REVIEW BY FORT BEND COUNTY COMMISSIONERS COURT

On this 6th day of September, 2016, Commissioners Court came on to be heard and reviewed the accompanying notice of Millis Equipment Rental, LLC
Job Location Harlem, Richmond, TX 77406
Date 6/15/2016 Bond No. 106537247, Permit No. 2016-8275 to make use of certain Fort Bend County property subject to, "A Revised Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas the 3rd day of August, 1987, recorded in Volume _____ of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Article 1436a, Vernon's Texas Civil Statutes. Upon Motion of Commissioner _____, seconded by Commissioner _____, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
   a. 48 hours in advance of construction start up, and
   b. when construction is completed and ready for final inspection

   Mail notices to: Permit Administrator
   Fort Bend County Engineering
   301 Jackson Street
   Richmond, Texas 77469
   281-633-7500
3. This permit expires one (1) year from date of permit if construction has not commenced.

By: _____
for County Engineer

By: N/A
_____
Drainage District Engineer/Manager

Presented to Commissioners Court and approved.
Recorded in Volume
_____
Minutes of Commissioners Court

Clerk of Commissioners Court

By: _____
Deputy

County of Fort Bend

Engineering Department

301 Jackson Street
Richmond, Texas 77469

Phone: (281) 633-7500

Permit Application Review Form For
Cable, Conduit, and Pole Line Activity
In Fort Bend County

Permit No. 2016-8275

The following "Notice of Proposed Cable, Conduit, and/or Pole Line activity in Fort Bend County" and accompanying attachments have been reviewed and the notice conforms to appropriate regulations set by Commissioner's Court of Fort Bend County, Texas.

X (1) Complete Application Form:

- X a. Name of road, street, and/or drainage ditch affected.
- X b. Vicinity map showing course of directions
- X c. Plans and specifications

X (2) Bond:

District Attorney, approval when applicable.

Perpetual bond currently posted.

No:

Amount:

X Performance bond submitted.

No: 106537247

Amount: $5,000.00

Cashier's Check

No:

Amount:

(3) Verbal permission given for emergencies, to start construction before approved in Commissioner's Court.

Precinct Engineer Acknowledgment — Date

Precinct Commissioner Acknowledgment — Date

(4)

Drainage District Approval when applicable

We have reviewed this project and agree it meets minimum requirements.

Charles O. [illegible] — 8/29/16

Assistant County Engineer — Date

PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD

AUTHORIZED

BOND NO 106537247

THE STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND §

THAT WE, MILLIS EQUIPMENT RENTAL, LLC whose address is 931 PHEASANT VALLEY DRIVE SUITE 200 MISSOURI CITY, TX 77489 Texas, hereinafter called the Principal, And Travelers Casualty and Surety Company of America, a Corporation existing under and by virtue of the laws of the state of CONNECTICUT and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at One Tower Square Hartford, CT 06183, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Texas and Whose address is 1301 E. Collins Blvd., Suite 111C, Richardson, TX 75081, hereinafter called the Surety, and held and firmly bound unto , Robert e. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, in the full sum of Five Thousand Dollars ($5,000.00) current, lawful money of the United Stated of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the above bounden principal contemplates laying, constructing, maintaining and/or repairing one or more cables, conduits, and/or pole lines in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend, and the State of Texas, under the jurisdiction of the Commissioners' Court of Fort Bend County, Texas, pursuant to the Commissioners' Court order adopted on the 1st day of December, A.D. 1980, recorded in Volume 13, of the Commissioners' Court Minutes of Fort Bend County, Texas, regulating same, which Commissioners' Court order is hereby referred to and made a part hereof for all purposes as though fully set out herein;

AND WHEREAS, the principal desires to provide Fort Bend County with a performance bond covering all such cable, conduit and/or pole line activity, commercial driveway and median openings or modifications;

NOW, THEREFORE, if the above bounden principal shall faithfully perform all its cable, conduit and/or pole line activity (including, but not limited to the laying, construction, maintenance and/or repair of cables, conduits and/or pole lines) in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend and State of Texas, under the jurisdiction of the Commissioners Court of Fort Bend County, Texas, pursuant to and in accordance with minimum requirements and conditions of the above mentioned Commissioners' Court order set forth and specified to be by said principal done and performed, at the time and in the manner therein specified, and shall pay over and make good and reimburse Fort Bend County, all loss and damages which Fort Bend County may sustain by reason of any failure or default on the part of said principal, then this obligation shall be null and void, otherwise to remain in full force and effect.

This bond is payable at the County Courthouse in the County of Fort Bend and State of Texas.

It is understood that at any time Fort Bend County deems itself insecure under this bond, it may require further and/or additional bonds of the principal.

EXECUTED this 15 day of June, 2016.

MILLIS EQUIPMENT RENTAL, LLC
PRINCIPAL

BY

Travelers Casualty and Surety Company of America
SURETY

BY Beverly A Ireland

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Surety Bond No. **106537247**

Principal: **MILLIS EQUIPMENT RENTAL, LLC**
931 PHEASANT VALLEY DRIVE SUITE 200 MISSOURI CITY, TX 77489
Obligee: **County Judge of Fort Bend County**
P.O Box 1449 ROSENBERG, TX 77471

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc. is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Beverly A Ireland**, of the City of **Houston**, State of **TX**, their true and lawful Attorney(s)-in-Fact, to sign, execute, seal and acknowledge the surety bond referenced above.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this **10th** day of **September, 2012.**

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **10th** day of **September, 2012**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2016.**

Marie C. Tetreault
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 15 day of June, 2016.

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-in-Fact number, the above-named individuals and the details of the bond to which the power is attached.

TRAVELERS

IMPORTANT NOTICE REGARDING COMPENSATION DISCLOSURE

For information about how Travelers compensates independent agents, brokers, or other insurance producers, please visit this website: www.travelers.com/w3c/legal/Producer_Compensation_Disclosure.html

If you prefer, you can call the following toll-free number: 1-866-904-8348. Or you can write to us at Travelers, Enterprise Development, One Tower Square, Hartford, CT 06183.

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CONSTRUCTION

OF

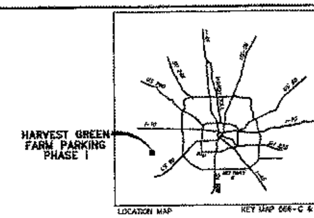
SITE WORK

IN

HARVEST GREEN FARM PARKING PHASE I

FOR

GRAND PARKWAY 1358, LP



FORT BEND COUNTY ENGINEER

ENGINEER: Rich J. Stolleis PE, PTOE for RICHARD W. STOLLEIS, P.E.

DATE: 7/7/16

THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN ONE (1) YEAR FROM DATE OF APPROVAL.

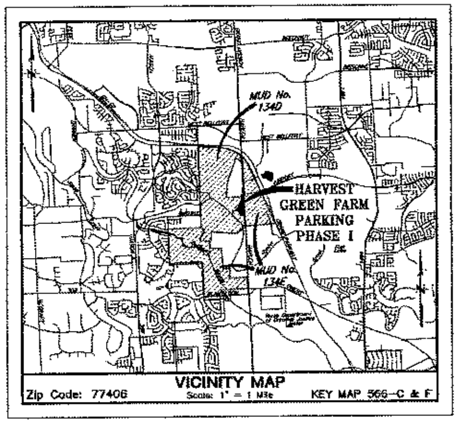
APPROVED: Maggie DEVELOPMENT COORDINATOR

DATE: 6/29/16

HARVEST GREEN FARM PARKING PHASE I

INDEX OF DRAWINGS

SHEET No.	TITLE
1	COVER SHEET & INDEX
2	DRAINAGE PLAN
3	DRAINAGE CALCULATIONS
4	DIMENSION AND PAVING PLAN
5	GRADING PLAN
6	GENERAL CONSTRUCTION NOTES
	DETAILS
7	MISCELLANEOUS DETAILS
8	PAVEMENT MARKING DETAILS
9	STORM WATER POLLUTION PREVENTION PLAN
10	STORM WATER POLLUTION PREVENTION PLAN DETAILS
11	TxDOT PED-12A CURB RAMPS



VICINITY MAP

Scale: 1" = 1 Mile

Zip Code: 77406 KEY MAP 566-C & F

NOTES:

These plans were prepared to meet or exceed the specifications and requirements of City of Houston and Fort Bend County as currently amended.

Approval by Fort Bend County will be deemed void if construction has not begun within one year of approval date.

Construction shall not begin before the plat of this section is filed in the Fort Bend County Map Records.

Construction will be monitored under the supervision of a licensed engineer professional JONES & CARTER, INC.

Contractor shall notify the Fort Bend County Engineering Department at least 48 hours prior to commencement of E-MAIL: CONSTRUCTION@FORTBENDCOUNTYTX.GOV

Contractor shall notify the City of Houston, Department of Public Works and Engineering, Office of the City Engineer, 48 hours before starting work on this project. Telephone No. 832-394-9098

TEXAS811 NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
www.texas811.org
1-800-344-8377

I, Christopher C. Jousan, a Professional Engineer licensed in the State of Texas do hereby certify that these plans were prepared under my supervision to meet or exceed the specifications and requirements of Fort Bend County, Texas.

