

# **CITY OF WESLACO**

## **A REGULAR MEETING OF THE PLANNING & ZONING COMMISSION**

**DECEMBER 6, 2023, 5:30P.M.  
LEGISLATIVE CHAMBERS  
255 S. KANSAS AVENUE**

*David Hernandez, Chairman*

*Lonnie Berry, Vice-Chairman*

*Carolina Crockett, PZ Commissioner*

*Randy Summers, PZ Commissioner*

*Adrian Torres, PZ Commissioner*

*Jose Treviño, PZ Commissioner*

*Jim Forward, PZ Commissioner*

**CITY OF WESLACO  
PLANNING & ZONING COMMISSION  
REGULAR MEETING  
NOVEMBER 1, 2023**

On Wednesday, November 1, 2023, at 5:30 pm., the Planning and Zoning Commission of the City of Weslaco, Texas, convened in regular session in person.

The following commissioners were present:

|                   |               |
|-------------------|---------------|
| Lonnie Berry      | Vice-Chairman |
| Randy Summers     | Commissioner  |
| Adrian Torres     | Commissioner  |
| Carolina Crockett | Commissioner  |
| Jose Treviño      | Commissioner  |
| Jim Forward       | Commissioner  |

|                      |                   |
|----------------------|-------------------|
| Rebekah de la Fuente | Planning Director |
| Flor E. Acuña        | Secretary         |

Also, present were Felix Salazar, Interim Chief Building Official, Mike Swinnea, Assistant Fire Marshall, Salvador Ayar, Assistant Engineer Director, and Marcelo Cosme, Water & Sewer Superintendent, and citizens.

**I. CALL TO ORDER:**

Vice-Chairman Berry called the meeting to order and welcomed everyone in the audience.

**A. Roll Call/Establish a Quorum**

Mrs. de la Fuente called the roll call noting that, Chairman Hernandez was absent at the time of roll, a quorum was established.

**II. PUBLIC COMMENTS**

There were no comments received.

**III. APPROVAL OF MINUTES**

**A. October 4, 2023, Regular Meeting**

Commissioner Summers made a motion to approve the minutes of October 4, 2023, seconded by Commissioner Treviño. Motion carried.

**IV. PUBLIC HEARING**

**A. Discussion and consideration to rezone 105 N Kansas also being Lot 18 and 19, Block 1, Gonzales Addition Subdivision, Weslaco, Hidalgo County, Texas from R-1 One-Family Dwelling District to R-2 Duplex and Apartment District.**

Mrs. de la Fuente stated that notice appeared in the Monitor on October 18, 2023, there were thirty-nine (39) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval, based on surrounding land use.



Commissioner Summers made motion to close the Public Hearing, seconded by Commissioner Forward. Motion carried.

Commissioner Summers made motion to approve the rezone, seconded by Commissioner Crockett. Motion carried.

**B. Discussion and consideration to rezone 3825 E IH 2 also being 1.89 acre- 4.89-acre N of Expwy-W25.07-acre FT 1100 Adams Tract Subdivision, Weslaco, Hidalgo County, Texas from R-1 One-Family Dwelling District to B-2 Secondary Highway Business District.**

Mrs. de la Fuente stated that notice appeared in the Monitor on October 18, 2023, there were nine (9) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval based on surrounding land use and comprehensive plan.

Commissioner Forward made motion to close the Public Hearing, seconded by Commissioner Treviño. Motion carried.

Commissioner Summers made motion to approve the rezone, seconded by Commissioner Crockett. Motion carried.

**C. Discussion and consideration to rezone 2613 Wildwood Dr. also being Lot 71, Westgate Woods UT No. 3 Subdivision, Weslaco, Hidalgo County, Texas from R-1 One-family dwelling district to R-2 Duplex and Apartment District.**

Applicant withdrew the request. No action was taken.

**D. Discussion and consideration to rezone 2806 S Texas Blvd. Also being 15.32 acres N20.0ac,13.84ac Net, out of Farm Tract 745, West Tract Subdivision, Hidalgo County, and Texas from R-1 One-family dwelling district to R-4 Residential one family / narrow lot zoning.**

Mrs. de la Fuente stated that notice appeared in the Monitor on October 18, 2023, there were thirteen (13) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval based on surrounding land use and 2045 land use map.

Commissioner Summers made motion to close the Public Hearing, seconded by Commissioner Treviño. Motion carried.

Commissioner Forward made motion to approve the rezone, seconded by Commissioner Summers. Motion carried.

**E. Discussion and consideration to approve a Conditional Use Permit to operate an Event Center, at 916 W Pike, also being West Tract W88.40'-E377.6'-S452.70' FT 133 0.92AC GR 0.86AC Net, Weslaco, Hidalgo County, Texas.**

Mrs. de la Fuente stated that notice appeared in the Monitor on October 18, 2023, there were nineteen (19) property owners notified within the 200-foot radius, no letters for or against the item were received. Mrs. de la Fuente did advise the property owner if the construction is not complete within the year of approval, she would need to re-apply for the conditional use. Staff recommended approval.

Commissioner Treviño made a motion to close the Public Hearing, seconded by Commissioner Summers. Motion carried.

Commissioner Summers made a motion to approve the conditional use request, seconded by Commissioner Torres. Motion carried.

## V. DISCUSSION AND CONSIDERATION

### **A. Discussion and consideration of the Preliminary and/or Final Plat for El Farito Estates Subdivision being 17.15 acre out of Farm Tract 299, Block 158, West Tract Subdivision, Weslaco, Hidalgo County, Texas. Located on the south side of Mile 13 North Road, ½ mile east of Mile 6 West.**

Mrs. de la Fuente stated the proposed eleven (11) lot subdivision is located outside the City of Weslaco. This subdivision is being serviced with water by North Alamo Water Supply through an 8" waterline and sewer by OSSF. The property is within a Flood Zone "X". Applicant is requesting a variance for OSSF and off-site drainage and has not provided drainage letters of support.

Commissioner Torres made the motion to approve Preliminary only, with the variance to allow for OSSF and to add a plat note that no fences could be constructed along or within the shared access on easement, seconded by Commissioner Summers. Motion carried.

### **B. Discussion and consideration of the Preliminary and/or Final Plat for Milanos Estates Phase III Subdivision being 22.88 acre out of Farm Tracts 720 and 721, West Tract Subdivision, Weslaco, Hidalgo County, Texas. Located approximately 500 feet south from the intersection of Mile 5 ½ West Road and Mile 6 ½ West Road.**

Mrs. de la Fuente stated the proposed one-hundred, and two (102) lot subdivision is located outside the City of Weslaco. This subdivision is being serviced with water by City of Weslaco through an 8" waterline and sewer by City of Weslaco through an 8" sewer line. The property is within a Flood Zone "B". Applicant is requesting a variance for setbacks and off-site drainage and has provided letters of support.

Commissioner Crockett made the motion to approve Preliminary only, with the variance and to remove the plat note regarding the access, seconded by Commissioner Treviño. Motion carried.

### **C. Discussion and consideration for six-month extension of the Final Plat for Sayyed Commercial Development being a 2.960-acre out of farm tracts 1065, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas Located on the Southeast corner of Mile 11 North & FM 1015.**

Mrs. de la Fuente stated that this item is a proposed one (1) lot subdivision is located outside the City of Weslaco. Six-month extension of Final Plat approval is set to expire on October 18, 2023. This is the 1<sup>st</sup> extension. The project is within county's jurisdiction. Engineering has provided an email.

Commissioner Torres made the motion to approve the six-month extension seconded by Commissioner Summers. Motion carried.

**D. Discussion and consideration for six-month extension of the Final Plat for Rio Stone Subdivision Phase I being a 23.05-acre out of farm tracts 648 & 649, West Tract Subdivision, Weslaco, Hidalgo County, Texas Located approximately 340 ft south of mile 6 ½ north along the west side of Milano Road.**

Mrs. de la Fuente stated that this item is a proposed fifty-four (54) lot subdivision is located outside the City of Weslaco. Six-month extension of Final Plat approval is set to expire on August 3, 2023. This is the 1<sup>st</sup> extension. Project is about 97 % completed and if pending is the construction of the south side sidewalk and the installation of cluster mailboxes. Engineering has provided an email.

Commissioner Summers made the motion to approve the six-month extension seconded by Commissioner Torres. Motion carried.

**E. Discussion and consideration for six-month extension of the Final Plat for Rio Stone Subdivision Phase II being a 14.19-acre out of farm tracts 648 & 649, West Tract Subdivision, Weslaco, Hidalgo County, Texas Located approximately 340 ft south of mile 6 ½ north along the west side of Milano Road.**

Mrs. de la Fuente stated that this item is a proposed sixty-eight (68) lot subdivision is located outside the City of Weslaco. Six-month extension of Final Plat approval is set to expire on August 3, 2023. This is the 1<sup>st</sup> extension. Project has not been started and will be needing the extension. Engineering has provided an email.

Commissioner Summers made the motion to approve the six-month extension seconded by Commissioner Forward. Motion carried.

**F. Discussion and consideration for six-month extension of the Final Plat for Greener Pastures Mobile Home Subdivision PH II– being A 3.94-acre tract of land out of Lot 82,133,134,135 and 136, Greener Pastures Mobile Home Subdivision, Weslaco, Hidalgo County, Texas located approximately on Main Gate Drive and Corral Drive.**

Mrs. de la Fuente stated that this item is a proposed fourteen (14) lot subdivision is outside the City of Weslaco. Six-month extension of the Final Plat approval is set to expire on November 15, 2023. This is the 4<sup>th</sup> 6-month extension for the subdivision. Project is about complete only pending lights with the electrical provider. Engineering has provided an email.

Commissioner Summers made the motion to approve the four-month extension seconded by Commissioner Torres. Motion carried.

## **VI. ADJOURNMENT**

There being no further business to come before the Planning and Zoning Commission, Vice-Chairman Berry adjourned the meeting at 6:15p.m.

**Planning and Zoning Commission**

**Absent**

\_\_\_\_\_  
David Hernandez, Chairman

\_\_\_\_\_  
Lonnie Berry, Vice-Chairman

\_\_\_\_\_  
Randy Summers, Commissioner

\_\_\_\_\_  
Carolina Crockett, Commissioner

\_\_\_\_\_  
Jose Treviño, Commissioner

\_\_\_\_\_  
Adrian Torres, Commissioner

\_\_\_\_\_  
Jim Forward, Commissioner

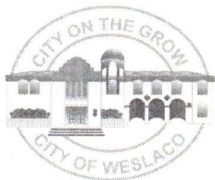
ATTEST:

\_\_\_\_\_  
Flor E. Acuña, Secretary



## Planning & Zoning Commission Standardized Agenda Request Form

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Date of Meeting:</b><br>December 6, 2023                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Agenda Item No.</b> (to be assigned by PCE):<br><b>IV.A.</b> |
| <b>From:</b> Rebekah de la Fuente, Planning Director, on behalf of Tim Llaoa.                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration to approve Conditional Use Permit to obtain a Wine and Malt Beverage Retailer's On-Premise Permit and Food and Beverage Certificate at 2455 N International Blvd. also being Lot 1, J. Valderas Subdivision, Weslaco, Hidalgo County, Texas. Possible Action.                                                                                                                                                         |                                                                 |
| <b>Discussion/Overview:</b><br>The applicant is requesting to obtain a Conditional Use Permit to obtain a Wine and Malt Beverage Retailer's On- Premise Permit and Food and Beverage Certificate. Notice of the application and the public hearing for the Planning and Zoning Commission and the City Commission appeared in The Monitor on November 16, 2023. Six (6) property owners within 200 feet of the applicant's property were notified by letter on November 22, 2023. |                                                                 |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of the Conditional Use permit.                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |
| <b>Additional Action Prompted:</b><br>[ X ] Mayor's Signature [ X ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                                                                                                                                                                                                             |                                                                 |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |
| <b>Attachments,(if any):</b><br>Application for Conditional Use Permit with attachments.                                                                                                                                                                                                                                                                                                                                                                                          |                                                                 |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                                                                                                                                                                                                        |                                                                 |



## APPLICATION FOR CONDITIONAL USE PERMIT

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. \_\_\_\_\_

### PROPOSED PROJECT

Legal Description of Property for which Conditional Use Permit is requested:

Lot J. Valderas Lot 1 Block \_\_\_\_\_

Subdivision Name \_\_\_\_\_

Street Address 2455 N. International Boulevard

Existing Zoning \_\_\_\_\_ Existing Land Use \_\_\_\_\_

Purpose for the Conditional Use Permit Request Going from a BQ permit to a BG permit for existing Stripe Store #40719H.

What, if anything, is planned to minimize the impact on the surrounding land uses: NA

\_\_\_\_\_ \$300.00 non-refundable filing fee.  
\_\_\_\_\_ Detailed dimensioned site plan/map must be submitted with this request.  
\_\_\_\_\_ Survey and metes and bounds if the legal description is a portion of a lot.  
\_\_\_\_\_ City and school tax receipts attached.  
\_\_\_\_\_ I have received a copy of "CUP Application Instructions"

### APPLICANT

Name Tim Ilaoa  Phone 972-901-8788

Address 217 E. Main Street #819 Fax: \_\_\_\_\_

City Royse City State TX Zip Code 75189 E-Mail: tim@texaslicensing.net

### OWNER

Name 7-Eleven Inc. Phone 855-711-0711

Address PO Box 139044 Attn: Licensing Fax: \_\_\_\_\_

City Dallas State TX Zip Code 75189 E-Mail: electronicrenewals@7-11.com

To the best of your knowledge are there any deed restrictions, restrictive covenants, etc., which would prevent the utilization of the property in the manner indicated?

Yes \_\_\_\_\_ No X \_\_\_\_\_

I certify that I am the actual owner of the property described above and this application is being submitted with my consent or I am authorized by the actual owner to submit this application and have attached written evidence of such authorization.

Signature  Date 10/17/2023  
Owner

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Applicant

Signature \_\_\_\_\_ Date 10/17/2023  
Authorized Agent

**STAFF USE ONLY**

Accepted By \_\_\_\_\_ Payment Received By \_\_\_\_\_ Date Paid \_\_\_\_\_

Notice of Public Hearing Sent to Property Owners Within 200' of Proposed Site Date \_\_\_\_\_

P & Z Notice of Public Hearing Published in Newspaper Date \_\_\_\_\_

City Commission Notice of Public Hearing Published in Newspaper Date \_\_\_\_\_

Presented to P & Z Commission Date \_\_\_\_\_  
Approved \_\_\_\_\_ Disapproved \_\_\_\_\_ Tabled \_\_\_\_\_

Presented to City Commission Date \_\_\_\_\_  
Approved \_\_\_\_\_ Disapproved \_\_\_\_\_ Tabled \_\_\_\_\_





**TEXAS ALCOHOLIC  
BEVERAGE COMMISSION**  
*Texans Helping Businesses & Protecting Communities*

**Required  
Certifications**

**Join TABC in the fight against human trafficking**

L-CERT (7/2022)

Submit this form to the proper officials to obtain certification for the type of license/permit for which you are applying as required by TX Alc. Bev. Code, Sections 11.37, 11.39, 11.46(b), 61.37, 61.38, 61.42 and Rule §33.13. This Required Certifications form must be submitted with your Initial Application form.

Contact your local TABC office for assistance.

**LOCATION INFORMATION**

|                                                                                                                                                                                                                                                                                                          |                                                                                             |                                                                                             |                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------|
| 1. Trade Name of Location (Name of restaurant, bar, store, etc.)<br><b>STRIPES STORE #40719H</b>                                                                                                                                                                                                         |                                                                                             |                                                                                             |                                            |
| 2. Owner of Business/Applicant (Name of Corporation, LLC, etc.)<br><b>7-ELEVEN NEW SSP BEVERAGE LLC</b>                                                                                                                                                                                                  |                                                                                             |                                                                                             |                                            |
| 3. Type of Owner<br><input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Liability Company <input type="checkbox"/> Partnership<br><input type="checkbox"/> Limited Partnership <input type="checkbox"/> Limited Liability Partnership <input type="checkbox"/> Other: _____ |                                                                                             |                                                                                             |                                            |
| 4. Location Address<br><b>2455 N INTERNATIONAL BOULEVARD</b>                                                                                                                                                                                                                                             |                                                                                             |                                                                                             |                                            |
| City<br><b>WESLACO</b>                                                                                                                                                                                                                                                                                   | County<br><b>HIDALGO</b>                                                                    | State<br><b>TX</b>                                                                          | Zip Code<br><b>78599</b>                   |
| 5. Mailing Address<br><b>P.O. Box 139044</b>                                                                                                                                                                                                                                                             |                                                                                             |                                                                                             |                                            |
| City<br><b>Dallas</b>                                                                                                                                                                                                                                                                                    | County<br><b>Dallas</b>                                                                     | State<br><b>TX</b>                                                                          | Zip Code<br><b>75313-9044</b>              |
| 6. Business Telephone Number<br><b>956-514-1900</b>                                                                                                                                                                                                                                                      | Alternate Telephone Number<br><b>972-828-6265</b>                                           | E-mail Address<br><b>shantelle.grier-green@7-11.com</b>                                     |                                            |
| 7. Application for:                                                                                                                                                                                                                                                                                      |                                                                                             |                                                                                             |                                            |
| <input checked="" type="checkbox"/> Original                                                                                                                                                                                                                                                             | <input type="checkbox"/> Reinstatement License/Permit Number _____                          | <input type="checkbox"/> Reinstatement and Change of Trade Name License/Permit Number _____ |                                            |
|                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Change of Location License/Permit Number _____                     | <input type="checkbox"/> Change of Location and Trade Name License/Permit Number _____      |                                            |
| 8A. Type of Off-Premise Retailer License/Permit:                                                                                                                                                                                                                                                         |                                                                                             |                                                                                             |                                            |
| <input type="checkbox"/> BF Retail Dealer's Off-Premise License                                                                                                                                                                                                                                          | <input type="checkbox"/> E Local Cartage Permit                                             | <input type="checkbox"/> P Package Store Permit                                             |                                            |
| <input type="checkbox"/> BQ Wine and Malt Beverage Retail Dealer's Off-Premise Permit                                                                                                                                                                                                                    | <input type="checkbox"/> ET Third-Party Local Cartage Permit                                | <input type="checkbox"/> Q Wine Only Package Store                                          |                                            |
| <input type="checkbox"/> LP Local Distributor's Permit                                                                                                                                                                                                                                                   |                                                                                             |                                                                                             |                                            |
| 8B. Type of On-Premise Retailer License/Permit                                                                                                                                                                                                                                                           |                                                                                             |                                                                                             |                                            |
| <input type="checkbox"/> BE Retail Dealer's On-Premise License                                                                                                                                                                                                                                           | <input type="checkbox"/> E Local Cartage Permit                                             | <input type="checkbox"/> MB Mixed Beverage                                                  |                                            |
| <input checked="" type="checkbox"/> BG Wine and Malt Beverage Retail Dealer's On-Premise Permit                                                                                                                                                                                                          | <input checked="" type="checkbox"/> FB Food and Beverage Certificate                        | <input type="checkbox"/> WP Waterpark Permit                                                |                                            |
| <input type="checkbox"/> BP Brewpub License                                                                                                                                                                                                                                                              | <input type="checkbox"/> LH Late Hours Certificate                                          |                                                                                             |                                            |
| 8C. Type of Wholesaler's, Distributor's, or Manufacturer's License/Permit                                                                                                                                                                                                                                |                                                                                             |                                                                                             |                                            |
| <input type="checkbox"/> BB General Distributor's License                                                                                                                                                                                                                                                | <input type="checkbox"/> D Distillers and Rectifiers Permit - allows on-premise consumption | <input type="checkbox"/> S Nonresident Seller's Permit                                      |                                            |
| <input type="checkbox"/> BC Branch Distributor's License                                                                                                                                                                                                                                                 | <input type="checkbox"/> DS Out-of-State Winery Direct Shipper's Permit                     | <input type="checkbox"/> SD Brewer's Self-Distribution License                              |                                            |
| <input type="checkbox"/> BN Nonresident Brewer's License                                                                                                                                                                                                                                                 | <input type="checkbox"/> G Winery - allows on-premise consumption                           | <input type="checkbox"/> W Wholesaler's Permit                                              |                                            |
| <input type="checkbox"/> BW Brewer's License                                                                                                                                                                                                                                                             | <input type="checkbox"/> J Bonded Warehouse                                                 | <input type="checkbox"/> X General Class B Wholesaler Permit                                |                                            |
| <input type="checkbox"/> JD Bonded Warehouse (Dry Area)                                                                                                                                                                                                                                                  |                                                                                             |                                                                                             |                                            |
| 9. For On or OFF-Premise Applicants, Indicate Primary Business Type at this Location                                                                                                                                                                                                                     |                                                                                             |                                                                                             |                                            |
| <input type="checkbox"/> Bar                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Grocery/Market                                                     | <input type="checkbox"/> Package Store                                                      | <input type="checkbox"/> Sexually Oriented |
| <input type="checkbox"/> Civic Center                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Hotel                                                              | <input type="checkbox"/> Public Entertainment Fac. (PEF as defined in Sec. 108.73)          | <input type="checkbox"/> Sporting Arena    |
| <input checked="" type="checkbox"/> Convenience Store                                                                                                                                                                                                                                                    | <input type="checkbox"/> Motel                                                              | <input type="checkbox"/> Racetrack                                                          |                                            |
| <input type="checkbox"/> Delivery Company                                                                                                                                                                                                                                                                | <input type="checkbox"/> Movie Theater                                                      | <input type="checkbox"/> Restaurant                                                         |                                            |



Trade Name: \_\_\_\_\_ STRIPES STORE #40719H

Location Address: 2455 N INTERNATIONAL BOULEVARD City: WESLACO County: HIDALGO

### Off-Premise Certifications

Per Sec. 11.37, not later than the 30<sup>th</sup> day after the date a prospective applicant for a permit...requests certification, the city secretary...shall certify whether the location or address given in the request is in a wet area and whether the sale of alcoholic beverages for which the permit is sought is prohibited by charter or ordinance.

### Certificate of City Secretary: P, Q, BF, BQ

TX Alc. Bev. Code, Section 11.37 & 61.37

☐ CHECK HERE IF NOT IN CITY LIMITS

I hereby certify on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that the location for which the license/permit is sought as the place of business is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

| Permits/Licenses Wet For              | Based on most recent local option election, area is wet for:                                                                                                                          |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> BF           | The legal sale of malt beverages for off-premise consumption only <input type="checkbox"/> greater than 5% alcohol by volume OR <input type="checkbox"/> 5% or less alcohol by volume |
| <input type="checkbox"/> BF, BQ, Q    | The legal sale of malt beverages and wine for off-premise consumption only                                                                                                            |
| <input type="checkbox"/> BF, BQ, Q, P | The legal sale of all alcoholic beverages for off-premise consumption only                                                                                                            |

OR

☐ I hereby refuse on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

SEAL

### On-Premise Certifications

Per Sec. 11.37, not later than the 30<sup>th</sup> day after the date a prospective applicant for a permit...requests certification, the city secretary...shall certify whether the location or address given in the request is in a wet area and whether the sale of alcoholic beverages for which the permit is sought is prohibited by charter or ordinance.

### Certificate of City Secretary (FOR MB, MB/FB, BG, BG/FB, BE, & BE/FB)

TX Alc. Bev. Code, Section 11.37 & 61.37

I hereby certify on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that this location address is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

| Permits/Licenses Wet For                                                                               | Based on most recent local option election, area is wet for:                                         |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> MB                                                                            | Mixed Beverage Permit                                                                                |
| <input type="checkbox"/> MB/FB                                                                         | Mixed Beverage Restaurant Permit with <b>required</b> Food and Beverage Certificate                  |
| <input type="checkbox"/> BG*                                                                           | Wine and Malt Beverage Retail Dealer's On-Premise Permit                                             |
| <input type="checkbox"/> BG/FB*                                                                        | Wine and Malt Beverage Retail Dealer's On-Premise Permit with required Food and Beverage Certificate |
| <input type="checkbox"/> BE*                                                                           | Retail Dealer's On-Premise License                                                                   |
| <input type="checkbox"/> BE/FB*                                                                        | Retail Dealer's On-Premise License with <b>required</b> Food and Beverage Certificate                |
| *Mark box on right for BE and/or BE/FB                                                                 |                                                                                                      |
| OR                                                                                                     |                                                                                                      |
| <input type="checkbox"/> greater than 5% alcohol by volume                                             |                                                                                                      |
| OR                                                                                                     |                                                                                                      |
| <input type="checkbox"/> 5% or less alcohol by volume                                                  |                                                                                                      |
| *Mark box on right for any of the following license or permit types                                    |                                                                                                      |
| BG, BG/FB                                                                                              |                                                                                                      |
| BE, BE/FB                                                                                              |                                                                                                      |
| Election for given location was held for:                                                              |                                                                                                      |
| <input type="checkbox"/> legal sale of malt beverage/wine (17%) on-premise <b>AFTER</b> Sept. 1, 1999  |                                                                                                      |
| OR                                                                                                     |                                                                                                      |
| <input type="checkbox"/> legal sale of malt beverage/wine (14%) on-premise <b>BEFORE</b> Sept. 1, 1999 |                                                                                                      |

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

SEAL

### Certification for Late Hours Certificate (LH)

TX Alc. Bev. Code, Chapters 29 & 70 et seq.

I hereby certify on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that one of the below is correct:

|                          |                                                                                                                                                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | The governing body of this city or county has by ordinance or order authorized the sale of <b>mixed beverages</b> between midnight and 2:00 A.M.;                                                                     |
| OR                       |                                                                                                                                                                                                                       |
| <input type="checkbox"/> | The governing body of this city or county has by ordinance or order authorized the sale of <b>malt beverage</b> between midnight and _____ A.M.;                                                                      |
| OR                       |                                                                                                                                                                                                                       |
| <input type="checkbox"/> | The population of the city or county where premises are located was 500,000 or more according to the 24 <sup>th</sup> Decennial Census of the United States as released by the Bureau of the Census on April 1, 2020; |
| OR                       |                                                                                                                                                                                                                       |
| <input type="checkbox"/> | The population of the city or county where premises are located was 800,000 or more according to the last Federal Census (2020).                                                                                      |

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

SEAL

Trade Name: \_\_\_\_\_ STRIPES STORE #40719H \_\_\_\_\_

Location Address: 2455 N INTERNATIONAL BOULEVARD City: WESLACO County: HIDALGO

**Wholesaler, Distributor or Manufacturer Certifications**

Per Sec. 11.37, not later than the 30<sup>th</sup> day after the date a prospective applicant for a permit...requests certification, the city secretary...shall certify whether the location or address given in the request is in a wet area and whether the sale of alcoholic beverages for which the permit is sought is prohibited by charter or ordinance.

**Certificate of City Secretary for: J**

☐ CHECK HERE IF NOT IN CITY LIMITS

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, that this location address is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

SIGN

HERE \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

**S E A L**

**Certificate of City Secretary for Winery (G) Applicants**

Per Sec. 16.011, "A winery permit may be issued for premises in an area in which the sale of wine has not been authorized by a local option election..."

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, that this location address ☐ is ☐ is not in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

OR

☐ I hereby refuse on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

**S E A L**

**Certificate of City Secretary for: BW & D**

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, that this location address is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages, and

☐ does ☐ does not allow for on-premise consumption and

☐ does ☐ does not allow for off-premise consumption in accordance with 501.035 of the Election Code.

OR

☐ I hereby refuse on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

**S E A L**

**Certificate of City Secretary for: BB, BC, W & X**

Applicants Per Sec. 251.79 "a wholesaler's permit, general class B wholesaler's permit, or a general or branch distributor's license may be issued and licensed premises maintained *in any area where the sale of any alcoholic beverage is legal.*"

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, that this location address ☐ is ☐ is not in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

OR

I hereby refuse on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, TEXAS  
City Secretary/Clerk City

**S E A L**



Trade Name: \_\_\_\_\_ STRIPES STORE #40719H \_\_\_\_\_

Location Address: 2455 N INTERNATIONAL BOULEVARD City: WESLACO County: HIDALGO

### Off-Premise Certifications

Per Sec. 11.37, not later than the 30<sup>th</sup> day after the date a prospective applicant for a permit...requests certification, the county clerk...shall certify whether the location or address given in the request is in a wet area and whether the sale of alcoholic beverages for which the permit is sought is prohibited by any valid order....

### Certificate of County Clerk: P, Q, BF, BQ

TX Alc. Bev. Code, Section 11.37 & 61.37

☐ CHECK HERE IF NOT IN CITY LIMITS

I hereby certify on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that the location for which the license/permit is sought as the place of business is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

| Permits/Licenses Wet For              | Based on most recent local option election, area is wet for:                                                                                                                          |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> BF           | The legal sale of malt beverages for off-premise consumption only <input type="checkbox"/> greater than 5% alcohol by volume OR <input type="checkbox"/> 5% or less alcohol by volume |
| <input type="checkbox"/> BF, BQ, Q    | The legal sale of malt beverages and wine for off-premise consumption only                                                                                                            |
| <input type="checkbox"/> BF, BQ, Q, P | The legal sale of all alcoholic beverages for off-premise consumption only                                                                                                            |

OR

☐ I hereby refuse on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

SEAL

### On-Premise Certifications

Per Sec. 11.37, not later than the 30<sup>th</sup> day after the date a prospective applicant for a permit...requests certification, the county clerk...shall certify whether the location or address given in the request is in a wet area and whether the sale of alcoholic beverages for which the permit is sought is prohibited by any valid order....

### Certificate of County Clerk (FOR MB, MB/FB, BG, BG/FB, BE, & BE/FB)

TX Alc. Bev. Code, Section 11.37 & 61.37

I hereby certify on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that this location address is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

| Permits/Licenses Wet For                                                                      | Based on most recent local option election, area is wet for:                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> MB                                                                   | Mixed Beverage Permit                                                                                                                                                                                                                                              |
| <input type="checkbox"/> MB/FB                                                                | Mixed Beverage Restaurant Permit with <b>required</b> Food and Beverage Certificate                                                                                                                                                                                |
| <input type="checkbox"/> BG*                                                                  | Wine and Malt Beverage Retail Dealer's On-Premise Permit                                                                                                                                                                                                           |
| <input type="checkbox"/> BG/FB*                                                               | Wine and Malt Beverage Retail Dealer's On-Premise Permit with required Food and Beverage Certificate                                                                                                                                                               |
| <input type="checkbox"/> BE*                                                                  | Retail Dealer's On-Premise License                                                                                                                                                                                                                                 |
| <input type="checkbox"/> BE/FB*                                                               | Retail Dealer's On-Premise License with <b>required</b> Food and Beverage Certificate                                                                                                                                                                              |
| *Mark box on right for BE and/or BE/FB                                                        | <input type="checkbox"/> greater than 5% alcohol by volume<br>OR<br><input type="checkbox"/> 5% or less alcohol by volume                                                                                                                                          |
| *Mark box on right for any of the following license or permit types<br>BG, BG/FB<br>BE, BE/FB | Election for given location was held for:<br><input type="checkbox"/> legal sale of malt beverage/wine (17%) on-premise <b>AFTER</b> Sept. 1, 1999<br>OR<br><input type="checkbox"/> legal sale of malt beverage/wine (14%) on-premise <b>BEFORE</b> Sept. 1, 1999 |

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

SEAL

### Certification for Late Hours Certificate (LH)

TX Alc. Bev. Code, Chapters 29 & 70 et seq.

I hereby certify on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that one of the below is correct:

|                          |                                                                                                                                                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | The governing body of this city or county has by ordinance or order authorized the sale of <b>mixed beverages</b> between midnight and 2:00 A.M.;                                                                     |
| OR                       |                                                                                                                                                                                                                       |
| <input type="checkbox"/> | The governing body of this city or county has by ordinance or order authorized the sale of <b>malt beverage</b> between midnight and _____ A.M.;                                                                      |
| OR                       |                                                                                                                                                                                                                       |
| <input type="checkbox"/> | The population of the city or county where premises are located was 500,000 or more according to the 24 <sup>th</sup> Decennial Census of the United States as released by the Bureau of the Census on April 1, 2020; |
| OR                       |                                                                                                                                                                                                                       |
| <input type="checkbox"/> | The population of the city or county where premises are located was 800,000 or more according to the last Federal Census (2020).                                                                                      |

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

SEAL

Trade Name: STRIPES STORE #40719H

Location Address: 2455 N INTERNATIONAL BOULEVARD City: WESLACO County: HIDALGO

**Wholesaler, Distributor or Manufacturer Certifications**

Per Sec. 11.37, not later than the 30<sup>th</sup> day after the date a prospective applicant for a permit...requests certification, the county clerk...shall certify whether the location or address given in the request is in a wet area and whether the sale of alcoholic beverages for which the permit is sought is prohibited by any valid order....

**Certificate of County Clerk for: J**

☐ CHECK HERE IF NOT IN CITY LIMITS

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that this location address is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

**S E A L**

**Certificate of County Clerk for Winery (G) Applicants**

Per Sec. 16.011, "A winery permit may be issued for premises in an area in which the sale of wine has not been authorized by a local option election..."

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that this location address ☐ is ☐ is not in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

OR

☐ I hereby refuse on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

**S E A L**

**Certificate of County Clerk for: BW & D**

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that this location address is in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages, and

☐ does ☐ does not allow for on-premise consumption and

☐ does ☐ does not allow for off-premise consumption in accordance with 501.035 of the Election Code.

OR

☐ I hereby refuse on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

**S E A L**

**Certificate of County Clerk for: BB & BC, W & X**

Applicants Per Sec. 251.79 "a wholesaler's permit, general class B wholesaler's permit, or a general or branch distributor's license may be issued and licensed premises maintained *in any area where the sale of any alcoholic beverage is legal.*"

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that this location address ☐ is ☐ is not in a "wet" area for this type of license or permit and inside the boundaries of this jurisdiction, where it is legal to sell such alcoholic beverages.

OR

I hereby refuse on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ to certify this location.

SIGN

HERE \_\_\_\_\_, \_\_\_\_\_ County  
County Clerk

**S E A L**

Trade Name: STRIPES STORE #40719H

Location Address: 2455 N INTERNATIONAL BOULEVARD

City: WESLACO

County: HIDALGO

**Publisher's Affidavit for All Applicants Except BN, DS, S  
TX Alc. Bev. Code, Section 11.39 and 61.38**

|                                                                                                          |  |                                                                                                                        |
|----------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------|
| Name of newspaper                                                                                        |  | ATTACH PRINTED<br>COPY OF THE<br>NOTICE HERE<br><a href="#">Click here to see example of<br/>newspaper publication</a> |
| City, County                                                                                             |  |                                                                                                                        |
| Dates notice published in daily/weekly newspaper (MM/DD/YYYY)                                            |  |                                                                                                                        |
| <i>Publisher or designee certifies attached notice was published in newspaper stated on dates shown.</i> |  |                                                                                                                        |
| Signature of publisher or designee                                                                       |  |                                                                                                                        |
| Sworn to and subscribed<br>before me on this date (MM/DD/YYYY)                                           |  |                                                                                                                        |
| Signature of Notary Public                                                                               |  |                                                                                                                        |
| <b>SEAL</b>                                                                                              |  |                                                                                                                        |

**Comptroller of Public Accounts Certificate for All Applicants**

TX Alc. Bev. Code, Section 11.46 (b) & 61.42 (b)

This is to certify on this 11<sup>th</sup> day of September, 2023, the applicant holds or has applied for and satisfies all legal requirements for the issuance of a Sales Tax Permit under the Limited Sales, Excise and Use Tax Act or the applicant as of this date is not required to hold a Sales Tax Permit and that none of the persons making this application are indebted to the State of Texas.

Sales Tax Permit Number 32065951827

Outlet Number 00125

Print Name of Comptroller Employee Jamie Moxley

Print Title of Comptroller Employee Enforcement Officer

SIGN HERE Jamie Moxley FIELD OFFICE 2453 Dallas SW

SEAL





# City of Weslaco

*"The City on the Grow"*



David Suarez, Mayor  
Jose "JP" Rodriguez, Mayor Pro-Tem, District 3  
Greg Kerr, Commissioner, At-Large  
Israel Gonzalez, Jr., Commissioner, At-Large  
Josh Pedraza, Commissioner, District 1  
Letty Lopez, Commissioner, District 2  
Adrian Farias, Commissioner, District 4

Martin Garza, City Manager

## PLANNING DEPARTMENT

November 22, 2023

### Legal Notice

Dear Occupant:

The Weslaco Planning and Zoning Commission will hold a public hearing on Wednesday, December 6, 2023, and the City Commission will hold a public hearing on December 19, 2023, at 5:30 p.m. at the City Hall Legislative Chambers located at 255 South Kansas Avenue.

Members of the public who wish to participate in Public Hearing on an agenda item must send their name, address and phone number via email to [facuna@weslacotx.gov](mailto:facuna@weslacotx.gov) by 12:00 pm on December 6, 2023. A staff member will contact you with instructions via phone call to address your public comment.

### **CONDITIONAL USE PERMIT REQUEST:**

Tim Llaoa is requesting a Conditional Use Permit to obtain a Wine and Malt Beverage Retailer's On-Premise Permit and Food and Beverage Certificate at 2455 N International Blvd. also being Lot 1, J. Valderas Subdivision, Weslaco, Hidalgo County, Texas.

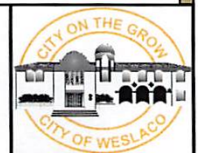
The public is hereby invited to attend and express their support or opposition to the request. You may also file a written notice supporting or protesting this action. For more information please call the Planning Department at (956) 447-3403.

Si desea información en español, por favor llame al departamento de Planeación de la ciudad de Weslaco, (956) 447-3403.

Sincerely,

Rebekah de la Fuente, CFM  
Planning Director





| Purpose for the CUP Request |             |
|-----------------------------|-------------|
| Existing zoning:            | B-1         |
| Existing land use:          | Vacant Land |
| CUP Request:                | TABC        |



City of Weslaco Code Enforcement Dept.

NOV 14, 2023

|                                                                                      |                                                                                   |                         |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------|
| WESLACO IND SCHOOL DIST<br>319 W 4TH ST<br>WESLACO TX 78596                          | A0800-00-000-1041-00<br>ADAMS TRACT FT 1041 40.00 AC<br>2202 N INTERNATIONAL BLVD | L: 704000<br>B: 7419590 |
| WESLACO 2455 LLC<br>PO BOX 8810<br>CORPUS CHRISTI TX 78468                           | J1853-00-000-0001-00<br>J. VALDERAS LOT 1<br>2455 N INTERNATIONAL BLVD            | L: 273870<br>B: 470914  |
| 1015 PLAZA LLC<br>2445 N INTERNATIONAL BLVD STE 9<br>WESLACO TX 78599                | J1853-00-000-0002-00<br>J. VALDERAS LOT 2<br>2445 N INTERNATIONAL BLVD            | L: 273962<br>B: 774790  |
| STATE OF TEXAS<br>5805 N LAMAR BLVD<br>AUSTIN TX 78752-4431                          | M4011-08-000-0001-00<br>MID VALLEY INDUSTRIAL PARK NO. 8<br>LOT 1                 | L: 828242<br>B: 7732490 |
| BLANCO ENTERPRISES LTD BY<br>501 N BRIDGE PMB 582<br>HIDALGO TX 78557                | E4370-00-037-000C-00<br>EL JARDIN ESTATES CONDOMINIUMS                            | L: 11894<br>B: 69429    |
| ECONOMIC DEVELOPMENT<br>OF WESLACO THE<br>275 S KANSAS AVE STE A<br>WESLACO TX 78596 | M4016-00-000-001D-00<br>MID-VALLEY INTERNATIONAL INDUSTRIAL<br>0 DEVELOPMENT DR   | L: 0<br>B: 0            |

## POWER OF ATTORNEY

Know all persons by these presents that 7-Eleven, Inc. ("7-Eleven" or the "Company"), has made, constituted, and appointed, and by these presents does hereby make, constitute, and appoint Tim Ilaoa of 2214TLWP, LLC dba Texas Licensing Group:

Its true and lawful attorney-in-fact, for it, and in its name, place, and stead, to take all actions necessary and appropriate to apply for and obtain any licenses, permits or similar services incidental to the business of the Company in Texas only including, but not limited to, the following categories:

- alcoholic beverages;
- lottery;
- tobacco;
- food processing;
- food service;
- food products/retailing;
- volatile chemical; and
- utilities.

Also included are any and all other documents relating to or necessary for the issuance or transfer of such licenses, including but not limited to guarantees to the licensing agency, and to assign and reassign any and all necessary papers in connection therewith, giving and granting unto its said attorney-in-fact full power and authority to do and perform all and every act, as to all intents and purposes as it might or could do, with full power of revocation, hereby ratifying and confirming all that its said attorney-in-fact shall lawfully do or cause to be done by virtue hereof.

