, 2015—Nov 5, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Hidalgo fine sandy loam, 0 to 1 percent slopes	1.5	59.5%
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	0.0	1.4%
48	Racombes sandy clay loam, 0 to 1 percent slopes	1.0	39.1%
Totals for Area of Interest		2.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

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Hidalgo County, Texas

25—Hidalgo fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sxn
Elevation: 20 to 500 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hidalgo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hidalgo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 17 inches: fine sandy loam
Bk1 - 17 to 28 inches: sandy clay loam
Bk2 - 28 to 38 inches: clay loam
Ck - 38 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: R083DY019TX - Gray Sandy Loam
Hydric soil rating: No

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Minor Components

Willacy

Percent of map unit: 10 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Brennan

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083EY023TX - Sandy Loam
Hydric soil rating: No

28—Hidalgo sandy clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sxl
Elevation: 20 to 500 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 300 to 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hidalgo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hidalgo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 17 inches: sandy clay loam
Bk1 - 17 to 28 inches: sandy clay loam
Bk2 - 28 to 38 inches: clay loam
Ck - 38 to 80 inches: clay loam

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Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: B
Ecological site: R083DY019TX - Gray Sandy Loam
Hydric soil rating: No

Minor Components

Raymondville

Percent of map unit: 7 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Racombes

Percent of map unit: 6 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Willacy

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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48—Racombes sandy clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2yndc
Elevation: 30 to 330 feet
Mean annual precipitation: 23 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 280 to 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Racombes and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Racombes

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 13 inches: sandy clay loam
Bt - 13 to 25 inches: sandy clay loam
Btk - 25 to 49 inches: sandy clay loam
Bk - 49 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: About 42 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water capacity: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B

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Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Minor Components

Willacy

Percent of map unit: 6 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY023TX - Sandy Loam
Hydric soil rating: No

Raymondville

Percent of map unit: 4 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Hidalgo

Percent of map unit: 4 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R083DY019TX - Gray Sandy Loam
Hydric soil rating: No

Rio

Percent of map unit: 1 percent
Landform: Closed depressions
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R083DY007TX - Lakebed
Hydric soil rating: Yes

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