Christopher C. Jousan, P.E. 6/9/2016
Date

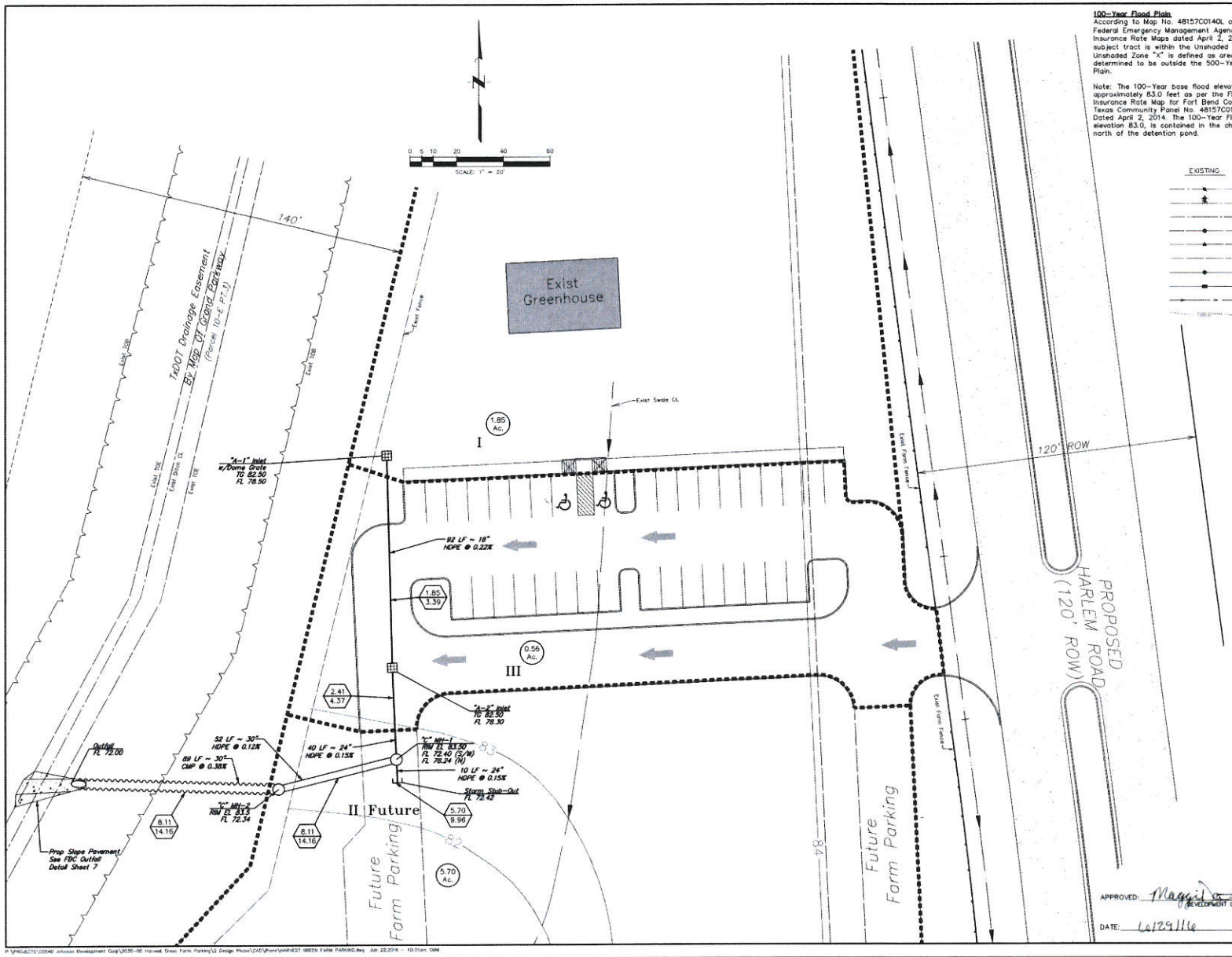
STATE OF TEXAS — CHRISTOPHER C. JOUSAN — 115507 — LICENSED PROFESSIONAL ENGINEER 6/9/2016

JUNE 2016

JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4600

JONES | CARTER KATY, TEXAS

SHEET No. 1 OF 11



100-Year Flood Plain
According to Map No. 48157C0140L of The Federal Emergency Management Agency's Flood Insurance Rate Maps dated April 2, 2014, the subject tract is within the Unshaded Zone "X"; Unshaded Zone "X" is defined as areas determined to be outside the 500-Year Flood Plain.

Note: The 100-Year base flood elevation is approximately 83.0 feet as per the FEMA Insurance Rate Map for Fort Bend County, Texas Community Panel No. 48157C0140L, Dated April 2, 2014. The 100-Year Flood Plain, elevation 83.0, is contained in the channel north of the detention pond.

BENCH MARK
2005 FORT BEND COUNTY LIDAR BENCHMARK NO. 25. "PK" NAIL IN ASPHALT LOCATED 2.5' WEST OF THE FIRST MEDIAN NOSE WEST OF F.M. 359 ON HIGHWAY 90-A. ELEVATION=84.09 NAVD88 (2001 ADJUSTMENT)

NOTE: ALL ELEVATIONS SHOWN WERE DERIVED FROM GPS/RTK OBSERVATIONS AND UTILIZED GEOID03.

Notes
Contractor shall coordinate all work within the Harlem Rd. right-of-way with the Fort Bend County Road & Bridge Department, (281) 341-9562.

LEGEND

EXISTING	PROPOSED	
		WATERLINE w/ GATE VALVE
		FLUSH VALVE w/ GATE VALVE
		PLUG & CLAMP w/ BLOW OFF
		SANITARY SEWER w/ MANHOLE
		SANITARY STACK
		SANITARY LEAD
		STORM SEWER w/ MANHOLE
		STORM SEWER w/ INLET
		SWALE CENTERLINE
100.0	125	NATURAL GROUND CONTOUR
	UE	UTILITY EASEMENT
	WLE	WATERLINE EASEMENT
	SSE	SANITARY SEWER EASEMENT
	STM SE	STORM SEWER EASEMENT
	DE	DRAINAGE EASEMENT
	AE	AERIAL EASEMENT
INLET	1.82 AC.	DRAINAGE AREA IN ACRES
STORM SEWER	8.83 / 12.99	RUNOFF IN C.F.S.
		DRAINAGE AREA LINE
	VII	DRAINAGE AREA NUMBER
		EXTREME EVENT SHEET FLOW
		EXTREME EVENT SHEET FLOW (PER LANDSCAPE GRADING)

NO.	DATE	REVISIONS	APP.

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

DRAINAGE PLAN

JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4000

SCALE: 1"=20' DGN. BY: CMM
DATE: JUNE 2016 DWN. BY: JLG
JOB NO. 05540-0035-00 DWG. NO.
SUBMITTED: SURV BY:
F.B. NO.

STATE OF TEXAS
CHRISTOPHER C. JOUSAN
111507
LICENSED
PROFESSIONAL ENGINEER
6/22/2016

SHEET NO. 2 OF 11

APPROVED: Maggie Dal
DEVELOPMENT COORDINATOR
DATE: 6/29/16

P:\PROJECTS\05540 Johnson Development Corp\0035-00 Harvest Green Farm Parking\2 Design Phase\CAD\Plans\HARVEST GREEN FARM PARKING.dwg Jun 22,2016 - 10:31am CMM

Project: Harvest Green Farm Parking

Job No: 05540-0035-00
System:
By: CMM
Checked By:

2 YEAR

Manhole From	Manhole To	Contributing Area (Acres)	Total Area (Acres)	Runoff Coefficient C	Sum of C*A	Intensity (in/hr) 2 yr	Intensity (in/hr) 100 yr	Flow (ft3/s) 2 yr	Flow (ft3/s) 100 yr	Time of Concentration (mins)	Pipe Length (feet)	Pipe Diameter or Box (in)	Box Span (in)	Slope (%)	Mannings "n"	Design Capacity (cfs)	Design Velocity (ft/sec)	Fall (feet)		Manhole Drop (feet)	Flowline Elevation Upstream (feet)	Flowline Elevation Downstream (feet)	Actual Velocity (ft/sec)	Hydraulic Gradient (%)	Change in Head (feet)	Elevation of Hyd. Grad. Upstream (feet)	Elevation of Hyd. Grad. Downstream (feet)	Gutter Elevation Upstream (feet)
A Inlet 1	A Inlet 2	1.85	1.85	0.55	1.0	3.33	6.88	3.39	7.00	26.14 0.51	92	18		0.22	0.012	5.34	3.02	0.20			78.50	78.30	1.92	0.09	0.08	81.95	81.87	82.50
A Inlet 2	MH 1	0.56	2.41	0.55	1.3	3.30	6.83	4.37	9.05	26.65 0.22	40	24		0.15	0.012	9.49	3.02	0.06			78.30	78.24	1.39	0.03	0.01	81.87	81.86	82.50
Stub-Out	MH 1	5.70	5.70	0.55	3.1	3.18	6.63	9.96	20.79	28.59 0.06	10	24		0.15	0.012	9.49	3.02	0.02			72.42	72.40	3.17	0.17	0.02	81.87	81.86	N/A
MH 1	MH 2	0.00	8.11	0.55	4.5	3.18	6.63	14.16	29.55	28.64 0.28	52	30		0.12	0.012	15.39	3.14	0.06		5.84	72.40	72.34	2.89	0.10	0.05	81.86	81.80	N/A
MH 2	Outfall	0.00	8.11	0.55	4.5	3.16	6.60	14.16 *	29.55	28.92 0.49	89	30		0.38	0.022	14.94	3.04	0.34			72.34	72.00	2.89	0.34	0.30	81.80	81.50	N/A

Job No: 05540-0035-00
System:
By: CMM
Checked By:

100 Year

Manhole From	Manhole To	Contributing Area (Acres)	Total Area (Acres)	Runoff Coefficient C	Sum of C*A	Intensity (in/hr) 2 yr	Intensity (in/hr) 100 yr	Flow (ft3/s) 2 yr	Flow (ft3/s) 100 yr	Time of Concentration (mins)	Pipe Length (feet)	Pipe Diameter or Box (in)	Box Span (in)	Slope (%)	Mannings "n"	Design Capacity (cfs)	Design Velocity (ft/sec)	Fall (feet)		Manhole Drop (feet)	Flowline Elevation Upstream (feet)	Flowline Elevation Downstream (feet)	Actual Velocity (ft/sec)	Hydraulic Gradient (%)	Change in Head (feet)	Elevation of Hyd. Grad. Upstream (feet)	Elevation of Hyd. Grad. Downstream (feet)	Gutter Elevation Upstream (feet)
A Inlet 1	A Inlet 2	1.85	1.85	0.55	1.0	3.33	6.88	3.39	7.00	26.14 0.51	92	18		0.22	0.012	5.34	3.02	0.20			78.50	78.30	3.96	0.38	0.35	83.46	83.11	82.50
A Inlet 2	MH 1	0.56	2.41	0.55	1.3	3.30	6.83	4.37	9.05	26.65 0.22	40	24		0.15	0.012	9.49	3.02	0.06			78.30	78.24	2.88	0.14	0.05	83.11	83.05	82.50
Stub-Out	MH 1	5.70	5.70	0.55	3.1	3.18	6.63	9.96	20.79	28.59 0.06	10	24		0.15	0.012	9.49	3.02	0.02			72.42	72.40	6.62	0.72	0.07	83.13	83.05	N/A
MH 1	MH 2	0.00	8.11	0.55	4.5	3.18	6.63	14.16	29.55	28.64 0.28	52	30		0.12	0.012	15.39	3.14	0.06		5.84	72.40	72.34	6.02	0.44	0.23	83.05	82.82	N/A
MH 2	Outfall	0.00	8.11	0.55	4.5	3.16	6.60	14.16	29.55 *	28.92 0.49	89	30		0.38	0.022	14.94	3.04	0.34			72.34	72.00	6.02	1.49	1.32	82.82	81.50	N/A

STORM WATER DRAINAGE DESIGN REPORT

REPORT TITLE: DRAINAGE AND DETENTION ANALYSIS FOR 658.8-ACRE HARVEST GREEN DEVELOPMENT ON OYSTER CREEK

DATE: DECEMBER 2015 ENGINEERING FIRM: JONES & CARTER, INC
DATE OF ACKNOWLEDGMENT BY: FORT BEND COUNTY DRAINAGE DISTRICT: 12/16/2015

STORM WATER DESIGN CRITERIA (XPSWMM MODEL)

SOUTH BASIN

	PHASE II & ULTIMATE
Service Area:	143.7 acres
Detention Volume Required:	32.5 acre-feet
Detention Volume Provided:	32.5 acre-feet
100-Year WSE (Feet):	83.06 feet
Max. Release Rate (cfs):	60.8 cfs
Outfall Size:	4'x4' Box Culvert

NORTH BASIN

	PHASE II	ULTIMATE
Service Area:	313.6 acres	589.4 acres
Total Detention Volume Required*:	245.2 acre-feet	242.0 acre-feet
Total Detention Volume Provided at 86.0'*:	287.5 acre-feet	287.5 acre feet
Mitigation Volume**:	0 acre-feet	0 acre-feet
100-Year WSE (Feet):	85.3 feet	84.9 feet
Max. Release Rate (cfs):	290.6 cfs	278.6 cfs
Outfall Size:	7'x5' Box Culvert	

* Includes approximately 94.3 acre-feet of existing storage in the Travis High School Detention Pond
**5.3 acre-feet of Floodplain Fill Mitigation Volume Provided in widened channel on east side of North Basin.