The individual appointed as an attorney-in-fact herein shall remain an attorney-in-fact with the authority granted herein for until such appointment is otherwise revoked by 7-Eleven.

In witness whereof, said 7-Eleven has caused these presents to be signed by its proper corporate officer as of September 29, 2021.

Attest:

  
\_\_\_\_\_  
Arthur E. Rubinett  
Assistant Secretary

**7-ELEVEN, INC.**

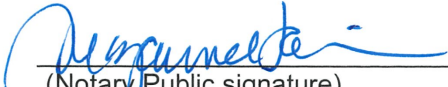
By:

  
\_\_\_\_\_  
Lillian F. Kirstein  
Senior Vice President

State of Texas  
County of Dallas

On this 29 day of September, 2021, before me, the undersigned notary public, personally appeared Lillian F. Kirstein and Arthur E. Rubinett a Senior Vice President and an Assistant Secretary, respectively, of **7-ELEVEN, INC.**, a Texas corporation, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that the same was the act of the said corporation and that they each executed the same as the act of such corporation for the purposes therein expressed and in the capacities therein stated.

In witness whereof, I hereunto set my hand and official seal.

  
(Notary Public signature)  
Suzanne Harrison  
(typed or printed name)

(SEAL)





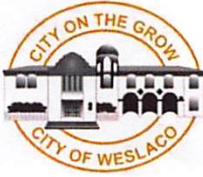
**Planning & Zoning Commission  
Standardized Agenda Request Form**

|                                                                                                                                                                                                                                                                                                                                            |                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Date of Meeting:</b><br><b>December 6, 2023</b>                                                                                                                                                                                                                                                                                         | <b>Agenda Item No. (to be assigned by PCE):</b><br><b>V.A.</b> |
| <b>From:</b><br>Rebekah de la Fuente, Planning Director, on behalf of David Salinas.                                                                                                                                                                                                                                                       |                                                                |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration of the Preliminary and/or Final Plat for E. M. C. Subdivision being 1.73 acre out of Farm Tracts 771, West Tract Subdivision, Weslaco, Hidalgo County, Texas. Located approximately 850' west of Pleasantview along south side of E. 18 <sup>th</sup> Street. Possible Action. |                                                                |
| <b>Discussion/Overview:</b><br>The proposed two (2) lot subdivision is located outside the City of Weslaco. This subdivision is being serviced with water by City of Weslaco through an 6" waterline and sewer by OSSF. The property is within a Flood Zone "AH". Applicant is requesting a variance for OSSF.                             |                                                                |
| <b>If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:</b> N/A                                                                                                                                                                          |                                                                |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of Preliminary Plat and Final Plat and compliance with the ordinance on the variance.                                                                                                                                                                    |                                                                |
| <b>Additional Action Prompted:</b><br>[ X ] Mayor's Signature [ ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                                                                        |                                                                |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                           |                                                                |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                           |                                                                |
| <b>Attachments, (if any):</b><br>Application for Subdivision platting, Staff's comments, Drainage Report, Subdivision plat and Utility layout.                                                                                                                                                                                             |                                                                |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                                                                 |                                                                |



NOV 08 2023

NOV 08 2023



# SUBDIVISION PLATTING APPLICATION

Plat - 000546-2023

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: E.M.C. SUBDIVISION

Location: Approx. 850' WEST OF PLEASANTVIEW DR. ON SOUTH SIDE OF 18<sup>TH</sup>

Legal Description: 1.73 AC GROSS +/- THE WEST 10 ACRES OF THE EAST 1/2 15 ACRES OF THE NORTH 20 ACRES +/- F.T. 771 WEST TRACT SUBD.

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: N/A

Existing Land Use: OPEN Proposed Land Use: RESIDENTIAL

Number of Lots Proposed: 2 Gross Acreage: 1.73

Title Report Submitted: ☐ YES ☒ NO

## OWNER INFORMATION

Owner's Name: LUIS REYES Telephone: 956-778-0140

Address: 1906 PLEASANTVIEW DR. Fax: \_\_\_\_\_

City: WESLACO State: TX Zip: 78596 E-mail: LUIS REYES 34@YAHOO.COM

## ENGINEER INFORMATION

Name: DAVID SALINAS Telephone: 956-682-9081

Address: 2221 DAFFODIL AVE Fax: \_\_\_\_\_

City: McAllen State: TX Zip: 78501 E-mail: DSALINAS@SALINASENGINEERING.COM

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

### UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: CITY

☐ YES ☒ NO Wastewater Provision: SEPTIC

☒ YES ☐ NO Electric Company: MAGIC VALLEY

|                                                                                         |                                                                                       |                                                                                         |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Phone Utility _____ | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Gas Utility _____ | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Cable Utility _____ |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|

Proposed subdivision is in the following districts:

|                                                                                                     |                                                                                                         |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Drainage District <u>HCD #1</u> | <input checked="" type="checkbox"/> YES <input type="checkbox"/> 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 [rdelafuente@weslacotx.gov](mailto:rdelafuente@weslacotx.gov)
- \_\_\_\_\_ PDF copy of all documents submitted (emailed or USB)
- \_\_\_\_\_ \$355.00 Planning Review fee, \$100.00 Fire 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 [rdelafuente@weslacotx.gov](mailto:rdelafuente@weslacotx.gov)
- ☒ PDF copy of all documents submitted (emailed or USB)
- ☒ \$355.00 Planning Review fee, \$100.00 Fire Review fee
- ☒ One 11" X 17" reduced copy of plat
- ☒ Plat Layout
  - \_\_\_\_\_ Existing & Proposed Easements
  - \_\_\_\_\_ Existing & Proposed ROW



- ☐ 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: \_\_\_\_\_

Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ is the authorized agent

Authorized Agent Signature:  Date: 11-7-23

Authorized Agent Printed Name: DAVID SALINAS

\*\*\*\*\*

#### 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: \_\_\_\_\_

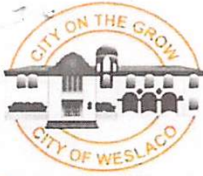
City Commission Approval on Final Plat: \_\_\_\_\_

Preconstruction Meeting Date: \_\_\_\_\_

Date Recorded: \_\_\_\_\_ Instrument No. \_\_\_\_\_

General Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





## APPLICATION FOR SUBDIVISION VARIANCE

VAR-000559-2023

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. \_\_\_\_\_

### GENERAL INFORMATION

Name of Subdivision: E.M.C. Subdivision

Location: Approx. 850' West of Pleasantview Dr. on the South side of 18th St.

Legal Description: 1.73 Acres Gross o/o the West 10 Acres of the East 15 Acres of the North 20 Acres o/o

F.T. 771, West Tract Subdivision

### VARIANCE TYPE:

☐ Streetlights      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

☐ Sanitary Sewer      ☒ YES      ☐ NO

Describe in detail the reason for the variance request:

Proposed Septic Tank System (OSSF) due to no nearby Sanitary Sewer line.

☐ Fire Hydrants      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

☐ Setbacks      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

☐ Drainage      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

ENV-00016042

☐ Minimum Lot Size ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_

\_\_\_\_\_

☐ Sidewalks ☒ YES ☐ NO

Describe in detail the reason for the variance request:

Developer would like to not have any sidewalks built at construction nor during building permitting stage. None exist in the area, developer to the East platted and did not install sidewalks either.

☐ Easement Requirements ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_

\_\_\_\_\_

☐ Other \_\_\_\_\_ ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_

\_\_\_\_\_

#### OWNER INFORMATION

Owner's Name: Luis Reyes Telephone: 956-778-0140

Address: 1906 Pleasantview Dr. Fax: \_\_\_\_\_

City: Weslaco State: TX Zip: 78596 E-mail: luisreyes34@yahoo.com

#### 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: Luis Reyes

Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ is the authorized agent

Authorized Agent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Agent Printed Name: David Salinas



**City of Weslaco  
Engineering Division**  
255 S. Kansas ♦ Weslaco, TX 78570 ♦ (956)

## TRIP GENERATION WORKSHEET

Complete parts A and B as an aid to determine if your project requires a Traffic Impact Analysis (TIA).

### A. Subdivision Information

Subdivision Name: E.M.C. Subd.  
Location: 980' west of Pleasantview along north side of E. 18th. Street  
Applicant: David Omar Salinas, P.E. ☐ Owner ☒ Agent  
Address: 2221 Daffodil Ave., McAllen Phone Number: 682-9081

### B. Trip Generation Calculation

The texts needed to complete this table are available at the Planning Department. See back of sheet for more information.

| ITE Code | Anticipated Land Use | Project Size |     |            | AM Peak Hour Trips | PM Peak Hour Trips | Weekday Trips |
|----------|----------------------|--------------|-----|------------|--------------------|--------------------|---------------|
|          |                      | Acres        | GFA | # of Units |                    |                    |               |
| 210      | Single Family        | 4.0          | n/a | 4          | 14.85              | 6.32               | 24.44         |

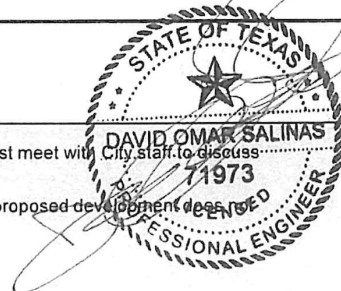
Comments: \_\_\_\_\_  
Prepared by: David Omar Salinas, P.E. Date: \_\_\_\_\_  
Address: 2221 Daffodil Ave., McAllen Phone Number: 682-9081

(For Official Use Only, Do Not Write In This Box)

- \_\_\_\_\_ A traffic impact analysis is required. The agent preparing the study must meet with City staff to discuss the scope and requirements of the study before beginning the study.
- \_\_\_\_\_ A traffic impact analysis is not required. The traffic generated by the proposed development does not exceed the threshold requirements.

Comments: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_ STID#: \_\_\_\_\_



# Gonzalez Septic Tank service

Edinburg, Texas

(956)778-3543

Lic. # SE : os12258 Installer II : os1350

## On - Site Sewerage Facility Soil Evaluation Report Information :

Date Soil Survey Performed : 2/20/2023

Subdivision Name: E.M.C. Subdivision

Bore: 1 Lot: 1  
Bore: 2 Lot: 2

Site Location : Pleasantview Dr and E 18 St

County : Hidalgo

Proposed Excavation Depth : 36 In

Name of Site Evaluator : Jose Angel Gonzalez

Registration Number : os 12258

### Requirements

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.  
Location of the soil boring or dug pit must be shown on the site drawing.  
For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.  
Describe each soil horizon and identify any restrictive features on the form. Indicate depths where features appear.

| Soil Boring Number : 1 |               |                 |                                                      |                                 |                     |                           |
|------------------------|---------------|-----------------|------------------------------------------------------|---------------------------------|---------------------|---------------------------|
| Depth (feet)           | Texture Class | Soil Texture    | Structure (For class III - blocky, platy or massive) | Drainage (Mottles/ Water Table) | Restrictive Horizon | Observations              |
| 1                      | III           | Sandy Clay Loam | Blocky                                               |                                 |                     |                           |
| 2                      |               |                 |                                                      |                                 |                     |                           |
| 3                      |               |                 |                                                      |                                 |                     |                           |
| 4                      |               |                 |                                                      |                                 |                     |                           |
| 5                      | III           | Sandy Clay Loam | Blocky                                               | None                            | None                | Soil is suitable for ossf |

| Soil Boring Number : 2 |               |                 |                                                      |                                 |                     |                           |
|------------------------|---------------|-----------------|------------------------------------------------------|---------------------------------|---------------------|---------------------------|
| Depth (feet)           | Texture Class | Soil Texture    | Structure (For class III - blocky, platy or massive) | Drainage (Mottles/ Water Table) | Restrictive Horizon | Observations              |
| 1                      | III           | Sandy Clay Loam | Blocky                                               |                                 |                     |                           |
| 2                      |               |                 |                                                      |                                 |                     |                           |
| 3                      |               |                 |                                                      |                                 |                     |                           |
| 4                      |               |                 |                                                      |                                 |                     |                           |
| 5                      | III           | Sandy Clay Loam | Blocky                                               | None                            | None                | Soil is suitable for ossf |

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.

  
Signature of Site Evaluator

2/20/23  
Date



# Gonzalez Septic Tank service

Edinburg, Texas

(956)778-3543

Lic. # SE : os12258 Installer II : os1350

## On - Site Sewerage Facility Soil Evaluation Report Information :

Date Soil Survey Performed : 2/20/2023

Subdivision Name: E.M.C. Subdivision

Bore: 3 Lot: 3

Bore: 4 Lot: 4

Site Location : Pleasantview Dr and E 18 St

County : Hidalgo

Proposed Excavation Depth : 36 In

Name of Site Evaluator : Jose Angel Gonzalez

Registration Number : os 12258

### Requirements

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.

Location of the soil boring or dug pit must be shown on the site drawing.

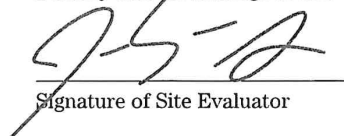
For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.

Describe each soil horizon and identify any restrictive features on the form. Indicate depths where features appear.

| Soil Boring Number : 3 |               |                 |                                                      |                                 |                     |                           |
|------------------------|---------------|-----------------|------------------------------------------------------|---------------------------------|---------------------|---------------------------|
| Depth (feet)           | Texture Class | Soil Texture    | Structure (For class III - blocky, platy or massive) | Drainage (Mottles/ Water Table) | Restrictive Horizon | Observations              |
| 1                      | III           | Sandy Clay Loam | Blocky                                               |                                 |                     |                           |
| 2                      |               |                 |                                                      |                                 |                     |                           |
| 3                      |               |                 |                                                      |                                 |                     |                           |
| 4                      |               |                 |                                                      |                                 |                     |                           |
| 5                      | III           | Sandy Clay Loam | Blocky                                               | None                            | None                | Soil is suitable for ossf |

| Soil Boring Number : 4 |               |                 |                                                      |                                 |                     |                           |
|------------------------|---------------|-----------------|------------------------------------------------------|---------------------------------|---------------------|---------------------------|
| Depth (feet)           | Texture Class | Soil Texture    | Structure (For class III - blocky, platy or massive) | Drainage (Mottles/ Water Table) | Restrictive Horizon | Observations              |
| 1                      | III           | Sandy Clay Loam | Blocky                                               |                                 |                     |                           |
| 2                      |               |                 |                                                      |                                 |                     |                           |
| 3                      |               |                 |                                                      |                                 |                     |                           |
| 4                      |               |                 |                                                      |                                 |                     |                           |
| 5                      | III           | Sandy Clay Loam | Blocky                                               | None                            | None                | Soil is suitable for ossf |

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.

  
Signature of Site Evaluator

2/20/23  
Date

Date : 2/20/2023

Site Evaluation Number \_\_\_\_\_

Applicant Information :

Name : Luis Reyes  
Address : 1906 Pleasantview Dr  
City : Weslaco State : TX  
Zip Code : 78596 Phone : (956)778-0140

Site Evaluator Information :

Name : Jose Angel Gonzalez  
Company Gonzalez septic Tank service  
address : 4609 East Owassa Rd.  
City : Edinburg State : Texas  
Zip Code 78542 Phone : 778-3543

Property Location :

Lot : 1-4 Block : —  
Subdivision: E.M.C. Subdivision  
Street/Road Address : Pleasantview Dr. and E 18th St  
County : Hidalgo Unincorporated : Yes/NO  
City : Weslaco Zip Code: 78596

Installer Information :

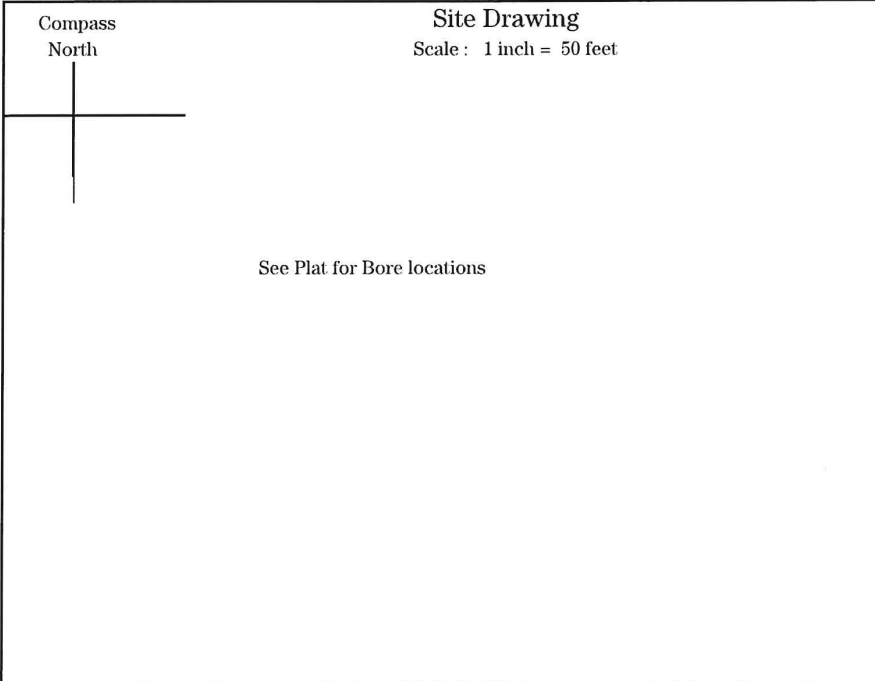
Name : same as above  
Company \_\_\_\_\_  
Address : \_\_\_\_\_  
City : \_\_\_\_\_ State : TX  
Zip Code \_\_\_\_\_ Phone : \_\_\_\_\_

Schematic of Lot or Tract

Show :

Compass north, adjacent streets, property lines, property dimensions, location of buildings, easments, swimming pools, water lines, and other surface improvements where known (drainage, patios, sidewalks).  
Location of existing or proposed water wells within 150 feet of property.  
Indicate slope or provide contour lines from the structure to the farthest location of the proposed soil absorption or irrigation area.  
Location of soil borings or dug pits (show location with respect to a known reference point).  
Location of natural, constructed, or proposed drainage ways, (streams, ponds, lakes, rivers, high tide of salt water bodies) water impoundment areas, cut or fill bank, sharp slopes and breaks.

Lot Size : AC

| Compass<br>North                                                                    | Site Drawing<br>Scale : 1 inch = 50 feet |
|-------------------------------------------------------------------------------------|------------------------------------------|
|  |                                          |
| See Plat for Bore locations                                                         |                                          |

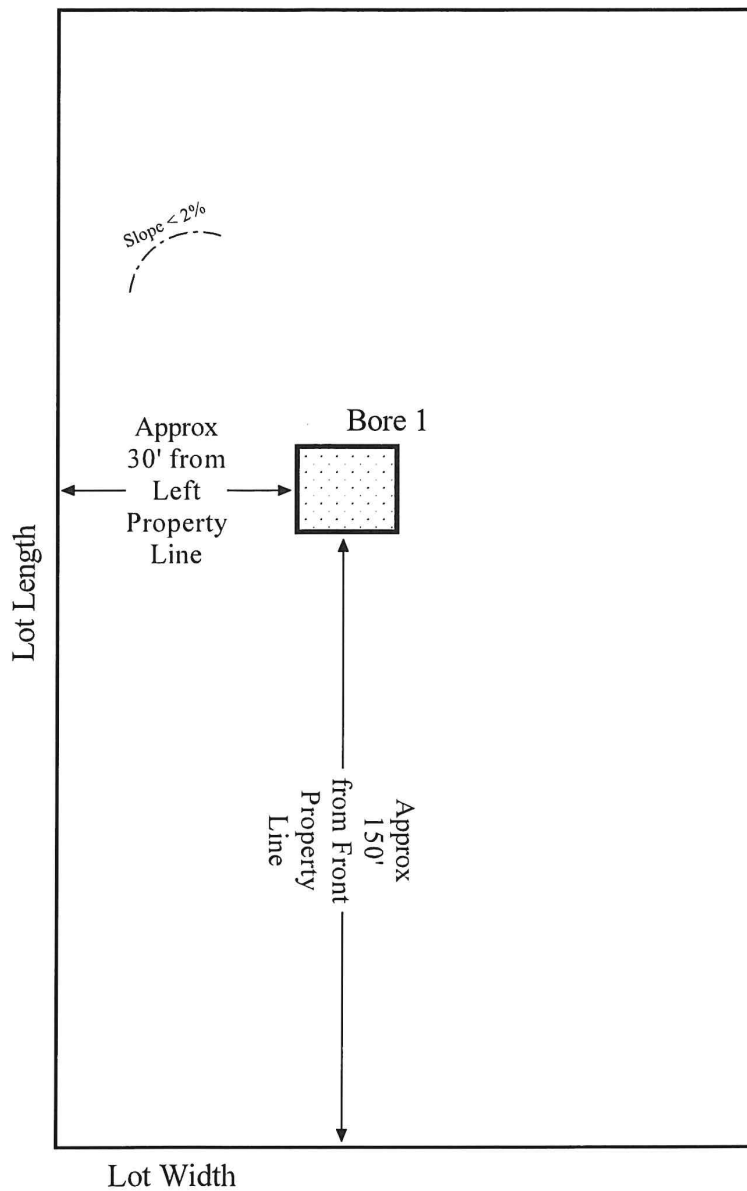
Features of site area

|                                                           |             |               |
|-----------------------------------------------------------|-------------|---------------|
| Presence of 100 year flood zone :                         | Yes : _____ | No : <u>X</u> |
| Presence of adjacent ponds, streams, water impoundments : | Yes : _____ | No : <u>X</u> |
| Existing or proposed water well in the nearby area :      | Yes : _____ | No : <u>X</u> |
| Organized sewage service available to lot or tract :      | Yes : _____ | No : <u>X</u> |

Site Evaluator :

Name : Jose Angel Gonzalez Signature [Signature] Licence # os 12258

## Approx Test Bore Location Not To Scale



Location:  
Pleasantview Dr. and E 18 St

See Subdivision Plat for more  
accurate location

-No Water Wells within 150' of septic  
system

-No open bodies of water within 100' of  
septic system

Property Owner : Luis Reyes

Legal Description : E.M.C. Subdivision

Installer :

Jose Angel Gonzalez, OS1350  
222 Veterans Blvd, Edinburg Tx 78540  
(956)778-3543

Site Evaluator:

Jose Angel Gonzalez, OS12258  
222 Veterans Blvd, Edinburg Tx 78540  
(956)778-3543

## DRAINAGE REPORT

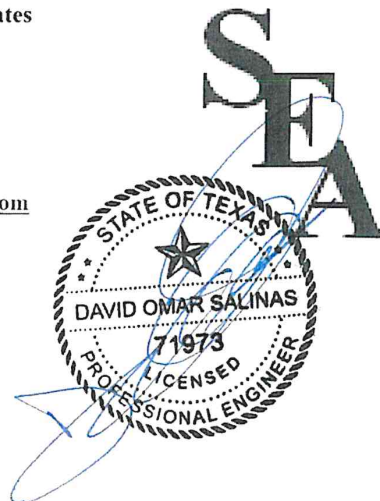
### E.M.C. SUBDIVISION

### CITY OF WESLACO HIDALGO COUNTY, TEXAS

#### PREPARED BY:

David Omar Salinas, P.E., R.P.L.S.  
Salinas Engineering & Associates  
(TBE F-6675)  
2221 Daffodil Ave.  
McAllen, Texas, 78501  
(956) 682-9081  
(956) 686-1489 Facsimile  
(956) 648-8899 Cell  
[dsalinas@salinasengineering.com](mailto:dsalinas@salinasengineering.com)

August 18, 2023





some elevations indicating waters may flow toward the northwest corner of the site but not at a rapid pace.

In accordance with the drainage policies of the City of Weslaco, this subdivision shall be required to provide for the detention of drainage waters created by the improvement to this 1.79 Gross (1.50 Net) acre property. Using the Modified Rational Method (*For Reference: TxDOT Intensity-Frequency-Duration Coefficients for Texas Counties HDM (2004)*) over a 10- and 50-Year storm event. – *For Reference: FHWA, Urban Drainage Design Manual HEC-22 (2001)* and using an existing drainage coefficient of 0.20 and a computed future drainage coefficient of 0.33 (using 6,000 Sq. Ft. of impervious improvements to each proposed lot) the attached hydrograph with an average slope of 0.20% over an average drainage run of 250.0 feet, the improved condition shall create the need for an additional minimum storage of 3,953.18 Cu. Ft., or, 0.09 Ac. Ft., and, runoff shall increase from 1.19 CFS (10-year storm event) to 2.75 CFS (50-year storm event) – this is an increase of 1.56 CFS. This newly created volume of water is equivalent to a layer of water 0.73 inches deep if spread out evenly over the 3.76 net acre site.

Based on the computations from the hydrograph, each lot shall be required to provide a minimum detention of not less than 1,977.0 Cu. Ft. (rounded up)

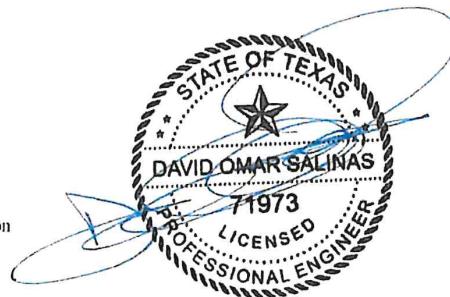
$$3,953.18 \text{ Cu. Ft.} / 2 = 1,977.0 \text{ Cu. Ft. (rounded up)}$$

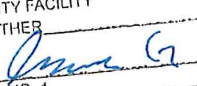
Because this plat is inside the limits of the City of Weslaco, the City is charged with enforcement of the computed drainage detention and discharge and other drainage improvements to either the on-site condition or to E. 18<sup>th</sup>. Street. During the building permit the applicant shall demonstrate to the City of Weslaco how detention and rate of discharge shall be accomplished. C

No additional pavement improvements to E. 18<sup>th</sup>. are being proposed at this time. The minimum finished floor elevation for Lots 1 and 2 shall be not less than 69.0.

David Omar Salinas, P.E.  
Plat Engineer

Date: August 18, 2023  
2 Attachment: Hydrograph and Other Required Drainage Report Information  
xc: n:\subdivision\plats\emc.sub\drainagereport.081823



|                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <input type="checkbox"/> REJECTED                                                   |  |
| <input checked="" type="checkbox"/> APPROVED FOR SUBMITTAL                          |                                                                                     |
| <input type="checkbox"/> TO H.C. PLANNING DEPT.                                     |                                                                                     |
| <input checked="" type="checkbox"/> TO CITY                                         |                                                                                     |
| <input type="checkbox"/> DISCHARGE PERMIT REQUIRED                                  |                                                                                     |
| <input type="checkbox"/> DISTRICT FACILITY                                          |                                                                                     |
| <input type="checkbox"/> CITY FACILITY                                              |                                                                                     |
| <input type="checkbox"/> OTHER                                                      |                                                                                     |
|  | 8-29-23                                                                             |
| H.C.D.D. NO. 1                                                                      | DATE                                                                                |

### HIDALGO COUNTY RAINFALL INTENSITY TABLES

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

| TIME | 5 yr. | 10 yr. | 25 yr. | 50 yr. |
|------|-------|--------|--------|--------|
|------|-------|--------|--------|--------|

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| 1  | 12.626 | 14.283 | 16.353 | 17.386 |
| 2  | 11.721 | 13.281 | 15.215 | 16.210 |
| 3  | 10.950 | 12.426 | 14.244 | 15.204 |
| 4  | 10.286 | 11.687 | 13.405 | 14.333 |
| 5  | 9.706  | 11.042 | 12.671 | 13.570 |
| 6  | 9.194  | 10.472 | 12.023 | 12.895 |
| 7  | 8.740  | 9.966  | 11.447 | 12.294 |
| 8  | 8.334  | 9.512  | 10.930 | 11.755 |
| 9  | 7.968  | 9.103  | 10.464 | 11.268 |
| 10 | 7.636  | 8.732  | 10.042 | 10.825 |
| 11 | 7.334  | 8.394  | 9.656  | 10.421 |
| 12 | 7.058  | 8.084  | 9.303  | 10.051 |
| 13 | 6.804  | 7.799  | 8.978  | 9.710  |
| 14 | 6.569  | 7.536  | 8.678  | 9.395  |
| 15 | 6.353  | 7.293  | 8.400  | 9.102  |
| 16 | 6.151  | 7.067  | 8.142  | 8.831  |
| 17 | 5.964  | 6.856  | 7.902  | 8.577  |
| 18 | 5.789  | 6.659  | 7.677  | 8.340  |
| 19 | 5.625  | 6.475  | 7.466  | 8.117  |
| 20 | 5.472  | 6.302  | 7.268  | 7.908  |
| 21 | 5.327  | 6.139  | 7.082  | 7.711  |
| 22 | 5.191  | 5.985  | 6.906  | 7.525  |
| 23 | 5.062  | 5.840  | 6.740  | 7.349  |
| 24 | 4.941  | 5.703  | 6.583  | 7.183  |
| 25 | 4.825  | 5.572  | 6.434  | 7.025  |
| 26 | 4.716  | 5.449  | 6.293  | 6.875  |
| 27 | 4.612  | 5.331  | 6.158  | 6.732  |
| 28 | 4.513  | 5.220  | 6.030  | 6.596  |
| 29 | 4.419  | 5.113  | 5.908  | 6.467  |
| 30 | 4.329  | 5.011  | 5.792  | 6.343  |
| 31 | 4.244  | 4.914  | 5.680  | 6.224  |
| 32 | 4.161  | 4.821  | 5.574  | 6.111  |
| 33 | 4.083  | 4.732  | 5.472  | 6.002  |
| 34 | 4.008  | 4.646  | 5.374  | 5.897  |
| 35 | 3.935  | 4.564  | 5.280  | 5.797  |

| TIME | 5 yr. | 10 yr. | 25 yr. | 50 yr. |
|------|-------|--------|--------|--------|
|------|-------|--------|--------|--------|

|    |       |       |       |       |
|----|-------|-------|-------|-------|
| 36 | 3.866 | 4.486 | 5.189 | 5.701 |
| 37 | 3.799 | 4.410 | 5.103 | 5.608 |
| 38 | 3.735 | 4.337 | 5.019 | 5.519 |
| 39 | 3.673 | 4.267 | 4.939 | 5.433 |
| 40 | 3.614 | 4.199 | 4.861 | 5.350 |
| 41 | 3.557 | 4.134 | 4.786 | 5.270 |
| 42 | 3.501 | 4.071 | 4.714 | 5.193 |
| 43 | 3.448 | 4.010 | 4.644 | 5.118 |
| 44 | 3.396 | 3.951 | 4.577 | 5.046 |
| 45 | 3.346 | 3.895 | 4.511 | 4.976 |
| 46 | 3.298 | 3.840 | 4.448 | 4.908 |
| 47 | 3.251 | 3.786 | 4.387 | 4.843 |
| 48 | 3.206 | 3.735 | 4.328 | 4.779 |
| 49 | 3.162 | 3.685 | 4.270 | 4.717 |
| 50 | 3.120 | 3.636 | 4.215 | 4.658 |
| 51 | 3.078 | 3.589 | 4.161 | 4.600 |
| 52 | 3.038 | 3.543 | 4.108 | 4.543 |
| 53 | 2.999 | 3.499 | 4.057 | 4.488 |
| 54 | 2.962 | 3.456 | 4.007 | 4.435 |
| 55 | 2.925 | 3.414 | 3.959 | 4.383 |
| 56 | 2.889 | 3.373 | 3.912 | 4.333 |
| 57 | 2.854 | 3.333 | 3.867 | 4.284 |
| 58 | 2.821 | 3.295 | 3.822 | 4.236 |
| 59 | 2.788 | 3.257 | 3.779 | 4.189 |
| 60 | 2.756 | 3.220 | 3.737 | 4.144 |
| 61 | 2.724 | 3.185 | 3.696 | 4.099 |
| 62 | 2.694 | 3.150 | 3.656 | 4.056 |
| 63 | 2.664 | 3.116 | 3.617 | 4.014 |
| 64 | 2.635 | 3.083 | 3.578 | 3.973 |
| 65 | 2.607 | 3.050 | 3.541 | 3.933 |
| 66 | 2.579 | 3.019 | 3.505 | 3.894 |
| 67 | 2.552 | 2.988 | 3.469 | 3.855 |
| 68 | 2.526 | 2.958 | 3.435 | 3.818 |
| 69 | 2.500 | 2.928 | 3.401 | 3.781 |
| 70 | 2.475 | 2.899 | 3.368 | 3.745 |

| Table 3-1. Runoff Coefficients for Rational Formula. <sup>(14)</sup>                                                                                                                           |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |



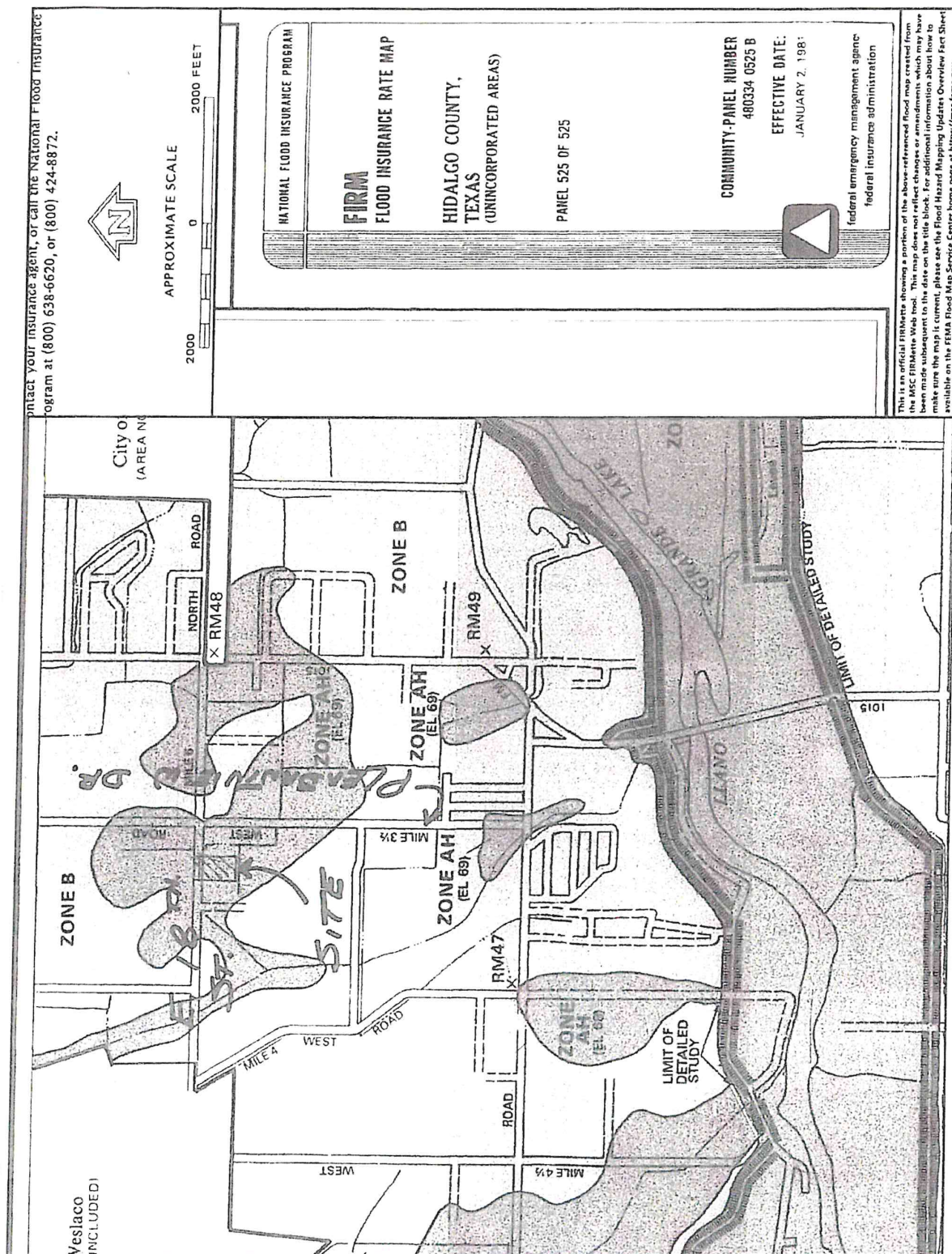
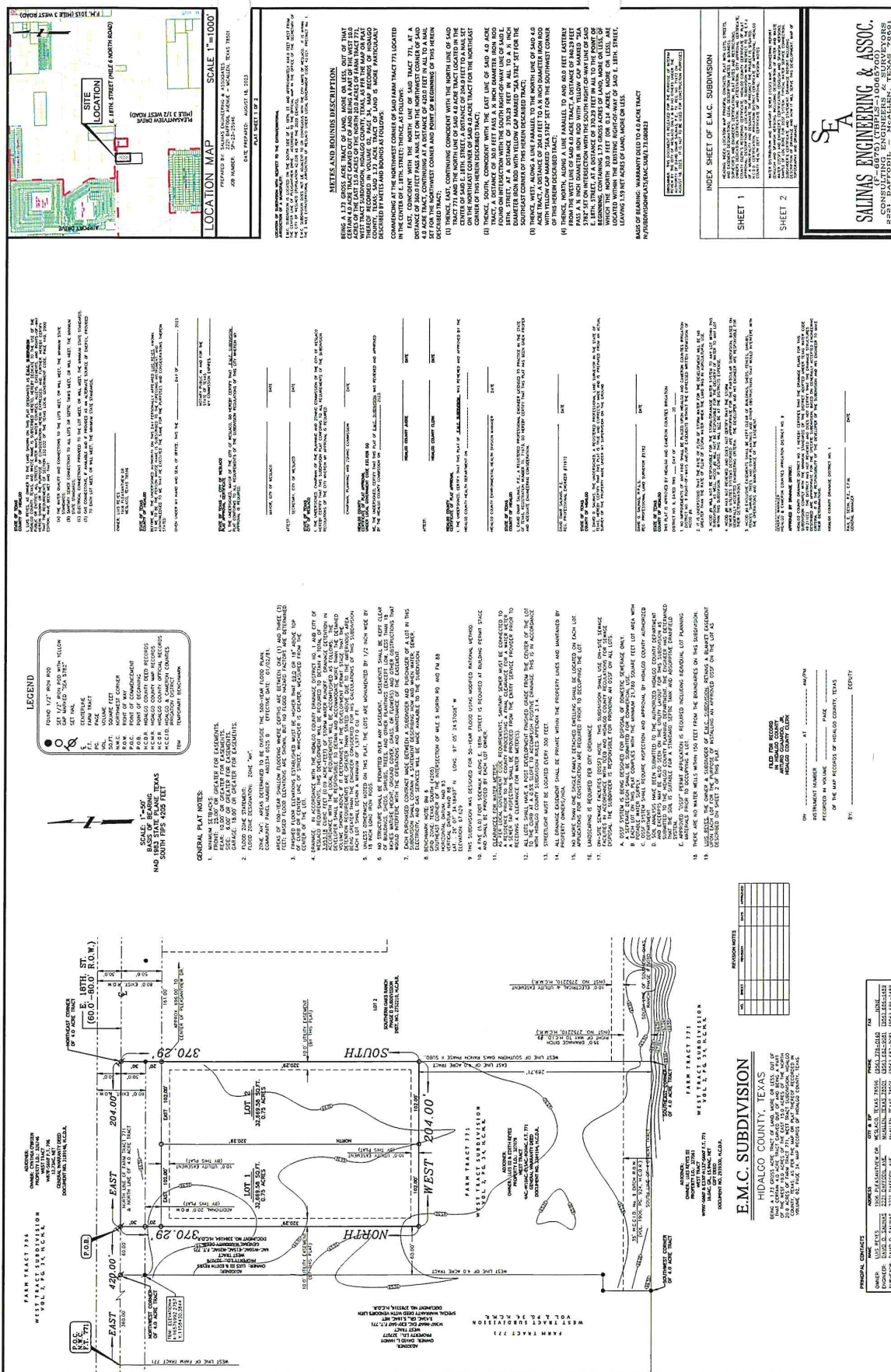