RUNOFF COEFFICIENT (C)

TOTAL IMPERVIOUS=3.00 AC
TOTAL ACREAGE=8.11 AC
C = 0.61a + 0.2
C = 0.42
USED=0.55

NO	DATE	REVISIONS	APP.

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

DRAINAGE CALCULATIONS

JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.013.4000

SCALE: N.T.S. DGN. BY: CMM
DATE: JUNE 2016 DWN. BY: JLC
JOB NO. 05540-0035-00 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS
CHRISTOPHER C. JOURAN
111507
LICENSED
PROFESSIONAL ENGINEER

SHEET NO. 3 OF 11

APPROVED: Maggie Dal
DEVELOPMENT COORDINATOR
DATE: 6/29/16

P:\PROJECTS\05540 Johnson Development Corp\0035-00 Harvest Green Farm Parking\2 Design Phase\CAD\Plans\HARVEST GREEN FARM PARKING.dwg Jun 22,2016 - 10:11am CMM

GENERAL NOTES:

1. ALL RADII ARE SHOWN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE SHOWN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
3. SIDEWALKS SHALL NOT EXCEED A 5% MAX. SLOPE AND 2% MAX. CROSS SLOPE IN ACCORDANCE WITH TAS AND ADA REQUIREMENTS.
4. ALL ACCESSIBLE ROUTES SHALL BE CONSTRUCTED IN ACCORDANCE WITH TAS AND ADA REQUIREMENTS.
5. ALL PROPOSED CURB TO BE 6" UNLESS OTHERWISE NOTED.

Notes
Contractor shall coordinate all work within the Harlem Rd. right-of-way with the Fort Bend County Road & Bridge Department, (281) 341-9562

SLEEVES:

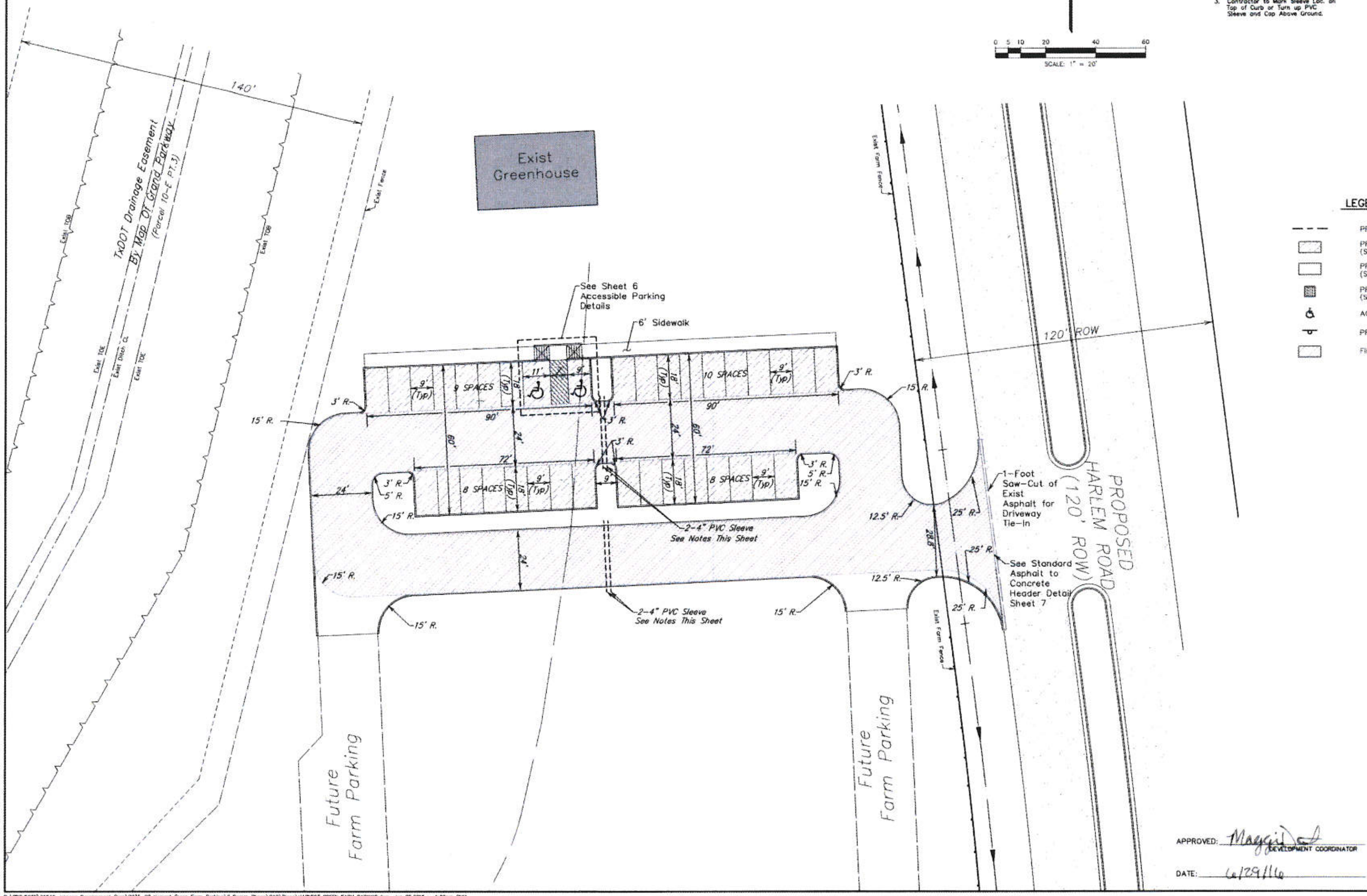
1. Sleeves Shall be Schedule 40 PVC Extending a Min. 2' Beyond Back of Curb With Both Ends Capped.
2. Install Sleeves a Min. 24" Below Top of Pavement to Top of Pipe.
3. Contractor to Mark Sleeve Loc. on Top of Curb or Turn up PVC Sleeve and Cap Above Ground.

BENCH MARK
2005 FORT BEND COUNTY LIDAR BENCHMARK NO. 25. "PK" NAIL IN ASPHALT LOCATED 2.5' WEST OF THE FIRST MEDIAN NOSE WEST OF F.M. 359 ON HIGHWAY 90-A. ELEVATION=84.09 NAVD88 (2001 ADJUSTMENT)

NOTE: ALL ELEVATIONS SHOWN WERE DERIVED FROM GPS/RTK OBSERVATIONS AND UTILIZED GEOID03.

100-Year Flood Plain
According to Map No. 48157C0140L of The Federal Emergency Management Agency's Flood Insurance Rate Maps dated April 2, 2014, the subject tract is within the Unshaded Zone "X"; Unshaded Zone "X" is defined as areas determined to be outside the 500-Year Flood Plain.

Note: The 100-Year base flood elevation is approximately 83.0 feet as per the FEMA Insurance Rate Map for Fort Bend County, Texas Community Panel No. 48157C0140L, Dated April 2, 2014. The 100-Year Flood Plain, elevation 83.0, is contained in the channel north of the detention pond.



NO.	DATE	REVISIONS	APP.

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

DIMENSION AND PAVING PLAN

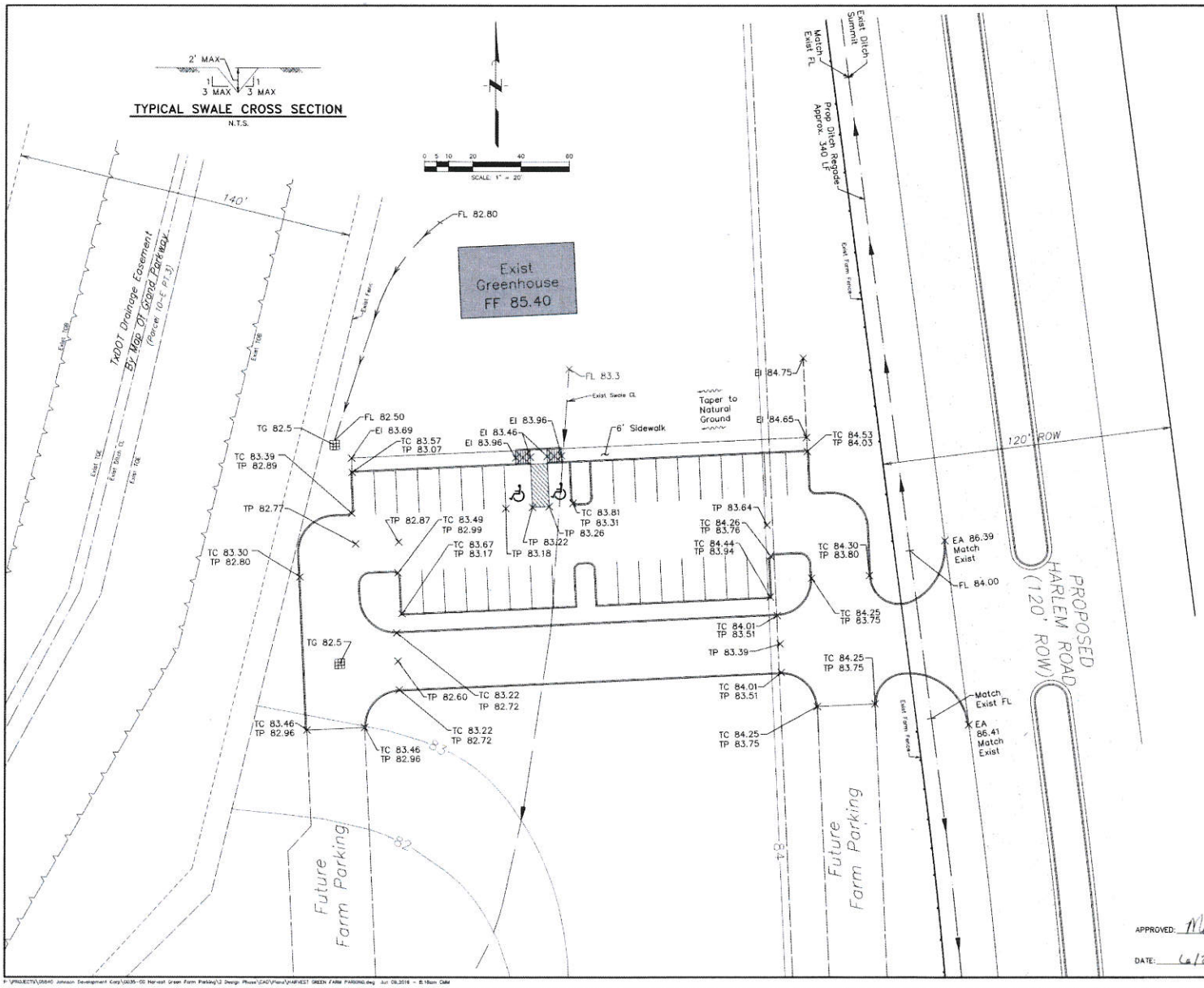
JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4000

SCALE: 1"=20' DGN. BY: CMM
DATE: JUNE 2016 DWN. BY: JLG
JOB NO. 05540-0035-00 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS — CHRISTOPHER C. JOUSAN — 111507 — LICENSED PROFESSIONAL ENGINEER
6/22/2016

SHEET NO. 4 OF 11

P:\PROJECTS\05540 Johnson Development Corp\0035-00 Harvest Green Farm Parking\2 Design Phase\CAD\Plans\HARVEST GREEN FARM PARKING.dwg Jun 22,2016 - 4:38pm CMM



BENCH MARK

2005 FORT BEND COUNTY LIDAR BENCHMARK NO. 25. "PK" NAIL IN ASPHALT LOCATED 2.5' WEST OF THE FIRST MEDIAN NOSE WEST OF F.M. 359 ON HIGHWAY 90-A. ELEVATION=84.00 NAVD88 (2001 ADJUSTMENT)

NOTE: ALL ELEVATIONS SHOWN WERE DERIVED FROM GPS/RTK OBSERVATIONS AND UTILIZED GEOID03.

100-Year Flood Plain

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LEGEND

85.0	PROPOSED TOP OF CURB ELEVATION
TC 140.00	PROPOSED TOP OF CURB ELEVATION
TC 139.00	EXISTING TOP OF CURB ELEVATION
TP 138.50	PROPOSED TOP OF PAVEMENT ELEVATION
TP 139.00	EXISTING TOP OF PAVEMENT ELEVATION
TG 138.50	PROPOSED TOP OF GRATE ELEVATION
	BREAK LINE
FF 144.9	FINISHED FLOOR ELEVATION
144.0	PROPOSED GRADE ELEVATION
+142.50	PROPOSED SPOT ELEVATION
1.50%	EXISTING GRADE
2.50%	PROPOSED GRADE
	PROPOSED GRADE DIRECTION

NOTE:

1. ACCESSIBLE SPACES AND ACCESS AISLES SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TAS AND ADA STANDARDS.
2. ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN CROSS SLOPE AND 5% IN RUNNING SLOPE AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TAS AND ADA STANDARDS.

NO.	DATE	REVISIONS	APP.

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

GRADING PLAN

JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4200

SCALE: 1"=20' DGN. BY: DMM
DATE: JUNE 2016 DWN. BY: JLG
JOB NO. 05840-0035-00 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS
CHRISTOPHER C. JOUBAN
111507
LICENSED PROFESSIONAL ENGINEER
6/9/2016

SHEET NO. 5 OF 11

APPROVED: Maggie Dot
DEVELOPMENT COORDINATOR
DATE: 6/29/16

P:\PROJECTS\05840 Johnson Development Corp\0035-00 Harvest Green Farm Parking\2 Design Phase\CAD\Plans\HARVEST GREEN FARM PARKING.dwg Jun 09,2016 - 8:18am DMM

GENERAL CONSTRUCTION NOTES

1. WASTEWATER COLLECTION SYSTEMS, WATER, PAVING, TRAFFIC SIGNALS AND DRAINAGE SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING CITY DOCUMENTS. THESE DOCUMENTS ARE "STANDARD CONSTRUCTION SPECIFICATIONS (MOST RECENT ISSUE DECEMBER 2014) AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING" (MOST RECENT ISSUE DECEMBER 2014) WITH ALL SUBSEQUENT AMENDMENTS ADDED THERETO UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN MUST AGREE WITH THE MINIMUM STANDARDS ESTABLISHED IN THE LATEST ISSUE OF THE "INFRASTRUCTURE DESIGN MANUAL" (MOST RECENT ISSUE DECEMBER 2014). NOTE THAT PLAN SIGNATURES AND LETTERS OF CAPACITY AVAILABILITY FOR STORM, WASTEWATER AND WATER EXPIRE AFTER ONE YEAR AND THE LATEST EDITIONS OF DESIGN RULES, SPECIFICATIONS, STANDARD DETAILS AND MANUALS SHALL GOVERN AS OF THE DATES FOR RESIGNING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT HE/SHE HAS THE MOST RECENT EDITIONS. THESE DOCUMENTS MAY BE OBTAINED FROM THE CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS, 611 WALKER.
2. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO PAVING, WATER LINES, WASTEWATER COLLECTION SYSTEMS, STORM SEWER AND TRAFFIC SIGNALS DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH CURRENT EDITIONS OF CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS, DESIGN DETAILS AND DESIGN MANUALS. REPAIRS SHALL BE AT NO COST TO THE CITY OF HOUSTON.
3. ALIGNMENT, CENTERLINE CURVE DATA, AND STATIONING TO BE DETERMINED FROM APPROVED, RECORDED SUBDIVISION PLAT OR ROAD RIGHT-OF-WAY.
4. PLACEMENT OF UTILITIES IN EASEMENTS SHALL BE GOVERNED BY THE "STANDARD 10-FOOT AND 14-FOOT EASEMENTS" AS ADOPTED BY THE UTILITY COORDINATING COMMITTEE FOR THE HOUSTON METROPOLITAN AREA.
5. THE APPROXIMATE LOCATION OF EXISTING UTILITIES ARE GIVEN FOR REFERENCE ONLY. BEFORE COMMENCING THE WORK ON THIS CONTRACT, THE CONTRACTOR SHALL VERIFY BY FIELD INVESTIGATION THE ACTUAL LOCATIONS OF ALL UTILITY FACILITIES WITHIN AND ADJACENT TO THE LIMITS OF THE WORK THAT MAY BE AFFECTED BY THE WORK. CONFLICTS WHICH RESULT DUE TO NEGLIGENCE BY THE CONTRACTOR TO LOCATE, HORIZONTALLY AND VERTICALLY, EXISTING UTILITIES WHICH ARE SHOWN ON THE CONSTRUCTION DRAWINGS, OR WHICH THE CONTRACTOR HAS BEEN GIVEN NOTICE OR HAS KNOWLEDGE, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF REMEDIAL WORK, REMOVAL OF PORTIONS OF THE WORK OR EXTENSIVE DESIGN CHANGES OCCASIONED BY THE FAILURE OF THE CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UTILITIES AS DESCRIBED ABOVE SHALL BE BORNE BY THE CONTRACTOR.
6. CONTRACTOR IS TO CONTACT DIG TESS AT TEXAS 811 OR 1(800)344-8377 FOR LOCATION OF EXISTING FACILITIES THAT MAY NOT BE SHOWN ON THE PLANS AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
7. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY THE "REGULATIONS OF FORT BEND COUNTY, TEXAS, FOR FLOOD PLAIN MANAGEMENT" PRIOR TO STARTING CONSTRUCTION.
8. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY FORT BEND COUNTY, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN FORT BEND COUNTY ROAD RIGHTS-OF-WAY.
9. CONTRACTOR SHALL COMPLY WITH O.S.H.A. REGULATIONS AND TEXAS STATE LAW CONCERNING TRENCH SAFETY SYSTEMS.
10. CONTRACTOR TO FOLLOW CONSTRUCTION DETAILS IF DRAWINGS DEVIATE FROM CITY OF HOUSTON STANDARDS.
11. THE CONTRACTOR SHALL RETURN ALL EXISTING FACILITIES TO EXISTING OR BETTER CONDITION UNLESS OTHERWISE NOTED AT NO ADDITIONAL COST TO THE OWNER.
12. NOTE: "AUTHORIZATION NOTICE ISSUED BY FORT BEND COUNTY PUBLIC INFRASTRUCTURE ENGINEERING DEPARTMENT PERMIT OFFICE REQUIRED PRIOR TO CONSTRUCTION OF UTILITIES OR LEFT TURN LANES WITHIN FORT BEND COUNTY RIGHT-OF-WAY." CONTACT FORT BEND COUNTY PERMIT OFFICE (281-633-7502).
13. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING RED LINE RECORD DRAWINGS (INCLUDING MEASUREMENTS FROM TWO FIXED OBJECTS TO ENDS OF SANITARY SEWER SERVICES) AT THE COMPLETION OF THIS JOB. PRIOR TO FINAL PAYMENT.
14. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SITE DRAINAGE AT ALL TIMES AT NO ADDITIONAL COST TO THE OWNER WHETHER BY GRADING OR PUMPING.
15. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE HARLEM RD RIGHT-OF-WAY WITH THE FORT BEND COUNTY ROAD & BRIDGE DEPARTMENT, (281) 341-9562.

STORM SEWER CONSTRUCTION NOTES

1. STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACK FILLED IN ACCORDANCE WITH THE CITY OF HOUSTON STANDARD DETAILS DRAWING NOS. 02317-02, 02317-3, 02317-05, 02317-06, AND 02317-07 (OCT. 2002) AS APPLICABLE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
2. ALL STORM SEWER CONSTRUCTED IN SIDE LOT EASEMENT SHALL BE R.C.P (C-76, CLASS III) AND SHALL BE EMBEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON STANDARD DETAILS DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.
3. ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.
4. ALL TRENCH BACKFILL SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM D-698/AASHTO T99).
5. CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINT CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.
6. ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24" AND LARGER R.C.P. (C-76, CLASSIII).
7. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES AND INLET LEADS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL PROVIDE 18" MINIMUM VERTICLE CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS.
9. ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS, AND VALVE BOXES TO GRADE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF THIS WORK.
11. ALL DITCHES SHALL BE GRADED TO PROPOSED ELEVATIONS TO ENSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.
12. ALL DRIVEWAYS SHALL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURE.
13. THE CONTRACTOR(S) SHALL NOTIFY FORT BEND COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT-ENGINEERING DIVISION-PERMIT OFFICE, TWENTY-FOUR (24) HOURS IN ADVANCE OF COMMENCING UTILITY AND/OR PAVING CONSTRUCTION AT (281)633-7514 AND WRITTEN NOTIFICATION FORTY-EIGHT (48) HOURS IN ADVANCE OF COMMENCING CONSTRUCTION.
14. ALL MANHOLES SHALL BE SET SO THAT THE TOP OF THE CONE IS NO HIGHER THAN THE ADJACENT TOP OF CURB ELEVATION, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. THE FINISH TOP ELEVATION SHALL BE MET WITH PRE-CAST RINGS.
15. ALL MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE AFTER PAVING IS COMPLETE.