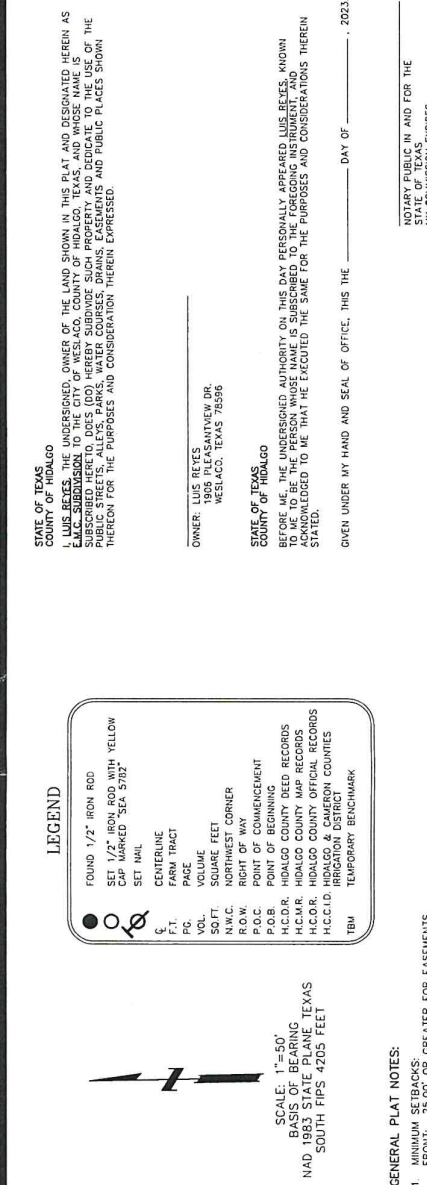


TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]







HAVING A 1.73 GROSS ACRE TRACT OF LAND, MORE OR LESS, OUT OF WHICH CERTAIN 4.0 ACRE TRACT CARVED OUT AND BEING A PART THEREOF, THE WEST 10.0 ACRES OF THE EAST 15.0 ACRES OF THE NORTH 20.0 ACRES OF FARM TRACT 771, WEST TRACT SUBDIVISION, HIDALGO COUNTY, TEXAS, AS PER THE MAP OR PLAT THEREOF RECORDED IN VOLUME 02, PAGE 34, MAP RECORDS OF HIDALGO CNTY., TEXAS

| PRINCIPAL CONTACTS        |                       |                       |                |
|---------------------------|-----------------------|-----------------------|----------------|
| NAME                      | ADDRESS               | CITY & ZIP            | PHONE FAX      |
| OWNER: LUIS REYES         | 1906 PLEASANTVIEW DR. | MESQUITE, TEXAS 75096 | (956) 778-0140 |
| ENGINEER: DAVID O. SAINES | 2221 DARTFOOT AVE.    | MCALLEN, TEXAS 78501  | (956) 686-1182 |
| SURVEYOR: DAVID O. SAINES | 2221 DARTFOOT AVE.    | MCALLEN, TEXAS 78501  | (956) 686-1182 |

## PRINCIPAL CONTACTS

DISCLAIMER: THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW BY THE CITY OF WESLACO ONLY & BY NO OTHERS UNDER THE AUTHORITY OF DAVID OMAR SALINAS, P.E. TX. REG. NO. 71973 ON NOVEMBER 06, 2023. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

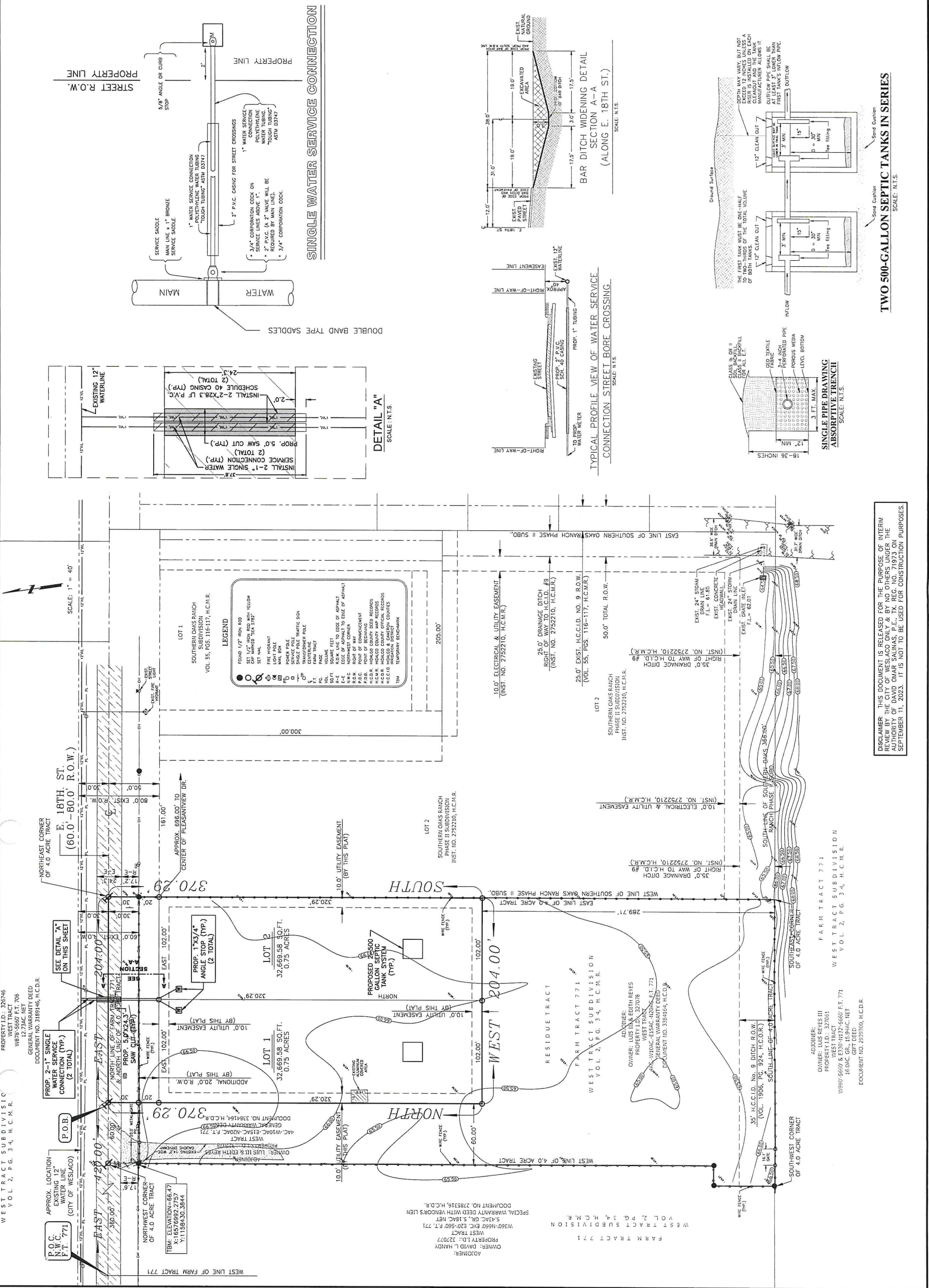
## E.M.C SUBDIVISION

PREPARED BY: SALINAS ENGINEERING & ASSOC.  
DATE OF PREPARATION: NOVEMBER 06, 2023  
JOB NUMBER: SP-23-25946  
OWNER: LUIS REYES  
1906 PLEASANTVIEW DR.  
WESLACO, TEXAS 78596

**SFA**  
**SALINAS ENGINEERING & ASSOC.**  
(F-6675) (TBPLS-10065700)  
CONSULTING ENGINEERS & SURVEYORS  
2221, DAFODIL - MCALLEN, TEXAS 78501  
TEL. 595-1100 FAX 595-1101  
P.O. BOX 12009 PARK 35, ORACLE, ORE. 97131  
TEL. 503-223-4200 FAX 503-223-4201



|                                                                                                                                                                                                                                                                                                       |                |  |                    |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|--------------------|----------|
| <div style="display: flex; align-items: center;"> <div> <p><b>SALINAS ENGINEERING &amp; ASSOCIATES</b></p> <p>(P-06675) (TBPIS-10066700)<br/> CONSULTING ENGINEERS &amp; SURVEYORS<br/> 2221 DAFPODIL - McALLISTER, TEXAS 78001<br/> (512) 962-1449 (FAX)<br/> (512) 962-1449 (TEL)</p> </div> </div> | UTILITY LAYOUT |  | E.M.C. SUBDIVISION | Project: |
|                                                                                                                                                                                                                                                                                                       | Sheet Title:   |  |                    |          |
| <div style="display: flex; justify-content: space-between;"> <div> <p>David Omar Salinas<br/> Registered Professional<br/> Engineer # 719173</p> </div> <div> <p>Date: 09/11/23</p> </div> </div>                                                                                                     |                |  |                    |          |
| <div style="display: flex; justify-content: space-between;"> <div> <p>Scale: 1"=40'</p> </div> <div> <p>Designed By: D.O.S.</p> </div> </div>                                                                                                                                                         |                |  |                    |          |
| <div style="display: flex; justify-content: space-between;"> <div> <p>Drawn By: AE</p> </div> <div> <p>Checked By: D.O.S.</p> </div> </div>                                                                                                                                                           |                |  |                    |          |
| <div style="display: flex; justify-content: space-between;"> <div> <p>Approved By: D.O.S.</p> </div> <div> <p>Project No: SP-23-25646</p> </div> </div>                                                                                                                                               |                |  |                    |          |
| <div style="display: flex; justify-content: space-between;"> <div> <p>Drawing No: SP-23-25646</p> </div> <div> <p>Sheet: 2 of 2</p> </div> </div>                                                                                                                                                     |                |  |                    |          |







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

|                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Date of Meeting:</b><br><b>December 6, 2023</b>                                                                                                                                                                                                                                                                                                                                                          | <b>Agenda Item No.</b> (to be assigned by PCE):<br><b>V.B.</b> |
| <b>From:</b><br>Rebekah de la Fuente, Planning Director, on behalf of Supreme Engineering.                                                                                                                                                                                                                                                                                                                  |                                                                |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration of the Preliminary and/or Final Plat for Rio Orchards Estates Subdivision being 19.45 acres out of Farm Tracts 757 and 758, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas. Located East Mile 5 N. Road between Mile 4 W. and Mile 4 ½ W Road. Possible Action.                                                               |                                                                |
| <b>Discussion/Overview:</b><br>The proposed fifty-three (53) lot subdivision is located outside the City of Weslaco. This subdivision is being serviced with water by City of Weslaco through an 8" waterline and sewer by City of Weslaco through an 8" sewer line. The property is within a Flood Zone "B". Applicant is requesting a variance for off-site drainage and has provided letters of support. |                                                                |
| <b>If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:</b> N/A                                                                                                                                                                                                                                           |                                                                |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of Preliminary Plat and Final Plat and compliance with the ordinance on the variance.                                                                                                                                                                                                                                     |                                                                |
| <b>Additional Action Prompted:</b><br>[ X ] Mayor's Signature [ ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                                                                                                                                         |                                                                |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                                                                                            |                                                                |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                                                                                            |                                                                |
| <b>Attachments, (if any):</b><br>Application for Subdivision platting, Staff's comments, Drainage Report, Subdivision plat and Utility layout.                                                                                                                                                                                                                                                              |                                                                |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                                                                                                                                  |                                                                |



## SUBDIVISION PLATTING APPLICATION

PIAT-000553-2023

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. \_\_\_\_\_

NOV 27 2023

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: Rio Orchards Estates

Location: North side of E. Mile 5 Rd, 0.25 Miles east of Bridge Ave.

Legal Description: A 19.45 acres of land out of farm tract 757, and farm tract 758, the West and Adams tracts recorded in volume 2, page 34-37, map records Hidalgo County, Texas.

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: \_\_\_\_\_

Existing Land Use: Agriculture    Proposed Land Use: Multi-Family

Number of Lots Proposed: 53    Gross Acreage: 19.45

Title Report Submitted:    ☒ YES    ☐ NO

### OWNER INFORMATION

Owner's Name: DK3 Investment Group, LLC    Telephone: (956) 447-3962

Address: 702 W. Expressway 83    Fax: \_\_\_\_\_

City: Weslaco    State: TX    Zip: 78599    E-mail: dominicareyna@gmail.com

### ENGINEER INFORMATION

Name: Supreme Engineering, PLLC -Omar Cano, P.E.    Telephone: (956) 272-2246

Address: 135 Paseo Del Prado Suite 7    Fax: \_\_\_\_\_

City: Edinburg    State: TX    Zip: 78539    E-mail: omar.cano@supremeengineering.com

### UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: City of Weslaco

☒ YES ☐ NO Wastewater Provision: City of Weslaco

☒ YES ☐ NO Electric Company: AEP

|                                                                                         |                                                                                       |                                                                                                      |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Phone Utility _____ | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Gas Utility _____ | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Cable Utility<br><u>Spectrum</u> |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|

Proposed subdivision is in the following districts:

|                                                                                                    |                                                                                                      |
|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Drainage District <u>No. 1</u> | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Irrigation District <u>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 [rdelafuente@weslacotx.gov](mailto: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 [rdelafuente@weslacotx.gov](mailto:rdelafuente@weslacotx.gov)
- \_\_\_\_\_ **\$355.00** (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
- \_\_\_\_\_ 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: \_\_\_\_\_

\_\_\_\_\_ is the authorized agent

Authorized Agent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Agent Printed Name: \_\_\_\_\_

\*\*\*\*\*

### 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: \_\_\_\_\_

\_\_\_\_\_



## APPLICATION FOR SUBDIVISION VARIANCE

VAR-000554-2023

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. \_\_\_\_\_

NOV 27 2023

### GENERAL INFORMATION

Name of Subdivision: Rio Orchards Estates

Location: North side of E. Mile 5 Rd, 0.25 Miles east of Bridge Ave.

Legal Description: A 19.45 acres of land out of farm tract 757, and farm tract 758, the West and Adams tracts recorded in volume 2, page 34-37, map records Hidalgo County, Texas.

### VARIANCE TYPE:

☐ Streetlights      ☐ YES      ☐ NO

Describe in detail the reason for the variance request:

☐ Sanitary Sewer      ☐ YES      ☐ NO

Describe in detail the reason for the variance request:

☐ Fire Hydrants      ☐ YES      ☐ NO

Describe in detail the reason for the variance request:

☐ Setbacks      ☐ YES      ☐ NO

Describe in detail the reason for the variance request:

☐ Drainage      ☒ YES      ☐ NO

Describe in detail the reason for the variance request:

Detention volume required will be place off-site in a dedicated drainage ROW and excavating a new drain ditch that will be owned and maintained by the HCDD No. 1.



☐ Minimum Lot Size ☐ YES ☐ NO

Describe in detail the reason for the variance request:

---

---

☐ Sidewalks ☐ YES ☐ NO

Describe in detail the reason for the variance request:

---

---

☐ Easement Requirements ☐ YES ☐ NO

Describe in detail the reason for the variance request:

---

---

☐ Other \_\_\_\_\_ ☐ YES ☐ NO

Describe in detail the reason for the variance request:

---

---

#### OWNER INFORMATION

Owner's Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Address: \_\_\_\_\_ Fax: \_\_\_\_\_

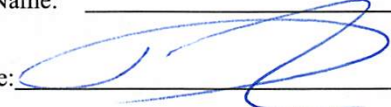
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ E-mail: \_\_\_\_\_

#### 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: \_\_\_\_\_ *Dominic Reyes*

Owner Signature: \_\_\_\_\_  Date: \_\_\_\_\_

\_\_\_\_\_ is the authorized agent

Authorized Agent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Agent Printed Name: \_\_\_\_\_



## HIDALGO COUNTY DRAINAGE DISTRICT No. 1

Raul E. Segin, PE, CFM  
District General Manager  
Hidalgo County Floodplain Administrator

---

### BOARD OF DIRECTORS

---

DAVID L. FUENTES  
Board Member

EDUARDO "EDDIE" CANTU  
Board Member

RICHARD F. CORTEZ  
Chairman of the Board

EVERARDO "EVER" VILLARREAL  
Board Member

ELLIE TORRES  
Board Member

---

November 28, 2023

Rebekah De La Fuente  
Planning & Code Enforcement Director  
255 S. Kansas Ave.  
Weslaco, Texas 78596

RE: Supreme Engineering – Rio Orchards Estates

This letter is in response to a request from the Engineer of record for Rio Orchards Estates, Omar Cano, PE. HCDD1 has received and approved the drainage statement for the above-mentioned development located in the City of Weslaco ETJ and has no objections to the Engineer's plan to discharge water as identified in the approved drainage report.

If you should have any questions or require additional information, please feel free to give me a call at (956) 292-7080.

Sincerely,  
Hidalgo County Drainage District No. 1

A handwritten signature in black ink, appearing to read "Yvette Barrera", is written over a horizontal line.

Yvette Barrera, PE, CFM  
Assistant General Manager

XC: Raul E. Segin, PE, CFM – District General Manager, HCDD1  
Omar Anzaldúa, PE, CFM – Assistant General Manager, HCDD1  
Isaac Gonzalez, EIT  
Alexis Lozano, EIT  
Gilberto Aguirre, EIT  
Esther Mireles

## Hidalgo and Cameron Counties Irrigation District No. 9

General Office

(956) 565-2411  
(956) 565-0521 Fax

E-Mail  
hccid9@hotmail.com



P O Box 237 Mercedes, Texas 78570

Randy Winston  
General Manager

Debra Pena  
Tax Assessor-Collector

Date: 11/27/2023

Hector Garcia  
Supreme Engineering  
135 Paseo Del Prado Ste 7  
Edinburg, Texas 78539

RE: **Rio Orchard Estates** Subd. Drainage and Detention

Good Morning Mr. Garcia:

I have received your revised cross section and calculations dated 11/21/23 for the **Rio Orchard Estates** Subdivision modified to detain the 50-year detention volume in the proposed onsite pond as shown on your provided cross sections.

HCCID #9 does not object to storing the mandated 50 year detention with the proposed onsite pond as shown on the cross sections. This Subdivision will require the following:

1. The Proposed Detention Area will require outlet controls going into the existing drainage ditch.
2. Discharge Permit will be required.
3. Subject to donation of dedicated access easement for HCDD 1

The maintenance of this section is outside of the City Limits of Weslaco and will be done by HCDD #1. Please verify final designs with Raul Sesin PE, CFM Hidalgo County Drainage District No. 1 District Manager.

Randall Winston  
General Manager

HCCID #9  
Mercedes, Texas  
956-565-2411





## SUPREME ENGINEERING – CIVIL ENGINEERING CONSULTANT

### Rio Orchards Estates Subdivision Drainage Statement

Rio Orchards Estates Subdivision being 19.450 acres of land out farm tract 757, and farm tract 758, the West and Adams tract subdivision, Hidalgo County, Texas, vol. 2, pg. 34 through 37, map records of Hidalgo County, Texas. The property is located along East Mile 5 N. Road, between Mile 4 W. and Mile 4 ½ W. Roads within the **City of Weslaco** ETJ, County of Hidalgo, Texas. The tracts are **currently vacant**. Proposing **53-lot multi-family** development.

The property is located mostly in **Zone “B”** on FEMA’s Flood Insurance Rate Map, Community Panel No. 480334 0525 B Map dated January 2, 1981. Zone B is defined 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.

The predominate soils in this area are Hidalgo sandy clay loam (**Soils 28**), this soil belong to hydrologic group “B” which have a moderate infiltration rate when thoroughly wet. Group B soils 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. (See “USDA, NRCS Web Soil Survey” Soils Maps, Engineering Properties and information for the Hidalgo County, Texas).

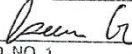
The surface runoff of this property flows in an easterly direction. The pre-development storm runoff is 12.04 cfs based on a 10-year storm frequency, as per attached calculations. The post-development storm runoff is 66.73 cfs based on a 50-year storm frequency, which is an increase of 54.69 cfs as per the attached calculations.

In accordance with Hidalgo County Drainage District No. 1 (HCDD1) and City of **Weslaco**’s drainage policy, the 19.45-acre property storm drainage system for the proposed **53 lot multi-family subdivision** will consist of sheet flow through proposed paved street, gutters, inlets and storm sewer system with pipe sizes 24”, 30” and 36” as shown on the attached storm sewer plan. Pertinent permitting as necessary shall be coordinated with the City of **Weslaco** and **County of Hidalgo** during public improvements.



# **SUPREME ENGINEERING – CIVIL ENGINEERING CONSULTANT**

In accordance with HCDD1 and City of Weslaco's drainage policy, the difference between the pre (10-yr storm) and the post (50-yr storm) development storm runoff shall not increase; therefore, as per attached calculations, the required detention of **142,829 cubic feet (3.28 acre-ft)** of storm runoff shall be stored as per attached calculations. The additional runoff will be compensated by excavating a new drain ditch in an 80 feet ROW along the east of the property dedicated to Hidalgo County Drainage District No. 1 discharging, with a 24 inch storm line and choking it to an 18 inch as requested by HCCID9, into HCDD1 ditch 36 along Mile 4 W. Road serving as the ultimate outfall. The proposed excavation will accommodate **177,750 cubic feet (4.09 acre-ft)** of detention runoff which exceeds the 100-yr storm post development detention volume of **174,540 cubic feet (4.01 acre-ft)**

|                                                                                     |                                                                                   |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <input type="checkbox"/> REJECTED                                                   |  |
| <input checked="" type="checkbox"/> APPROVED FOR SUBMITTAL                          |                                                                                   |
| <input checked="" type="checkbox"/> TO H.C. PLANNING DEPT.                          |                                                                                   |
| <input checked="" type="checkbox"/> TO CITY                                         |                                                                                   |
| <input checked="" type="checkbox"/> DISCHARGE PERMIT REQUIRED                       |                                                                                   |
| <input checked="" type="checkbox"/> DISTRICT FACILITY                               |                                                                                   |
| <input type="checkbox"/> CITY FACILITY                                              |                                                                                   |
| <input checked="" type="checkbox"/> OTHER <u>HCCID #9</u>                           |                                                                                   |
|  |                                                                                   |
| H.C.D.D. NO. 1                                                                      | DATE <u>11-21-23</u>                                                              |

*subject to the donation of a dedicated access easement*



By , P.E.  
Engineer Signature

11/11/2023  
Date

Project Name: **Rio Orchards Estates Subdivision**  
Project Location: **City of Weslaco**  
Number of Lots: **53**  
Calculation Analysis: **Rational Method (TxDOT Hydraulic Design Manual, Revised Sep 2019)**

**Pre Development (Existing) Conditions 10 - Year Storm Frequency**

Property Area: 17.25 Acres  
751,410.0 Sq Ft

Time of Concentration,  $t_c$  44 Minutes

Velocity,  $V$  0.49 ft/s

Runoff Coefficient,  $C$ : 0.20 Table 3-3

Intensity,  $I$ : 3.49 in/hr

Peak Flow,  $Q$ : 12.04 cfs Choke to an 18" @0.60% as per HCCID9 (8.21 cfs)

Surface Conditions  
Flow Length,  $L$ : 1300 Feet  
Surface Constant,  $K_u$ : 3.28  
Intercept Coefficient,  $k$ : 0.274 Table 3-2  
Slope,  $S_p$ : 0.30 %  
e: 0.812  
Rainfall Coefficients  
b: 92.23  
(10-yr storm) d: 12.33

**Post Development (Future) Conditions 50 - Year Storm Frequency**

Property Area: 17.25 Acres  
751,410.0 Sq Ft

Time of Concentration,  $t_c$  24 Minutes

Velocity,  $V$  0.91 ft/s

Runoff Coefficient,  $C$ : 0.55

Intensity,  $I$ : 7.03 in/hr

Peak Flow,  $Q$ : 66.73 cfs

Surface Conditions  
Flow Length,  $L$ : 1300 Feet  
Surface Constant,  $K_u$ : 3.28  
Intercept Coefficient,  $k$ : 0.619 Table 3-2  
Slope,  $S_p$ : 0.20 %  
e: 0.795  
Rainfall Coefficients  
b: 123.47  
(50-yr storm) d: 12.86

11/11/2023



*[Signature]*, P.E.



Modified Rational Method  
Detention Calculations (50-yr Storm Frequency)

| Duration |      | Intensity<br>50-year | Q <sub>in</sub> | Vol <sub>in</sub>  | Q <sub>out</sub> * | Vol <sub>out</sub> | Storage Required   |           |
|----------|------|----------------------|-----------------|--------------------|--------------------|--------------------|--------------------|-----------|
| (min)    | (hr) | (in/hr)              | (cfs)           | (ft <sup>3</sup> ) | (cfs)              | (ft <sup>3</sup> ) | (ft <sup>3</sup> ) | (acre-ft) |
| 100      | 1.67 | 2.88                 | 27.32           | 163,940.03         | 8.21               | 30,507.29          | 133,432.74         | 3.06      |
| 110      | 1.83 | 2.69                 | 25.54           | 168,561.24         | 8.21               | 32,970.29          | 135,590.95         | 3.11      |
| 120      | 2.00 | 2.53                 | 24.00           | 172,791.32         | 8.21               | 35,433.29          | 137,358.03         | 3.15      |
| 130      | 2.17 | 2.39                 | 22.65           | 176,693.99         | 8.21               | 37,896.29          | 138,797.70         | 3.19      |
| 140      | 2.33 | 2.26                 | 21.47           | 180,318.61         | 8.21               | 40,359.29          | 139,959.33         | 3.21      |
| 150      | 2.50 | 2.15                 | 20.41           | 183,704.21         | 8.21               | 42,822.29          | 140,881.92         | 3.23      |
| 160      | 2.67 | 2.05                 | 19.47           | 186,882.10         | 8.21               | 45,285.29          | 141,596.81         | 3.25      |
| 170      | 2.83 | 1.96                 | 18.62           | 189,877.83         | 8.21               | 47,748.29          | 142,129.54         | 3.26      |
| 180      | 3.00 | 1.88                 | 17.84           | 192,712.49         | 8.21               | 50,211.29          | 142,501.20         | 3.27      |
| 190      | 3.17 | 1.81                 | 17.14           | 195,403.67         | 8.21               | 52,674.29          | 142,729.39         | 3.28      |
| 200      | 3.33 | 1.74                 | 16.50           | 197,966.24         | 8.21               | 55,137.29          | 142,828.95         | 3.28      |
| 210      | 3.50 | 1.68                 | 15.91           | 200,412.83         | 8.21               | 57,600.29          | 142,812.54         | 3.28      |
| 220      | 3.67 | 1.62                 | 15.36           | 202,754.28         | 8.21               | 60,063.29          | 142,690.99         | 3.28      |
| 230      | 3.83 | 1.57                 | 14.86           | 204,999.98         | 8.21               | 62,526.29          | 142,473.70         | 3.27      |
| 240      | 4.00 | 1.52                 | 14.39           | 207,158.09         | 8.21               | 64,989.29          | 142,168.80         | 3.26      |
| 250      | 4.17 | 1.47                 | 13.95           | 209,235.76         | 8.21               | 67,452.29          | 141,783.47         | 3.25      |
| 260      | 4.33 | 1.43                 | 13.54           | 211,239.28         | 8.21               | 69,915.29          | 141,323.99         | 3.24      |
| 270      | 4.50 | 1.39                 | 13.16           | 213,174.22         | 8.21               | 72,378.29          | 140,795.94         | 3.23      |
| 280      | 4.67 | 1.35                 | 12.80           | 215,045.55         | 8.21               | 74,841.29          | 140,204.27         | 3.22      |
| 290      | 4.83 | 1.31                 | 12.46           | 216,857.70         | 8.21               | 77,304.29          | 139,553.41         | 3.20      |
| 300      | 5.00 | 1.28                 | 12.15           | 218,614.64         | 8.21               | 79,767.29          | 138,847.35         | 3.19      |
| 310      | 5.17 | 1.25                 | 11.85           | 220,319.95         | 8.21               | 82,230.29          | 138,089.67         | 3.17      |

|                           |                    |              |
|---------------------------|--------------------|--------------|
| Proposed Total Detention: | 142,828.95 cu. ft. | 3.28 acre-ft |
| Detention/Acre Developed  | 8,279.94 cu. ft.   | 0.19 acre-ft |

11/11/2023



| Land Cover / Flow Regime                                                                        | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

PE.

Table 3-2: Intercept Coefficients

Project Name: **Rio Orchards Estates Subdivision**  
Project Location: **City of Weslaco**  
Number of Lots: **53**  
Calculation Analysis: **Rational Method (TxDOT Hydraulic Design Manual, Revised Sep 2019)**

**Pre Development (Existing) Conditions 10 - Year Storm Frequency**

Property Area: 17.25 Acres  
751,410.0 Sq Ft

Time of Concentration,  $t_c$ : 44 Minutes

Velocity,  $V$ : 0.49 ft/s

Runoff Coefficient,  $C$ : 0.20 Table 3-3

Intensity,  $I$ : 3.49 in/hr

Surface Conditions  
Flow Length,  $L$ : 1300 Feet  
Surface Constant,  $K_u$ : 3.28  
Intercept Coefficient,  $k$ : 0.274 Table 3-2  
Slope,  $S_p$ : 0.30 %  
 $e$ : 0.812  
Rainfall Coefficients  
(10-yr storm)  $b$ : 92.23  
 $d$ : 12.33

Peak Flow,  $Q$ : 12.04 cfs Choke to an 18" @0.60% as per HCCID9 (8.21 cfs)

**Post Development (Future) Conditions 100 - Year Storm Frequency**

Property Area: 17.25 Acres  
751,410.0 Sq Ft

Time of Concentration,  $t_c$ : 24 Minutes

Velocity,  $V$ : 0.91 ft/s

Runoff Coefficient,  $C$ : 0.55

Intensity,  $I$ : 7.96 in/hr

Peak Flow,  $Q$ : 75.56 cfs

Surface Conditions  
Flow Length,  $L$ : 1300 Feet  
Surface Constant,  $K_u$ : 3.28  
Intercept Coefficient,  $k$ : 0.619 Table 3-2  
Slope,  $S_p$ : 0.20 %  
 $e$ : 0.789  
Rainfall Coefficients  
(100-yr storm)  $b$ : 137.99  
 $d$ : 13.32

11/11/2023



*[Signature]*, P.E.

Modified Rational Method  
Detention Calculations (100-yr Storm Frequency)

| Duration |      | Intensity<br>100-year | Q <sub>in</sub> | Vol <sub>in</sub>  | Q <sub>out</sub> * | Vol <sub>out</sub> | Storage Required   |           |
|----------|------|-----------------------|-----------------|--------------------|--------------------|--------------------|--------------------|-----------|
| (min)    | (hr) | (in/hr)               | (cfs)           | (ft <sup>3</sup> ) | (cfs)              | (ft <sup>3</sup> ) | (ft <sup>3</sup> ) | (acre-ft) |
| 100      | 1.67 | 3.31                  | 31.37           | 188,236.69         | 8.21               | 30,507.29          | 157,729.40         | 3.62      |
| 110      | 1.83 | 3.09                  | 29.35           | 193,698.52         | 8.21               | 32,970.29          | 160,728.23         | 3.69      |
| 120      | 2.00 | 2.91                  | 27.60           | 198,702.95         | 8.21               | 35,433.29          | 163,269.66         | 3.75      |
| 130      | 2.17 | 2.75                  | 26.07           | 203,324.03         | 8.21               | 37,896.29          | 165,427.74         | 3.80      |
| 140      | 2.33 | 2.61                  | 24.72           | 207,619.23         | 8.21               | 40,359.29          | 167,259.94         | 3.84      |
| 150      | 2.50 | 2.48                  | 23.51           | 211,634.00         | 8.21               | 42,822.29          | 168,811.71         | 3.88      |
| 160      | 2.67 | 2.37                  | 22.44           | 215,404.89         | 8.21               | 45,285.29          | 170,119.60         | 3.91      |
| 170      | 2.83 | 2.26                  | 21.47           | 218,961.73         | 8.21               | 47,748.29          | 171,213.44         | 3.93      |
| 180      | 3.00 | 2.17                  | 20.59           | 222,329.16         | 8.21               | 50,211.29          | 172,117.87         | 3.95      |
| 190      | 3.17 | 2.09                  | 19.78           | 225,527.77         | 8.21               | 52,674.29          | 172,853.48         | 3.97      |
| 200      | 3.33 | 2.01                  | 19.05           | 228,574.95         | 8.21               | 55,137.29          | 173,437.67         | 3.98      |
| 210      | 3.50 | 1.94                  | 18.37           | 231,485.51         | 8.21               | 57,600.29          | 173,885.22         | 3.99      |
| 220      | 3.67 | 1.87                  | 17.75           | 234,272.16         | 8.21               | 60,063.29          | 174,208.87         | 4.00      |
| 230      | 3.83 | 1.81                  | 17.17           | 236,945.89         | 8.21               | 62,526.29          | 174,419.60         | 4.00      |
| 240      | 4.00 | 1.75                  | 16.63           | 239,516.29         | 8.21               | 64,989.29          | 174,527.00         | 4.01      |
| 250      | 4.17 | 1.70                  | 16.13           | 241,991.75         | 8.21               | 67,452.29          | 174,539.46         | 4.01      |
| 260      | 4.33 | 1.65                  | 15.67           | 244,379.66         | 8.21               | 69,915.29          | 174,464.37         | 4.01      |
| 270      | 4.50 | 1.61                  | 15.23           | 246,686.58         | 8.21               | 72,378.29          | 174,308.29         | 4.00      |
| 280      | 4.67 | 1.56                  | 14.82           | 248,918.33         | 8.21               | 74,841.29          | 174,077.04         | 4.00      |
| 290      | 4.83 | 1.52                  | 14.43           | 251,080.13         | 8.21               | 77,304.29          | 173,775.84         | 3.99      |
| 300      | 5.00 | 1.48                  | 14.07           | 253,176.65         | 8.21               | 79,767.29          | 173,409.37         | 3.98      |
| 310      | 5.17 | 1.45                  | 13.72           | 255,212.12         | 8.21               | 82,230.29          | 172,981.83         | 3.97      |

|                           |                    |              |
|---------------------------|--------------------|--------------|
| Proposed Total Detention: | 174,539.46 cu. ft. | 4.01 acre-ft |
| Detention/Acre Developed  | 10,118.23 cu. ft.  | 0.23 acre-ft |

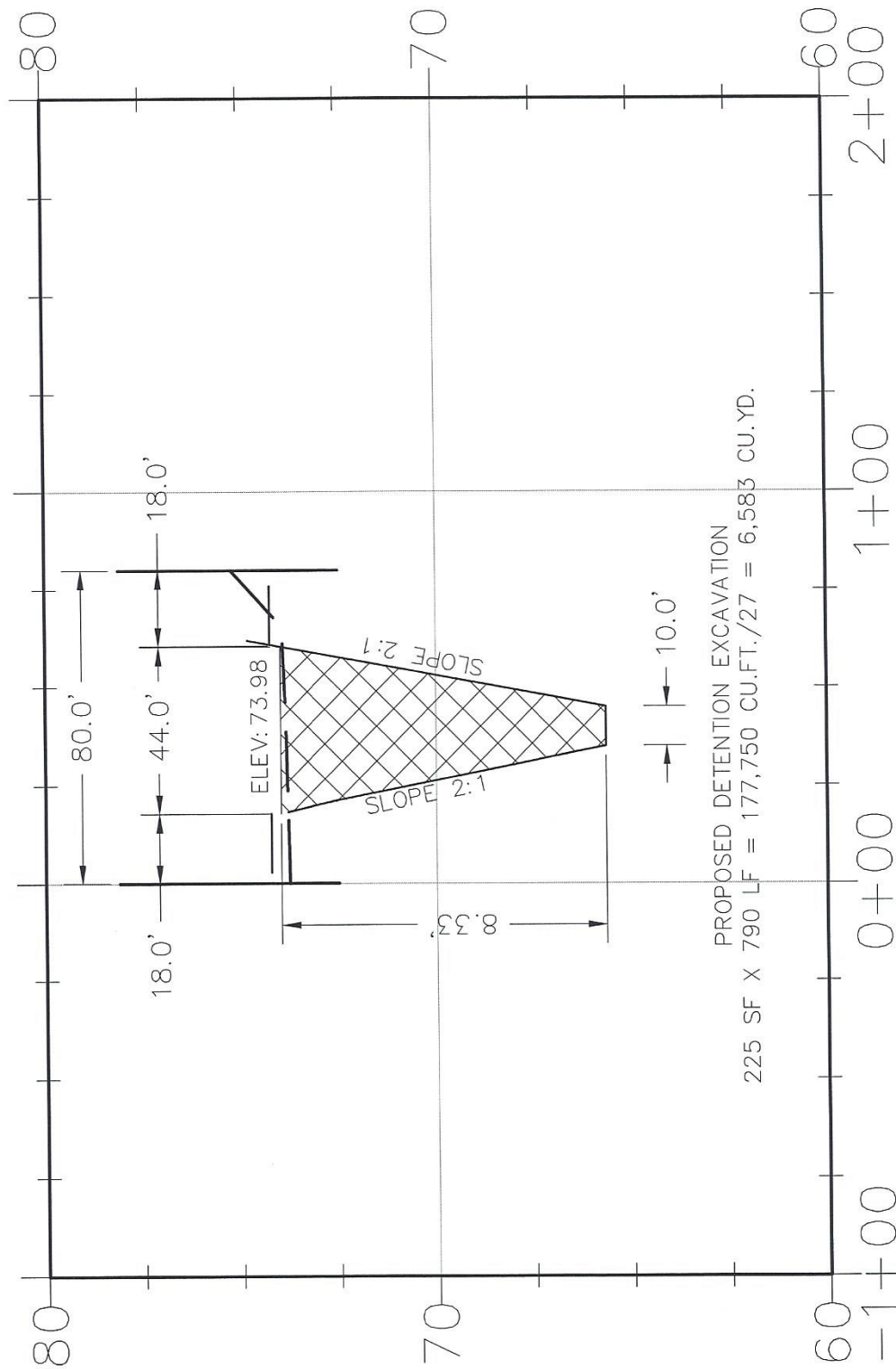
11/11/2023



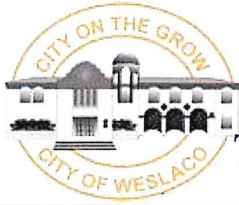
| Land Cover / Flow Regime                                                                        | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with heavy ground litter; hay meadow (overland flow)                                     | 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 |

PE.

Table 3-2: Intercept Coefficients







**City of Weslaco  
Engineering Division**

255 S. Kansas ♦ Weslaco, TX 78570 ♦ (956)

**TRIP GENERATION WORKSHEET**

Complete parts A and B as an aid to determine if your project requires a Traffic Impact Analysis (TIA).

**A. Subdivision Information**

Subdivision Name: Rio Orchards Estates  
 Location: E. Mile 5 N Rd (E. 34th St) between S. Bridge Ave. and S. Mile 4 W. Rd (S. Airport Dr.)  
 Applicant: Supreme Engineering ☐ Owner ☒ Agent  
 Address: 135 Paseo del Prado Ste 7 Edinburg TX 78539 Phone Number: (956) 403-1314

**B. Trip Generation Calculation**

The texts needed to complete this table are available at the Planning Department. See back of sheet for more information.

| ITE Code | Anticipated Land Use  | Project Size |     |            | AM Peak Hour Trips | PM Peak Hour Trips | Weekday Trips |
|----------|-----------------------|--------------|-----|------------|--------------------|--------------------|---------------|
|          |                       | Acres        | GFA | # of Units |                    |                    |               |
| 220      | Multi-Family Detached | 19.45        |     | 212        | 89                 | 112                | 1434          |

Comments: \_\_\_\_\_  
 Prepared by: Omar Cano Date: \_\_\_\_\_  
 Address: 135 Paseo del Prado Ste 7 Edinburg, TX 78539 Phone Number: (956) 403-1314

(For Official Use Only, Do Not Write In This Box)

\_\_\_\_\_ A traffic impact analysis is required. The agent preparing the study must meet with City staff to discuss the scope and requirements of the study before beginning the study.  
 \_\_\_\_\_ A traffic impact analysis is not required. The traffic generated by the proposed development does not exceed the threshold requirements.

Comments:

\_\_\_\_\_  
 \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_ STID#: \_\_\_\_\_

# Trip Generation Report

## Rio Orchards Estates Subdivision

Weslaco, Texas

Prepared by:



Supreme Engineering, PLLC  
Texas Engineering Firm F-21135  
135 Paseo del Prado Ste 7  
Edinburg, TX 78539  
(956) 403-1314

October 25, 2023



 , P.E.

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Albert Aldana, P.E.  
City Engineer  
City of Weslaco  
255 S. Kansas Ave.  
Weslaco, Texas 78596

Re: Trip Generation Analysis  
Rio Orchards Estates Subdivision  
Weslaco, Texas

Dear Mr. Aldana,

Supreme Engineering has prepared this Trip Generation Analysis as per the request of the City of Weslaco Engineering Department for the above-mentioned proposed development.

**Project Description**

The proposed development is a 19.45 acres out of farm tract 757 and farm tract 758, the West and Adams tracts, recorded in volume 2, pages 34-37, map records Hidalgo County, Texas. The development is located along E. Mile 5 N Rd (E. 34<sup>th</sup> St) between S. Bridge Ave. and S. Mile 4 W. Rd (S. Airport Dr.). The proposed development will be a 53-lot multi-family residential subdivision.