PAVING CONSTRUCTION NOTES

1. PAVEMENT SHALL BE IN ACCORDANCE WITH THE "REGULATIONS OF FORT BEND COUNTY, TEXAS FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE" AND/OR AMENDMENTS OF SAME.
2. THE CONTRACTOR(S) SHALL NOTIFY FORT BEND COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT- ENGINEERING DIVISION-PERMIT OFFICE, TWENTY-FOUR (24) HOURS IN ADVANCE OF COMMENCING UTILITY AND/OR PAVING CONSTRUCTION AT EMAIL:CONSTRUCTION @FORTBENDCOUNTYTX.GOV AND WRITTEN NOTIFICATION FORTY-EIGHT (48) HOURS IN ADVANCE OF COMMENCING CONSTRUCTION.
3. GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.
4. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH WHEELCHAIR RAMPS IN ACCORDANCE WITH THE GOVERNOR'S OFFICE OF TRAFFIC SAFETY MEMORANDUM DATED MAY 6, 1976. (HIGHWAY SAFETY ACT - 1973 SECTION 268). SEE TXDOT PED-12A SHEET. WHEELCHAIR RAMPS SHALL COMPLY WITH CURRENT "THE AMERICANS WITH DISABILITIES ACT" (A.D.A.) SPECIFICATIONS. RAMPS TO BE COLORED WITH A COLOR TO BE DETERMINED BY THE ENGINEER CONFORMING TO ASTM-C979.
5. ALL FILL IN EXISTING OR PROPOSED FORT BEND COUNTY RIGHT-OF-WAY, INCLUDING BACKDRESSING BEHIND THE CURB, SHALL BE PLACED IN MAXIMUM LOOSE LIFTS OF EIGHT INCHES (8") OR LESS AND COMPACTED TO 95% OF MAXIMUM DENSITY AT -3% TO +5% MOISTURE CONTENT AS DETERMINED BY AASHTO TEST METHOD T-99.
6. REFER TO THE LATEST FORT BEND COUNTY PAVEMENT MARKING DETAILS AND FORT BEND COUNTY SUBDIVISION STANDARD PAVING DETAILS.
DATE NOVEMBER 15, 2005.
7. WHEEL CHAIR RAMPS SHALL BE TYPE "7" RAMPS. SEE TXDOT PED-12A DETAIL SHEET.

UTILITY NOTES

CAUTION: OVERHEAD POWER LINES
OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN TEN (10) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT 713-207-2222.

ACTIVITIES ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY
NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT CENTERPOINT SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6248 OR (713) 207-5789.

CAUTION: UNDERGROUND ELECTRICAL FACILITIES
UNDERGROUND ELECTRICAL FACILITIES EXIST IN THE AREA OF THIS PROJECT. DO NOT BEGIN CONSTRUCTION UNTIL THESE FACILITIES HAVE BEEN LOCATED AND STAKED. TO HAVE THESE UNDERGROUND FACILITIES STAKED, CALL THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567, OR TOLL FREE AT 1-800-669-8344, AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION.

CAUTION: UNDERGROUND GAS FACILITIES
LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE LLC WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567, 1-800-669-8344, OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

-WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 945-8036 OR (713) 945-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

-WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTER POINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

-WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

-FOR EMERGENCIES REGARDING GAS LINES CALL (713) 656-3552 OR (713) 207-4200.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

AT&T TEXAS/SWBT FACILITIES

1. THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL CALL 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
4. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES, THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.
6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER MR. ROOSEVELT LEE JR. AT (713) 567-4552 OR E-MAIL HIM AT RL7259@ATT.COM, IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

AT&T TEXAS/SWBT Approved for underground conduit facilities only.
Signature valid for one year.

Fort Bend County Engineering
FORT BEND COUNTY, TEXAS

Richard W. Stolleis, P.E.
County Engineer

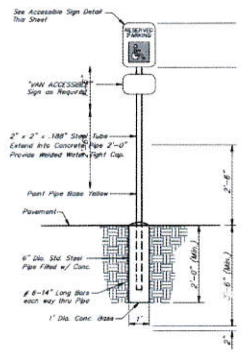
Fort Bend County
Construction - General Notes

1. Fort Bend County must be invited to the Pre-Construction Meeting.
2. Contractor shall notify Fort Bend County Engineering Department 48 hours prior to commencing construction and 48 hour notice to any construction activity within the limits of the paving at Construction@fortbendcountytx.gov.
3. Contractor is responsible for obtaining all permits required from Fort Bend County prior to commencing construction of any improvements within County road right of ways.
4. All Paving improvements shall be constructed in accordance with Fort Bend County "Rules, Regulations and Requirements relating to the Approval and Acceptance of Improvements in Subdivisions as currently amended.
5. All road widths, curb radii and curb alignment shown indicates back of curb.
6. A continuous longitudinal reinforcing bar shall be used in the curbs.
7. All concrete pavement shall be 5 ½ sack cement with a minimum compressive strength of 3500 psi at 28 days. Transverse expansion joints shall be installed at each curb return and at a maximum spacing of 90 feet.
8. All weather access to all existing streets and driveways shall be maintained at all times.
9. 4"x 12" reinforced concrete curb shall be placed in front of single family lots only. **All other areas shall be 6" reinforced concrete curb.**
10. At all intersection locations, **Type 7 ramps** shall be place in accordance with **TXDOT Ped-12a** standard detail sheet. A.D.A. – Handicap Ramps shall be installed with street paving at all intersections and comply with current A.D.A. regulations.
11. Curb headers are required at curb connections to Handicap Ramps, with no construction joint within 5' of ramps.
12. All intersections utilizing Traffic Control measures shall have A.D.A. wheelchair ramps installed.
13. Guidelines are set forth in the Texas "Manual on Uniform Traffic Control Devices", as currently amended, shall be observed. The Contractor shall be responsible for providing adequate flagmen, signing, striping and warning devices, etc. during construction – both day and night.
14. All R1-1 stop signs shall be 30"x30" with diamond grade sheeting per Texas manual on uniform traffic control devices.
15. Street name signage shall be on a 9" high sign flat blade w/reflective green background. Street names shall be upper and lowercase lettering with uppercase letters of 6" minimum and lowercase letters of 4.5" minimum. The letters shall be reflective white. Street name signs shall be mounted on stop sign post.
16. A Blue Double Reflectorized button shall be placed at all Fire Hydrant locations. The button shall be placed 12 inches off of the centerline of the street on the same side as the hydrant.

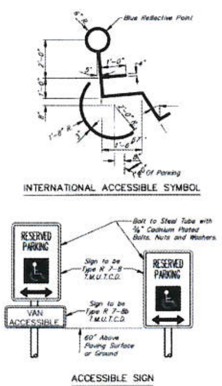
NOTE: Fort Bend County notes supersede any conflicting notes.

Inspection: The Project and all parts thereof shall be subject to inspection from time to time by inspectors designated by Fort Bend County. No such inspections shall relieve the Contractor of any of its obligations hereunder. Neither failure to inspect nor failure to discover or reject any of the work as not in accordance with the drawings and specifications, requirements and specifications of Fort Bend County or any provisions of this Project shall be construed to imply an acceptance of such work or to relieve the Contractor of any of its obligations hereunder.

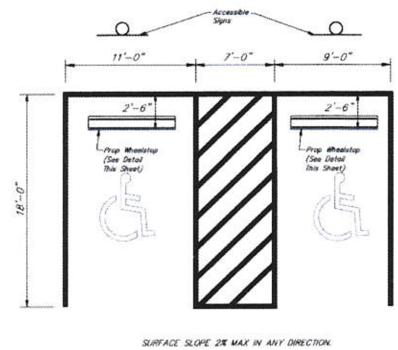
301 Jackson St., Suite 401, Richmond, TX 77469
Phone 281 633 7500



HANDICAP SIGN
N.T.S.



HANDICAP PARKING DETAILS
N.T.S.



HANDICAP PARKING STALL DETAIL
N.T.S.

APPROVED: DEVELOPMENT COORDINATOR

DATE: 6/29/16

NO.	DATE	REVISIONS	APP

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

GENERAL CONSTRUCTION NOTES

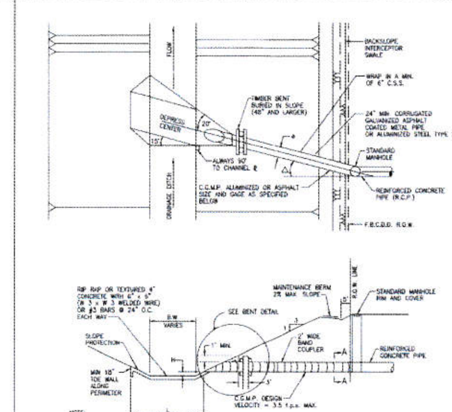
JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 270, Katy, TX 77449 • 832.913.4000

SCALE: N.T.S. DSN. BY: CMM
DATE: JUNE 2016 DWN. BY: JLG
JOB NO. 05640-0035-00 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS — CHRISTOPHER C. JOLISAN — 111507 — LICENSED PROFESSIONAL ENGINEER
6/9/2016

SHEET NO. 6 OF 11

P:\PROJECTS\05640 Johnson Development Corp\0035-00 Harvest Green Farm Parking\2 Design Phase\CAD\Plans\HARVEST GREEN FARM PARKING.dwg Jun 09,2016 - 8:18am CMM



NOTE:

CONCRETE SLOPE PAVING SHALL HAVE A MINIMUM THICKNESS OF 4". MINIMUM REINFORCING STEEL SHALL BE #3 REBAR AT 18" O.C. OR 6x6xW4.0xW4.0 WELDED WIRE FABRIC

TABLE A

SIZE 2 2/3" X 1/2" CORRUGATION	PIPE GAUGE	BAND COUPLER GAUGE	SIZE 3"X1" & 5"X1" CORRUGATION	PIPE GAUGE	BAND COUPLER GAUGE
24"	16	16			
30"	16	16			
36"	16	16			
42"	14	16			
48"	14	16	48"	16	16
54"	12	14	54"	16	18
60"	12	14	60"	16	18
66"	10	12	66"	16	18
72"	10	12	72"	16	18
78"	8	10	78"	14	16
84"	8	10	84"	14	16

Δ. PROP. 24" TO 42" Δ = 15°
PROP. 48" AND LARGER Δ = 30°

H : FOR PIPE SIZES 24" TO 42"
H=3' MAX. AND 1' MIN.
FOR PIPE SIZES 48" AND LARGER
H=1' MAX. AND MIN.