**Site and Surrounding Land Uses**

The study area for the proposed development includes the site boundaries of the 19.45 acres proposed Rio Orchards Estates Subdivision is as follows: the property directly to the north, west and east are vacant property. The area to the south is used as single family.

**Roadways**

The southern boundary of the proposed development is E. Mile 5 N Rd (E. 34<sup>th</sup> St) categorized as a 2-lane future principal arterial.



### Estimated Trip Generation

The 11th Edition of the ITE Trip Generation manual was used to estimate the projected trip generation. These estimations were calculated for the AM and PM peak hours for the generator using land uses Multi-Family Detached Housing (ITE Code: 220). The total trip and projections are shown in Table 1.

### Average Vehicle Trip Ends vs. Number of Dwelling Units

#### Morning Analysis

- On a weekday, Peak Hour of Adjacent Street Traffic, One Hour Between **7 and 9 AM**.
- Directional Distribution: **24% entering, 76% exiting**

$$T = 0.31 (X) + 22.85 \text{ - ITE Trip Generation 11}^{\text{th}} \text{ Edition Volume 3}$$

Where:

T = Average Vehicle Trip Ends

X = Number of Dwellings – **212 Apartment Units**

$$T = 0.31 (212) + 22.85 = \mathbf{88.57}$$

- Directional Distribution

$$T_{\text{enter}} = 88.57 (0.24) = \mathbf{21.26 \text{ trip/hour}}$$

$$T_{\text{exit}} = 88.57 (0.76) = \mathbf{67.31 \text{ trip/hour}}$$

#### Afternoon Analysis

- On a weekday, Peak Hour of Adjacent Street Traffic, One Hour Between **4 and 6 PM**.
- Directional Distribution: **63% entering, 37% exiting**

$$T = 0.43 (X) + 20.55 \text{ - ITE Trip Generation 11}^{\text{th}} \text{ Edition Volume 3}$$

Where:

T = Average Vehicle Trip Ends

X = Number of Dwellings – **212 Apartment Units**

$$T = 0.43(212) + 20.55 = \mathbf{111.71}$$

- Directional Distribution

$$T_{\text{enter}} = 111.71 (0.63) = \mathbf{70.38 \text{ trip/hour}}$$

$$T_{\text{exit}} = 111.71 (0.37) = \mathbf{41.33 \text{ trip/hour}}$$

### Weekday Analysis

- On a weekday.
- Directional Distribution: **50% entering, 50% exiting**

$$T = 6.41 (X) + 75.31 \quad - \text{ ITE Trip Generation 11}^{\text{th}} \text{ Edition Volume 3}$$

Where:

T = Average Vehicle Trip Ends

X = Number of Dwellings – **212 Apartment Units**

$$T = 6.41 (212) + 75.31 = \mathbf{1,434.23}$$

- Directional Distribution

$$T_{\text{enter}} = 1,434.23 (0.50) = \mathbf{717.12 \text{ trip/hour}}$$

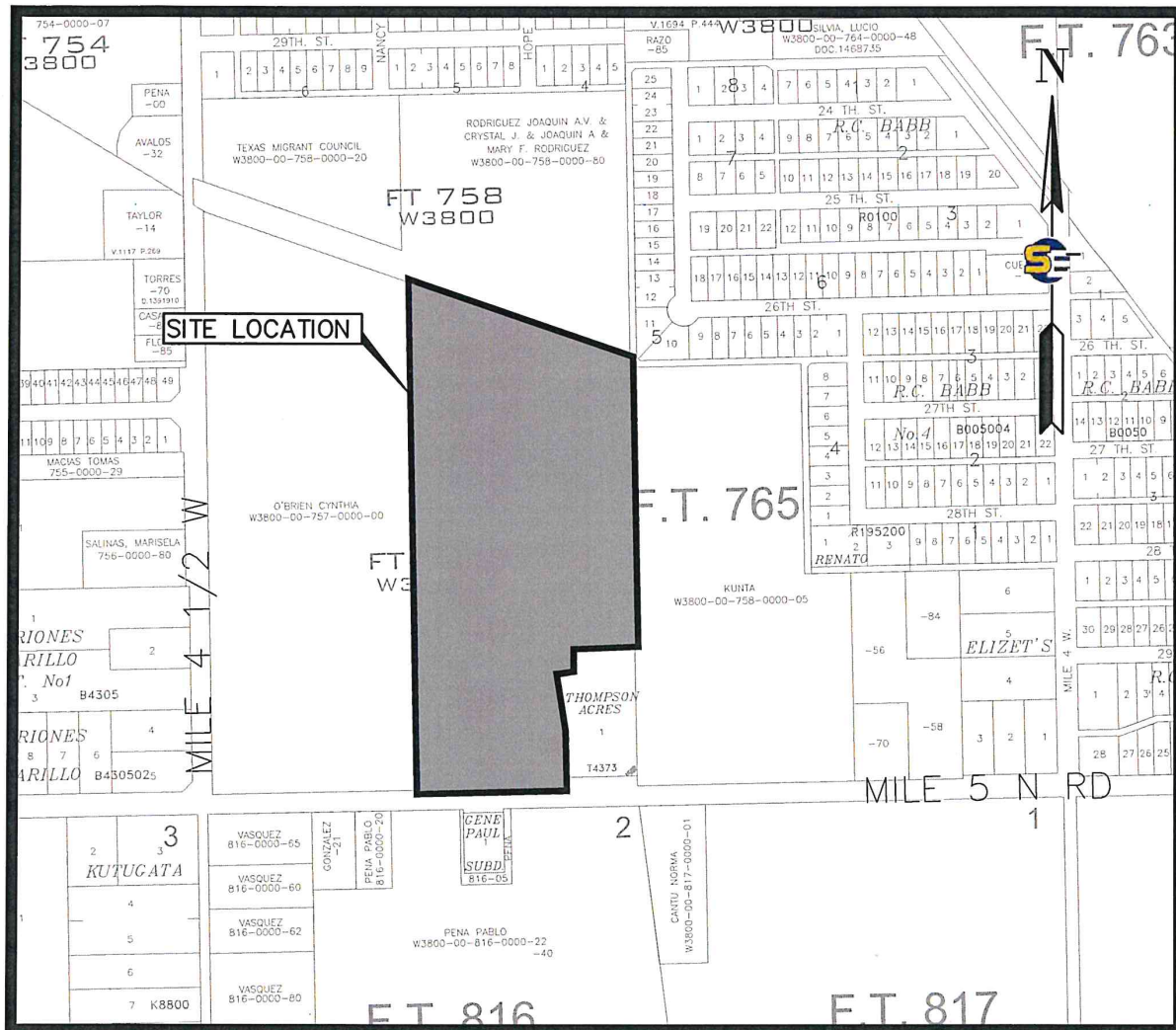
$$T_{\text{exit}} = 1,434.23 (0.50) = \mathbf{717.12 \text{ trip/hour}}$$

Table 1. Total Projected Trips

| ITE Code                            | Trips   |       |        | Entering / Exiting |             |
|-------------------------------------|---------|-------|--------|--------------------|-------------|
|                                     | Weekday | A.M.  | P.M.   | A.M.               | P.M.        |
| 220 – MULTI-Family Detached Housing | 1,434   | 88.57 | 111.71 | 21.26/67.31        | 70.38/41.33 |

### Study Results

This traffic study identified one generator; the proposed multi-family detached dwelling. The total peak hour trips for morning (AM) and afternoon (PM) is 88.57 & 111.71, respectively.



## LOCATION MAP

# RIO ORCHARDS ESTATES SUBDIVISION

BEING 19.450 ACRES OF LAND OUT OF FARM TRACT 757, AND FARM TRACT 758, THE  
WEST AND ADAMS TRACTS, RECORDED IN VOLUME 2, PAGES 34-37, MAP RECORDS  
HIDALGO COUNTY, TEXAS.

DATE: SEPTEMBER 2023



Business Week, April 24, 1994, 37B



10/25/23, 9:42 PM

itetripngen.org/query/printGraph2?code=220&ivlabel=UNITS220&timeperiod=TASIDE&x=212&edition=685&locationCode=Gener...

## Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday,  
Peak Hour of Adjacent Street Traffic,  
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

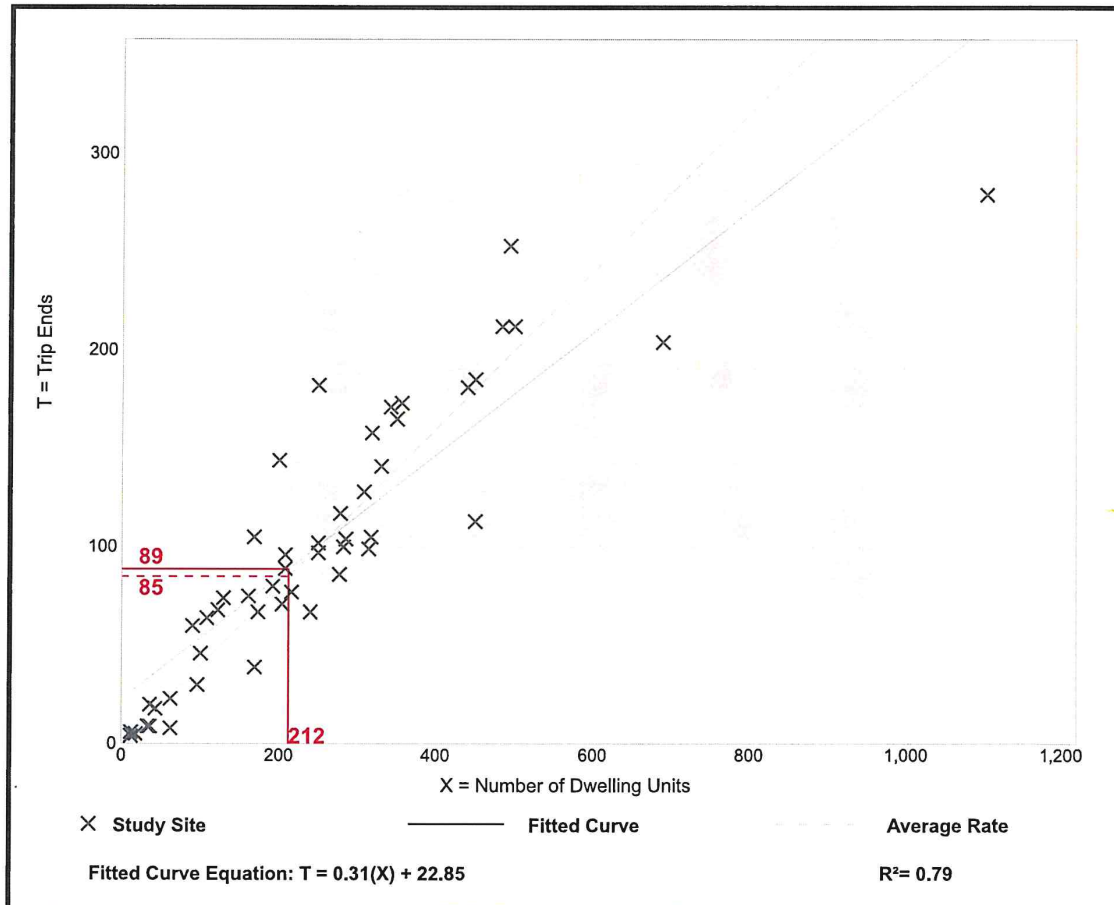
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

### Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.40         | 0.13 - 0.73    | 0.12               |

### Data Plot and Equation



Trip Gen Manual, 11th Edition

• Institute of Transportation Engineers

10/25/23, 9:43 PM

itetripngen.org/query/printGraph2?code=220&ivlabel=UNITS220&timeperiod=TPSIDE&x=212&edition=685&locationCode=Gener...

## Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday,  
Peak Hour of Adjacent Street Traffic,  
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

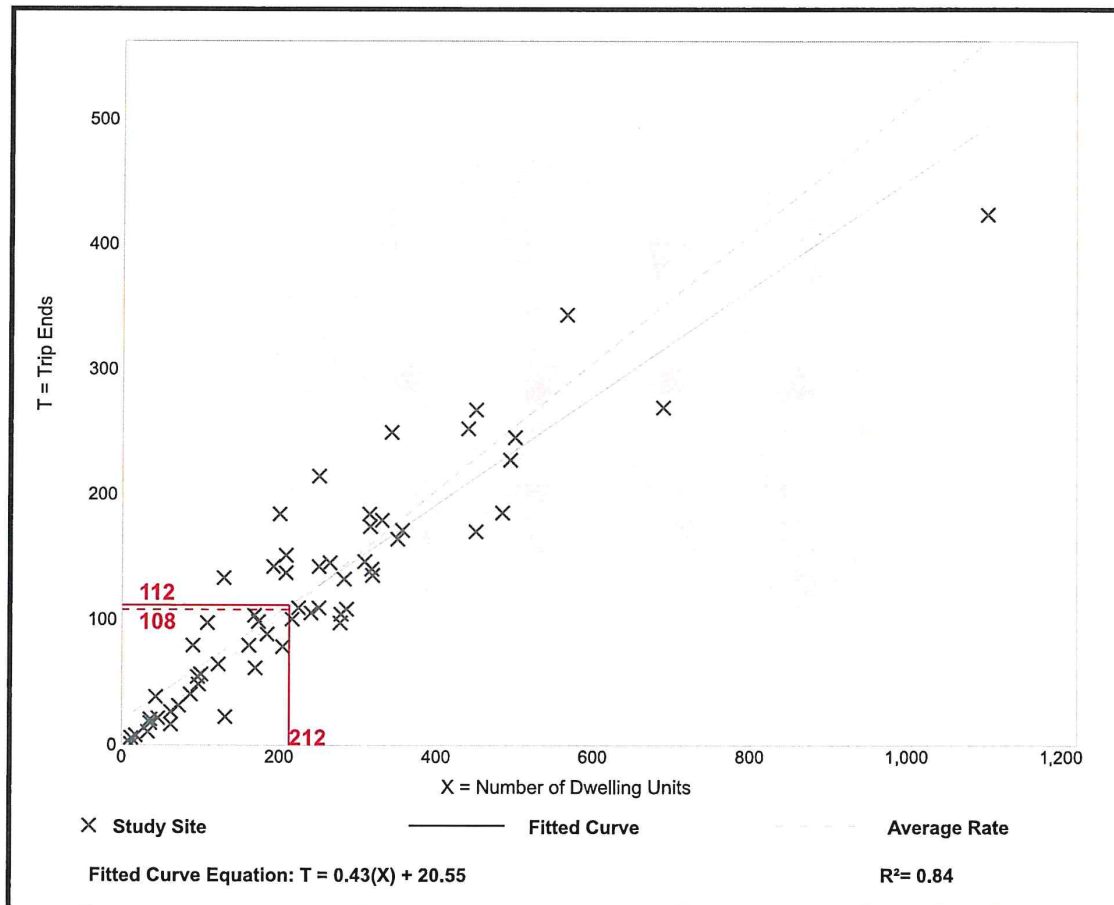
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

### Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.51         | 0.08 - 1.04    | 0.15               |

### Data Plot and Equation



Trip Gen Manual, 11th Edition

• Institute of Transportation Engineers

10/25/23, 9:46 PM

itetripge.org/query/printGraph?code=220&ivlabel=UNITS220&timeperiod=AWD&VTE&x=212&edition=685&locationCode=Gene...

## Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

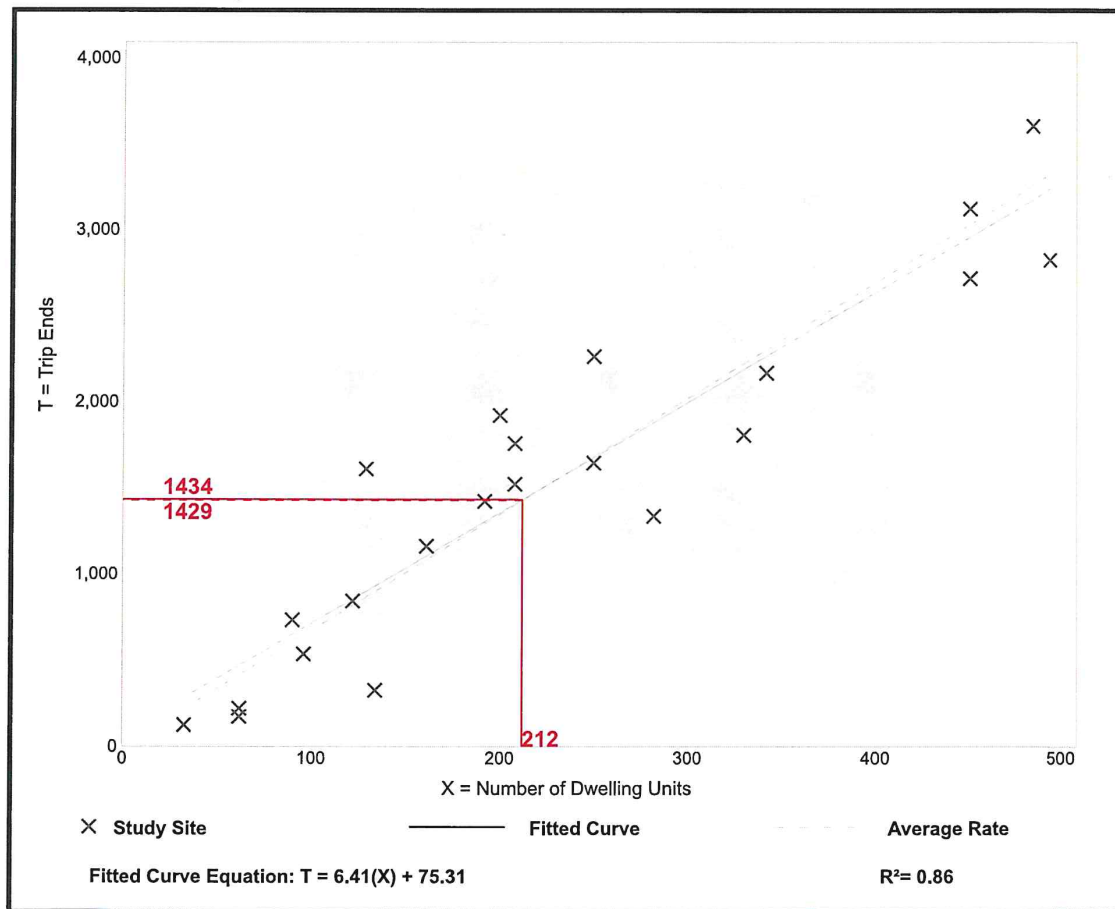
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 22  
Avg. Num. of Dwelling Units: 229  
Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 6.74         | 2.46 - 12.50   | 1.79               |

### Data Plot and Equation



Trip Gen Manual, 11th Edition

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# Drainage Statement

## Rio Orchards Estates Subdivision

Weslaco, Texas

Prepared by:



Supreme Engineering, PLLC  
Texas Engineering Firm F-21135  
135 Paseo del Prado Suite 7  
Edinburg, TX 78539  
(956) 403-1314



October 20, 2023

A handwritten signature in blue ink, appearing to read "Omar Cano", followed by the letters "P.E." to the right.



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- Drainage Statement
- Drainage Calculations
- Table 3-2 Intercept Coefficients "k" value
- Table 3-3 Runoff Coefficients Table "C" value
- Weighted "C" Calculation "if applicable"
- Time of Concentration Determination Table "if applicable"
- Location Map
- USDA Contours
- USDA Soils Map
- Soils Legend & Description
- USDA Soil Engineering Properties
- FEMA FIRM with site location
- Subdivision Plat
- Preliminary Site/Drainage Plan Layout



## SUPREME ENGINEERING – CIVIL ENGINEERING CONSULTANT

### Rio Orchards Estates Subdivision Drainage Statement

Rio Orchards Estates Subdivision being 19.450 acres of land out farm tract 757, and farm tract 758, the West and Adams tract subdivision, Hidalgo County, Texas, vol. 2, pg. 34 through 37, map records of Hidalgo County, Texas. The property is located along East Mile 5 N. Road, between Mile 4 W. and Mile 4 ½ W. Roads within the **City of Weslaco** ETJ, County of Hidalgo, Texas. The tracts are **currently vacant**. Proposing **53-lot multi-family** development.

The property is located mostly in **Zone “B”** on FEMA’s Flood Insurance Rate Map, Community Panel No. 480334 0525 B Map dated January 2, 1981. Zone B is defined 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.

The predominate soils in this area are Hidalgo sandy clay loam (**Soils 28**), this soil belong to hydrologic group “B” which have a moderate infiltration rate when thoroughly wet. Group B soils 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. (See “USDA, NRCS Web Soil Survey” Soils Maps, Engineering Properties and information for the Hidalgo County, Texas).

The surface runoff of this property flows in an easterly direction. The pre-development storm runoff is 10.53 cfs based on a 10-year storm frequency, as per attached calculations. The post-development storm runoff is 72.50 cfs based on a 50-year storm frequency, which is an increase of 61.97 cfs as per the attached calculations.

In accordance with Hidalgo County Drainage District No. 1 (HCDD1) and City of **Weslaco’s** drainage policy, the 19.45-acre property storm drainage system for the proposed **53 lot multi-family subdivision** will consist of sheet flow through proposed paved street, gutters, inlets and storm sewer system with pipe sizes 24”, 30” and 36” as shown on the attached storm sewer plan. Pertinent permitting as necessary shall be coordinated with the City of **Weslaco** and **County of Hidalgo** during public improvements.



**SUPREME ENGINEERING – CIVIL ENGINEERING CONSULTANT**

In accordance with HCDD1 and City of **Weslaco**'s drainage policy, the difference between the pre (10-yr storm) and the post (50-yr storm) development storm runoff shall not increase; therefore, as per attached calculations, the required detention of **124,945 cubic feet (2.87 acre-ft)** of storm runoff shall be stored as per attached calculations. The additional runoff will be compensated by excavating a new drain ditch in an 80 feet ROW along the east of the property dedicated to Hidalgo County Drainage District No. 1 and discharging with a 30 inch storm line into HCDD1 ditch 36 along Mile 4 W. Road serving as the ultimate outfall. The proposed excavation will accommodate **209,550 cubic feet (4.81 acre-ft)** of detention runoff. The additional **84,605 cubic feet (1.94 acre-ft)** will be served as credit for the east 17.58-acre property future development.

By

 , P.E.

Engineer Signature

10/20/2023

Date



Project Name: Rio Orchards Estates Subdivision  
Project Location: City of Weslaco  
Number of Lots: 53  
Calculation Analysis: Rational Method (TxDOT Hydraulic Design Manual, Revised Sep 2019)

**Pre Development (Existing) Conditions 10 - Year Storm Frequency**

Property Area: 17.79 Acres  
774,932.4 Sq Ft

Time of Concentration,  $t_c$  44 Minutes

Velocity,  $V$  0.49 ft/s

Runoff Coefficient,  $C$ : 0.20 Table 3-3

Intensity,  $I$ : 3.49 in/hr

Peak Flow,  $Q$ : 12.41 cfs

Surface Conditions  
Flow Length,  $L$ : 1300 Feet  
Surface Constant,  $K_u$ : 3.28  
Intercept Coefficient,  $k$ : 0.274 Table 3-2  
Slope,  $S_p$ : 0.30 %  
e: 0.812  
Rainfall Coefficients  
(10-yr storm) b: 92.23  
d: 12.33

**Post Development (Future) Conditions 50 - Year Storm Frequency**

Property Area: 17.79 Acres  
774,932.4 Sq Ft

Time of Concentration,  $t_c$  24 Minutes

Velocity,  $V$  0.91 ft/s

Runoff Coefficient,  $C$ : 0.55

Intensity,  $I$ : 7.03 in/hr

Peak Flow,  $Q$ : 68.81 cfs

Surface Conditions  
Flow Length,  $L$ : 1300 Feet  
Surface Constant,  $K_u$ : 3.28  
Intercept Coefficient,  $k$ : 0.619 Table 3-2  
Slope,  $S_p$ : 0.20 %  
e: 0.795  
Rainfall Coefficients  
(50-yr storm) b: 123.47  
d: 12.86

10/20/2023



*[Signature]* P.E.



Modified Rational Method  
Detention Calculations (50-yr Storm Frequency)

| Duration |      | Intensity<br>50-year | Q <sub>in</sub> | Vol <sub>in</sub>  | Q <sub>out</sub> * | Vol <sub>out</sub> | Storage Required   |           |
|----------|------|----------------------|-----------------|--------------------|--------------------|--------------------|--------------------|-----------|
| (min)    | (hr) | (in/hr)              | (cfs)           | (ft <sup>3</sup> ) | (cfs)              | (ft <sup>3</sup> ) | (ft <sup>3</sup> ) | (acre-ft) |
| 10       | 0.17 | 10.25                | 100.32          | 60,192.45          | 12.41              | 12,609.58          | 47,582.87          | 1.09      |
| 20       | 0.33 | 7.68                 | 75.17           | 90,207.94          | 12.41              | 16,333.36          | 73,874.59          | 1.70      |
| 30       | 0.50 | 6.22                 | 60.86           | 109,540.96         | 12.41              | 20,057.13          | 89,483.83          | 2.05      |
| 40       | 0.67 | 5.26                 | 51.51           | 123,620.06         | 12.41              | 23,780.91          | 99,839.15          | 2.29      |
| 50       | 0.83 | 4.59                 | 44.88           | 134,635.62         | 12.41              | 27,504.69          | 107,130.93         | 2.46      |
| 60       | 1.00 | 4.08                 | 39.91           | 143,666.47         | 12.41              | 31,228.47          | 112,438.00         | 2.58      |
| 70       | 1.17 | 3.68                 | 36.03           | 151,315.84         | 12.41              | 34,952.25          | 116,363.59         | 2.67      |
| 80       | 1.33 | 3.36                 | 32.91           | 157,952.25         | 12.41              | 38,676.03          | 119,276.23         | 2.74      |
| 90       | 1.50 | 3.10                 | 30.34           | 163,816.05         | 12.41              | 42,399.81          | 121,416.25         | 2.79      |
| 100      | 1.67 | 2.88                 | 28.18           | 169,072.06         | 12.41              | 46,123.58          | 122,948.48         | 2.82      |
| 110      | 1.83 | 2.69                 | 26.34           | 173,837.94         | 12.41              | 49,847.36          | 123,990.58         | 2.85      |
| 120      | 2.00 | 2.53                 | 24.75           | 178,200.44         | 12.41              | 53,571.14          | 124,629.30         | 2.86      |
| 130      | 2.17 | 2.39                 | 23.36           | 182,225.28         | 12.41              | 57,294.92          | 124,930.36         | 2.87      |
| 140      | 2.33 | 2.26                 | 22.14           | 185,963.37         | 12.41              | 61,018.70          | 124,944.67         | 2.87      |
| 150      | 2.50 | 2.15                 | 21.05           | 189,454.95         | 12.41              | 64,742.48          | 124,712.47         | 2.86      |
| 160      | 2.67 | 2.05                 | 20.08           | 192,732.32         | 12.41              | 68,466.25          | 124,266.07         | 2.85      |
| 170      | 2.83 | 1.96                 | 19.20           | 195,821.83         | 12.41              | 72,190.03          | 123,631.80         | 2.84      |
| 180      | 3.00 | 1.88                 | 18.40           | 198,745.23         | 12.41              | 75,913.81          | 122,831.42         | 2.82      |
| 190      | 3.17 | 1.81                 | 17.68           | 201,520.66         | 12.41              | 79,637.59          | 121,883.07         | 2.80      |
| 200      | 3.33 | 1.74                 | 17.01           | 204,163.45         | 12.41              | 83,361.37          | 120,802.08         | 2.77      |
| 210      | 3.50 | 1.68                 | 16.40           | 206,686.62         | 12.41              | 87,085.15          | 119,601.47         | 2.75      |
| 220      | 3.67 | 1.62                 | 15.84           | 209,101.37         | 12.41              | 90,808.93          | 118,292.45         | 2.72      |

|                           |                    |              |
|---------------------------|--------------------|--------------|
| Proposed Total Detention: | 124,944.67 cu. ft. | 2.87 acre-ft |
| Detention/Acre Developed  | 7,023.31 cu. ft.   | 0.16 acre-ft |

10/20/2023



| Land Cover / Flow Regime                                                                        | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

P.E.

Table 3-2: Intercept Coefficients

## Rainfall Intensity-Duration-Frequency Coefficients for Texas



Based on "National Oceanic and Atmospheric Administration's (NOAA) Atlas 14  
Precipitation-Frequency Atlas of the United States, Volume 11 Version 2.0: Texas" (Perica et al. 2018)

**Parameter Selection**

1. Select Units  
English

2. Select Methodology  
Annual Maximum Series (AMS)

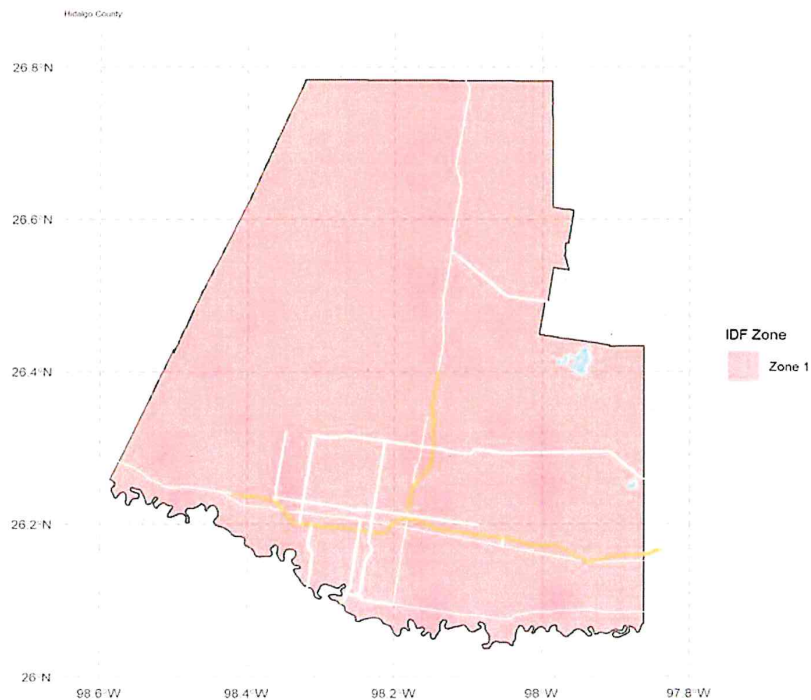
3. Select County  
HIDALGO

4. Select County Zone  
Zone-1

5. Select Time of Concentration ( $t_c$ )  
44 Minute

| Coefficient                        | Design Annual Exceedance Probability (Design Annual Recurrence Interval) |                 |                  |                 |                 |                  |                    |
|------------------------------------|--------------------------------------------------------------------------|-----------------|------------------|-----------------|-----------------|------------------|--------------------|
|                                    | 50%<br>(2-year)                                                          | 20%<br>(5-year) | 10%<br>(10-year) | 4%<br>(25-year) | 2%<br>(50-year) | 1%<br>(100-year) | 0.2%<br>(500-year) |
| <b>a</b>                           | 0.8385                                                                   | 0.8215          | 0.8123           | 0.8022          | 0.7952          | 0.7888           | 0.7792             |
| <b>b</b>                           | 62.3356                                                                  | 79.1505         | 92.2303          | 109.9653        | 123.4681        | 137.9853         | 178.7526           |
| <b>d (min)</b>                     | 12.3218                                                                  | 12.2329         | 12.3289          | 12.6024         | 12.8577         | 13.3182          | 15.2816            |
| <b>Intensity<br/>(inches/hour)</b> | 2.12                                                                     | 2.89            | 3.49             | 4.32            | 4.97            | 5.66             | 7.43               |

Note: Hidalgo County has 1 rainfall zone.

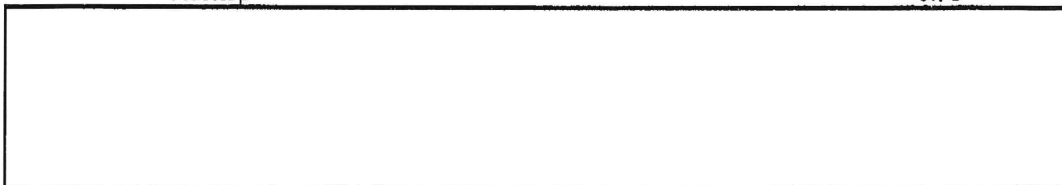


Filename: cbdlkup-2019.tsm

## HIDALGO COUNTY DRAINAGE DISTRICT 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                                   | 0.20               |
| Woodlands                                    | 0.15               |
| Streets:                                     |                    |
| Asphalt                                      | 0.70               |
| Concrete                                     | 0.75               |
| Caliche                                      | 0.70               |
| Drives & Walks:                              |                    |
| Concrete                                     | 0.75               |
| Rooftop                                      | 0.75               |



10/20/2023

STATE OF TEXAS  
OMAR CANO  
120081  
PROFESSIONAL ENGINEER  
LICENSED

PE.

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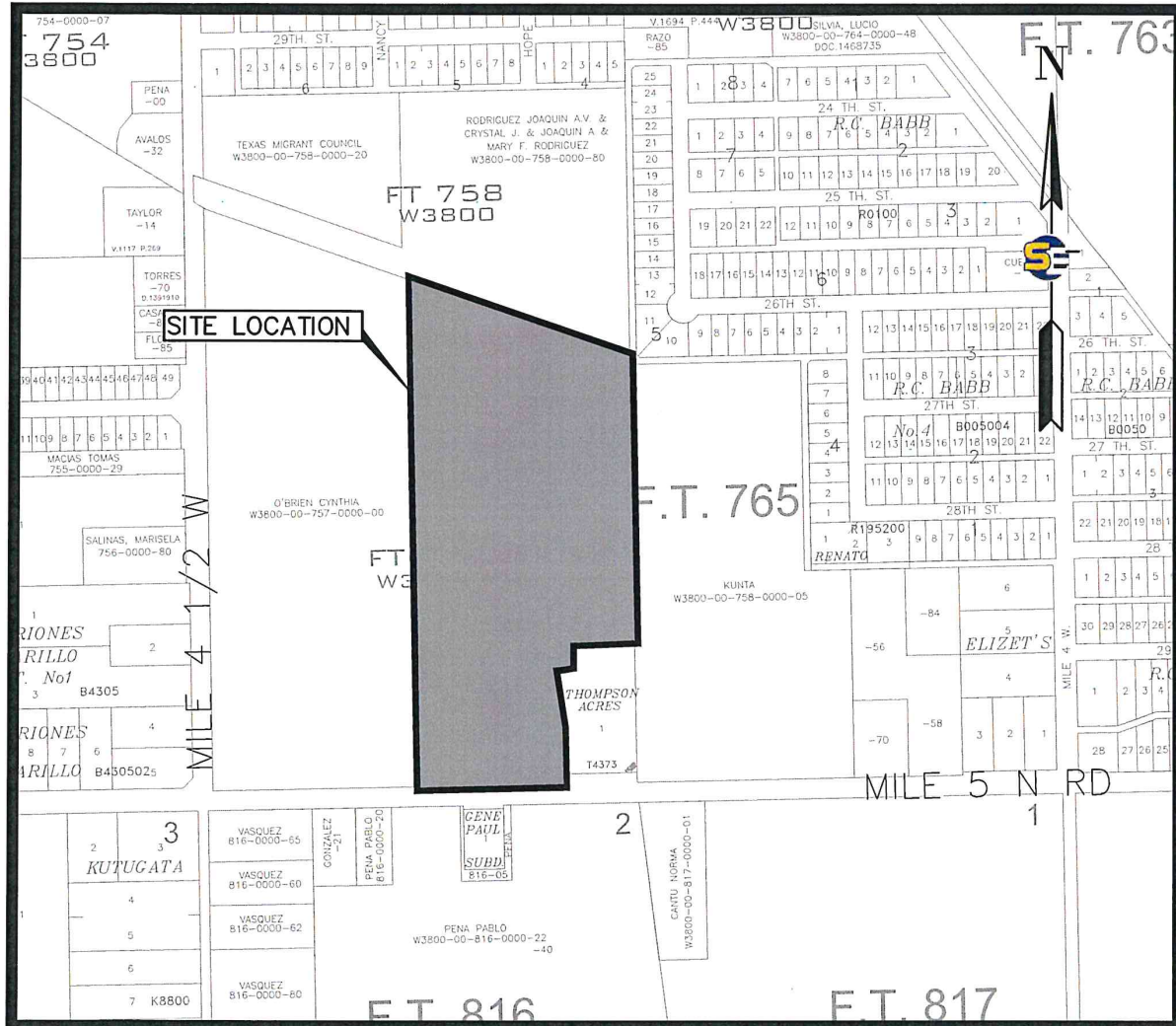


10/20/2023

STATE OF TEXAS  
OMAR CANO  
120081  
LICENSED PROFESSIONAL ENGINEER

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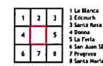
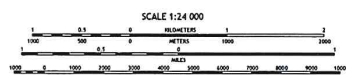
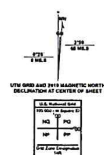
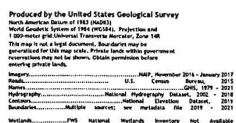
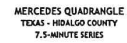
## LOCATION MAP

# RIO ORCHARDS ESTATES SUBDIVISION

BEING 19.450 ACRES OF LAND OUT OF FARM TRACT 757, AND FARM TRACT 758, THE  
WEST AND ADAMS TRACTS, RECORDED IN VOLUME 2, PAGES 34-37, MAP RECORDS  
HIDALGO COUNTY, TEXAS.

DATE: SEPTEMBER 2023





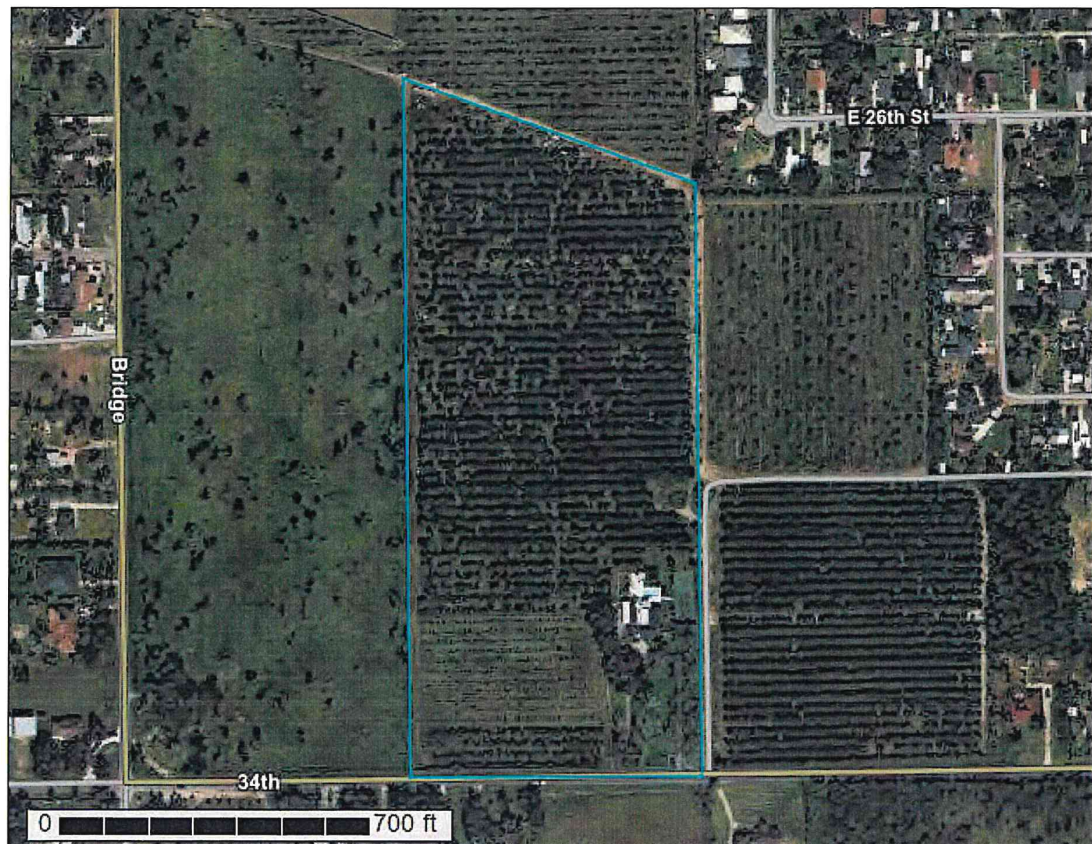
MERCEDES, TX  
2022





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**



September 8, 2023



## 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](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.





Custom Soil Resource Report

### 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: [websoilsurvey.sc.egov.usda.gov](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 21, Aug 24, 2022

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

Date(s) aerial images were photographed: Dec 21, 2021—Mar 2, 2022

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.