L: B.W. / PIPE ø ≤ 7'-6" ⇒ L WILL EXTEND ONE PIPE ø ABOVE ℄ ON OPPPOSITE BANK (MIN.

B.W. / PIPE ø > 7'-6" ⇒ L = 6 ø OR MIN. 1'-6" INTO B.W. WHICHEVER IS GREATER

TYPICAL STORM SEWER OUTFALL DETAIL FOR FORT BEND COUNTY, TEXAS

REVISION 1-7-13-98, 2-5-20-97, 3-12-01-10 | AUGUST 1996 | FIGURE A-5

GENERAL NOTES:

1. INSTALL OUTFALLS 48 INCHES OR LARGER DIAMETER AND TREATMENT PLANT OUTFALLS OF ANY DIAMETER WITH RIPRAP EROSION PROTECTION, DIMENSIONED AS SHOWN IN "TYPICAL STORM SEWER OUTFALL STRUCTURE LAYOUT."
2. STORM SEWER AND INTERCEPTOR OUTFALL PIPES WITHIN THE FBCDD RIGHT-OF-WAY SHALL BE CORRUGATED METAL PIPE (CMP) IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02642-CORRUGATED METAL PIPE.
3. PROVIDE AND PLACE CEMENT STABILIZED SAND IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02221-CEMENT STABILIZED SAND.
4. TIMBER BENTS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02484-TIMBER BENTS.
5. EXCAVATION, FILL AND BACKFILL FOR INTERCEPTOR STRUCTURES SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02316-STRUCTURAL EXCAVATING AND BACKFILLING.
6. RIPRAP SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02378-RIPRAP AND GRANULAR FILL.
7. CONCRETE SHALL BE STRUCTURAL CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 03310-CONCRETE.
8. INTERCEPTOR STRUCTURES:
   a. ADJUST LENGTH AND WIDTH IN FIELD AS NECESSARY.
   b. 2-FEET DEEP X 6-INCH WIDE TOE ALL AROUND THE STRUCTURE.
   c. STEEL REINFORCING-# 4 BARS (GRADE 40) AT 12 INCHES ON CENTER EACH WAY.
   d. ANY INTERCEPTOR OUTFALL PIPE LARGER THAN MAXIMUM SIZE INDICATED REQUIRES A SEPARATE DETAIL.
9. SET FLOWLINE OF OUTFALL PIPES 1 FOOT ABOVE CHANNEL FLOWLINE OR 1 FOOT ABOVE NORMAL WATER SURFACE ELEVATION.
10. SEE CONCRETE CHANNEL LINING DETAIL SHEET FOR CMP OUTFALL DETAILS THROUGH CONCRETE CHANNEL LINING.
11. CONCRETE PAD AROUND TYPE "B" INLET: PAD FOR AS CONCRETE INTERCEPTOR STRUCTURE PER UNIT PRICE SCHEDULE.

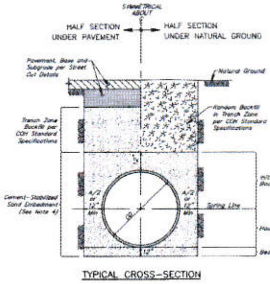
THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON FBCDD PROJECTS OR PROJECTS TO BE MAINTAINED BY THE FBCDD WHEN COMPLETED BY OTHERS. THE ENGINEER SHOULD CAREFULLY REVIEW THESE DETAILS TO DETERMINE THEIR APPLICABILITY TO A PARTICULAR PROJECT. IF REVISIONS ARE NECESSARY, THEY SHALL BE CLEARLY DELINEATED AND NOTED IN THE REVISION BLOCK IN ACCORDANCE WITH RULE 131.152(e) OF THE TEXAS STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS. AN ENGINEER WHO INCORPORATES THE DETAILS ON THIS SHEET INTO HIS WORK MUST SEAL THIS SHEET AND BECOME RESPONSIBLE FOR ITS USE IN THE END PRODUCT IN ACCORDANCE WITH RULE 131.166(n).

NOTES:

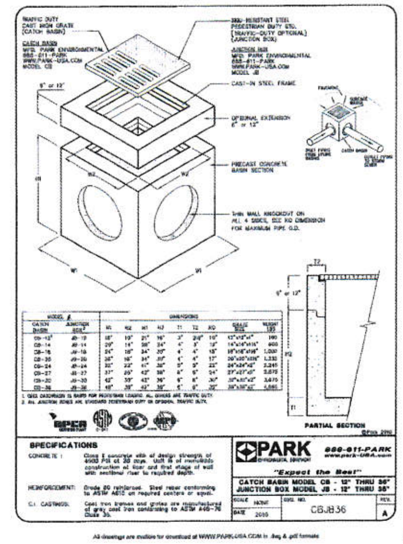
1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE.

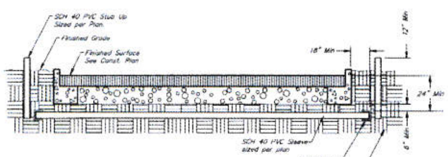
NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

3. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES. UNLESS OTHERWISE NOTED.
4. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.



SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
N.T.S.

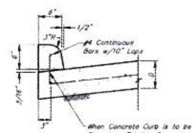




NOTES:

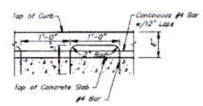
1. SLEEVES UNDER EXISTING PAVEMENT SHALL BE BORED.
2. SLEEVES SHALL BE SCHEDULE 40 PVC EXTENDING A MIN. 2' BEYOND BACK OF CURB WITH ENDS CAPPED.
3. INSTALL A MIN. 24" BELOW TOP OF PAVEMENT TO TOP OF PIPE.
4. CONTRACTOR TO MARK LOCATION ON CURB w/ CHISELED MARK PAINTED GREEN.

SLEEVING DETAIL
N.T.S.

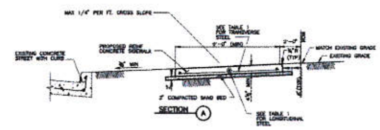


FINISH SHALL BE ACCOMPLISHED BY FLOATING, STEEL TOWELING AND THEN BRUSHING. HAND FINISH NOT REQUIRED WHEN CURB AND GUTTER IS POURED BY A MACHINE, BUT CURB SHALL HAVE THE SAME OUTSIDE DIMENSIONS AND HAVE A BRUSHED FINISH.

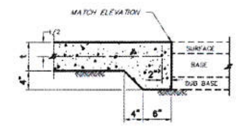
DOWELLED-ON CURB
N.T.S.



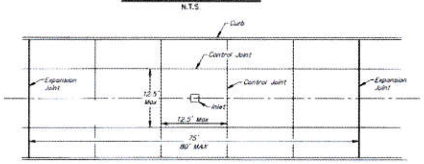
ALTERNATE CONCRETE CURB REINFORCEMENT
N.T.S.



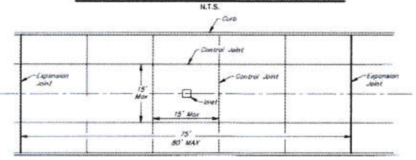
TYPICAL SIDEWALK DETAIL
N.T.S.



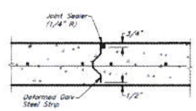
CONCRETE TO ASPHALT STANDARD PAVING HEADER
NTS



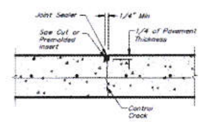
JOINT SPACING AND LAYOUT DETAIL FOR 5" CONCRETE PAVEMENT
N.T.S.



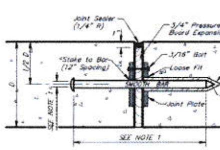
JOINT SPACING AND LAYOUT DETAIL FOR 6" CONCRETE PAVEMENT
N.T.S.



KEYED CONSTRUCTION JOINT
N.T.S.



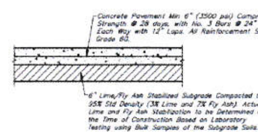
SAW-CUT CONTROL JOINT
N.T.S.



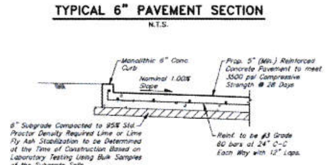
PAVEMENT EXPANSION JOINT
N.T.S.

NOTE:

1. ALL PROPOSED DOWELS FOR EXPANSION JOINTS ARE TO BE PLACED AT 12" CENTERS AND CONSIST OF THE FOLLOWING:
   PROPOSED 5" PAVEMENT: 5/8" DIAMETER DOWELS, 12" LONG WITH 5" EMBEDMENT.
   PROPOSED 6" PAVEMENT: 3/4" DIAMETER DOWELS, 14" LONG WITH 6" EMBEDMENT.



TYPICAL 6" PAVEMENT SECTION
N.T.S.



TYPICAL PARKING AREA SECTION – 5" PAVEMENT
N.T.S.

NOTES:

1. 6x6 – W2.9xW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF THE REINFORCING STEEL GIVEN IN TABLE 1.
2. REINFORCED CONCRETE SIDEWALKS THRU DRIVEWAYS OPENINGS SHALL BE EITHER 6" THICK OR 7" THICK AS SPECIFIED ON 6" STABILIZED SUBGRADE. FOR THE REINFORCING STEEL REQUIREMENTS, SEE TABLE 1 OF CITY OF HOUSTON DRAWING "CONCRETE PAVEMENT DETAILS".
3. MAXIMUM SPACING FOR EXPANSION JOINTS SHALL BE 36 FEET. MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
4. PROPOSED SIDEWALK SHALL BE CONSTRUCTION WITH PORTLAND CEMENT (5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL, 4 1/2" THICK AND MINIMUM 5' WIDTH.

TABLE 1

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL # 3 BARS: NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	TRANSVERSE STEEL # 3 BARS SPACING (IN)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.5	6	4	22	3	45
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

APPROVED: Maggie [signature] DEVELOPMENT COORDINATOR

DATE: 6/29/16

NO.	DATE	REVISIONS	APP.

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

MISCELLANEOUS DETAILS

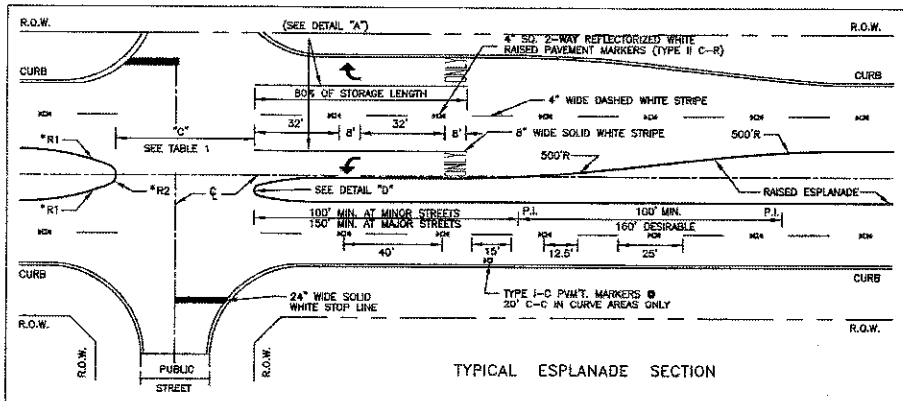
JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4000

SCALE: N.T.S. DGN. BY: CMM
DATE: JUNE 2016 DWN. BY: JLG
JOB NO. 05540-0035-00 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS — CHRISTOPHER C. JOUSAN — 111507 — LICENSED PROFESSIONAL ENGINEER
6/9/2016

SHEET NO. 7 OF 11

P:\PROJECTS\05540 Johnson Development Corp\0035-00 Harvest Green Farm Parking\2 Design Phase\CAD\Plans\HARVEST GREEN FARM PARKING.dwg Jun 09,2016 - 8:18am CMM



TYPICAL ESPLANADE SECTION

DETAIL "A"

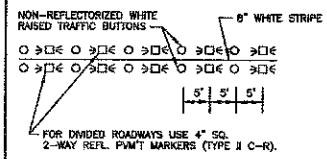


TABLE 1

TYPICAL LENGTH OF ESPLANADE OPENING "C" FOR PUBLIC STREET

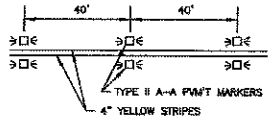
ESPLANADE INTERRUPTION	NO LTB (1)	1 LTB (1)	2LTB (1)
UNDIVIDED STREET < 40' 44'	45' 50'	55(2) 56')	60' 50'
DIVIDED STREET	D+10'	D+10'	D+10'

NOTES:
(1) LEFT TURN BAY
(2) DISTANCE FROM CENTERLINE OF OPENING TO ESPLANADE NOSE WITH LEFT TURN LANE MUST BE 30'

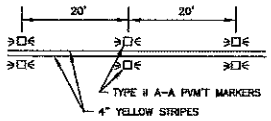
RADIUS DIMENSIONS

ESPLANADE	*R1	*R2
<8'	N/A	W/2
8'-38'	90'	W/5
>38'	N/A	15'

CENTER LINE DETAIL TANGENT SECTION



CENTER LINE DETAIL CURVE SECTION



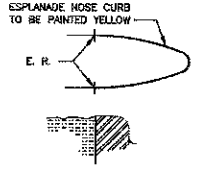
PAVEMENT MARKER LEGEND

SYMBOL	DESCRIPTION
	TWO SIDED REFLECTORIZED RAISED PAVEMENT MARKER
	ONEE SIDED REFLECTORIZED PAVEMENT MARKER
O	NON-REFLECTIVE 4" DIA. RAISED TRAFFIC BUTTON

NOTES:

1. ALL STRIPING & MARKERS SHALL CONFORM WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. ALL TRAFFIC BUTTONS AND MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES (APPROX. 2").
3. LEFT TURN STORAGE BAYS SHALL BE A MIN. OF 100' AT MINOR STREETS AND A MIN. OF 150' AT MAJOR STREETS.
4. REPEAT ARROWS AT APPROX. 1000' INTERVALS WITHIN TWO-WAY LEFT TURN SECTION.
5. WITHIN A TANGENT SECTION THE TYPE I-C PAVEMENT MARKERS CAN BE PLACED AT 40' C-C ON ROADWAYS WITHOUT CURB AND GUTTERS.

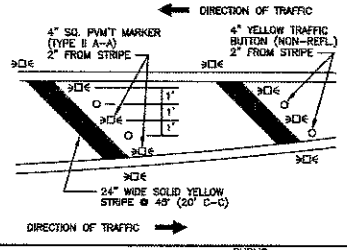
DETAIL "D"



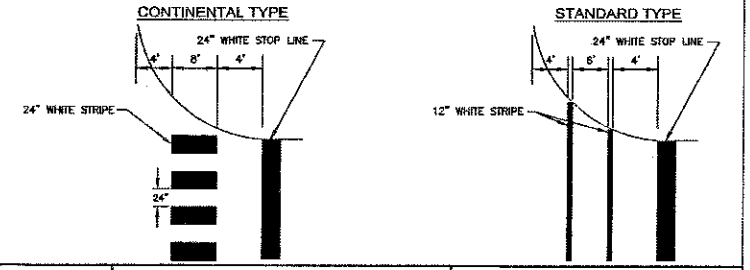
TYPICAL CURB SECTION

PAINT FROM THE BACK OF CURB TO THE GUTTER LINE

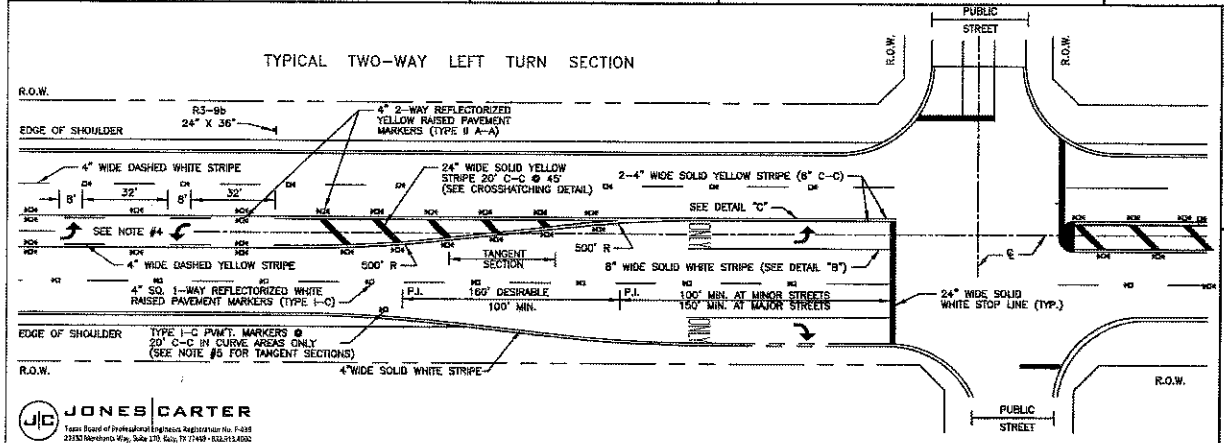
CROSSHATCHING DETAIL



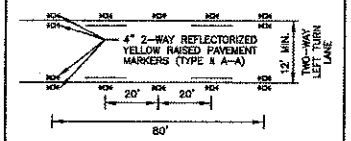
TYPICAL CROSSWALK PLACEMENT



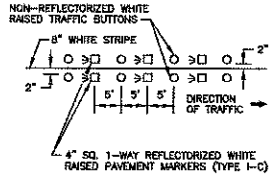
TYPICAL TWO-WAY LEFT TURN SECTION



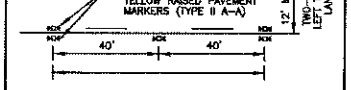
TWO-WAY LEFT TURN CURVE SECTION



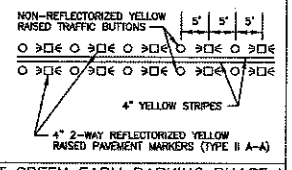
DETAIL "B"



TWO-WAY LEFT TURN TANGENT SECTION



DETAIL "C"



JONES|CARTER
Texas Board of Professional Engineers Registration No. F-439
2330 Northborough Way, Suite 270, Katy, TX 77449 • 832.913.4500

NO.	REVISIONS	DATE	NAME
1	CHANGED TITLE BLOCK	7/01/08	RJLS
2	ADDED CROSSWALK DETAILS	8/01/08	AJF
3	ADDED RIGHT TURN LANE	1/03/01	AJF
4	REVISED BUTTON LOCATION	1/05/09	AJF

FORT BEND COUNTY ENGINEERING DEPARTMENT

EXCELLENCE FORT BEND COUNTY, TEXAS

STATE OF TEXAS CHRISTOPHER C. JORDAN 119107 LICENSED PROFESSIONAL ENGINEER 6/9/2010

PROJECT TITLE: HARVEST GREEN FARM PARKING PHASE I
DRAWN BY: RLS
DRAWING DESCRIPTION: PAVEMENT MARKING DETAILS
JOB NO.: 05540-0035-00
DATE: 9/09
FILE NAME: parkfield.dwg
SCALE: NTS
SHEET NO.: 8 / 11

P:\PROJECTS\05540 Johnson Development Corp\05540-00 Harvest Green Farm Parkfield Design Phase\CAD\Xref\HARVEST GREEN FARM PARKING.dwg Jun 02,2010 - 8:18am, Cole

Maggie Dodd 6/29/10

BENCH MARK

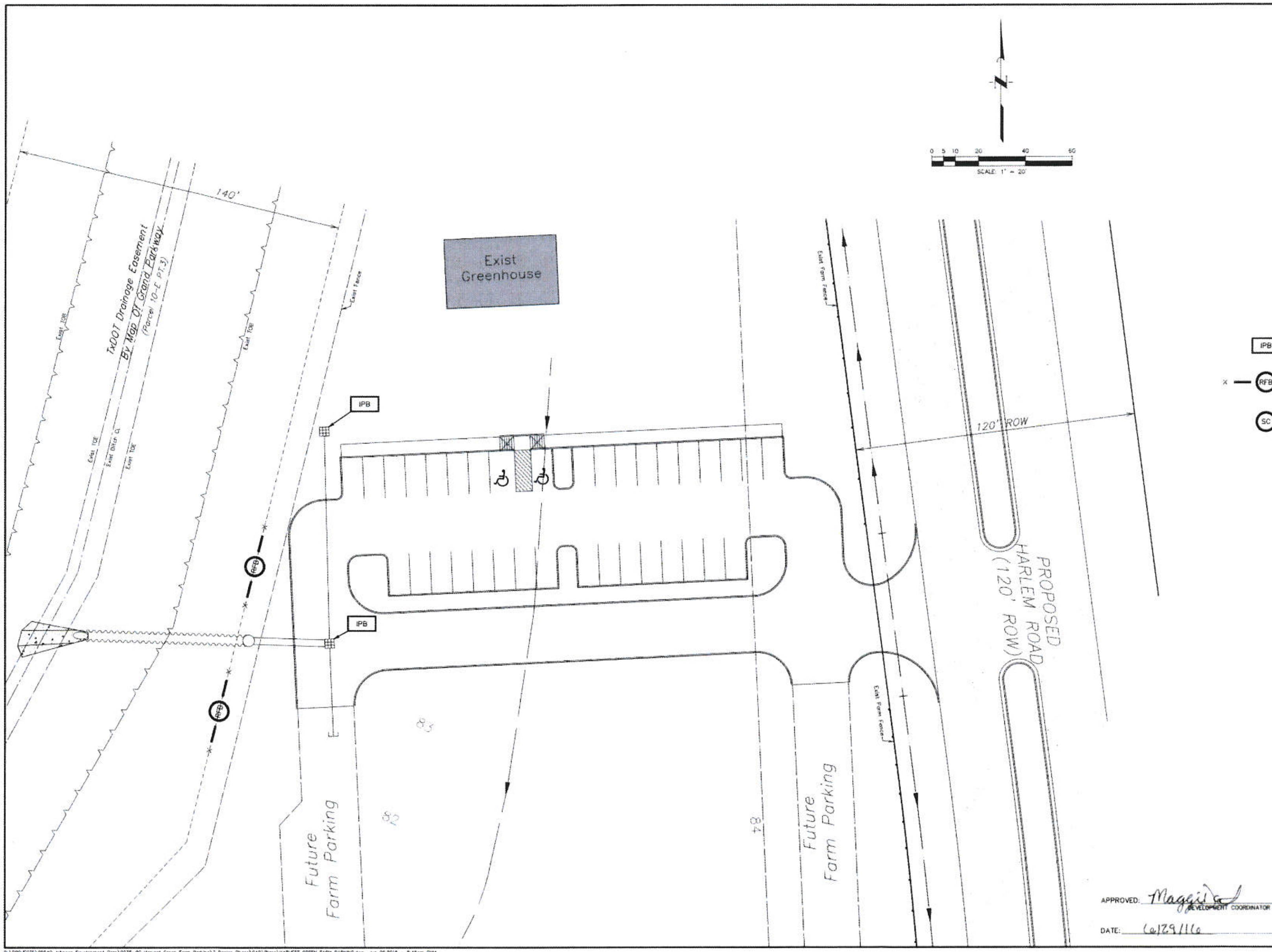
2005 FORT BEND COUNTY LIDAR BENCHMARK NO. 25. "PK" NAIL IN ASPHALT LOCATED 2.5' WEST OF THE FIRST MEDIAN NOSE WEST OF F.M. 359 ON HIGHWAY 90-A. ELEVATION=84.09 NAVD88 (2001 ADJUSTMENT)