## Custom Soil Resource Report

## Map Unit Legend

| Map Unit Symbol             | Map Unit Name                                  | Acres in AOI | Percent of AOI |
|-----------------------------|------------------------------------------------|--------------|----------------|
| 28                          | Hidalgo sandy clay loam, 0 to 1 percent slopes | 22.0         | 100.0%         |
| Totals for Area of Interest |                                                | 22.0         | 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.

### Custom Soil Resource Report

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

### 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

##### 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 supply, 0 to 60 inches:* 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

Custom Soil Resource Report

**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  
*Ecological site:* R083DY023TX - Sandy Loam  
*Hydric soil rating:* No

## Soil Information for All Uses

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### Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

### Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

### Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Hydrologic soil group* is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission

### Custom Soil Resource Report

rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

*Group A.* Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

*Group B.* 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.

*Group C.* Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

*Group D.* Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group



### Custom Soil Resource Report

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Percentage of rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

#### References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Custom Soil Resource Report

Absence of an entry indicates that the data were not estimated. The asterisk "\*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Engineering Properties—Hidalgo County, Texas      |                  |                  |       |                            |                |            |               |             |                                  |           |           |          |              |                  |
|---------------------------------------------------|------------------|------------------|-------|----------------------------|----------------|------------|---------------|-------------|----------------------------------|-----------|-----------|----------|--------------|------------------|
| Map unit symbol and soil name                     | Pct. of map unit | Hydrologic group | Depth | USDA texture               | Classification |            | Pct Fragments |             | Percentage passing sieve number— |           |           |          | Liquid limit | Plasticity index |
|                                                   |                  |                  |       |                            | Unified        | AASHTO     | >10 inches    | 3-10 inches | 4                                | 10        | 40        | 200      |              |                  |
|                                                   |                  |                  | In    |                            |                |            | L-R-H         | L-R-H       | L-R-H                            | L-R-H     | L-R-H     | L-R-H    | L-R-H        | L-R-H            |
| 28—Hidalgo sandy clay loam, 0 to 1 percent slopes |                  |                  |       |                            |                |            |               |             |                                  |           |           |          |              |                  |
| Hidalgo                                           | 85 B             |                  | 0-17  | Sandy clay loam            | CL, SC         | A-6        | 0-0-0         | 0-0-0       | 100-100-100                      | 95-98-100 | 86-96-100 | 44-54-63 | 25-30-39     | 11-15-18         |
|                                                   |                  |                  | 17-28 | Sandy clay loam, clay loam | CL, SC         | A-6, A-7-6 | 0-0-0         | 0-0-0       | 100-100-100                      | 94-98-100 | 85-96-100 | 50-60-75 | 30-35-44     | 11-17-22         |
|                                                   |                  |                  | 28-38 | Clay loam, sandy clay loam | CL, SC         | A-6, A-7-6 | 0-0-0         | 0-0-0       | 95-97-100                        | 91-94-100 | 81-93-100 | 54-68-81 | 30-38-44     | 11-17-22         |
|                                                   |                  |                  | 38-80 | Sandy clay loam, clay loam | CL, SC         | A-6, A-7-6 | 0-0-0         | 0-0-0       | 96-97-100                        | 91-95-100 | 82-94-100 | 57-72-84 | 30-38-44     | 11-17-22         |

## References

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American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

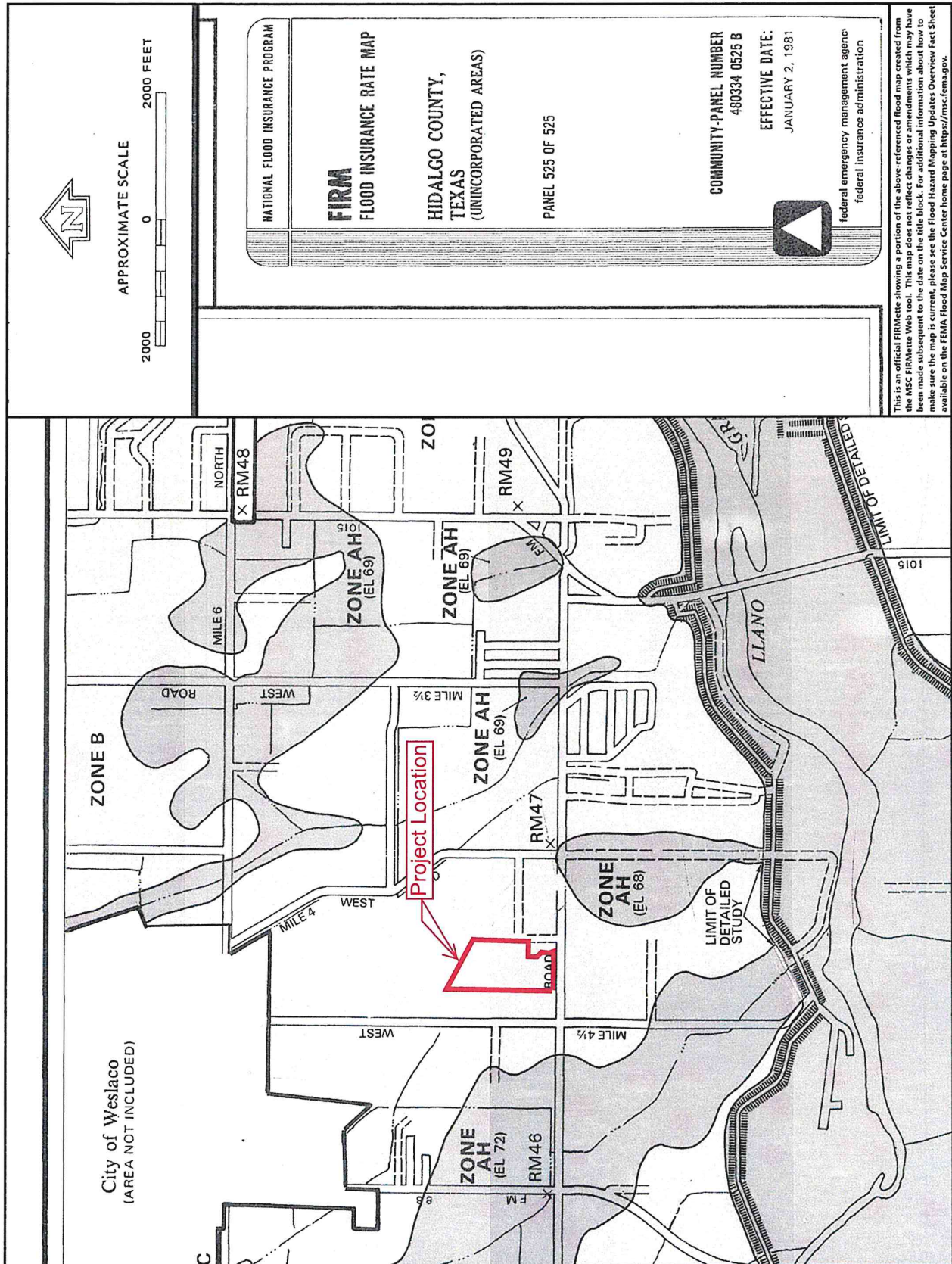
Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

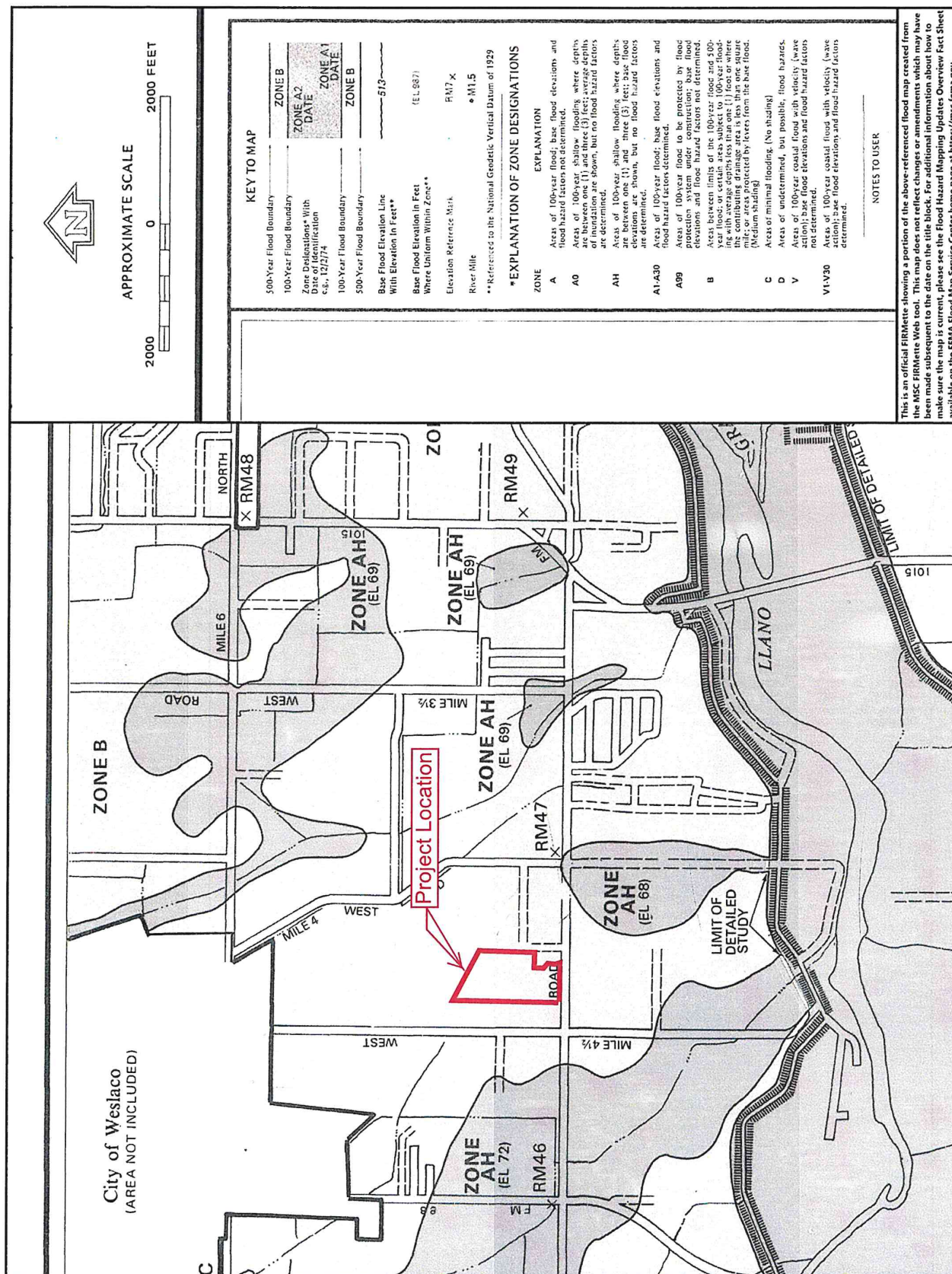
United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)



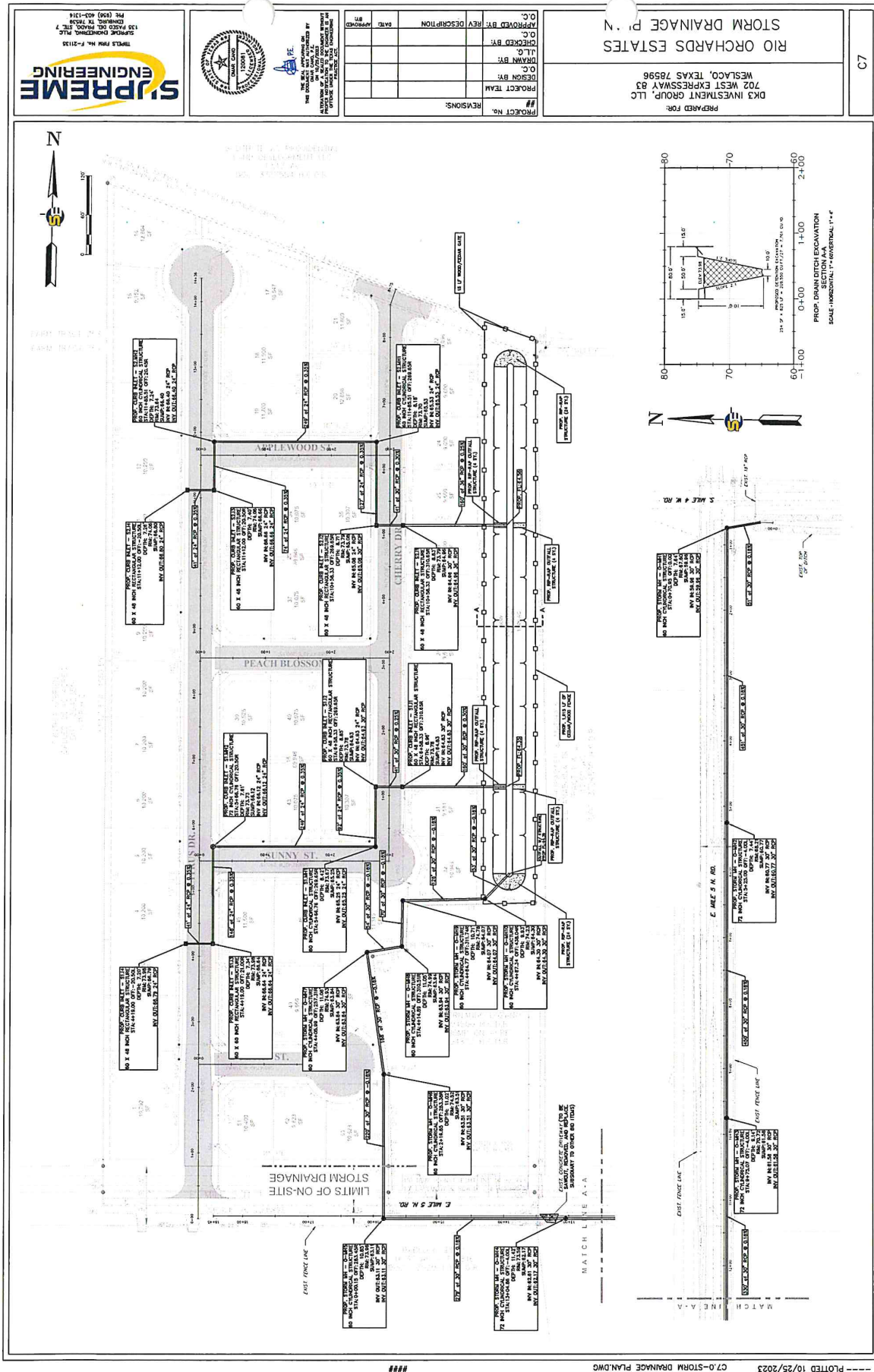




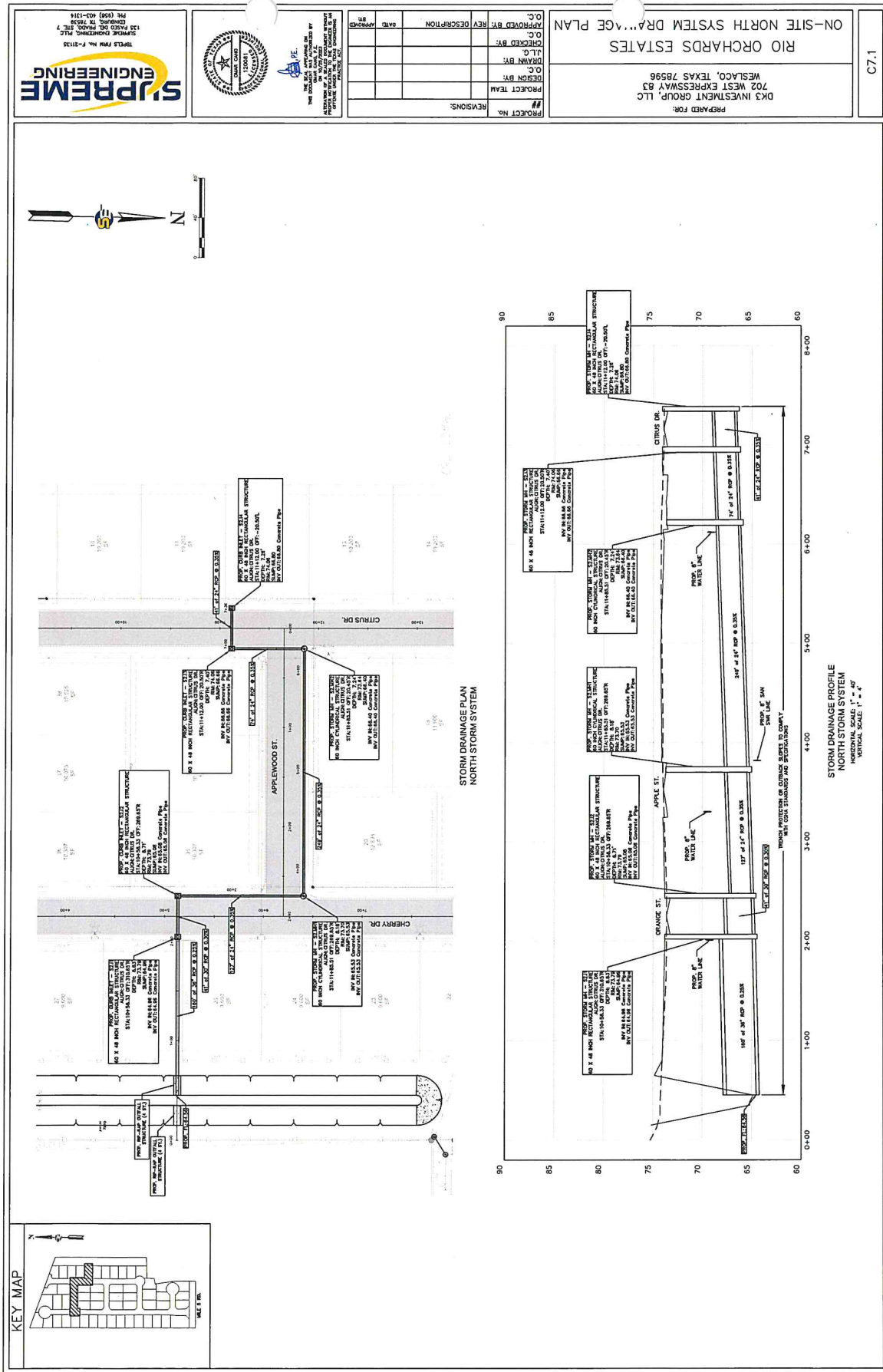


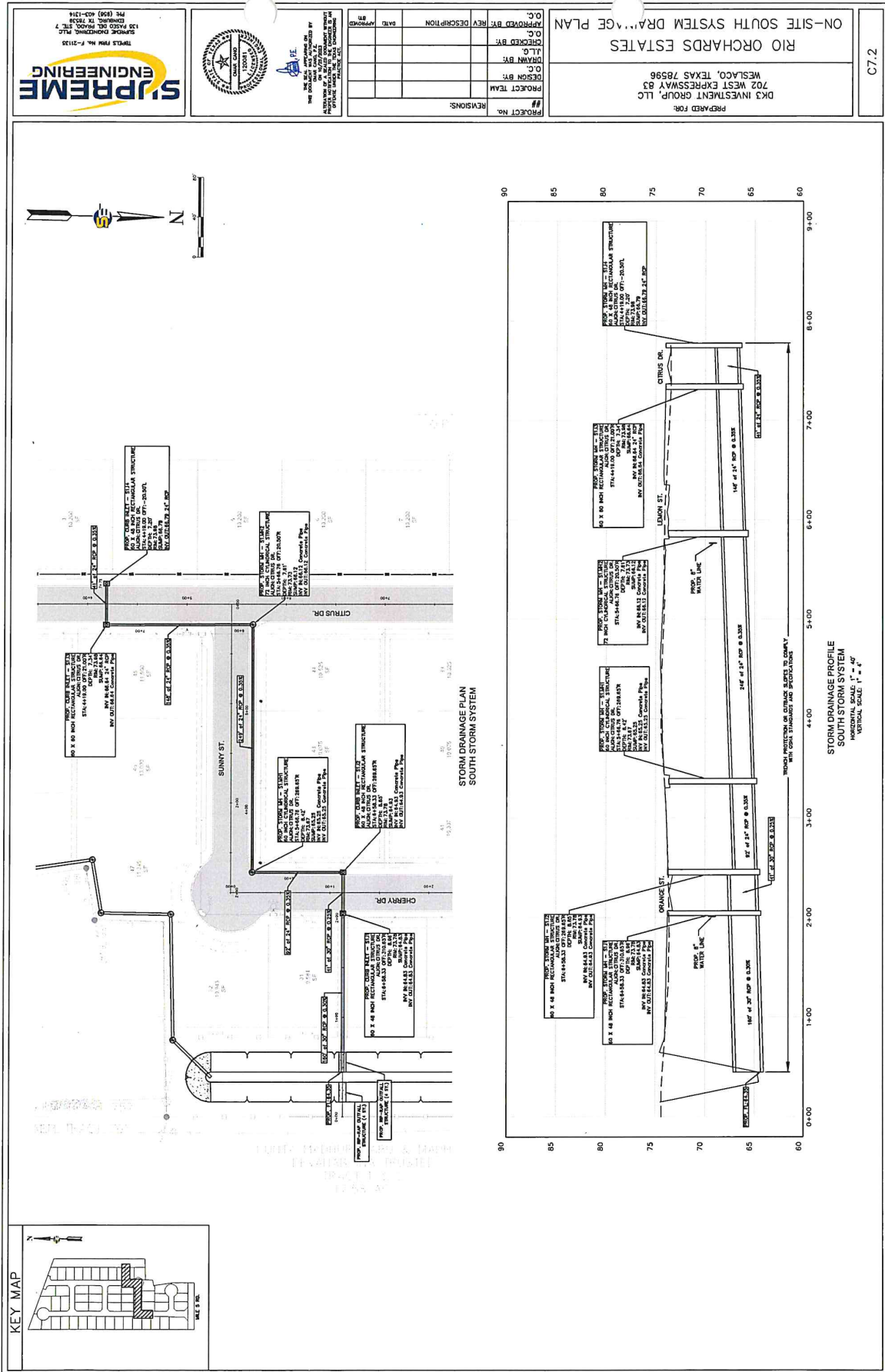


DATE: OCTOBER 2023







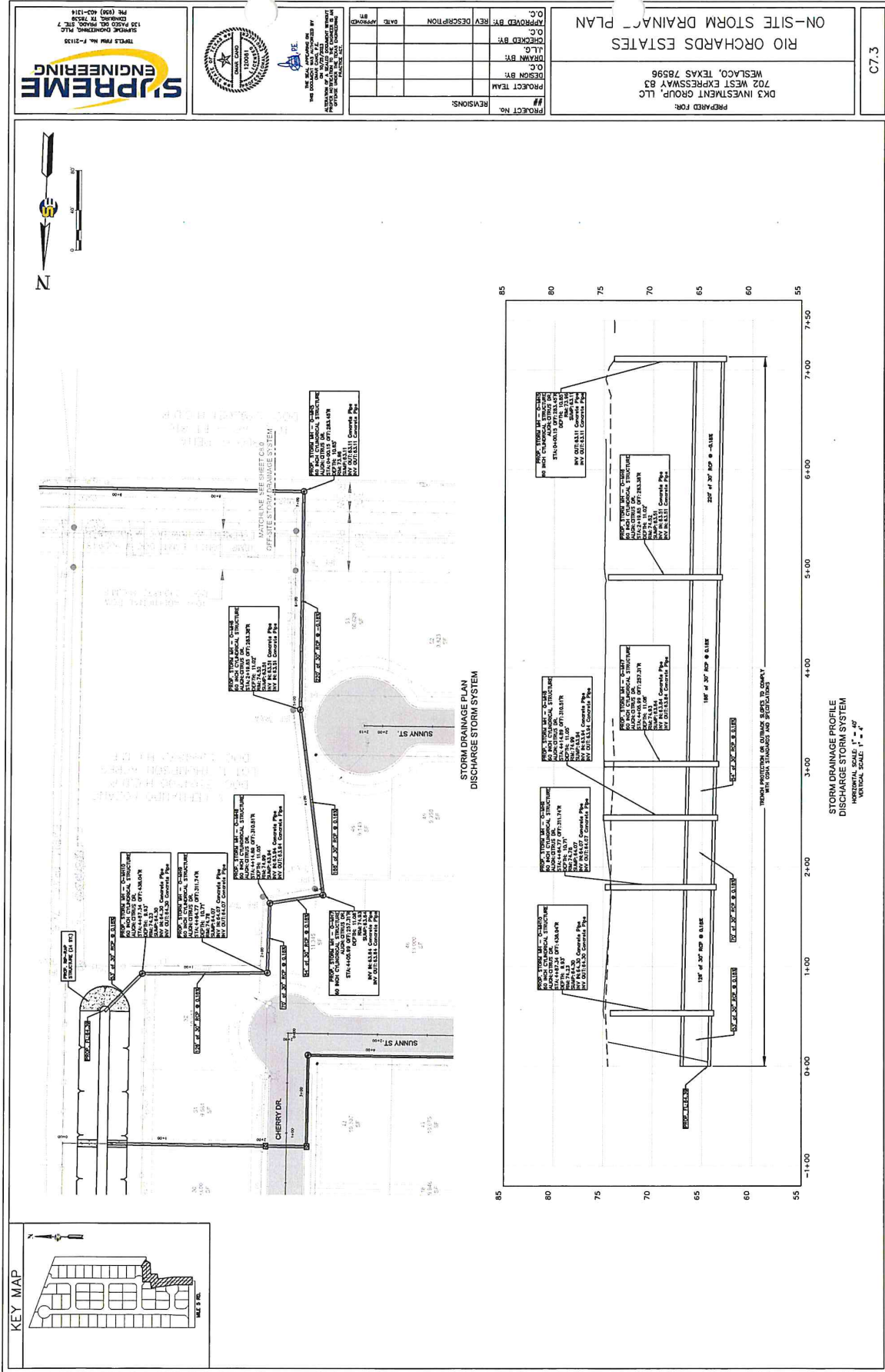


THESE PLANS WERE PREPARED BY THE ENGINEER OR ARCHITECT AND TO THE BEST OF HIS KNOWLEDGE AND BELIEF THEY COMPLY WITH ALL CITY, STATE AND FEDERAL REQUIREMENTS. THE ENGINEER OR ARCHITECT DOES NOT WARRANT OR GUARANTEE THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT OR THE RESULTS OF THE DESIGN.

| REVISIONS | PROJECT TEAM | DATE       | DESCRIPTION    |
|-----------|--------------|------------|----------------|
| 1         | DESIGN       | 01/10/2023 | INITIAL DESIGN |
| 2         | DESIGN       | 01/10/2023 | REVISIONS      |
| 3         | DESIGN       | 01/10/2023 | REVISIONS      |
| 4         | DESIGN       | 01/10/2023 | REVISIONS      |
| 5         | DESIGN       | 01/10/2023 | REVISIONS      |
| 6         | DESIGN       | 01/10/2023 | REVISIONS      |
| 7         | DESIGN       | 01/10/2023 | REVISIONS      |
| 8         | DESIGN       | 01/10/2023 | REVISIONS      |
| 9         | DESIGN       | 01/10/2023 | REVISIONS      |
| 10        | DESIGN       | 01/10/2023 | REVISIONS      |

PROJECT NO. 2023-001  
PROJECT NAME: RIO ORCHARDS ESTATES  
702 WEST EXPRESSWAY, SUITE 200  
WESTLAKE, TEXAS 78096  
PREPARED FOR: DK3 INVESTMENT GROUP, LLC  
ON-SITE SOUTH SYSTEM DRAINAGE PLAN

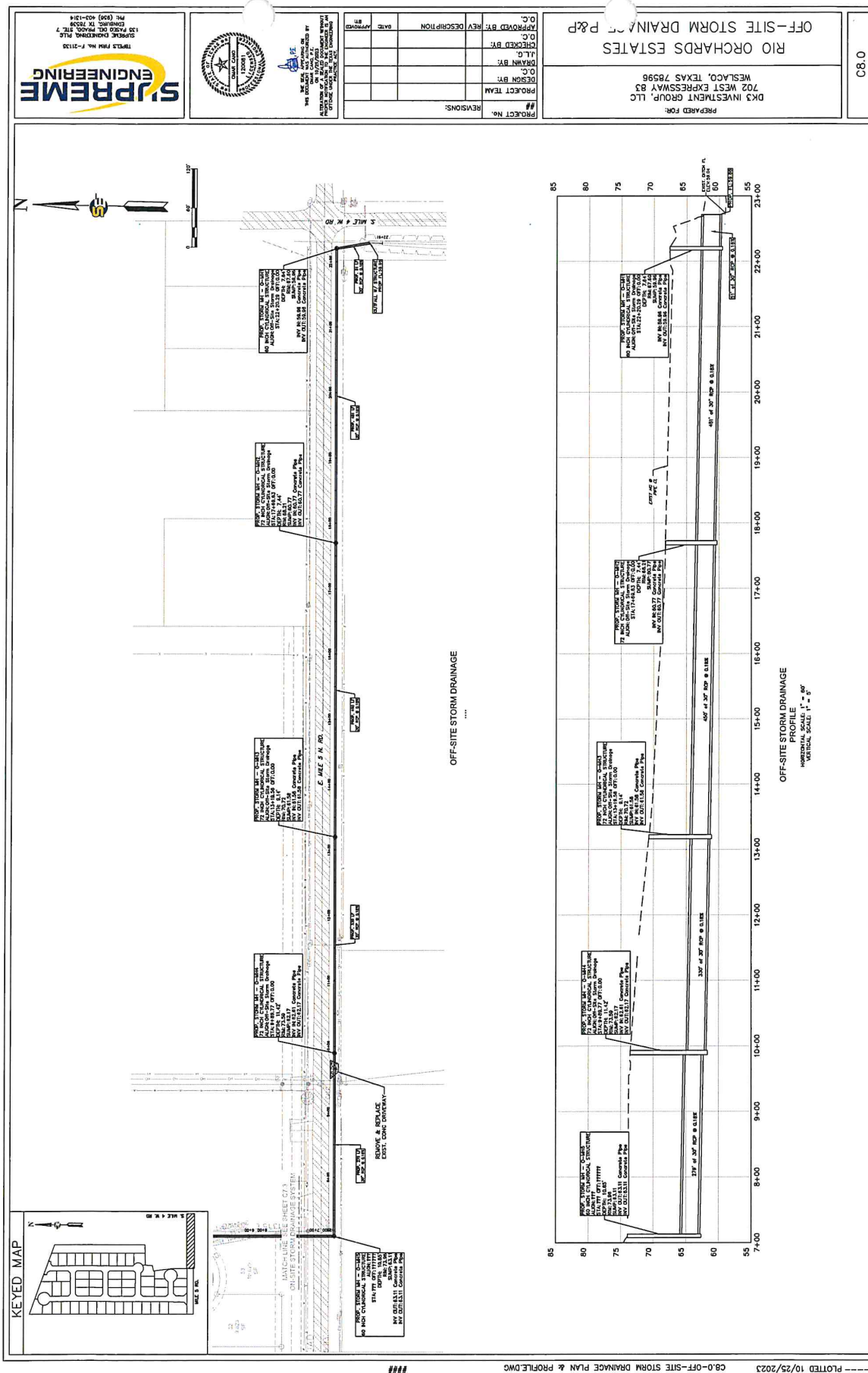
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CT-3-STORM DRAINAGE PLAN & PROFILE.DWG

--- PLOTTED 10/25/2023

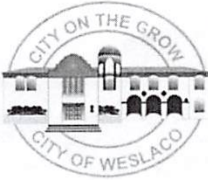






**Planning & Zoning Commission  
Standardized Agenda Request Form**

|                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Date of Meeting:</b><br><b>December 6, 2023</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>Agenda Item No.</b> (to be assigned by PCE):<br><b>V.C.</b> |
| <b>From:</b><br>Rebekah de la Fuente, Planning Director, on behalf of Ivan Garcia P.E.                                                                                                                                                                                                                                                                                                                                            |                                                                |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration of the Final Plat for Milanos Estates Phase III Subdivision being 22.88 acre out of Farm Tracts 720 and 721, West Tract Subdivision, Weslaco, Hidalgo County, Texas. Located approximately 500 feet south from the intersection of Mile 5 ½ West Road and Mile 6 ½ West Road. Possible Action.                                                                        |                                                                |
| <b>Discussion/Overview:</b><br>The proposed one-hundred and two (102) lot subdivision is located outside the City of Weslaco. This subdivision is being serviced with water by City of Weslaco through an 8" waterline and sewer by City of Weslaco through an 8" sewer line. The property is within a Flood Zone "B". Applicant is requesting a variance for setbacks and off-site drainage and has provided letters of support. |                                                                |
| <b>If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:</b> N/A                                                                                                                                                                                                                                                                 |                                                                |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of Final Plat and compliance with the ordinance on the variance.                                                                                                                                                                                                                                                                                |                                                                |
| <b>Additional Action Prompted:</b><br>[ X ] Mayor's Signature [ ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                                                                                                                                                               |                                                                |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                                                                                                                  |                                                                |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                                                                                                                  |                                                                |
| <b>Attachments, (if any):</b><br>Application for Subdivision platting and variance, Staff's comments, Drainage Report, Subdivision plat and Utility layout.                                                                                                                                                                                                                                                                       |                                                                |
| <b>Responsibilities upon Commission's Action:</b><br>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: MILANOS ESTATES PHASE III SUBDIVISION

Location: APPROX. 500 FEET SOUTH FROM THE INTERSECTION OF MILE 5 1/2 WEST ROAD AND MILE 6 1/2 WEST ROAD

Legal Description: BEING A 22.88 ACRES TRACT OF LAND LYING AND SITUATED IN HIDALGO COUNTY, TEXAS, SAID 22.88 ACRES TRACT BEING OUT OF AND FORMING A PART PORTION OF FARM TRACTS 720 AND 721, WEST TRACT SUBDIVISION, HIDALGO COUNTY, TEXAS, AS PER MAP OR PLAT RECORDED IN VOLUME 2, PAGE 34-37, MAP RECORDED OF HIDALGO COUNTY, TEXAS.

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: N/A

Existing Land Use: AGRICULTURE

Proposed Land Use: RESIDENTIAL

Number of Lots Proposed: 102

Gross Acreage: 22.88

Title Report Submitted:    ☐ YES    ☒ NO

### OWNER INFORMATION

Owner's Name: GARVIC PROPERTIES, LP - VICTOR J. DANIEC

Telephone: \_\_\_\_\_

Address: P.O. BOX 2604

Fax: \_\_\_\_\_

City: EDINBURG

State: TX

Zip: 78536

E-mail: \_\_\_\_\_

### ENGINEER INFORMATION

Name: IVAN GARCIA P.E. R.P.L.S.

Telephone: (956) 380-5152

Address: 921 S. 10TH AVE.

Fax: (956) 380-5083

City: EDINBURG

State: TX

Zip: 78539

E-mail: RIODELTA2004@YAHOO.COM

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

## UTILITY PROVISIONS

Will proposed subdivision connect to:

- ☒ YES ☐ NO Water Provision: CITY OF WESLACO
- ☒ YES ☐ NO Wastewater Provision: CITY OF WESLACO
- ☒ YES ☐ NO Electric Company: MAGIC VALLEY ELECTRIC COOP.

|                                                                                                   |                                                                                 |                                                                                   |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Phone Utility <u>AT&amp;T</u> | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Gas Utility | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Cable Utility |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

Proposed subdivision is in the following districts:

|                                                                                                 |                                                                                                   |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Drainage District <u>#1</u> | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Irrigation District <u>#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](mailto:mhinojosa@weslacotx.gov) & [rdelafuente@weslacotx.gov](mailto: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](mailto:mhinojosa@weslacotx.gov) & [rdelafuente@weslacotx.gov](mailto: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](http://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: GARVIC Properties, L.P.

Owner Signature: By: J. Gary Frisby - VP Date: 7/25/23

GARVIC Mgmt, Inc  
its sole general partner is the authorized agent

Authorized Agent Signature: [Signature] Date: 7/25/23

Authorized Agent Printed Name: Ivan Garcia, PE, RPLS - Rio Del Norte Engineering

\*\*\*\*\*

### 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: \_\_\_\_\_

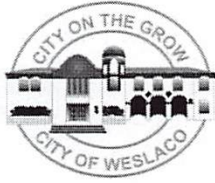
City Commission Approval on Final Plat: \_\_\_\_\_

Preconstruction Meeting Date: \_\_\_\_\_

Date Recorded: \_\_\_\_\_ Instrument No. \_\_\_\_\_

General Comments: \_\_\_\_\_

\_\_\_\_\_

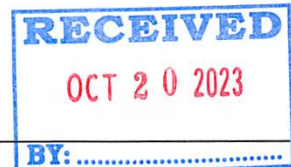


## APPLICATION FOR SUBDIVISION VARIANCE

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

VAR-000540-2023  
FILE NO. \_\_\_\_\_



### GENERAL INFORMATION

Name of Subdivision: MILANOS ESTATES PHASE 3

Location: APPROX. 15080 FEET SOUTH FROM THE INTERSECTION OF MILE 6 AND HOPPER ROAD

Legal Description: BEING A 22.87 ACRES TRACT OF OUT OF FARM TRACT 720 AND 721, WEST TRACT SUBDIVISION

HIDALGO COUNTY, TEXAS, AS PER MAP OR PLAT RECORDED IN VOLUME 2, PAGE 34-37, MAP RECORDS OF HIDALGO COUNTY, TEXAS.

### VARIANCE TYPE:

☐ Streetlights      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

☐ Sanitary Sewer      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

☐ Fire Hydrants      ☐ YES      ☒ NO

Describe in detail the reason for the variance request:

☐ Setbacks      ☒ YES      ☐ NO

Describe in detail the reason for the variance request:

Would like to reduce setbacks to the following: front to 20' or easement (whichever is greater) and rear to 10' or easement (whichever is greater)  
so that the biggest mobile home available 76 feet long can fit within the lots, which is in compliance with Hidalgo County requirements.

☐ Drainage      ☒ YES      ☐ NO

Describe in detail the reason for the variance request:

We are requesting to allow for off-site drainage detention of this subdivision into a proposed drain ditch widening along the south and east side  
of the subdivision, as per the approved drainage report by Hidalgo County Drainage District #1 .

☐ Minimum Lot Size ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_  
\_\_\_\_\_

☐ Sidewalks ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_  
\_\_\_\_\_

☐ Easement Requirements ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_  
\_\_\_\_\_

☐ Other \_\_\_\_\_ ☐ YES ☒ NO

Describe in detail the reason for the variance request:

\_\_\_\_\_  
\_\_\_\_\_

#### OWNER INFORMATION

Owner's Name: GARVIC PROPERTIES, LP Telephone: (956)821-7108

Address: P.O. BOX 2604 Fax: \_\_\_\_\_

City: EDINBURG State: TX Zip: 78536 E-mail: \_\_\_\_\_

#### 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: GARY FRISBY

Owner Signature:  GARY FRISBY, VP GARVIC Mgmt, Inc - the general partner Date: 10/9/23

\_\_\_\_\_ is the authorized agent

Authorized Agent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Agent Printed Name: \_\_\_\_\_



## Hidalgo and Cameron Counties Irrigation District No. 9

General Office

(956) 565-2411  
(956) 565-0521 Fax

E-Mail  
hccid9@hotmail.com



P O Box 237 Mercedes, Texas 78570

Randy Winston  
General Manager

Debra Pena  
Tax Assessor-Collector

Date: 10/19/23

Ivan Garcia  
Rio Delta Engineering  
921 S. 10<sup>th</sup> Avenue  
Edinburg, Texas 78539

RE: **MILANOS PH 3** Subd. Drainage and Detention

Good Morning Mr. Garcia:

I have received your revised cross section and calculations dated 08/10/2023 for the **MILANOS PH 3** Subdivision modified to include the 50 year detention volume in the proposed drain ditch as shown on your provided cross sections.

HCCID #9 does not object to storing the mandated 50 year detention with the proposed ditch as shown on the cross sections. This Subdivision will require the following:

1. The Proposed Ditch widening, and Detention Area will require outlet controls going into existing ditch.
2. Discharge Permit will be required.
3. The outfall control structure (currently being a culvert at Milanos Road) will note be changed and added as a Plat note so it can control and limit the flow from these developments.
4. Canal R.O.W. will not include any form of detention and be noted on the Plat.  
(Confirmed per email attached)

The maintenance of this section is within the City Limits of Weslaco and will be completed by their personnel. Please verify final designs with Mr. Albert Aldana, P.E. City Engineer with the City of Weslaco.

Randall Winston  
General Manager

HCCID #9  
Mercedes, Texas  
956-565-2411

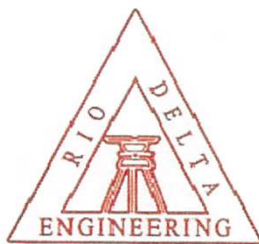


isaac hccid9.org

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**From:** Ivan Garcia <ivan@riodeltaengineering.com>  
**Sent:** Thursday, October 19, 2023 9:12 AM  
**To:** isaac hccid9.org  
**Subject:** FW: Milanons Estates Phase 3 subdivision - No Objection letter

Ivan Garcia, P.E., R.P.L.S.  
Vice-President



Rio Delta Engineering  
921 South 10th Avenue  
Edinburg, TX 78539  
(956) 380-5152 (phone)  
(956) 380-5083 (fax)

117 Rio Vista Boulevard  
Rio Grande City, TX 78582  
(956) 263-1041 (phone)  
(956) 263-1112 (fax)

16607 Blanco Road, Suite #1403  
San Antonio, TX 78232  
(210) 462-1365 (phone)

**From:** Ivan Garcia <ivan@riodeltaengineering.com>  
**Sent:** Tuesday, October 17, 2023 2:08 PM  
**To:** isaac hccid9.org <isaac@hccid9.org>  
**Cc:** E Pena <epena@riodeltaengineering.com>; rdelafuente@weslacotx.gov; AALDANA@WESLACOTX.GOV; Francisco Garza <fgarza@riodeltaengineering.com>; Isaac Gonzalez <isaac.gonzalez@hccid1.org>; randall hccid9.org <randall@hccid9.org>; D Rodriguez <droduiguez@riodeltaengineering.com>; Phillip Eberle <phillipe@riodeltaengineering.com>  
**Subject:** Re: Milanons Estates Phase 3 subdivision - No Objection letter

Thank you Isaac. Confirmed. No excavation of any form is to be done near the canal. That cross section was part of the construction improvements done with phase 1. Again, I apologize for the confusion. Thank you for your prompt response.

Ivan Garcia, P.E., R.P.L.S.  
Vice-President  
Rio Delta Engineering



## HIDALGO COUNTY DRAINAGE DISTRICT No. 1

Raul E. Sesin, PE, CFM  
District General Manager  
Hidalgo County Floodplain Administrator

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### BOARD OF DIRECTORS

---

DAVID L. FUENTES  
Board Member

EDUARDO "EDDIE" CANTU  
Board Member

RICHARD F. CORTEZ  
Chairman of the Board

EVERARDO "EVER" VILLARREAL  
Board Member

ELLIE TORRES  
Board Member

---

October 10, 2023

Rebekah De La Fuente  
Planning & Code Enforcement Director  
255 S. Kansas Ave.  
Weslaco, Texas 78596

RE: Rio Delta Engineering – Milanos Estates Phase 3 Subdivision

This letter is in response to a request from the Engineer of record for Milanos Estates Phase 3 Subdivision, Ivan Garcia, PE. HCDD1 has received and approved the drainage statement for the above-mentioned development located in the ETJ of Weslaco and has no objections to the Engineer's plan to discharge water as identified in the approved drainage report.

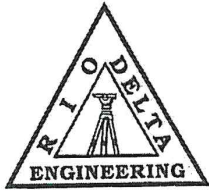
If you should have any questions or require additional information, please feel free to give me a call at (956) 292-7080.

Sincerely,  
Hidalgo County Drainage District No. 1

A handwritten signature in blue ink, appearing to read "Yvette Barrera".

Yvette Barrera, PE, CFM  
Assistant General Manager

XC: Raul E. Sesin, PE, CFM – District General Manager, HCDD1  
Omar Anzaldúa, PE, CFM – Assistant General Manager, HCDD1  
Isaac Gonzalez, EIT  
Alexis Lozano, EIT  
Gilberto Aguirre, EIT  
Esther Mireles



**RIO DELTA ENGINEERING**  
CIVIL ENGINEERING • PROJECT MANAGEMENT • LAND DEVELOPMENT  
TEXAS REGISTERED ENGINEERING FIRM F-7628  
TEXAS LICENSED SURVEYING FIRM #10194027

# MILANOS ESTATES PHASE III SUBDIVISION DRAINAGE REPORT

Prepared By:  
Ivan Garcia P.E., R.P.L.S.

Date:  
July 28, 2023

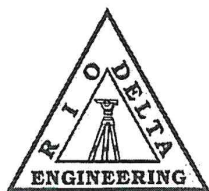


*[Signature]* 7/28/23

*INDEX SHEET*

1. COVER SHEET
2. INDEX SHEET
3. DRAINAGE REPORT
4. MASTER PLAN DRAINAGE REPORT & CALCULATIONS
5. DRAINAGE AREA MAP
6. PROJECT LOCATION MAP
7. HYDRAULIC CALCULATIONS
8. "C" VALUES FOR METHOD
9. RAINFALL INTENSITY FOR HIDALGO COUNTY
10. FLOOD PLAIN
11. SOIL SURVEY
12. PRELIMINARY PLAT AND UTILITY & DRAINAGE LAYOUT





## RIO DELTA ENGINEERING

CIVIL ENGINEERING • PROJECT MANAGEMENT • LAND DEVELOPMENT  
TEXAS REGISTERED ENGINEERING FIRM F-7628  
TEXAS LICENSED SURVEYING FIRM #10194027

### DRAINAGE REPORT

Milanos Estates Phase III Subdivision  
Master Plan  
City of Weslaco ETJ  
Hidalgo County, TEXAS

Milanos Estates Phase III Subdivision is proposed 102 lot Residential Subdivision, same being a 22.87 acres tract of land out of Farm Tracts 720 and 721, West Tract Subdivision, Hidalgo County, Texas, as per map or plat thereof recorded in Volume 2, Page 34-37, Map Records of Hidalgo County, Texas. These lots will be used for single-family homes.

The subdivision is in zone "B" of the flood insurance rate, areas between limits of the 100-year flood and 500-year 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; or areas protected by levees from the base flood, according to the FEMA's Flood Insurance Rate Map Community Panels No.: 480334 0525 B dated: January 2, 1981.

According to the Soil Survey Report prepared for Hidalgo County by the U.S.D.A. Soil Conservation Service, the site consists of 32.2% of Hidalgo sandy clay loam (28), with 0 to 1% slopes, the soil is well drained and surface runoff is negligible, permeability is moderately high to high and the water capacity is moderate. This soil is classified as Group (B). Additionally, it consists of 27.7% of Mercedes Clay (39), with 0 to 1% slopes, the soil is moderately well drained and surface runoff is high, permeability is very low to moderately low and the water capacity is moderate. This soil is classified as Group (D). Additionally, it consists of 40.2% of Raymondville clay loam (52), with 0 to 1% slopes, the soil is moderately well drained and surface runoff is medium, permeability is moderately low to moderately high and the water capacity is moderate. This soil is classified as Group (C). Please see the attached tables for the engineering, physical and chemical properties of these soils.

This area has been identified by Hidalgo County as having flooding issues, that will need to be addressed in order to allow this site to be developed. After careful evaluation of the existing topography and features of the site, it was determined that the existing ponding issues within the southern area of the property are caused because of the lack of an outfall or connection to the existing ditch. It is assumed that this was done on purpose with the intent of capturing as much water as possible for irrigation of the lands which are used for farming. The average existing natural ground elevation of the site along the south side of the property is 74.50, which is only 1 foot below the existing average top of ditch elevation of 75.50. The average existing centerline elevation of Mile 6 ½ West Road (Milanos/Hopper Road) at the intersection between the said drain ditch and Mile 6 ½ West Road (Milanos/Hopper Road) is also 75.50, which is the lowest point along the profile of Mile 6 ½ West Road (Milanos/Hopper Road) for this specific area between E Mile 5 North Road and W 18<sup>th</sup> Street. This small difference in elevation and the lack of an outfall/connection into the existing drain ditch along the south side of the site is enough for water to potentially pond as shown on the pictures provided to us by Hidalgo County. There are not any low areas within the site and all runoff naturally sheet flows overland in a southwesterly direction.

In addition, the site appears to be at the farthest upstream end of the existing drainage system. A connection will be made as part of this development to allow the water to drain into the existing ditch, and the potential ponding issue will most likely be completely eliminated without any risk of water backing up into the site. The existing ditch flows from east to west, and the terrain elevation also drops naturally to the west.



Finally, and in order to mitigate any potential risk of flooding for any future structures within the lots, the following general note will be added to the subdivision plat: minimum finished floor elevation shall be 6" above the center line of Mile 6 ½ West Road or 18" above top of curb in front of the center-point of the lot, whichever is greater.

Existing runoff sheet flows overland in a southerly direction to follow the existing drainage patterns of the area in an southerly direction with outfall to the existing 39EXTA drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1) south of this subdivision, then conveyed to the 39 drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drainage District 1), then conveyed to the I.B.W.C. Floodway, and final outfall to the Laguna Madre.

Using the Rational Method, we have determined that a 10-yr rainfall event will generate approximately 23.42 CFS of storm runoff. We have also used the Rational Method to determine that the improved site will generate an estimated 70.73 CFS of runoff 50-yr rainfall events respectively. The improved site will have an approximate increase of 47.31 cfs of storm runoff.

**All runoff and detention for this subdivision were already accounted for in the approved Milanos Estates Subdivision Phases I, II, III, and IV Master Plan drainage report approved August 12, 2020 (attached).** The required detention volume for Phase III is 86,249 CF or 1.98 AC-FT as per the approved Milanos Estates Subdivision Phases I, II, III, and IV Master Plan drainage report.

Linear detention will be provided for Phases I, II, II, and IV by improving the existing 39EXTA drain ditch section as required during the construction of Phase I as per the approved Milanos Estates Subdivision Phases I, II, III, and IV Master Plan drainage report. Storm waters will be collected by an on-site collection system and routed to the existing 39EXTA drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drainage District 1) south of this subdivision, then conveyed to the 39 drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1), then conveyed to the I.B.W.C. Floodway, and final outfall to the Laguna Madre.

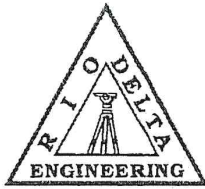


7/28/23

|                                                               |                                                                                       |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <input type="checkbox"/> REJECTED                             |  |
| <input checked="" type="checkbox"/> APPROVED FOR SUBMITTAL    |                                                                                       |
| <input checked="" type="checkbox"/> TO H.C. PLANNING DEPT.    |                                                                                       |
| <input checked="" type="checkbox"/> TO CITY                   |                                                                                       |
| <input checked="" type="checkbox"/> DISCHARGE PERMIT REQUIRED |                                                                                       |
| <input checked="" type="checkbox"/> DISTRICT FACILITY         |                                                                                       |
| <input type="checkbox"/> CITY FACILITY                        |                                                                                       |
| <input type="checkbox"/> OTHER _____                          |                                                                                       |
| <u>Alexis Lozano</u>                                          | <u>8/10/23</u>                                                                        |
| H.C.D.D. NO. 1                                                | DATE                                                                                  |

\* Subject to Milanos Estates Ph III  
Improvements and Completion





## **RIO DELTA ENGINEERING**

CIVIL ENGINEERING • PROJECT MANAGEMENT • LAND DEVELOPMENT  
TEXAS REGISTERED ENGINEERING FIRM F-7628  
TEXAS LICENSED SURVEYING FIRM #10194027

### **DRAINAGE REPORT**

**Milanos Estates Subdivision Phases I, II, III, and IV**

**Master Plan**

**City of Weslaco ETJ**

**Hidalgo County, TEXAS**

Milanos Estates Phase I, II, III, and IV Master Plan is proposed 379 lot Residential Subdivision, same being a total of 96.95 Acres comprised of the following:

- 1) Phases I, II, and III - 76.95 Acres Tract (328 proposed lots), being all of the south 38.49 acres, more or less, of Farm Tract 721, and all of Farm Tract 720 containing 38.47 Acres, more or less, West Tract Subdivision, Hidalgo County, Texas, as per map or plat thereof recorded in Volume 2, Page 34-37, Map Records of Hidalgo County, Texas.
- 2) Phase IV - 20.00 Acres Tract (51 proposed lots), being the east 20.00 acres of Farm Tract 717, West Tract Subdivision, Hidalgo County, Texas, as per map or plat thereof recorded in Volume 2, Page 34-37, Map Records of Hidalgo County, Texas.

These lots will be used for single-family homes.

The subdivision is in zone "B" of the flood insurance rate, areas between limits of the 100-year flood and 500-year 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; or areas protected by levees from the base flood, according to the FEMA's Flood Insurance Rate Map Community Panels No.: 480334 0525 B dated: January 2, 1981.

According to the Soil Survey Report prepared for Hidalgo County by the U.S.D.A. Soil Conservation Service, the site consists of 16.2 % of Hidalgo fine sandy loam (28), with 0 to 1% slopes, the soil is well drained and surface runoff is negligible, permeability is moderately high to high and the water capacity is moderate. This soil is classified as Group (B). Additionally, it consists of 17.9% of Mercedes Clay (39), with 0 to 1% slopes, the soil is moderately well drained and surface runoff is high, permeability is very low to moderately low and the water capacity is moderate. This soil is classified as Group (D). Additionally, it consists of 64.4% of Raymondville clay loam (52), with 0 to 1% slopes, the soil is moderately well drained and surface runoff is medium, permeability is moderately low to moderately high and the water capacity is moderate. This soil is classified as Group (C). Please see the attached tables for the engineering, physical and chemical properties of these soils.

This area has been identified by Hidalgo County as having flooding issues, that will need to be addressed in order to allow this site to be developed. After careful evaluation of the existing topography and features of the site, it was determined that the existing ponding issues within the southern area of the property are caused because of the lack of an outfall or connection to the existing ditch. It is assumed that this was done on purpose with the intent of capturing as much water as possible for irrigation of the lands which are used for farming. The average existing natural ground elevation of the site along the south side of the property is 74.50, which is only 1 foot below the existing average top of ditch elevation of 75.50. The average existing centerline elevation of Mile 6 ½ West Road (Milanos/Hopper Road) at the intersection between the said drain ditch and Mile 6 ½ West Road (Milanos/Hopper Road) is also 75.50, which is the lowest point along the profile of Mile 6 ½ West Road (Milanos/Hopper Road) for this specific area between E Mile 5 North Road and W 18<sup>th</sup> Street. This small difference in elevation and the lack of an outfall/connection into the existing drain ditch along the south side of the site is enough for water to potentially pond as shown on the pictures provided to us by Hidalgo

County. There are not any low areas within the site and all runoff naturally sheet flows overland in a southwesterly direction.

In addition, the site appears to be at the farthest upstream end of the existing drainage system. A connection will be made as part of this development to allow the water to drain into the existing ditch, and the potential ponding issue will most likely be completely eliminated without any risk of water backing up into the site. The existing ditch flows from east to west, and the terrain elevation also drops naturally to the west to an elevation below 74.00 by the time it gets to the southwest corner of the proposed Phase IV which will ensure that no ponding will occur above that elevation.

Finally, and in order to mitigate any potential risk of flooding for any future structures within the lots, the following general note will be added to the subdivision plat: minimum finished floor elevation shall be 6" above the center line of Mile 6 ½ West Road or 18" above top of curb in front of the center-point of the lot, whichever is greater.

Existing runoff sheet flows overland in a southerly direction to follow the existing drainage patterns of the area in an southerly direction with outfall to the existing 39EXTA drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1) along the south boundary of this subdivision, then conveyed to the 39 drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drainage District 1), then conveyed to the I.B.W.C. Floodway, and final outfall to the Laguna Madre. Using the Rational Method, we have determined that a 10-yr rainfall event will generate approximately 20.95 CFS of storm runoff for all 4 phases of this development. We have also used the Rational Method to determine that the improved site will generate an estimated 84.34 CFS of runoff 50-yr rainfall event for all 4 phases of this development. The improved site will have an approximate increase of 63.39 cfs of storm runoff.

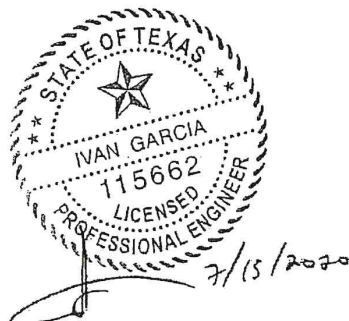
In accordance with the City of Weslaco and County's drainage requirements, we have calculated that approximately a total of 330,712 CF or 7.59 AC-FT, will need to be detained for the complete development of Phases I, II, III, and IV of the subdivision for a 50-yr rainfall event. The pro-rated detention volume required for phases I, II, and III is 3,778 CF or 0.087 AC-FT per acre developed as per the following table:

| Phase | Area  | Detention Required (AC-FT) |
|-------|-------|----------------------------|
| I     | 26.43 | 2.29                       |
| II    | 27.64 | 2.40                       |
| III   | 22.88 | 1.98                       |

The required detention volume for phase IV is 39,994 CF or 0.92 AC-FT.

Linear detention will be provided for Phases I, II, II, and IV by improving the existing 39EXTA drain ditch section as required during the construction of Phase I. Storm waters will be collected by an on-site collection system and routed to the existing 39EXTA drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drainage District 1) along the south boundary of this subdivision, then conveyed to the 39 drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1), then conveyed to the I.B.W.C. Floodway, and final outfall to the Laguna Madre. Tables and calculations, are attached.

|                                                               |                                                                                     |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <input type="checkbox"/> REJECTED                             |  |
| <input checked="" type="checkbox"/> APPROVED FOR SUBMITTAL    |                                                                                     |
| <input checked="" type="checkbox"/> TO H.C. PLANNING DEPT.    |                                                                                     |
| <input checked="" type="checkbox"/> TO CITY                   |                                                                                     |
| <input checked="" type="checkbox"/> DISCHARGE PERMIT REQUIRED |                                                                                     |
| <input checked="" type="checkbox"/> DISTRICT FACILITY         |                                                                                     |
| <input type="checkbox"/> CITY FACILITY                        |                                                                                     |
| <input type="checkbox"/> OTHER                                |                                                                                     |
| <i>Hector Garcia</i>                                          |                                                                                     |
| H.C.D.D. NO. 1                                                | DATE<br>4/15/21                                                                     |





## STORM WATER DETENTION CALCULATIONS

### SUMMARY SHEET

|                                   |                                  |             |                |
|-----------------------------------|----------------------------------|-------------|----------------|
| Project Name:                     | MILANO ESTATES PHASES 1, 2 AND 3 |             |                |
| City:                             | WESLACO ETJ                      |             |                |
| State:                            | TEXAS                            |             |                |
| County:                           | HIDALGO                          |             |                |
| Total Area:                       | 76.95                            | GROSS Acres |                |
| Total lots:                       | 328                              |             |                |
| Area already developed:           | 0.00                             | Acres       |                |
| Area unimproved:                  | 68.83                            | NET Acres   |                |
| Existing Run off:                 | 23.42                            | cfs         | *10 year storm |
| Future Run off:                   | 62.91                            | cfs         | *25 year storm |
| Future Run off:                   | 70.73                            | cfs         | *50 year storm |
| Total on site detention required: | 290,718                          | cft         | *50 year storm |
|                                   | 6.674                            | Ac-ft       |                |

\*References for calculations and procedure: 1) TxDOT Hydraulic Design Manual  
Revised March 2009

2) FHWA, Urban Drainage Design Manual HEC-22  
Revised September 2009



*[Handwritten Signature]* 7/18/2020

I. EXISTING RUN OFF (10 YEAR STORM)

\*Rational Method

Project Name: MILANO ESTATES PHASES 1, 2 AND 3

City: WESLACO ETJ  
State: TEXAS  
68.83 Acres Net  
Highest elevation= 78.00 ft  
Lowest elevation= 75.00 ft  
Watercourse length, L= 2500.00 ft  
Slope, S<sub>p</sub> = 0.12 %

Average flow velocity, V= 0.24 ft/sec

$$V = K_u k S_p^{0.5}$$

K<sub>u</sub>=3.28

k= 0.213

\*From Table 3-2 - Intercept Coefficients

\*For short grass pasture

Time of concentration, t<sub>c</sub>= 172.16 min (calculated)

$$t_c = L/60V$$

172.16 min (used)

Intensity, i= 1.52 in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

\*For a recurrence interval of 10 years

e= 0.778  
b= 87  
d= 9.2

Area already developed= 0.00 SQFT  
0.00 ACRES

\*No area developed

Existing Run off Coefficient: 0

Area unimproved= 2,998,235 SQFT  
68.83 NET ACRES

Existing Run off Coefficient: 0.20 \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C<sub>w</sub>= 0.20

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= 23.42 CFS

$$Q = C i A$$

II. FUTURE RUN OFF (25 YEAR STORM)

\*Rational Method

Project Name: MILANO ESTATES PHASES 1, 2 AND 3

City: WESLACO ETJ  
State: TEXAS  
68.83 Acres Net  
Highest elevation= 78.00 ft  
Lowest elevation= 75.00 ft  
Watercourse length, L= 2500.00 ft  
Slope, S<sub>p</sub> = 0.12 %

Average flow velocity, V= 0.35 ft/sec

$$V = K_u k S_p^{0.5}$$

K<sub>u</sub>=3.28

k= 0.305

\*From Table 3-2 - Intercept Coefficients

\*For nearly bare and untilled (overland flow)

Time of concentration, t<sub>c</sub>= 120.23 min (calculated)

$$t_c = L/60V$$

120.23 min (used)

Intensity, i= 2.31 in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

\*For a recurrence interval of 25 years

e= 0.771  
b= 98.00  
d= 9.20

Area to be developed= 492,000 SQFT \*1500 SF avg homes  
11.29 ACRES

Future Run off Coefficient: 0.75 \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= 246,000 SQFT \* 750 SF avg driveway and sidewalks area  
5.65 ACRES

Future Run off Coefficient: 0.70 \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= 1,869,835 SQFT \*Remaining green areas  
42.93 ACRES

Future Run off Coefficient: 0.20 \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Area to be developed= 390,400 SQFT 32' B-B STREET SECTION  
8.96 ACRES

Future Run off Coefficient: 0.70 \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C<sub>w</sub>= 0.35

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= 62.91 CFS

$$Q = CiA$$

III. STORAGE CALCULATIONS (50 YEAR STORM)

\*Rational Method

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**  
City: **WESLACO ETJ**  
State: **TEXAS**  
**68.83** Acres Net  
Highest elevation= **78.00** ft  
Lowest elevation= **75.00** ft  
Watercourse length, L= **2500.00** ft  
Slope, S<sub>p</sub> = **0.12** %

Average flow velocity, V= **0.35** ft/sec

$$V = K_u k S_p^{0.5}$$

K<sub>u</sub>=3.28

k= 0.305

\*From Table 3-2 - Intercept Coefficients

\*For nearly bare and untilled (overland flow)

Time of concentration, t<sub>c</sub>= **120.23** min (calculated)

$$t_c = L/60V$$

**120.23** min (used)

Intensity, i= **2.59** min

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDoT IDF Coefficients

\*For a recurrence interval of 50 years

e= **0.749**  
b= **99.0**  
d= **9.2**

Area to be developed= **492,000** SQFT \*1500 SF avg homes

**11.29** ACRES

Future Run off Coefficient: **0.75** \*MIN FOR ROOFS

\*From Table 3-3 - Run off Coefficients

Area to be developed= **246,000** SQFT \* 750 SF avg driveway and sidewalks area

**5.65** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE

\*From Table 3-3 - Run off Coefficients

Area to be developed= **1,869,835** SQFT \*Remaining green areas

**42.93** ACRES

Future Run off Coefficient: **0.20** \*For Unimproved areas

\*From Table 3-3 - Run off Coefficients

Area to be developed= **390,400** SQFT 32' B-B STREET SECTION

**8.96** ACRES

Future Run off Coefficient: **0.7** \*MIN FOR ASPHALTIC/CONCRETE SURFACE

\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C<sub>w</sub>= **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **70.73** CFS

$$Q = C_i A$$



IV. STORM WATER DETENTION CALCULATIONS

\*Rational Method

| Duration<br>(min) | Intensity<br>(in/hr) | Q in<br>(cfs) | Vol in<br>(cft) | Q out<br>(cfs) | V out<br>(cft) | Storage<br>(cft) |
|-------------------|----------------------|---------------|-----------------|----------------|----------------|------------------|
| 5                 | 13.57                | 331.16        | 99,347          | 23.42          | 7,026          | 92,320           |
| 10                | 10.83                | 264.18        | 158,509         | 23.42          | 14,053         | 144,457          |
| 15                | 9.10                 | 222.14        | 199,922         | 23.42          | 21,079         | 178,843          |
| 20                | 7.91                 | 192.99        | 231,583         | 23.42          | 28,105         | 203,477          |
| 25                | 7.03                 | 171.44        | 257,159         | 23.42          | 35,131         | 222,028          |
| 30                | 6.34                 | 154.78        | 278,611         | 23.42          | 42,158         | 236,453          |
| 35                | 5.80                 | 141.47        | 297,094         | 23.42          | 49,184         | 247,910          |
| 40                | 5.35                 | 130.56        | 313,347         | 23.42          | 56,210         | 257,137          |
| 45                | 4.98                 | 121.43        | 327,865         | 23.42          | 63,236         | 264,628          |
| 50                | 4.66                 | 113.67        | 340,995         | 23.42          | 70,263         | 270,733          |
| 55                | 4.38                 | 106.97        | 352,993         | 23.42          | 77,289         | 275,704          |
| 60                | 4.14                 | 101.12        | 364,049         | 23.42          | 84,315         | 279,733          |
| 65                | 3.93                 | 95.98         | 374,307         | 23.42          | 91,341         | 282,966          |
| 70                | 3.75                 | 91.40         | 383,884         | 23.42          | 98,368         | 285,517          |
| 75                | 3.58                 | 87.30         | 392,871         | 23.42          | 105,394        | 287,477          |
| 80                | 3.43                 | 83.61         | 401,342         | 23.42          | 112,420        | 288,921          |
| 85                | 3.29                 | 80.27         | 409,357         | 23.42          | 119,447        | 289,911          |
| 90                | 3.16                 | 77.22         | 416,968         | 23.42          | 126,473        | 290,495          |
| 95                | 3.05                 | 74.42         | 424,217         | 23.42          | 133,499        | 290,718          |
| 100               | 2.94                 | 71.86         | 431,140         | 23.42          | 140,525        | 290,615          |
| 105               | 2.85                 | 69.49         | 437,769         | 23.42          | 147,552        | 290,217          |
| 110               | 2.76                 | 67.29         | 444,129         | 23.42          | 154,578        | 289,551          |
| 115               | 2.67                 | 65.25         | 450,244         | 23.42          | 161,604        | 288,640          |
| 120               | 2.60                 | 63.35         | 456,135         | 23.42          | 168,630        | 287,504          |
| 125               | 2.52                 | 61.58         | 461,818         | 23.42          | 175,657        | 286,161          |
| 130               | 2.45                 | 59.91         | 467,310         | 23.42          | 182,683        | 284,627          |
| 135               | 2.39                 | 58.35         | 472,625         | 23.42          | 189,709        | 282,915          |
| 140               | 2.33                 | 56.88         | 477,774         | 23.42          | 196,735        | 281,039          |
| 145               | 2.27                 | 55.49         | 482,770         | 23.42          | 203,762        | 279,008          |
| 150               | 2.22                 | 54.18         | 487,622         | 23.42          | 210,788        | 276,834          |
| 155               | 2.17                 | 52.94         | 492,340         | 23.42          | 217,814        | 274,525          |

Total on site detention required= 

|         |
|---------|
| 290,718 |
| 6.674   |

 cft  
acres-ft

Duration: Duration in minutes  
Intensity: Intensity for respective duration (10-year event)  
Q in: Developed conditions peak discharge ( $C_{dev} \times I_{50} \times \text{Area}$ )  
Vol in: Developed conditions run off volume ( $Q_{in} \times \text{Duration} \times 60$ )  
Q out: Pre-developed peak discharge ( $C_{pre} \times I_{10} \times \text{Area}$ )  
V out: (duration x Qout x 60)  
Storage: Required storage ( $V_{in} - V_{out}$ )

Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

Table 3-3. Runoff Coefficients for Rational Formula

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.60 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

## STORM WATER DETENTION CALCULATIONS

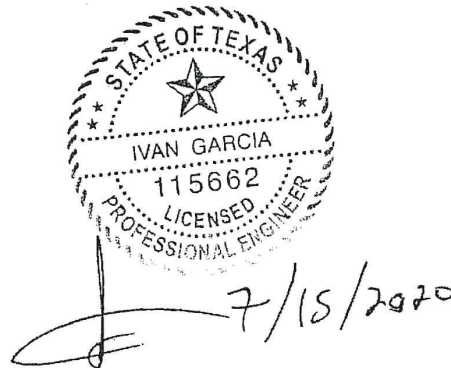
### SUMMARY SHEET

Project Name: **MILANO ESTATES PHASES 4**  
City: **WESLACO ETJ**  
State: **TEXAS**  
County: **HIDALGO**  
Total Area: **20.00** GROSS Acres  
Total lots: **51**

|                                   |               |           |                |
|-----------------------------------|---------------|-----------|----------------|
| Area already developed:           | <b>0.00</b>   | Acres     |                |
| Area unimproved:                  | <b>16.25</b>  | NET Acres |                |
| Existing Run off:                 | <b>13.51</b>  | cfs       | *10 year storm |
| Future Run off:                   | <b>34.11</b>  | cfs       | *25 year storm |
| Future Run off:                   | <b>37.52</b>  | cfs       | *50 year storm |
| Total on site detention required: | <b>39,994</b> | cft       | *50 year storm |
|                                   | <b>0.918</b>  | Ac-ft     |                |

\*References for calculations and procedure: 1) TxDOT Hydraulic Design Manual  
Revised March 2009

2) FHWA, Urban Drainage Design Manual HEC-22  
Revised September 2009



I. EXISTING RUN OFF (10 YEAR STORM)

\*Rational Method

Project Name: MILANO ESTATES PHASES 4

|                         |             |           |
|-------------------------|-------------|-----------|
| City:                   | WESLACO ETJ |           |
| State:                  | TEXAS       |           |
|                         | 16.25       | Acres Net |
| Highest elevation=      | 78.00       | ft        |
| Lowest elevation=       | 74.00       | ft        |
| Watercourse length, L=  | 1300.00     | ft        |
| Slope, S <sub>p</sub> = | 0.31        | %         |

Average flow velocity, V= 0.39 ft/sec

$$V = K_u k S_p^{0.5}$$

K<sub>u</sub>=3.28

k= 0.213

\*From Table 3-2 - Intercept Coefficients

\*For short grass pasture

Time of concentration, t<sub>c</sub>= 55.91 min (calculated)

$$t_c = L/60V$$

55.91 min (used)

Intensity, i= 3.38 in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

\*For a recurrence interval of 10 years

e= 0.778

b= 87

d= 9.2

|                         |      |       |
|-------------------------|------|-------|
| Area already developed= | 0.00 | SQFT  |
|                         | 0.00 | ACRES |

\*No area developed

Existing Run off Coefficient: 0

|                  |         |           |
|------------------|---------|-----------|
| Area unimproved= | 707,850 | SQFT      |
|                  | 16.25   | NET ACRES |

Existing Run off Coefficient: 0.20 \*For Unimproved areas

\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C<sub>w</sub>= 0.20

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= 13.51 CFS

$$Q = CiA$$



II. FUTURE RUN OFF (25 YEAR STORM)

\*Rational Method

Project Name: **MILANO ESTATES PHASES 4**

City: **WESLACO ETJ**

State: **TEXAS**

**16.25**

Acres Net

Highest elevation= **78.00**

ft

Lowest elevation= **74.00**

ft

Watercourse length, L= **1300.00**

ft

Slope,  $S_o$  = **0.31**

%

Average flow velocity,  $V$  = **0.55** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u = 3.28$

$k = 0.305$

\*From Table 3-2 - Intercept Coefficients

\*For nearly bare and untilled (overland flow)

Time of concentration,  $t_c$  = **39.04** min (calculated)

$$t_c = L/60V$$

**39.04**

min

(used)

Intensity,  $i$  = **4.94** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

\*For a recurrence interval of 25 years

$e = 0.771$

$b = 98.00$

$d = 9.20$

Area to be developed= **127,500**

SQFT

\*2500 SF avg homes

**2.93**

ACRES

Future Run off Coefficient: **0.75**

\*MIN FOR ROOFS

\*From Table 3-3 - Run off Coefficients

Area to be developed= **127,500**

SQFT

\* 2500 SF avg driveway and sidewalks area

**2.93**

ACRES

Future Run off Coefficient: **0.70**

\*MIN FOR CONCRETE SURFACE

\*From Table 3-3 - Run off Coefficients

Area to be developed= **401,650**

SQFT

\*Remaining green areas

**9.22**

ACRES

Future Run off Coefficient: **0.20**

\*For Unimproved areas

\*From Table 3-3 - Run off Coefficients

Area to be developed= **51,200**

SQFT

32' B-B STREET SECTION

**1.18**

ACRES

Future Run off Coefficient: **0.70**

\*MIN FOR ASPHALTIC/CONCRETE SURFACE

\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **34.11** CFS

$$Q = C i A$$

### III. STORAGE CALCULATIONS (50 YEAR STORM)

\*Rational Method

Project Name: **MILANO ESTATES PHASES 4**

City: **WESLACO ETJ**

State: **TEXAS**

**16.25**

Acres Net

Highest elevation= **78.00** ft

Lowest elevation= **74.00** ft

Watercourse length, L= **1300.00** ft

Slope,  $S_p$  = **0.31** %

Average flow velocity, V= **0.55** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u = 3.28$

$k = 0.305$

\*From Table 3-2 - Intercept Coefficients

\*For nearly bare and untilled (overland flow)

Time of concentration,  $t_c$  = **39.04** min (calculated)

$$t_c = L/60V$$

**39.04** min (used)

Intensity,  $i$  = **5.43** min

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

\*For a recurrence interval of 50 years

$e = 0.749$   
 $b = 99.0$   
 $d = 9.2$

Area to be developed= **127,500** SQFT \*2500 SF avg homes

**2.93**

ACRES

Future Run off Coefficient: **0.75** \*MIN FOR ROOFS

\*From Table 3-3 - Run off Coefficients

Area to be developed= **127,500** SQFT \* 2500 SF avg driveway and sidewalks area

**2.93**

ACRES

Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE

\*From Table 3-3 - Run off Coefficients

Area to be developed= **401,650** SQFT \*Remaining green areas

**9.22**

ACRES

Future Run off Coefficient: **0.20** \*For Unimproved areas

\*From Table 3-3 - Run off Coefficients

Area to be developed= **51,200** SQFT 32' B-B STREET SECTION

**1.18**

ACRES

Future Run off Coefficient: **0.7** \*MIN FOR ASPHALTIC/CONCRETE SURFACE

\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **37.52** CFS

$$Q = C_i A$$

IV. STORM WATER DETENTION CALCULATIONS

\*Rational Method

| Duration<br>(min) | Intensity<br>(in/hr) | Q in<br>(cfs) | Vol in<br>(cft) | Q out<br>(cfs) | V out<br>(cft) | Storage<br>(cft) |
|-------------------|----------------------|---------------|-----------------|----------------|----------------|------------------|
| 5                 | 13.57                | 76.20         | 22,859          | 13.51          | 4,052          | 18,807           |
| 10                | 10.83                | 60.79         | 36,472          | 13.51          | 8,104          | 28,368           |
| 15                | 9.10                 | 51.11         | 46,001          | 13.51          | 12,157         | 33,844           |
| 20                | 7.91                 | 44.40         | 53,286          | 13.51          | 16,209         | 37,077           |
| 25                | 7.03                 | 39.45         | 59,171          | 13.51          | 20,261         | 38,910           |
| 30                | 6.34                 | 35.61         | 64,107          | 13.51          | 24,313         | 39,794           |
| 35                | 5.80                 | 32.55         | 68,360          | 13.51          | 28,365         | 39,994           |
| 40                | 5.35                 | 30.04         | 72,099          | 13.51          | 32,417         | 39,682           |
| 45                | 4.98                 | 27.94         | 75,440          | 13.51          | 36,470         | 38,970           |
| 50                | 4.66                 | 26.15         | 78,461          | 13.51          | 40,522         | 37,939           |
| 55                | 4.38                 | 24.61         | 81,222          | 13.51          | 44,574         | 36,648           |
| 60                | 4.14                 | 23.27         | 83,765          | 13.51          | 48,626         | 35,139           |
| 65                | 3.93                 | 22.08         | 86,126          | 13.51          | 52,678         | 33,448           |
| 70                | 3.75                 | 21.03         | 88,330          | 13.51          | 56,731         | 31,599           |
| 75                | 3.58                 | 20.09         | 90,397          | 13.51          | 60,783         | 29,615           |
| 80                | 3.43                 | 19.24         | 92,346          | 13.51          | 64,835         | 27,512           |
| 85                | 3.29                 | 18.47         | 94,191          | 13.51          | 68,887         | 25,304           |
| 90                | 3.16                 | 17.77         | 95,942          | 13.51          | 72,939         | 23,003           |
| 95                | 3.05                 | 17.12         | 97,610          | 13.51          | 76,991         | 20,619           |
| 100               | 2.94                 | 16.53         | 99,203          | 13.51          | 81,044         | 18,159           |
| 105               | 2.85                 | 15.99         | 100,728         | 13.51          | 85,096         | 15,632           |
| 110               | 2.76                 | 15.48         | 102,192         | 13.51          | 89,148         | 13,044           |
| 115               | 2.67                 | 15.01         | 103,599         | 13.51          | 93,200         | 10,399           |
| 120               | 2.60                 | 14.58         | 104,954         | 13.51          | 97,252         | 7,702            |
| 125               | 2.52                 | 14.17         | 106,262         | 13.51          | 101,304        | 4,957            |
| 130               | 2.45                 | 13.79         | 107,525         | 13.51          | 105,357        | 2,169            |
| 135               | 2.39                 | 13.43         | 108,748         | 13.51          | 109,409        | -661             |

Total on site detention required= 

|        |
|--------|
| 39,994 |
| 0.918  |

 cft  
acres-ft

Duration: Duration in minutes  
Intensity: Intensity for respective duration (10-year event)  
Q in: Developed conditions peak discharge ( $C_{dev} \times i_{50} \times \text{Area}$ )  
Vol in: Developed conditions run off volume ( $Q_{in} \times \text{Duration} \times 60$ )  
Q out: Pre-developed peak discharge ( $C_{pre} \times i_{10} \times \text{Area}$ )  
V out: (duration  $\times$  Qout  $\times$  60)  
Storage: Required storage ( $V_{in} - V_{out}$ )

Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

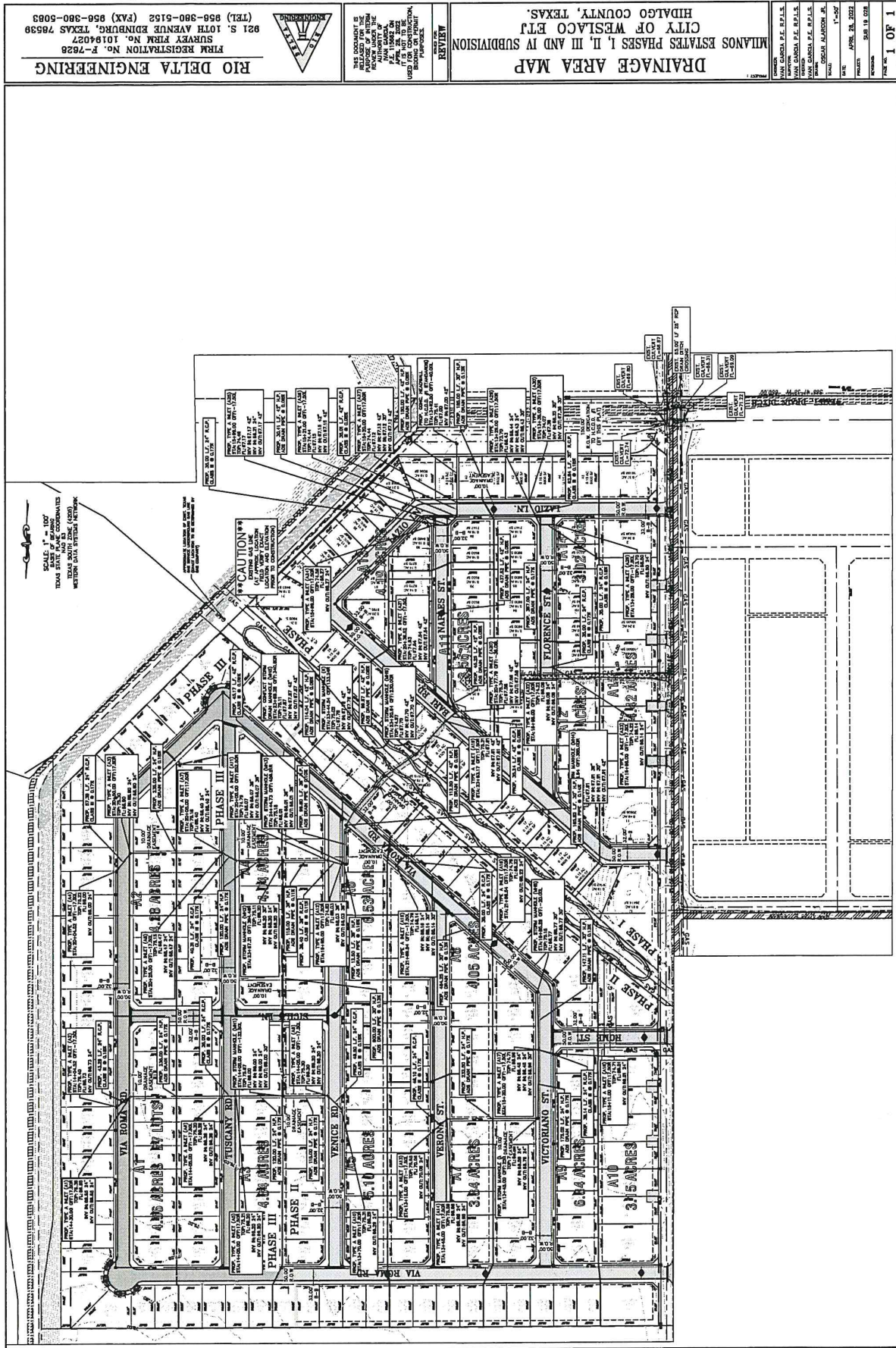
Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

Table 3-3. Runoff Coefficients for Rational Formula

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)





**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A1**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.96** ACRES  
NUMBER OF LOTS: **27** LOTS

Highest elevation= **77.10** ft  
Lowest elevation= **75.90** ft  
Watercourse length, L= **450.00** ft  
Slope,  $S_p$  = **0.27** %

Average flow velocity,  $V$  = **1.05** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
 $k$  = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **7.15** min (calculated)

$$t_c = L / 60V$$

**7.15** min (used)

Intensity,  $i$  = **9.89** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e$  = 0.778  
 $b$  = 87.0  
 $d$  = 9.20

Area to be developed = **40,500** SQFT \*1500 SF avg homes  
**0.93** ACRES 27 lots

Future Run off Coefficient: **0.75**  
\*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **20,250** SQFT \* 750 SF avg driveway and sidewalks area  
**0.46** ACRES

Future Run off Coefficient: **0.70**  
\*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **127,468** SQFT \*Remaining green areas  
**2.93** ACRES

Future Run off Coefficient: **0.20**  
\*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |                     |
|--------|---------------------|
| width  | 32 FT crown-to-back |
| length | 870 FT              |

Area to be developed = **27,840** SQFT  
**0.64** ACRES

Future Run off Coefficient: **0.70**  
\*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **20.33** CFS

$$Q = C_i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A2**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.23** ACRES  
NUMBER OF LOTS: **23** LOTS

Highest elevation= **75.75** ft  
Lowest elevation= **75.25** ft  
Watercourse length, L= **360.00** ft  
Slope,  $S_p$  = **0.14** %

Average flow velocity, V= **0.76** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u = 3.28$

$k = 0.619$

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **7.93** min (calculated)

$$t_c = L / 60V$$

**7.93** min (used)

Intensity,  $i$  = **10.96** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration

\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

\*For a recurrence interval of 10 years

$e = 0.771$   
 $b = 98.0$   
 $d = 9.20$

Area to be developed= **34,500** SQFT \*1500 SF avg homes  
**0.79** ACRES 23 lots

Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **17,250** SQFT \* 750 SF avg driveway and sidewalks area  
**0.40** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **110,109** SQFT \*Remaining green areas  
**2.53** ACRES

Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 700.00 | FT               |

Area to be developed= **22,400** SQFT  
**0.51** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **19.04** CFS

$$Q = C_i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A3**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.84** ACRES  
NUMBER OF LOTS: **26** LOTS

Highest elevation= **76.50** ft  
Lowest elevation= **74.25** ft  
Watercourse length, L= **580.00** ft  
Slope,  $S_p$  = **0.39** %

Average flow velocity,  $V$  = **1.26** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
 $k$  = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **7.64** min (calculated)

$$t_c = L / 60V$$

**7.64** min (used)

Intensity,  $i$  = **11.11** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e$  = 0.771  
 $b$  = 98.0  
 $d$  = 9.20

Area to be developed = **39,000** SQFT \*1500 SF avg homes  
**0.90** ACRES 26 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **19,500** SQFT \* 750 SF avg driveway and sidewalks area  
**0.45** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **126,730** SQFT \*Remaining green areas  
**2.91** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **25,600** SQFT  
**0.59** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

HALF OF 32' B-B STREET SECTION

|        |                     |
|--------|---------------------|
| width  | 32 FT crown-to-back |
| length | 800.00 FT           |

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **21.97** CFS

$$Q = C_i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A4**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.04** ACRES  
NUMBER OF LOTS: **22** LOTS

Highest elevation= **75.50** ft  
Lowest elevation= **74.60** ft  
Watercourse length, L= **335.00** ft  
Slope,  $S_p$  = **0.27** %

Average flow velocity, V= **1.05** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
k = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **5.31** min (calculated)  
**5.31** min (used)

$$t_c = L / 60V$$

Intensity, i = **12.46** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDoT IDF Coefficients  
\*For a recurrence interval of 10 years

e = 0.771  
b = 98.0  
d = 9.20

Area to be developed = **33,000** SQFT \*1500 SF avg homes  
**0.76** ACRES 22 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **16,500** SQFT \* 750 SF avg driveway and sidewalks area  
**0.38** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **105,042** SQFT \*Remaining green areas  
**2.41** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **21,440** SQFT  
**0.49** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |                     |
|--------|---------------------|
| width  | 32 FT crown-to-back |
| length | 670.00 FT           |

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q = **20.69** CFS

$$Q = C_i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A5**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **5.1** ACRES  
NUMBER OF LOTS: **28** LOTS

Highest elevation= **76.50** ft  
Lowest elevation= **74.60** ft  
Watercourse length, L= **530.00** ft  
Slope, S<sub>p</sub> = **0.36** %

Average flow velocity, V= **1.22** ft/sec

$$V = K_u k S_p^{0.5}$$

K<sub>u</sub>=3.28  
k= 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration, t<sub>c</sub>= **7.27** min (calculated)

$$t_c = L/60V$$

**7.27** min (used)

Intensity, i= **11.30** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

e= **0.771**  
b= **98.0**  
d= **9.20**

Area to be developed= **42,000** SQFT \*1500 SF avg homes  
**0.96** ACRES 28 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **21,000** SQFT \* 750 SF avg driveway and sidewalks area  
**0.48** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **138,996** SQFT \*Remaining green areas  
**3.19** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

Area to be developed= **20,160** SQFT  
**0.46** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 630.00 | FT               |

Weighted Run off Coefficient, C<sub>w</sub>= **0.40**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **22.86** CFS

$$Q = C i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A6**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **6.53** ACRES  
NUMBER OF LOTS: **32** LOTS

Highest elevation= **75.60** ft  
Lowest elevation= **74.00** ft  
Watercourse length, L= **450.00** ft  
Slope,  $S_p$  = **0.36** %

Average flow velocity,  $V$  = **1.21** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
 $k$  = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **6.20** min (calculated)

$$t_c = L / 60V$$

**6.20** min (used)

Intensity,  $i$  = **11.91** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e$  = 0.771  
 $b$  = 98.0  
 $d$  = 9.20

Area to be developed = **48,000** SQFT \*1500 SF avg homes  
**1.10** ACRES 32 lots

Future Run off Coefficient: **0.75**  
\*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **24,000** SQFT \* 750 SF avg driveway and sidewalks area  
**0.55** ACRES

Future Run off Coefficient: **0.70**  
\*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **171,487** SQFT \*Remaining green areas  
**3.94** ACRES

Future Run off Coefficient: **0.20**  
\*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

HALF OF 32' B-B STREET SECTION

|        |                     |
|--------|---------------------|
| width  | 32 FT crown-to-back |
| length | 1280.00 FT          |

Area to be developed = **40,960** SQFT  
**0.94** ACRES

Future Run off Coefficient: **0.70**  
\*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **31.64** CFS

$$Q = C i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient     | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-----------------|--------|--------|---------|---------|---------|----------|
| <b>e (in)</b>   | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| <b>b</b>        | 74     | 79     | 87      | 98      | 99      | 103      |
| <b>d (mins)</b> | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A7**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **3.84** ACRES  
NUMBER OF LOTS: **21** LOTS

Highest elevation= **76.50** ft  
Lowest elevation= **75.10** ft  
Watercourse length, L= **530.00** ft  
Slope,  $S_p$  = **0.26** %

Average flow velocity, V= **1.04** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
k = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **8.47** min (calculated)

$$t_c = L / 60V$$

**8.47** min (used)

Intensity, i = **10.71** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

e = **0.771**  
b = **98.0**  
d = **9.20**

Area to be developed = **31,500** SQFT \*1500 SF avg homes  
**0.72** ACRES 21 lots

Future Run off Coefficient: **0.75**  
\*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **15,750** SQFT \* 750 SF avg driveway and sidewalks area  
**0.36** ACRES

Future Run off Coefficient: **0.70**  
\*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **99,860** SQFT \*Remaining green areas  
**2.29** ACRES

Future Run off Coefficient: **0.20**  
\*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 630.00 | FT               |

Area to be developed = **20,160** SQFT  
**0.46** ACRES

Future Run off Coefficient: **0.70**  
\*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q = **16.90** CFS

$$Q = C i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A8**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.05** ACRES  
NUMBER OF LOTS: **21** LOTS

Highest elevation= **75.25** ft  
Lowest elevation= **74.70** ft  
Watercourse length, L= **430.00** ft  
Slope,  $S_p$  = **0.13** %

Average flow velocity,  $V$  = **0.73** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
 $k$  = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **9.87** min (calculated)  
**9.87** min (used)

$$t_c = L / 60V$$

Intensity,  $i$  = **10.09** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e$  = 0.771  
 $b$  = 98.0  
 $d$  = 9.20

Area to be developed = **31,500** SQFT \*1500 SF avg homes  
**0.72** ACRES 21 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **15,750** SQFT \* 750 SF avg driveway and sidewalks area  
**0.36** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **104,208** SQFT \*Remaining green areas  
**2.39** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **24,960** SQFT  
**0.57** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

HALF OF 32' B-B STREET SECTION

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 780.00 | FT               |

Weighted Run off Coefficient,  $C_w$  = **0.41**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **16.91** CFS

$$Q = C i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient     | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-----------------|--------|--------|---------|---------|---------|----------|
| <b>e (in)</b>   | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| <b>b</b>        | 74     | 79     | 87      | 98      | 99      | 103      |
| <b>d (mins)</b> | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A9**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **6.84** ACRES  
NUMBER OF LOTS: **31** LOTS

Highest elevation= **76.50** ft  
Lowest elevation= **74.30** ft  
Watercourse length, L= **680.00** ft  
Slope,  $S_p$  = **0.32** %

Average flow velocity, V= **1.15** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u = 3.28$   
 $k = 0.619$

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **9.81** min (calculated)

$$t_c = L / 60V$$

**9.81** min (used)

Intensity,  $i$  = **10.12** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e = 0.771$   
 $b = 98.0$   
 $d = 9.20$

Area to be developed= **46,500** SQFT \*1500 SF avg homes  
**1.07** ACRES 31 lots

Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **23,250** SQFT \* 750 SF avg driveway and sidewalks area  
**0.53** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **192,360** SQFT \*Remaining green areas  
**4.42** ACRES

Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |         |                  |
|--------|---------|------------------|
| width  | 32      | FT crown-to-back |
| length | 1120.00 | FT               |

Area to be developed= **35,840** SQFT  
**0.82** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.38**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **26.64** CFS

$$Q = C_i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient     | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-----------------|--------|--------|---------|---------|---------|----------|
| <b>e (in)</b>   | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| <b>b</b>        | 74     | 79     | 87      | 98      | 99      | 103      |
| <b>d (mins)</b> | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A10**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **6.84** ACRES  
NUMBER OF LOTS: **31** LOTS

Highest elevation= **76.50** ft  
Lowest elevation= **74.30** ft  
Watercourse length, L= **680.00** ft  
Slope,  $S_p$  = **0.32** %

Average flow velocity, V= **1.15** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u = 3.28$   
 $k = 0.619$

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **9.81** min (calculated)  
**9.81** min (used)

$$t_c = L / 60V$$

Intensity,  $i$  = **10.12** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDoT IDF Coefficients  
\*For a recurrence interval of 10 years

$e = 0.771$   
 $b = 98.0$   
 $d = 9.20$

Area to be developed= **46,500** SQFT \*1500 SF avg homes  
**1.07** ACRES 31 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **23,250** SQFT \* 750 SF avg driveway and sidewalks area  
**0.53** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **192,360** SQFT \*Remaining green areas  
**4.42** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

Area to be developed= **35,840** SQFT  
**0.82** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

|        |                     |
|--------|---------------------|
| width  | 32 FT crown-to-back |
| length | 1120.00 FT          |

Weighted Run off Coefficient,  $C_w$  = **0.38**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **26.64** CFS

$$Q = C i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| Light areas                                                                                                                                                                                    | 0.50 - 0.80            |
| Heavy areas                                                                                                                                                                                    | 0.60 - 0.90            |
| <b>Parks, cemeteries</b>                                                                                                                                                                       | 0.10 - 0.25            |
| Playgrounds                                                                                                                                                                                    | 0.20 - 0.40            |
| Railroad yard areas                                                                                                                                                                            | 0.20 - 0.40            |
| Unimproved areas                                                                                                                                                                               | 0.10 - 0.30            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| Asphaltic                                                                                                                                                                                      | 0.70 - 0.95            |
| Concrete                                                                                                                                                                                       | 0.80 - 0.95            |
| Brick                                                                                                                                                                                          | 0.70 - 0.85            |
| <b>Drives and walks</b>                                                                                                                                                                        | 0.75 - 0.85            |
| <b>Roofs</b>                                                                                                                                                                                   | 0.75 - 0.95            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A11**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **3.56** ACRES  
NUMBER OF LOTS: **19** LOTS

Highest elevation= **75.25** ft  
Lowest elevation= **74.25** ft  
Watercourse length, L= **360.00** ft  
Slope,  $S_p$  = **0.28** %

Average flow velocity, V= **1.07** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u = 3.28$   
 $k = 0.619$

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **5.61** min (calculated)  
**5.61** min (used)

$$t_c = L / 60V$$

Intensity,  $i$  = **12.27** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e = 0.771$   
 $b = 98.0$   
 $d = 9.20$

Area to be developed= **28,500** SQFT \*1500 SF avg homes  
**0.65** ACRES 19 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **14,250** SQFT \* 750 SF avg driveway and sidewalks area  
**0.33** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **89,284** SQFT \*Remaining green areas  
**2.05** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **23,040** SQFT  
**0.53** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

HALF OF 32' B-B STREET SECTION

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 720.00 | FT               |

Weighted Run off Coefficient,  $C_w$  = **0.42**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q = **18.40** CFS

$$Q = C_i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient     | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-----------------|--------|--------|---------|---------|---------|----------|
| <b>e (in)</b>   | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| <b>b</b>        | 74     | 79     | 87      | 98      | 99      | 103      |
| <b>d (mins)</b> | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| Single-family areas                                                                                                                                                                            | 0.30 - 0.60            |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A12**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **3.66** ACRES  
NUMBER OF LOTS: **19** LOTS

Highest elevation= **75.25** ft  
Lowest elevation= **73.70** ft  
Watercourse length, L= **500.00** ft  
Slope,  $S_p$  = **0.31** %

Average flow velocity,  $V$  = **1.13** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
 $k$  = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **7.37** min (calculated)

$$t_c = L / 60V$$

**7.37** min (used)

Intensity,  $i$  = **11.25** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDoT IDF Coefficients  
\*For a recurrence interval of 10 years

$e$  = 0.771  
 $b$  = 98.0  
 $d$  = 9.20

Area to be developed = **28,500** SQFT \*1500 SF avg homes  
**0.65** ACRES 19 lots

Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **14,250** SQFT \* 750 SF avg driveway and sidewalks area  
**0.33** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **91,720** SQFT \*Remaining green areas  
**2.11** ACRES

Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |                     |
|--------|---------------------|
| width  | 32 FT crown-to-back |
| length | 780.00 FT           |

Area to be developed = **24,960** SQFT  
**0.57** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.42**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **17.34** CFS

$$Q = C i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A13**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.19** ACRES  
NUMBER OF LOTS: **20** LOTS

Highest elevation= **75.25** ft  
Lowest elevation= **74.35** ft  
Watercourse length, L= **600.00** ft  
Slope,  $S_p$  = **0.15** %

Average flow velocity,  $V$  = **0.79** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
 $k$  = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **12.72** min (calculated)

$$t_c = L / 60V$$

**12.72** min (used)

Intensity,  $i$  = **9.07** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

$e$  = 0.771  
 $b$  = 98.0  
 $d$  = 9.20

Area to be developed = **30,000** SQFT \*1500 SF avg homes  
**0.69** ACRES 20 lots

Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **15,000** SQFT \* 750 SF avg driveway and sidewalks area  
**0.34** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **111,916** SQFT \*Remaining green areas  
**2.57** ACRES

Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

HALF OF 32' B-B STREET SECTION

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 800.00 | FT               |

Area to be developed = **25,600** SQFT  
**0.59** ACRES

Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient,  $C_w$  = **0.40**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow,  $Q$  = **15.26** CFS

$$Q = C i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k <sub>i</sub> |
|-------------------------------------------------------------------------------------------------|----------------|
| Forest with 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          |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A14**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **3.02** ACRES  
NUMBER OF LOTS: **17** LOTS

Highest elevation= **74.50** ft  
Lowest elevation= **73.20** ft  
Watercourse length, L= **300.00** ft  
Slope, S<sub>p</sub> = **0.43** %

Average flow velocity, V= **1.34** ft/sec

$$V = K_u k S_p^{0.5}$$

K<sub>u</sub>=3.28  
k= 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration, t<sub>c</sub>= **3.74** min (calculated)  
**3.74** min (used)

$$t_c = L / 60V$$

Intensity, i= **13.61** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDoT IDF Coefficients  
\*For a recurrence interval of 10 years

e= 0.771  
b= 98.0  
d= 9.20

Area to be developed= **25,500** SQFT \*1500 SF avg homes  
**0.59** ACRES 17 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **12,750** SQFT \* 750 SF avg driveway and sidewalks area  
**0.29** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed= **72,981** SQFT \*Remaining green areas  
**1.68** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

Area to be developed= **20,320** SQFT  
**0.47** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 635.00 | FT               |

Weighted Run off Coefficient, C<sub>w</sub>= **0.43**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **17.77** CFS

$$Q = C i A$$



**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-------------|--------|--------|---------|---------|---------|----------|
| e (in)      | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| b           | 74     | 79     | 87      | 98      | 99      | 103      |
| d (mins)    | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**I. FUTURE RUN OFF (10 YEAR STORM) FOR AREA A14**

**\*Rational Method**

Project Name: **MILANO ESTATES**  
City: **WESLACO ETJ**  
County: **HIDALGO**  
State: **TEXAS**

AREA: **4.42** ACRES  
NUMBER OF LOTS: **17** LOTS

Highest elevation= **74.50** ft  
Lowest elevation= **73.20** ft  
Watercourse length, L= **300.00** ft  
Slope,  $S_p$  = **0.43** %

Average flow velocity, V= **1.34** ft/sec

$$V = K_u k S_p^{0.5}$$

$K_u$  = 3.28  
k = 0.619

\*From Table 3-2 - Intercept Coefficients  
\*for paved areas

Time of concentration,  $t_c$  = **3.74** min (calculated)  
**3.74** min (used)

$$t_c = L / 60V$$

Intensity,  $i$  = **13.61** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

\*From table 3-1- Intensity-Frequency-Duration  
\*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients  
\*For a recurrence interval of 10 years

e = **0.771**  
b = **98.0**  
d = **9.20**

Area to be developed = **25,500** SQFT \*1500 SF avg homes  
**0.59** ACRES 17 lots  
Future Run off Coefficient: **0.75** \*MIN FOR ROOFS  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **12,750** SQFT \* 750 SF avg driveway and sidewalks area  
**0.29** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **133,965** SQFT \*Remaining green areas  
**3.08** ACRES  
Future Run off Coefficient: **0.20** \*For Unimproved areas  
\*From Table 3-3 - Run off Coefficients

Area to be developed = **20,320** SQFT  
**0.47** ACRES  
Future Run off Coefficient: **0.70** \*MIN FOR ASPHALTIC/CONCRETE SURFACE  
\*From Table 3-3 - Run off Coefficients

**HALF OF 32' B-B STREET SECTION**

|        |        |                  |
|--------|--------|------------------|
| width  | 32     | FT crown-to-back |
| length | 635.00 | FT               |

Weighted Run off Coefficient,  $C_w$  = **0.36**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q = **21.58** CFS

$$Q = C_i A$$

**Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County**

| Coefficient     | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|-----------------|--------|--------|---------|---------|---------|----------|
| <b>e (in)</b>   | 0.831  | 0.797  | 0.778   | 0.771   | 0.749   | 0.740    |
| <b>b</b>        | 74     | 79     | 87      | 98      | 99      | 103      |
| <b>d (mins)</b> | 9.6    | 8.9    | 9.2     | 9.2     | 9.2     | 9.6      |

Reference: TxDOT Hydraulic Design Manual, (2009)

**Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship**

| Land Cover/Flow Regime                                                                          | k     |
|-------------------------------------------------------------------------------------------------|-------|
| Forest with 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 |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

**Table 3-3. Runoff Coefficients for Rational Formula**

| Type of Drainage Area                                                                                                                                                                          | Runoff Coefficient, C* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Business:</b>                                                                                                                                                                               |                        |
| Downtown areas                                                                                                                                                                                 | 0.70 - 0.95            |
| Neighborhood areas                                                                                                                                                                             | 0.50 - 0.70            |
| <b>Residential:</b>                                                                                                                                                                            |                        |
| 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            |
| <b>Industrial:</b>                                                                                                                                                                             |                        |
| 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            |
| <b>Lawns:</b>                                                                                                                                                                                  |                        |
| 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            |
| <b>Streets:</b>                                                                                                                                                                                |                        |
| 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            |
| *Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases. |                        |

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

$$Q = 1.49/n \cdot A \cdot R^{2/3} \cdot S^{1/2}$$

Given:

$$\begin{aligned} Q &= \frac{314.00}{140921.09} \text{ cfs} \\ Q &= \frac{314.00}{140921.09} \text{ gpm} \\ D &= \frac{36.00}{12} \text{ in.} \\ S &= \frac{0.001000}{1} \text{ ft/ft} \\ n &= \frac{0.013}{1} \\ V &= \frac{3.00}{1} \text{ ft/sec} \end{aligned}$$

(Input known data above)

Q= flow(cfs)

A=area(SF)

R=hydraulic radius(ft)

S=% slope(ft/ft)

n=Manning's coeff. of friction

V=velocity (ft/sec)

### Calculations

$$Q = 314.00 \text{ cfs}$$

$$A = 7.07 \text{ SF}$$

$$R = 0.75 \text{ ft}$$

$$S = 0.001000 \text{ ft/ft}$$

$$n = 0.013$$

$$V = 3.00 \text{ ft/sec}$$

$$\begin{aligned} A &= (3.14 \cdot D^2)/4 \\ &= 7.07 \text{ SF} \end{aligned}$$

$$\begin{aligned} R &= (A/P) \quad (\text{assume full flow}) \\ &= 0.75 \text{ ft} \end{aligned}$$

### Solve for Q

$$Q = V \cdot A = \left( \frac{1.49}{n} \right) A \cdot R^{2/3} \sqrt{S} = 21.12 \text{ cfs}$$

### Solve for V

$$V = \frac{Q}{A} = \frac{1.49 \cdot R^{2/3} \cdot S^{1/2}}{n} = 2.992497 \text{ ft/sec}$$

### Solve for S

$$S = \left( \frac{V \cdot n}{1.49 \cdot R^{2/3}} \right)^2 = \frac{0.1005}{0.001005} \%$$

### Solve for D

$$D = \sqrt{\frac{\left( \frac{Q}{V} \right) \cdot 4}{\pi}} = 138.52774 \text{ in}$$

### Solve for R

$$R = \frac{A}{P} = \left( \frac{V \cdot n}{1.49 \cdot S^{1/2}} \right)^{3/2} = 0.7530$$



MILANOS ESTATES PHASES I, II, AND III SUBDIVISION  
HYDRAULIC GRADE LINE CALCULATIONS

| symbol                   | description                | units  |
|--------------------------|----------------------------|--------|
| d                        | pipe diameter              | in     |
| s                        | pipe slope                 | ft/ft  |
| n                        | Manning's coefficient      | 0.009  |
| C                        | Hazen Williams coefficient | 140    |
| L                        | Length of pipe             | ft     |
| A                        | cross-sectional pipe area  | ft^2   |
| P                        | pipe perimeter             | ft     |
| R                        | hydraulic radius           | ft     |
| Q                        | discharge flow             | ft^3/s |
| V                        | velocity                   | ft/s   |
| Hf                       | Major head loss            |        |
| Kq                       | coefficient                | 0.46   |
| mh                       | manhole                    |        |
| HGL                      | hydraulic grade line       |        |
| Hf=SL                    | Major Losses               | ft     |
| Sf=(1.49*Q^n/KqD^4.75)^2 | Friction Slope             | ft     |
| L                        | Length of Conduit          | ft     |

From contributing drainage areas @ structure

|         | AREAS   |    | ACREAGE |    | FLWS   |
|---------|---------|----|---------|----|--------|
| AREA 1  | 216,058 | SF | 4.96    | AC | 20.33  |
| AREA 2  | 184,259 | SF | 4.23    | AC | 19.04  |
| AREA 3  | 210,830 | SF | 4.84    | AC | 21.97  |
| AREA 4  | 175,982 | SF | 4.04    | AC | 20.69  |
| AREA 5  | 222,156 | SF | 5.1     | AC | 22.86  |
| AREA 6  | 284,447 | SF | 6.53    | AC | 31.64  |
| AREA 7  | 167,270 | SF | 3.84    | AC | 16.90  |
| AREA 8  | 176,418 | SF | 4.05    | AC | 16.91  |
| AREA 9  | 297,950 | SF | 6.84    | AC | 26.64  |
| AREA 10 | 137,214 | SF | 3.15    | AC | 26.64  |
| AREA 11 | 155,074 | SF | 3.56    | AC | 18.40  |
| AREA 12 | 159,430 | SF | 3.66    | AC | 17.34  |
| AREA 13 | 182,516 | SF | 4.19    | AC | 15.26  |
| AREA 14 | 131,551 | SF | 3.02    | AC | 17.77  |
| AREA 15 | 192,535 | SF | 4.42    | AC | 21.58  |
|         |         |    | 66.43   |    | 314.00 |

### MAJOR AND MINOR HEAD LOSSES

INLETS A1 AND A2

top: 76.38

flowline: 70.23

HGL: 70.23

| link     | d  | s      | L   |      | Q     | Sf    | Hf   |
|----------|----|--------|-----|------|-------|-------|------|
| A1 to A6 | 24 | 0.0017 | 235 | >>>> | 20.33 | 0.004 | 0.92 |

INLETS A3 AND A4

top: 75.29

flowline: 69.19

HGL: 69.19

| link     | d  | s      | L   |      | Q     | Sf    | Hf   |
|----------|----|--------|-----|------|-------|-------|------|
| A3 to A8 | 24 | 0.0017 | 235 | >>>> | 19.04 | 0.003 | 0.81 |

AREAS 1, 3 AND 5

MANHOLE 1

top: 75.67

flowline: 69.55

HGL: 72.84

| link         | d  | s      | L   |      | Q     | Sf    | Hf   |
|--------------|----|--------|-----|------|-------|-------|------|
| MH 1 to MH 2 | 30 | 0.0017 | 270 | >>>> | 65.17 | 0.012 | 3.29 |

AREAS 1,2,3,4 AND 5

MANHOLE 2

top: 75.30

flowline: 67.84

HGL: 71.06

| link         | d  | s     | L   |      | Q      | Sf    | Hf   |
|--------------|----|-------|-----|------|--------|-------|------|
| MH 2 to MH 3 | 36 | 0.013 | 270 | >>>> | 104.91 | 0.012 | 3.22 |

AREAS 1,2,3,4,5,6,7,8,9

MANHOLE 4

top: 75.13

flowline: 68.1

HGL: 74.94

| link        | d  | s     | L   |      | Q      | Sf    | Hf   |
|-------------|----|-------|-----|------|--------|-------|------|
| MH 4 to A19 | 42 | 0.001 | 370 | >>>> | 197.00 | 0.018 | 6.84 |

AREAS 1,2,3,4,5,6,7,8,9,11

INLET A21

top: 74.93

flowline: 67.64

HGL: 72.38

| link       | d  | s    | L   |      | Q      | Sf    | Hf   |
|------------|----|------|-----|------|--------|-------|------|
| A21 to A25 | 48 | 0.01 | 438 | >>>> | 215.40 | 0.011 | 4.74 |

AREAS 1,2,3,4,5,6,7,8,9,11,13

INLET A25

top: 74.49

flowline: 67.21

HGL: 68.03

| link       | d  | s    | L  |      | Q      | Sf    | Hf   |
|------------|----|------|----|------|--------|-------|------|
| A25 to A27 | 48 | 0.01 | 66 | >>>> | 230.66 | 0.012 | 0.82 |

AREAS 1,2,3,4,5,6,7,8,9,11,13,12 AND 14

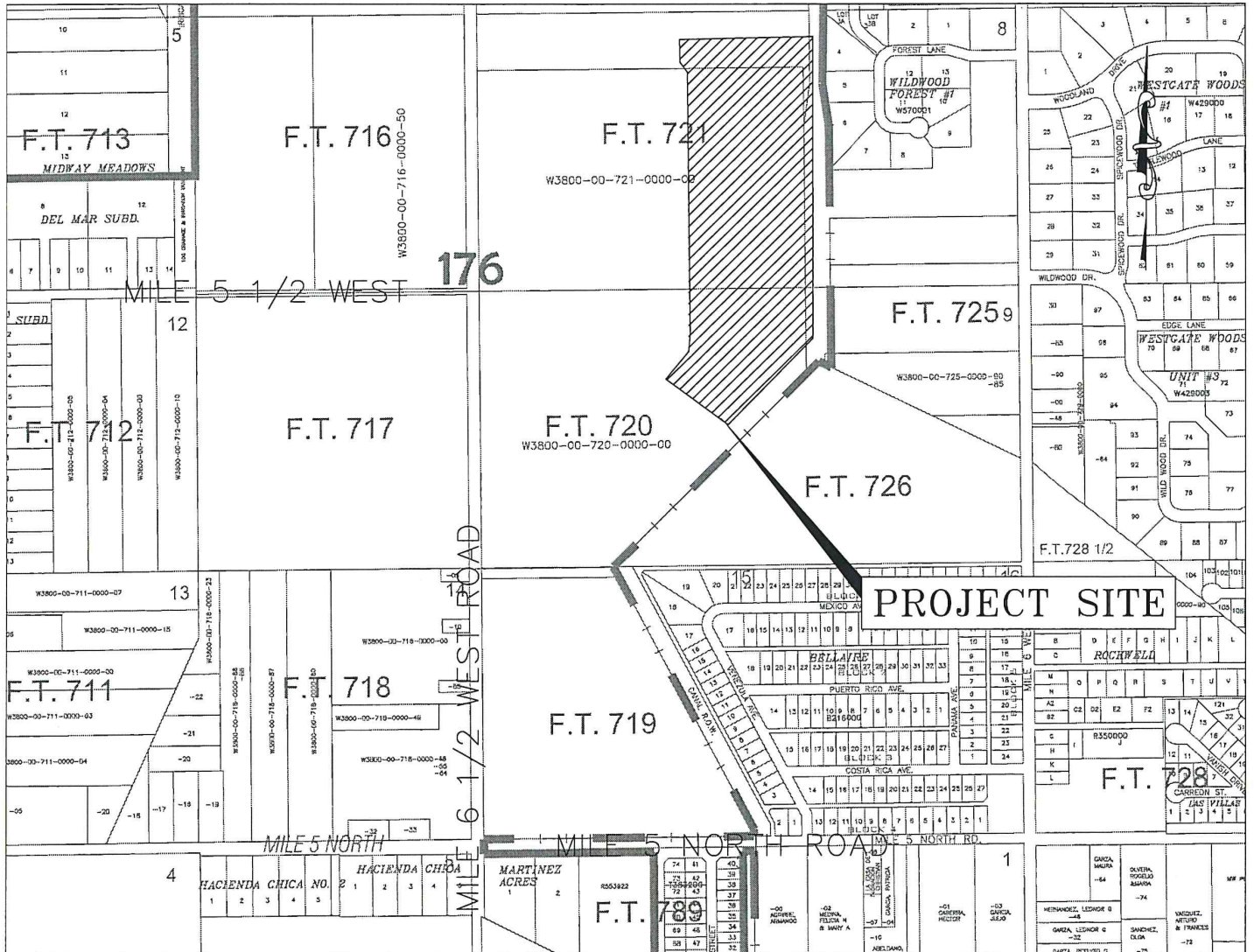
INLET A27

top: 74.44

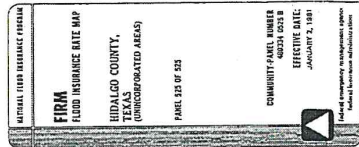
flowline: 67.15

HGL: 69.62

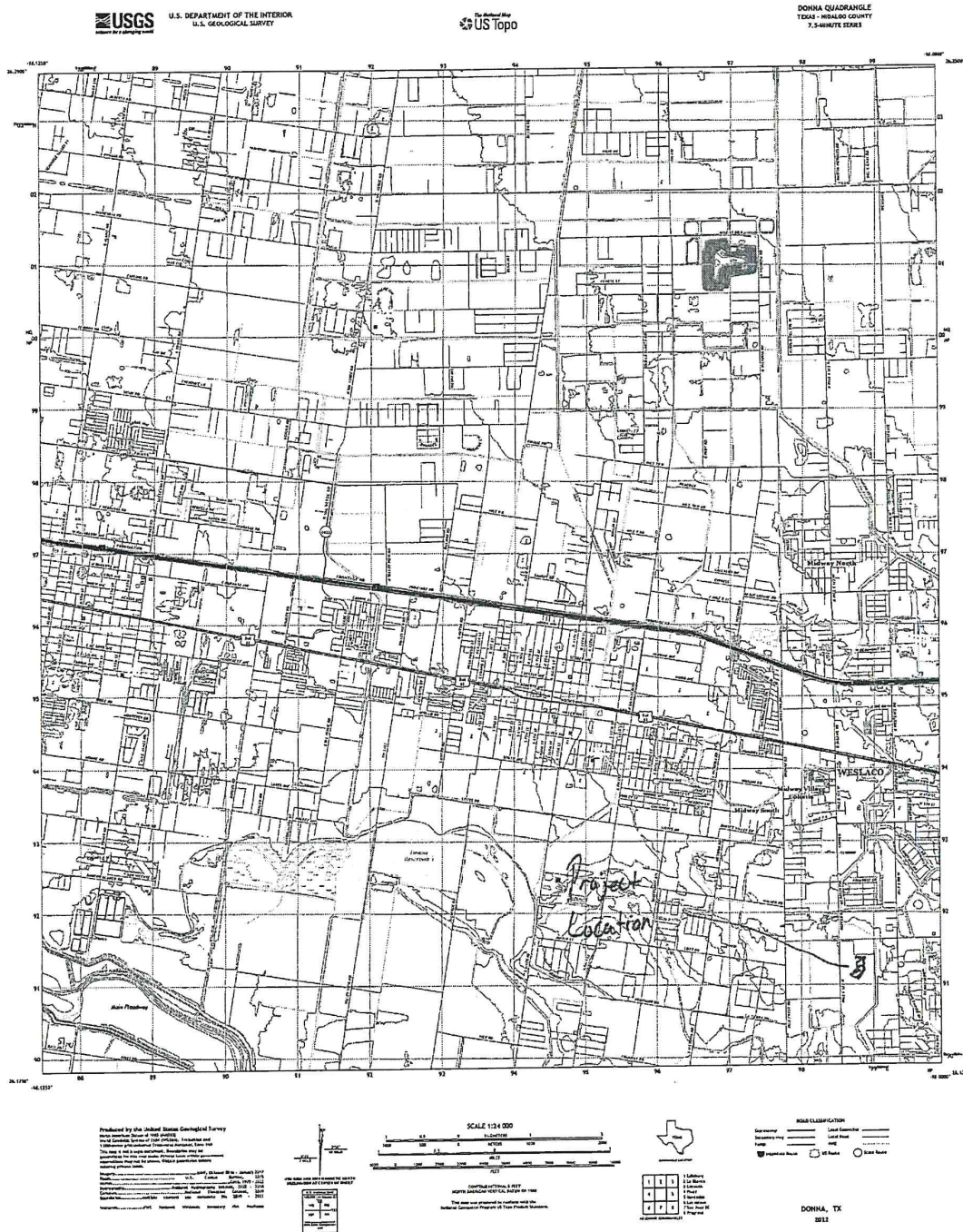
| link            | d  | s    | L   |      | Q      | Sf    | Hf   |
|-----------------|----|------|-----|------|--------|-------|------|
| A27 to HEADWALL | 48 | 0.01 | 150 | >>>> | 265.77 | 0.016 | 2.47 |



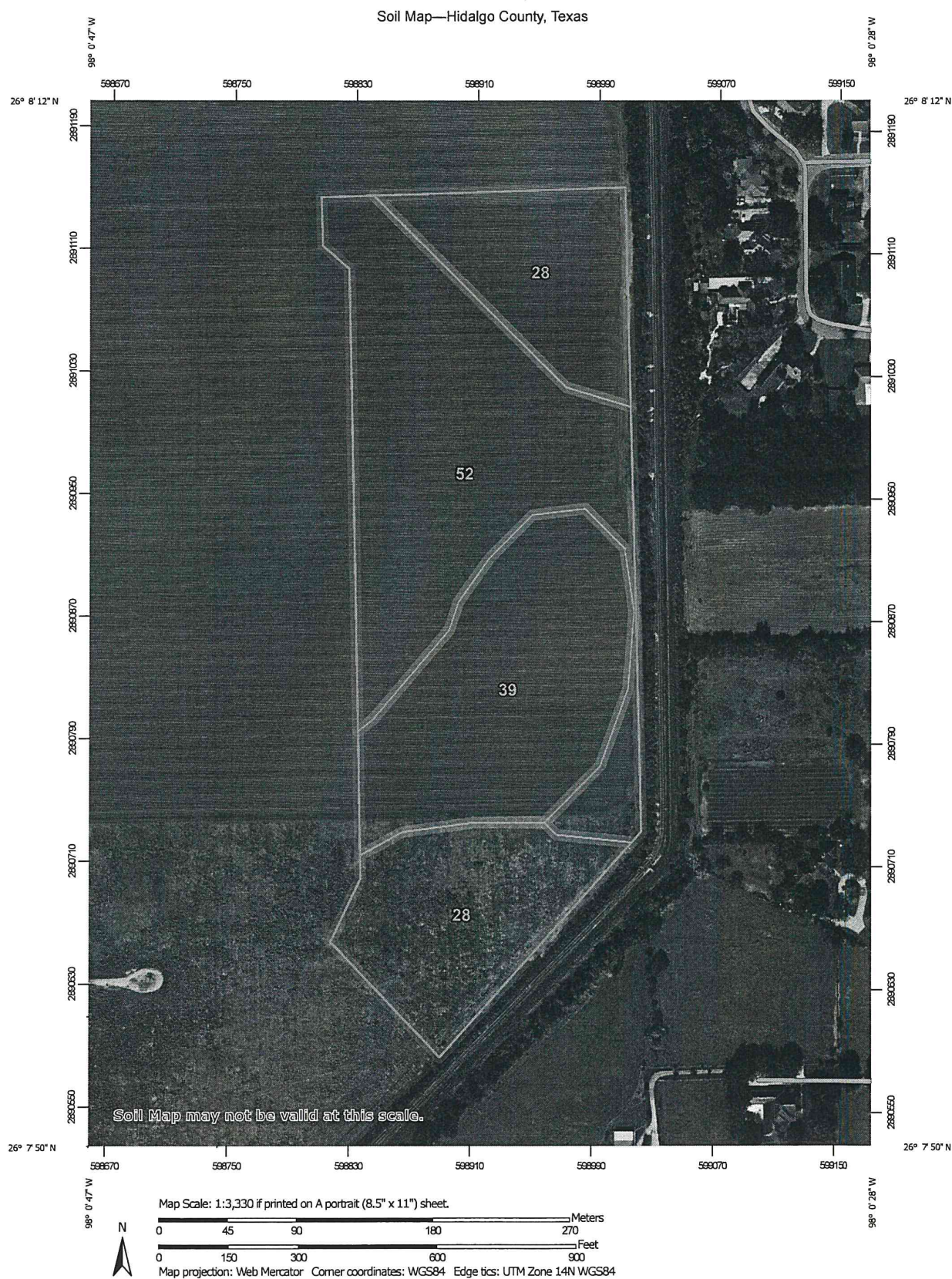












Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

7/27/2023  
Page 1 of 3

Soil Map—Hidalgo County, Texas

## MAP LEGEND

|                                                                                                            |                                                                                                            |                                                                                                           |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|  Area of Interest (AOI) |  Soil Map Unit Polygons |  Spoil Area            |
|  Soils                  |  Soil Map Unit Lines    |  Stony Spot            |
|  Soil Map Unit Points   |  Special Point Features |  Very Stony Spot       |
|  Blowout                |  Water Features         |  Wet Spot              |
|  Borrow Pit             |  Streams and Canals     |  Other                 |
|  Clay Spot              |  Transportation         |  Special Line Features |
|  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 21, Aug 24, 2022

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

Date(s) aerial images were photographed: Dec 21, 2021—Mar 2, 2022

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.

Soil Map—Hidalgo County, Texas

---

## Map Unit Legend

| Map Unit Symbol             | Map Unit Name                                  | Acres in AOI | Percent of AOI |
|-----------------------------|------------------------------------------------|--------------|----------------|
| 28                          | Hidalgo sandy clay loam, 0 to 1 percent slopes | 7.5          | 32.2%          |
| 39                          | Mercedes clay, 0 to 1 percent slopes           | 6.5          | 27.7%          |
| 52                          | Raymondville clay loam, 0 to 1 percent slopes  | 9.4          | 40.2%          |
| Totals for Area of Interest |                                                | 23.4         | 100.0%         |



## Component Legend—Hidalgo County, Texas

## Component Legend

This report presents general information about the map units and map unit components in the selected area. It shows map unit symbols and names and the components in each map unit. It also shows the percent of the components in the map units, the kind of component, and the slope range of each component.

### Report—Component Legend

| Component Legend—Hidalgo County, Texas            |                |                  |                |                |            |     |      |
|---------------------------------------------------|----------------|------------------|----------------|----------------|------------|-----|------|
| Map unit symbol and name                          | Map unit acres | Pct. of map unit | Component name | Component kind | Pct. slope |     |      |
|                                                   |                |                  |                |                | Low        | RV  | High |
| 28—Hidalgo sandy clay loam, 0 to 1 percent slopes | 133,968        |                  |                |                |            |     |      |
|                                                   |                | 85               | Hidalgo        | Series         | 0.0        | 0.5 | 1.0  |
| 39—Mercedes clay, 0 to 1 percent slopes           | 9,471          |                  |                |                |            |     |      |
|                                                   |                | 85               | Mercedes       | Series         | 0.0        | 0.5 | 1.0  |
| 52—Raymondville clay loam, 0 to 1 percent slopes  | 37,287         |                  |                |                |            |     |      |
|                                                   |                | 85               | Raymondville   | Series         | 0.0        | 0.5 | 1.0  |

### Data Source Information

Soil Survey Area: Hidalgo County, Texas  
Survey Area Data: Version 21, Aug 24, 2022



## Map Unit Description

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 in this report, 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, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components 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. Some minor components, however, have properties and behavior 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.

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.

Map Unit Description---Hidalgo County, Texas

---

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given 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.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

## Report—Map Unit Description

### Hidalgo County, Texas

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

##### Map Unit Setting

National map unit symbol: 2sxl

Elevation: 20 to 500 feet

Map Unit Description—Hidalgo County, Texas

---

*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

**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 supply, 0 to 60 inches:* 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

Map Unit Description—Hidalgo County, Texas

---

*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*  
*Ecological site: R083DY023TX - Sandy Loam*  
*Hydric soil rating: No*

**39—Mercedes clay, 0 to 1 percent slopes**

**Map Unit Setting**

*National map unit symbol: dblk*  
*Elevation: 10 to 150 feet*  
*Mean annual precipitation: 24 to 34 inches*  
*Mean annual air temperature: 73 to 75 degrees F*  
*Frost-free period: 300 to 365 days*  
*Farmland classification: Prime farmland if irrigated*

**Map Unit Composition**

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

**Description of Mercedes**

**Setting**

*Landform: Delta plains*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Calcareous clayey alluvium*

**Typical profile**

*H1 - 0 to 19 inches: clay*  
*H2 - 19 to 57 inches: clay*  
*H3 - 57 to 65 inches: clay*



Map Unit Description—Hidalgo County, Texas

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**Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Gypsum, maximum content:* 10 percent  
*Maximum salinity:* Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 12.0  
*Available water supply, 0 to 60 inches:* Moderate (about 7.8 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 3s  
*Land capability classification (nonirrigated):* 3s  
*Hydrologic Soil Group:* D  
*Ecological site:* R083DY015TX - Saline Clay  
*Hydric soil rating:* No

**Minor Components**

**Unnamed**

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

**52—Raymondville clay loam, 0 to 1 percent slopes**

**Map Unit Setting**

*National map unit symbol:* dbm1  
*Elevation:* 20 to 200 feet  
*Mean annual precipitation:* 23 to 33 inches  
*Mean annual air temperature:* 72 to 73 degrees F  
*Frost-free period:* 300 to 340 days  
*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

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

**Description of Raymondville**

**Setting**

*Landform:* Delta plains  
*Down-slope shape:* Linear

Map Unit Description---Hidalgo County, Texas

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*Across-slope shape:* Linear  
*Parent material:* Calcareous clayey alluvium

**Typical profile**

*H1 - 0 to 15 inches:* clay loam  
*H2 - 15 to 43 inches:* clay loam  
*H3 - 43 to 65 inches:* clay

**Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water*  
*(Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0  
mmhos/cm)  
*Sodium adsorption ratio, maximum:* 8.0  
*Available water supply, 0 to 60 inches:* Moderate (about 9.0  
inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 2s  
*Hydrologic Soil Group:* C  
*Ecological site:* R083DY025TX - Clay Loam  
*Hydric soil rating:* No

**Minor Components**

**Unnamed**

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

**Data Source Information**

Soil Survey Area: Hidalgo County, Texas  
Survey Area Data: Version 21, Aug 24, 2022

## Chemical Soil Properties

This table shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

*Gypsum* is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

*Salinity* is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

*Sodium adsorption ratio* (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.

Chemical Soil Properties—Hidalgo County, Texas

## Report—Chemical Soil Properties

| Chemical Soil Properties—Hidalgo County, Texas    |       |                          |                                    |               |                   |        |          |                         |
|---------------------------------------------------|-------|--------------------------|------------------------------------|---------------|-------------------|--------|----------|-------------------------|
| Map symbol and soil name                          | Depth | Cation-exchange capacity | Effective cation-exchange capacity | Soil reaction | Calcium carbonate | Gypsum | Salinity | Sodium adsorption ratio |
|                                                   | In    | meq/100g                 | meq/100g                           | pH            | Pct               | Pct    | mmhos/cm |                         |
| 28—Hidalgo sandy clay loam, 0 to 1 percent slopes |       |                          |                                    |               |                   |        |          |                         |
| Hidalgo                                           |       |                          |                                    |               |                   |        |          |                         |
|                                                   | 0-17  | 10-18                    | —                                  | 7.9-8.4       | 1-5               | 0      | 0.0-2.0  | 0-4                     |
|                                                   | 17-28 | 10-20                    | —                                  | 7.9-8.4       | 2-15              | 0      | 0.0-3.0  | 2-5                     |
|                                                   | 28-38 | 10-20                    | —                                  | 7.9-8.4       | 10-35             | 0      | 0.0-4.0  | 2-6                     |
|                                                   | 38-80 | 10-20                    | —                                  | 7.9-8.4       | 10-35             | 0      | 0.0-4.0  | 4-10                    |
| 39—Mercedes clay, 0 to 1 percent slopes           |       |                          |                                    |               |                   |        |          |                         |
| Mercedes                                          |       |                          |                                    |               |                   |        |          |                         |
|                                                   | 0-19  | 35-55                    | —                                  | 7.9-8.4       | 2-5               | 0-5    | 0.0-4.0  | 2-4                     |
|                                                   | 19-57 | 40-55                    | —                                  | 7.9-8.4       | 2-5               | 0-5    | 4.0-8.0  | 4-8                     |
|                                                   | 57-65 | 35-55                    | —                                  | 7.9-8.4       | 2-5               | 0-10   | 4.0-16.0 | 5-12                    |
| 52—Raymondville clay loam, 0 to 1 percent slopes  |       |                          |                                    |               |                   |        |          |                         |
| Raymondville                                      |       |                          |                                    |               |                   |        |          |                         |
|                                                   | 0-15  | 25-40                    | —                                  | 7.9-8.4       | 1-5               | 0      | 0.0-4.0  | 0-2                     |
|                                                   | 15-43 | 25-40                    | —                                  | 7.9-8.4       | 5-10              | 0      | 0.0-4.0  | 0-2                     |
|                                                   | 43-65 | 25-40                    | —                                  | 7.9-8.4       | 5-10              | 0      | 0.0-4.0  | 0-8                     |

## Data Source Information

Soil Survey Area: Hidalgo County, Texas  
Survey Area Data: Version 21, Aug 24, 2022



## Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Hydrologic soil group* is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

*Group A.* Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

*Group B.* 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.

*Group C.* Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

*Group D.* Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Percentage of rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

Engineering Properties—Hidalgo County, Texas

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American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.



## Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk <sup>1</sup> denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Engineering Properties—Hidalgo County, Texas      |                  |                  |           |                            |                |            |               |              |                                  |              |              |              |              |                  |
|---------------------------------------------------|------------------|------------------|-----------|----------------------------|----------------|------------|---------------|--------------|----------------------------------|--------------|--------------|--------------|--------------|------------------|
| Map unit symbol and soil name                     | Pct. of map unit | Hydrologic group | Depth     | USDA texture               | Classification |            | Pct Fragments |              | Percentage passing sieve number— |              |              |              | Liquid limit | Plasticity index |
|                                                   |                  |                  |           |                            | Unified        | AASHTO     | >10 inches    | 3-10 inches  | 4                                | 10           | 40           | 200          |              |                  |
|                                                   |                  |                  | <i>In</i> |                            |                |            | <i>L-R-H</i>  | <i>L-R-H</i> | <i>L-R-H</i>                     | <i>L-R-H</i> | <i>L-R-H</i> | <i>L-R-H</i> | <i>L-R-H</i> |                  |
| 28—Hidalgo sandy clay loam, 0 to 1 percent slopes |                  |                  |           |                            |                |            |               |              |                                  |              |              |              |              |                  |
| Hidalgo                                           | 85               | B                | 0-17      | Sandy clay loam            | CL, SC         | A-6        | 0-0-0         | 0-0-0        | 100-100-100                      | 95-98-100    | 86-96-100    | 44-54-63     | 25-30-39     |                  |
|                                                   |                  |                  | 17-28     | Sandy clay loam, clay loam | CL, SC         | A-6, A-7-6 | 0-0-0         | 0-0-0        | 100-100-100                      | 94-98-100    | 85-96-100    | 50-60-75     | 30-35-44     |                  |
|                                                   |                  |                  | 28-38     | Clay loam, sandy clay loam | CL, SC         | A-6, A-7-6 | 0-0-0         | 0-0-0        | 95-97-100                        | 91-94-100    | 81-93-100    | 54-68-81     | 30-38-44     |                  |
|                                                   |                  |                  | 38-80     | Sandy clay loam, clay loam | CL, SC         | A-6, A-7-6 | 0-0-0         | 0-0-0        | 96-97-100                        | 91-95-100    | 82-94-100    | 57-72-84     | 30-38-44     |                  |
| 39—Mercedes clay, 0 to 1 percent slopes           |                  |                  |           |                            |                |            |               |              |                                  |              |              |              |              |                  |
| Mercedes                                          | 85               | D                | 0-19      | Clay                       | CH             | A-7-6      | 0-0-0         | 0-1-2        | 85-93-100                        | 80-90-100    | 80-90-100    | 75-85-95     | 55-66-76     |                  |
|                                                   |                  |                  | 19-57     | Clay                       | CH             | A-7-6      | 0-0-0         | 0-1-2        | 85-93-100                        | 80-90-100    | 80-90-100    | 75-85-95     | 50-63-76     |                  |
|                                                   |                  |                  | 57-65     | Clay                       | CH, CL         | A-7-6      | 0-0-0         | 0-1-2        | 85-93-100                        | 80-90-100    | 80-90-100    | 75-85-95     | 48-62-76     |                  |



Engineering Properties—Hidalgo County, Texas

| Engineering Properties—Hidalgo County, Texas     |                  |                  |           |                 |                |            |               |              |                                  |              |              |              |              |                  |
|--------------------------------------------------|------------------|------------------|-----------|-----------------|----------------|------------|---------------|--------------|----------------------------------|--------------|--------------|--------------|--------------|------------------|
| Map unit symbol and soil name                    | Pct. of map unit | Hydrologic group | Depth     | USDA texture    | Classification |            | Pct Fragments |              | Percentage passing sieve number— |              |              |              | Liquid limit | Plasticity index |
|                                                  |                  |                  |           |                 | Unified        | AASHTO     | >10 inches    | 3-10 inches  | 4                                | 10           | 40           | 200          |              |                  |
|                                                  |                  |                  | <i>In</i> |                 |                |            | <i>L-R-H</i>  | <i>L-R-H</i> | <i>L-R-H</i>                     | <i>L-R-H</i> | <i>L-R-H</i> | <i>L-R-H</i> | <i>L-R-H</i> | <i>L-R-H</i>     |
| 52—Raymondville clay loam, 0 to 1 percent slopes |                  |                  |           |                 |                |            |               |              |                                  |              |              |              |              |                  |
| Raymondville                                     | 85 C             |                  | 0-15      | Clay loam       | CL             | A-6, A-7-6 | 0-0-0         | 0-0-0        | 100-100-100                      | 100-100-100  | 95-98-100    | 51-68-85     | 37-44-50     | 18-24-30         |
|                                                  |                  |                  | 15-43     | Clay, clay loam | CH, CL         | A-6, A-7-6 | 0-0-0         | 0-0-0        | 100-100-100                      | 95-98-100    | 95-98-100    | 75-85-95     | 38-47-55     | 19-27-35         |
|                                                  |                  |                  | 43-65     | Clay, clay loam | CH, CL         | A-7-6      | 0-0-0         | 0-0-0        | 100-100-100                      | 85-93-100    | 80-90-100    | 75-85-95     | 40-47-53     | 20-25-30         |

## Data Source Information

Soil Survey Area: Hidalgo County, Texas  
Survey Area Data: Version 21, Aug 24, 2022



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

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## Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity ( $K_{sat}$ ), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Physical Soil Properties---Hidalgo County, Texas

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*Saturated hydraulic conductivity (Ksat)* refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Physical Soil Properties---Hidalgo County, Texas

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*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (<http://soils.usda.gov>)



Physical Soil Properties---Hidalgo County, Texas

## Report---Physical Soil Properties

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Physical Soil Properties—Hidalgo County, Texas    |       |           |           |           |                    |                                  |                          |                      |                |                 |     |   |                        |                        |
|---------------------------------------------------|-------|-----------|-----------|-----------|--------------------|----------------------------------|--------------------------|----------------------|----------------|-----------------|-----|---|------------------------|------------------------|
| Map symbol and soil name                          | Depth | Sand      | Silt      | Clay      | Moist bulk density | Saturated hydraulic conductivity | Available water capacity | Linear extensibility | Organic matter | Erosion factors |     |   | Wind erodibility group | Wind erodibility index |
|                                                   |       |           |           |           |                    |                                  |                          |                      |                | Kw              | Kf  | T |                        |                        |
|                                                   | In    | Pct       | Pct       | Pct       | g/cc               | micro m/sec                      | In/in                    | Pct                  | Pct            |                 |     |   |                        |                        |
| 28—Hidalgo sandy clay loam, 0 to 1 percent slopes |       |           |           |           |                    |                                  |                          |                      |                |                 |     |   |                        |                        |
| Hidalgo                                           | 0-17  | 45-55- 70 | 5-18- 28  | 20-27- 30 | 1.35-1.50<br>-1.65 | 4.00-9.00-14.00                  | 0.10-0.13-0.18           | 1.5- 2.7- 5.0        | 1.0- 1.5- 2.0  | .17             | .17 | 5 | 5                      | 56                     |
|                                                   | 17-28 | 25-48- 70 | 10-25- 50 | 23-27- 35 | 1.20-1.40<br>-1.50 | 4.00-9.00-14.00                  | 0.10-0.13-0.18           | 1.2- 2.1- 5.0        | 0.3- 0.6- 1.0  | .28             | .28 |   |                        |                        |
|                                                   | 28-38 | 25-35- 70 | 10-35- 50 | 23-30- 35 | 1.20-1.40<br>-1.60 | 4.00-9.00-14.00                  | 0.10-0.13-0.18           | 1.2- 2.3- 5.9        | 0.1- 0.3- 0.5  | .32             | .32 |   |                        |                        |
|                                                   | 38-80 | 25-30- 70 | 10-40- 50 | 23-30- 35 | 1.40-1.50<br>-1.80 | 4.00-9.00-14.00                  | 0.10-0.13-0.18           | 1.0- 2.2- 5.0        | 0.1- 0.2- 0.3  | .32             | .32 |   |                        |                        |
| 39—Mercedes clay, 0 to 1 percent slopes           |       |           |           |           |                    |                                  |                          |                      |                |                 |     |   |                        |                        |
| Mercedes                                          | 0-19  | -22-      | -28-      | 40-50- 60 | 1.35-1.45<br>-1.55 | 0.01-0.21-0.42                   | 0.12-0.15-0.18           | 9.0-17.0-25.0        | 1.0- 2.0- 3.0  | .17             | .17 | 5 | 4                      | 86                     |
|                                                   | 19-57 | -18-      | -29-      | 45-53- 60 | 1.35-1.48<br>-1.60 | 0.01-0.21-0.42                   | 0.09-0.12-0.15           | 9.0-17.0-25.0        | 0.1- 0.6- 1.0  | .24             | .24 |   |                        |                        |
|                                                   | 57-65 | -22-      | -28-      | 40-50- 60 | 1.40-1.55<br>-1.70 | 0.01-0.21-0.42                   | 0.06-0.13-0.20           | 9.0-17.0-25.0        | 0.1- 0.6- 1.0  | .24             | .24 |   |                        |                        |



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

7/27/2023  
Page 4 of 5

Physical Soil Properties—Hidalgo County, Texas

| Physical Soil Properties—Hidalgo County, Texas                |       |      |      |           |                          |                                        |                                |                         |                   |                    |     |   |                              |                              |
|---------------------------------------------------------------|-------|------|------|-----------|--------------------------|----------------------------------------|--------------------------------|-------------------------|-------------------|--------------------|-----|---|------------------------------|------------------------------|
| Map symbol<br>and soil name                                   | Depth | Sand | Silt | Clay      | Moist<br>bulk<br>density | Saturated<br>hydraulic<br>conductivity | Available<br>water<br>capacity | Linear<br>extensibility | Organic<br>matter | Erosion<br>factors |     |   | Wind<br>erodibility<br>group | Wind<br>erodibility<br>index |
|                                                               |       |      |      |           |                          |                                        |                                |                         |                   | Kw                 | Kf  | T |                              |                              |
| 52—<br>Raymondville<br>clay loam, 0<br>to 1 percent<br>slopes | In    | Pct  | Pct  | Pct       | g/cc                     | micro m/sec                            | In/in                          | Pct                     | Pct               |                    |     |   |                              |                              |
| Raymondville                                                  | 0-15  | -31- | -33- | 32-37- 42 | 1.20-1.33<br>-1.45       | 1.40-2.70-4.00                         | 0.12-0.15-0.<br>18             | 6.0- 7.5- 8.9           | 1.0-2.0-<br>3.0   | .28                | .28 | 5 | 4                            | 86                           |
|                                                               | 15-43 | -30- | -32- | 35-38- 50 | 1.25-1.35<br>-1.45       | 0.42-1.00-1.40                         | 0.12-0.15-0.<br>18             | 6.0- 7.5- 8.9           | 0.5-0.8-<br>1.0   | .28                | .28 |   |                              |                              |
|                                                               | 43-65 | -30- | -30- | 35-40- 45 | 1.25-1.35<br>-1.45       | 0.42-1.00-1.40                         | 0.12-0.15-0.<br>18             | 6.0- 7.5- 8.9           | 0.1-0.3-<br>0.5   | .28                | .28 |   |                              |                              |

## Data Source Information

Soil Survey Area: Hidalgo County, Texas  
Survey Area Data: Version 21, Aug 24, 2022

## DATE OF PREPARATION: JULY 28, 2023

ING A 22.87 ACRES TRACT OF LAND LYING AND SITUATED IN MEDALGO COUNTY, TEXAS, SAID 22.87 ACRES TRACT BLIND OUT OF AND FORMING A PART PORTION OF FARM TRACTS 770 AND 771, WEST TRACT SUBDIVISION, MEDALGO COUNTY, TEXAS, AS PER MAP ON PLAT RECORDED IN VOLUME 2, PAGE 8, 34-37, MAP RECORDS OF MEDALGO COUNTY, TEXAS.

|                                                              |                                                                     |
|--------------------------------------------------------------|---------------------------------------------------------------------|
| SANDERS JAMES C MD<br>11.00 ACRES<br>WEST TRACT SUBDIVISION, | SANDER MICHAEL H & CLAUDIA<br>0.85 ACRES<br>WEST TRACT SUBDIVISION. |
|--------------------------------------------------------------|---------------------------------------------------------------------|

FELIPE M. AVILA  
27.48 ACRES  
FARM TRACT 728,  
WEST TRACT SUBDIVISION,  
OL 2, PG. 34-37 M.R.H.C.  
DOC#2509240 O R H C

TRANSITION  
C.A.D.

P.O.B.

P.O.C.

[illegible]

**LEGEND**

|   |                     |
|---|---------------------|
| A | SET #4              |
| D | FD CFS              |
| O | SET 1/2" ROUN ROO   |
| U | FD 1/2" ROUN ROO    |
| U | FD 3/4" ROUN ROO    |
| U | FD 10-0 NAIL        |
| U | SET PA 0 NAIL       |
| U | STUMP BUILT         |
| U | POWER PALE          |
| U | FIRE INSULANT       |
| U | ONE STAMP PILE      |
| U | CHAIN LINK FENCE    |
| U | POST WATER METER    |
| U | GAS SPLITTING       |
| U | TELEPHONE MAST/STAL |
| U | PURCH PALE          |

STATE OF TEXAS - COUNTY OF HIDALGO

[illegible]

#### ITIES AND BOUNDS DESCRIPTION

PARC 33 82 ACRES TRACT BEING SOME SUBSTANTIALLY IMPROVED, BE HETTER AND BE BARGE 28  
 BEING TRACT BEING OUT OF AND FORMING A PART PORTION OF FARM TRACTS 720 AND 721, WEST  
 TRACT SUBDIVISION HEDALGO COUNTY, TEXAS. AS PER MAP OR PLAT RECORDED IN VOLUME 3 PAGES  
 17, 18, MAP RECORDS OF HEDALGO COUNTY, TEXAS.

## PRELIMINARY

PLAT SHEET  
MILANOS ESTATES PHASE III  
WESTLACO, TEXAS  
HIDALGO COUNTY

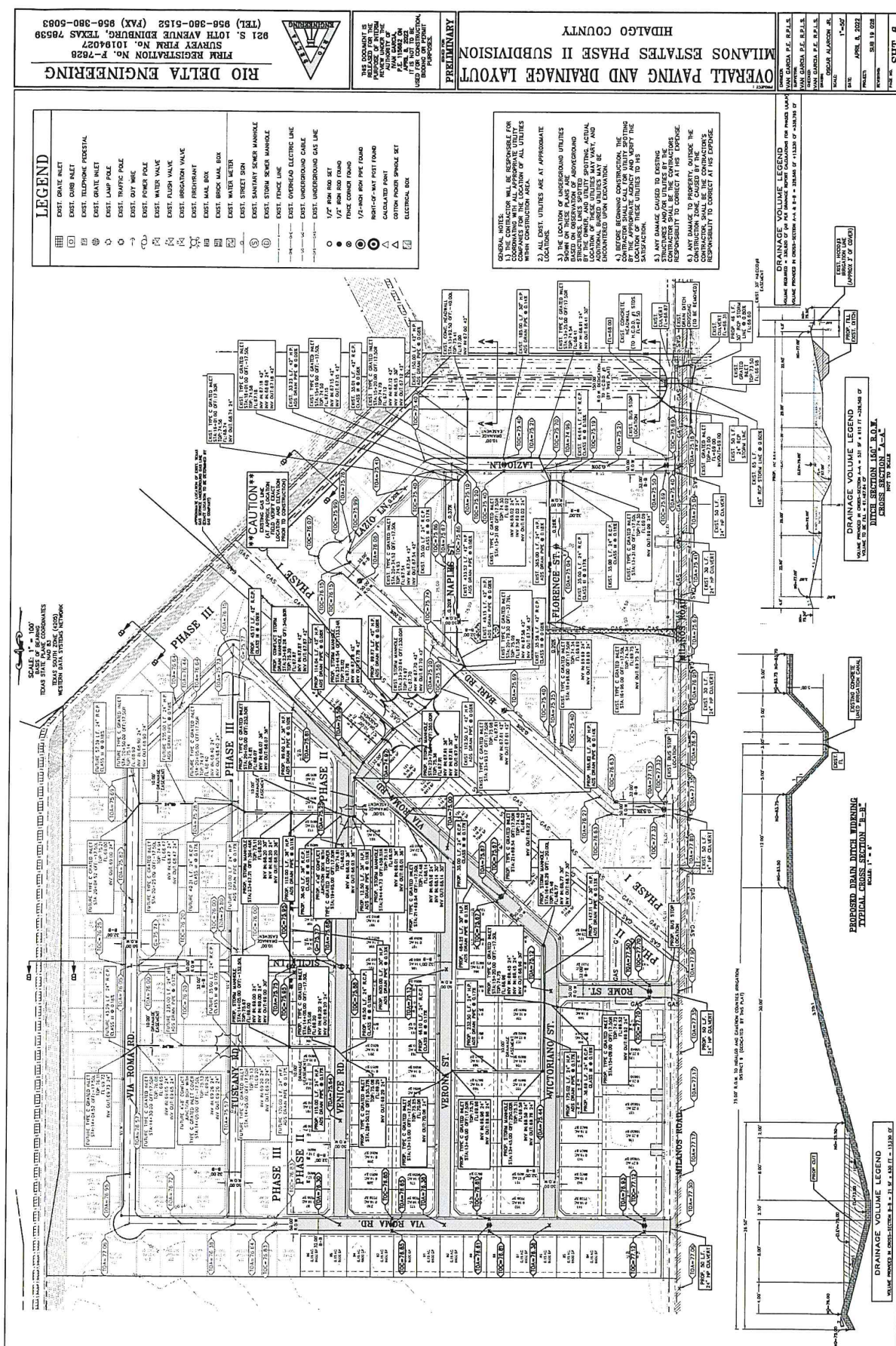
|           |                           |
|-----------|---------------------------|
| BOOKS:    | IVAN GARCIA P.E. R.P.L.S. |
| SUPPLIER: | IVAN GARCIA P.E. R.P.L.S. |
| CHECKED:  | IVAN GARCIA P.E. R.P.L.S. |
| DRAWN:    | OSCAR ALARCON JR.         |
| SCALE:    | 1" = 80'                  |
| DATE:     | JULY 26, 2023             |
| PROJECT:  | SUBD 19 02B               |
| REVISION: |                           |
| PAGE NO.  | SHT 2                     |

HT 2











## Planning & Zoning Commission Standardized Agenda Request Form

|                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Date of Meeting:</b><br>December 6, 2023                                                                                                                                                                                                                                                                                                                                                            | <b>Agenda Item No.</b> (to be assigned by PCE):<br><b>V.D.</b> |
| <b>From:</b> Rebekah de la Fuente, Planning Director, on behalf of Aaron Garcia.                                                                                                                                                                                                                                                                                                                       |                                                                |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration to approve a Six-month extension on the Conditional Use Permit to obtain On Premise Mixed Beverage Restaurant Permit, and Late Hours Permit to Host Live Music at 509 S. Texas Blvd., also being Lot 39 & 40, Weslaco Original Townsite Subdivision, Hidalgo County, Texas. Possible action.                                               |                                                                |
| <b>Discussion/Overview:</b><br>The applicant was granted a Conditional Use Permit on September 20, 2022, to obtain a On Premise Mixed Beverage Restaurant Permit, and Late Hours Permit to Host Live Music. The zoning ordinance states an applicant has six months to begin use of the permit once granted approval by the City Commission. Building department states project is about 40% complete. |                                                                |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of the extension.                                                                                                                                                                                                                                                                                                    |                                                                |
| <b>Additional Action Prompted:</b><br><input checked="" type="checkbox"/> Mayor's Signature <input checked="" type="checkbox"/> Public Hearing <input type="checkbox"/> Budget Amendment<br><input type="checkbox"/> Resolution <input type="checkbox"/> Ordinance – First Reading <input type="checkbox"/> Ordinance – Final Reading                                                                  |                                                                |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                                                                                       |                                                                |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                                                                                       |                                                                |
| <b>Attachments, (if any):</b><br>Application for Conditional Use Permit with attachments.                                                                                                                                                                                                                                                                                                              |                                                                |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                                                                                                                             |                                                                |



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

|                                                                                                                                                                                                                                                                                                                                            |                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Date of Meeting:</b><br>December 6, 2023                                                                                                                                                                                                                                                                                                | <b>Agenda Item No.</b> (to be assigned by PCE):<br>V.E. |
| <b>From:</b><br>Rebekah de la Fuente, Planning Director, on behalf of Jose Torres.                                                                                                                                                                                                                                                         |                                                         |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration for six-month extension of the Final Plat for Mi Fortuna Estates being a 4.52-acre out of farm tract 790, West Tract Subdivision, Weslaco, Hidalgo County, Texas Located on the Southeast corner of Mile 11 North & FM 1015. Possible Action.                                  |                                                         |
| <b>Discussion/Overview:</b><br>The proposed eight (8) lot subdivision is located inside the City of Weslaco. Six-month extension of Final Plat approval is set to expire on October 18, 2023. This is the 1 <sup>st</sup> extension. Project infrastructure improvements requested have been completed. Engineering has provided an email. |                                                         |
| <b>If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:</b> N/A                                                                                                                                                                          |                                                         |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of the six-month extension.                                                                                                                                                                                                                              |                                                         |
| <b>Additional Action Prompted:</b><br>[ X ] Mayor's Signature [ ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                                                                        |                                                         |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                           |                                                         |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                           |                                                         |
| <b>Attachments, (if any):</b><br>Extension letter and email from Engineering.                                                                                                                                                                                                                                                              |                                                         |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                                                                 |                                                         |



October 30, 2023

Jose F. Torres, P.E., President  
P.O. Box 5545  
McAllen, Texas 78502

City of Weslaco  
Mrs. Rebekah De la Fuente, Director  
Planning and Zoning Department  
255 S. Kansas Ave.  
Weslaco, Texas 78596

**Subject: "Mi Fortuna Estates Subdivision" Request for Extension Submittal of Final Plat for Signatures**

Ms. De la Fuente:

I am writing to formally request an extension for the submission of the Final Plat for signatures for the subdivision mentioned above. This request is being made on behalf of Mr. Julio and Marysol Garcia. The delay in obtaining the Plat was due to an unfortunate situation where the surveyor's technician experienced a heart attack, leading to a significant backlog in their work. We have now received the Plat, and we anticipate that the remaining tasks will be completed and submitted later this week. Your understanding and consideration of this situation are greatly appreciated.

Please feel free to contact me at 956-537-4037 or email me at [btijoet@gmail.com](mailto:btijoet@gmail.com) at any time if you have any questions. Again, thank you for your cooperation in this matter.

Sincerely,

*Jose F. Torres, P.E.*  
Jose F. Torres, P.E.

Cc: Ms. Cindy Torres

Attachments:

Final Subdivision Plat



**From:** [Joe Mondragon](#)  
**To:** [Flor Acuna](#)  
**Cc:** [Rebekah M. De La Fuente](#)  
**Subject:** Extension Letter  
**Date:** Tuesday, November 7, 2023 11:58:22 AM  
**Attachments:** [image.png](#)

---

Good Afternoon,

This Email is to respond the extension letter for the project of Mi Fortuna Estates, This project is done with the infrastructure improvements requested from the engineering department. On our part we should be good to go. If you have any questions or concerns, please feel free to contact me.

*Thank you,*

*Joe Mondragon*

*Construction Inspector*

*Engineering Department*

*"CITY ON THE GROW"*



*City of Weslaco*



255 S. Kansas Avenue

Weslaco, TX 78596

Ph: (956) 973-4002 Ext. 6675

Cell: (956) 532-8798

Fax: (956) 973-3128

[jmondragon@weslacotx.gov](mailto:jmondragon@weslacotx.gov)



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

|                                                                                                                                                                                                                                                                                                                                                                  |                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Date of Meeting:</b><br><b>December 6, 2023</b>                                                                                                                                                                                                                                                                                                               | <b>Agenda Item No. (to be assigned by PCE):</b><br><b>V.F.</b> |
| <b>From:</b><br>Rebekah de la Fuente, Planning Director, on behalf of David Salinas                                                                                                                                                                                                                                                                              |                                                                |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration for six-month extension of the Final Plat for The District North Weslaco Ph. II Subdivision– being 39.988 acres out of Farm Tract 179, BLK 160, West Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately on the southeast corner of Mile 5 ½ W & Mile 11 N. Rd. Possible action. |                                                                |
| <b>Discussion/Overview:</b><br>The proposed fifty-four (54) lot subdivision is outside the City of Weslaco. Six-month extension of Final Plat approval is set to expire on May 04, 2023. This is the 1 <sup>st</sup> extension. The project is within county's jurisdiction. Engineering has provided an email.                                                  |                                                                |
| <b>If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:</b> N/A                                                                                                                                                                                                |                                                                |
| <b>Staff recommendation for Commission's Action:</b><br>Staff recommends approval of the six-month extension.                                                                                                                                                                                                                                                    |                                                                |
| <b>Additional Action Prompted:</b><br>[ X ] Mayor's Signature [ ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                                                                                              |                                                                |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                                                                                 |                                                                |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                                                                                 |                                                                |
| <b>Attachments, (if any):</b><br>Extension letter and email from Engineering.                                                                                                                                                                                                                                                                                    |                                                                |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                                                                                       |                                                                |

**From:** [Rebekah M. De La Fuente](#)  
**To:** [Flor Acuna](#)  
**Subject:** FW: The District North Weslaco Ph. II  
**Date:** Monday, November 6, 2023 9:37:49 AM  
**Attachments:** [image.png](#)  
[image.png](#)

---

Please add to next agenda

*Rebekah de la Fuente, CFM*  
*Planning & Code Enforcement Director*  
City of Weslaco  
255 S. Kansas Avenue  
Weslaco, TX 78596  
Ph: (956) 447-3403  
Fax: (956) 973-3128  
[rdelafuente@weslacotx.gov](mailto:rdelafuente@weslacotx.gov)

---

**From:** Mickael Salinas <[msalinas@salinasengineering.com](mailto:msalinas@salinasengineering.com)>  
**Sent:** Monday, November 6, 2023 9:29 AM  
**To:** Rebekah M. De La Fuente <[rdelafuente@weslacotx.gov](mailto:rdelafuente@weslacotx.gov)>  
**Subject:** The District North Weslaco Ph. II

Good Morning Rebakah,

On behalf of Salinas Engineering and Associates, I would like to request an extension for Final Plat Approval concerning The District-North Weslaco Ph. II. If any questions or concerns may arise, please let us know, thank you.

Thanks!

Mick Salinas

Salinas Engineering and Associates  
2221 Daffodil Ave.  
McAllen, TX 78501  
956-682-9081

**From:** [Joe Mondragon](#)  
**To:** [Flor Acuna](#)  
**Cc:** [Alberto J. Aldana](#); [Rebekah M. De La Fuente](#)  
**Subject:** District-North Weslaco PH2 Extension  
**Date:** Monday, November 20, 2023 9:24:18 AM  
**Attachments:** [image-2.png](#)

---

Good Morning,

This Email is to respond to the extension letter for the project of District-North Weslaco Ph2. This project pertains to county and as per inspections the County Inspector will take charge of any items pending or to be able to verify how much percentage is done and still needed. If you have any questions or concerns please feel free to contact me.

*Thank you,*

*Joe Mondragon*

*Construction Inspector  
Engineering Department*

*"CITY ON THE GROW"*



*City of Weslaco*



255 S. Kansas Avenue

Weslaco, TX 78596

Ph: (956) 973-4002 Ext. 6675

Cell: (956) 532-8798

Fax: (956) 973-3128

[jmondragon@weslacotx.gov](mailto:jmondragon@weslacotx.gov)





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

|                                                                                                                                                                                                                                                                                                    |                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Date of Meeting:</b><br>December 6, 2023                                                                                                                                                                                                                                                        | <b>Agenda Item No. (to be assigned by PCE):</b><br><b>IV.G.</b> |
| <b>From:</b> Rebekah de la Fuente, Planning Director, on behalf of Oscar Portales.                                                                                                                                                                                                                 |                                                                 |
| <b>Subject/Agenda Item:</b><br>Discussion and consideration to revoke Conditional Use Permit of a Brewpub License and Retail Dealer's On- Premise Permit, at 419 S Texas Blvd, also being Lot 19, Block 33 Weslaco Original Townsite Subdivision, Weslaco, Hidalgo County, Texas. Possible Action. |                                                                 |
| <b>Discussion/Overview:</b><br>Oscar Portales is requesting to revoke the Conditional Use Permit of Miguel Gallegos for a Brewpub License and Retail Dealer's On-Premise Permit. The City has received a letter from the property owner prohibiting the sale of alcohol.                           |                                                                 |
| <b>If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:</b> N/A                                                                                                                                  |                                                                 |
| <b>Staff recommendation for Commission's Action:</b><br><br>Staff recommends approval.                                                                                                                                                                                                             |                                                                 |
| <b>Additional Action Prompted:</b><br><br>[ X ] Mayor's Signature [ X ] Public Hearing [ ] Budget Amendment<br>[ ] Resolution [ ] Ordinance – First Reading [ ] Ordinance – Final Reading                                                                                                          |                                                                 |
| <b>Advisory Review, (if any):</b> (name of board/committee, date of action, recommendation): N/A                                                                                                                                                                                                   |                                                                 |
| <b>If item previously considered, provide date and action by Commission:</b> N/A                                                                                                                                                                                                                   |                                                                 |
| <b>Attachments,(if any):</b><br>Letter                                                                                                                                                                                                                                                             |                                                                 |
| <b>Responsibilities upon Commission's Action:</b><br>Planning staff will advise applicant.                                                                                                                                                                                                         |                                                                 |

November 29, 2023

Weslaco, TX.

"My name is Oscar Portales; I am at least 18 years of age.

I'm requesting the vacancy of my property in 419 South Texas Blvd, Weslaco Texas zip code 78596.

MAG investments RGV LLC. Miguel Gallegos and Julian Ybarra, they are not allowed to sale or serve alcohol in my property in 419 South Texas Blvd, Weslaco TX.

Prohibited all the activities related with serving, sale, produce alcohol in my property 419 South Texas Blvd, Weslaco TX.

Oscar Portales



Oscar Portales  
11/29/23

State of Texas, County of Hidalgo

This instrument was acknowledge before me on

29 day of November, 2023

by Oscar Portales

Alex Delgado

Notary Public State of Texas