NOTE: ALL ELEVATIONS SHOWN WERE DERIVED FROM GPS/RTK OBSERVATIONS AND UTILIZED GEOID03.

100-Year Flood Plain

According to Map No. 48157C0140L of The Federal Emergency Management Agency's Flood Insurance Rate Maps dated April 2, 2014, the subject tract is within the Unshaded Zone "X"; Unshaded Zone "X" is defined as areas determined to be outside the 500-Year Flood Plain.

Note: The 100-Year base flood elevation is approximately 83.0 feet as per the FEMA Insurance Rate Map for Fort Bend County, Texas Community Panel No. 48157C0140L, Dated April 2, 2014. The 100-Year Flood Plain, elevation 83.0, is contained in the channel north of the detention pond.



APPROVED: Maggie [signature] DEVELOPMENT COORDINATOR

DATE: 6/29/16

NO.	DATE	REVISIONS	APP

GRAND PARKWAY 1358, LP
FORT BEND COUNTY, TEXAS

HARVEST GREEN FARM PARKING PHASE I

STORM WATER POLLUTION PREVENTION PLAN

JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4000

SCALE: 1"=20' DGN. BY: CMM
DATE: JUNE 2016 DWN. BY: JLG
JOB NO. 05540-0035-00 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS — CHRISTOPHER C. JOUSAN — 111507 — LICENSED PROFESSIONAL ENGINEER
[signature] 6/9/2016

SHEET NO. 9 OF 11

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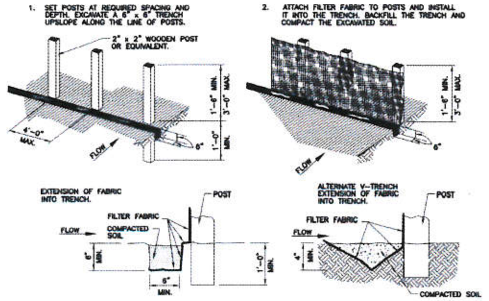
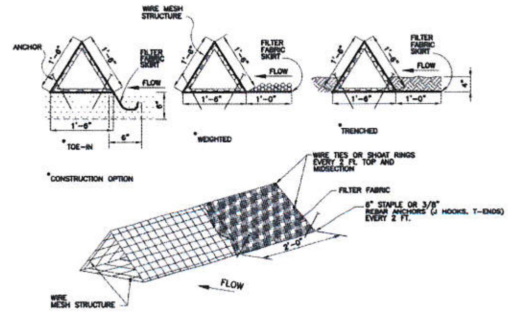


GENERAL NOTES

1. SET POSTS AT 4-FEET MAXIMUM SPACING. IF FACTORY PREASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT THE POST, FOLD TOGETHER, AND ATTACH TO THE POSTS.
3. REMOVE SEDIMENT DEPOSITS WHEN SILT DEPTH REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE.

FILTER FABRIC FENCE

X—(FF)—X SYMBOL

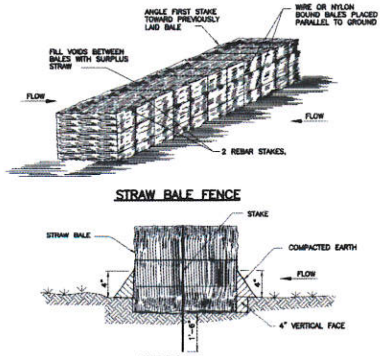


GENERAL NOTES

1. PLACE BARRIER IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BARRIER.
2. USING ONE CONTINUOUS SECTION OF FILTER FABRIC, WRAP FABRIC AROUND WIRE MESH AND EXTEND FABRIC TO FORM SKIRT ON THE UPSTREAM SIDE.
3. WEIGHT SKIRT WITH A CONTINUOUS LAYER OF 3-INCH TO 5-INCH OPEN GRADED ROCK, OR TOE IN SKIRT WITH SIX INCHES WITH MECHANICALLY COMPACTED MATERIAL.
4. SECURELY ANCHOR BARRIER AND SKIRT IN PLACE USING 6-INCH WIRE STAPLES ON 2-FOOT CENTERS ON BOTH EDGES, OR STAKE USING 18-INCH BY 3/8 INCH REBARS (T-ENDS, J-HOOKS).
5. FILTER FABRIC SHALL BE LAPPED OVER ENDS 6 INCHES TO COVER SEGMENT JOINTS. FASTEN JOINTS WITH GALVANIZED SHOAT RINGS OR EQUIVALENT.
6. THE BARRIER STRUCTURE SHALL BE WELDED WIRE MESH, 18 INCHES ON EACH SIDE.

TRIANGULAR FILTER FABRIC FENCE

X—(TFF)—X SYMBOL

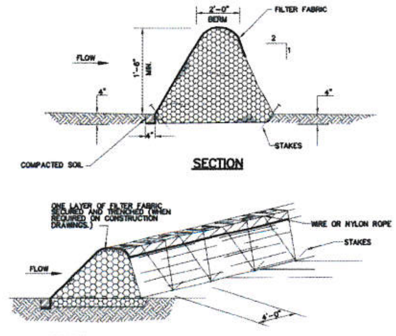


GENERAL NOTES

1. LIMIT USE TO ONSITE SWALES FOR PURPOSES OF LOW FLOW VELOCITY DISSIPATION FOR EROSION CONTROL. USE STRAW BALE FENCES TO TREAT OVERLAND FLOW ONLY. DO NOT USE STRAW BALE FENCES TO TREAT FLOW IN CHANNELS.
2. PLACE BALES IN A ROW WITH ENDS TIGHTLY ABUTTING ADJACENT BALES. FILL THE VOIDS BETWEEN BALES WITH SURPLUS STRAW. PLACE BALES WITH BINDING PARALLEL TO GROUND SURFACE.
3. IMBED EACH BALE AT LEAST 4 INCHES IN THE SOIL.
4. SECURELY ANCHOR BALES IN PLACE BY REBAR STAKES. DRIVE STAKES THROUGH THE BALES AND AT LEAST 18 INCHES INTO THE GROUND. ANGLE THE STAKE IN EACH BALE TOWARD THE PREVIOUS BALE TO FORCE THE BALES TOGETHER.
5. BIND BALES WITH WIRE OR NYLON ROPE TIED ACROSS THE STRAW BALES.
6. REPLACE WITH NEW STRAW BALE FENCE EVERY TWO MONTHS.
7. WATTLES STAKED INTO THE GROUND ARE A PREFERRED SUBSTITUTE FOR STRAW BALE FENCES.

STRAW BALE FENCE

X—(SBF)—X SYMBOL

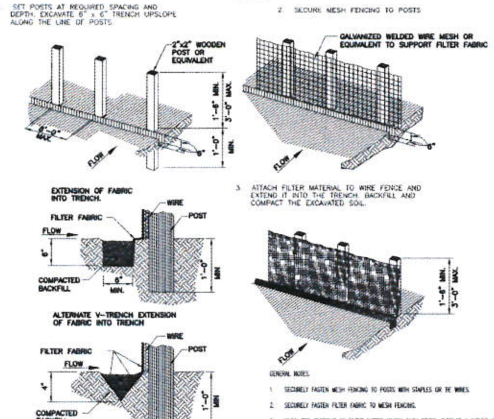


GENERAL NOTES

1. LIMIT USE TO ONSITE SWALES FOR PURPOSES OF LOW FLOW VELOCITY DISSIPATION FOR EROSION CONTROL. USE BRUSH BERMS TO TREAT OVERLAND FLOW ONLY. DO NOT USE BRUSH BERMS TO TREAT FLOW IN CHANNELS.
2. PLACE WOODY BRUSH AND BRANCHES HAVING A DIAMETER OF LESS THAN 2 INCHES WITH A 6-INCH OVERLAP. AVOID INCORPORATION OF ANNUAL WEEDS AND SOIL INTO BRUSH BERM.
3. MINIMUM HEIGHT OF THE BRUSH BERM IS 18 INCHES, MEASURED FROM THE TOP OF THE EXISTING GROUND AT THE UPSLOPE TOE TO THE TOP OF THE BERM.
4. HAND PLACE BRUSH BERMS ALONG CONTOUR LINES. MACHINE PLACEMENT OF BRUSH BERMS IS NOT PERMITTED.
5. IMBED BRUSH BERM AT LEAST 4 INCHES INTO THE SOIL.
6. ANCHOR BRUSH BERMS USING WIRE OR NYLON ROPE ACROSS THE BERM WITH A MINIMUM TENSION OF 50 POUNDS.
7. SECURELY TIE ROPE TO 18-INCH REBAR STAKES DRIVEN INTO THE GROUND ON 4-FOOT CENTERS ON BOTH SIDES OF THE BERM.
8. PERFORM MAINTENANCE AS NEEDED.

BRUSH BERM

X—(BB)—X SYMBOL

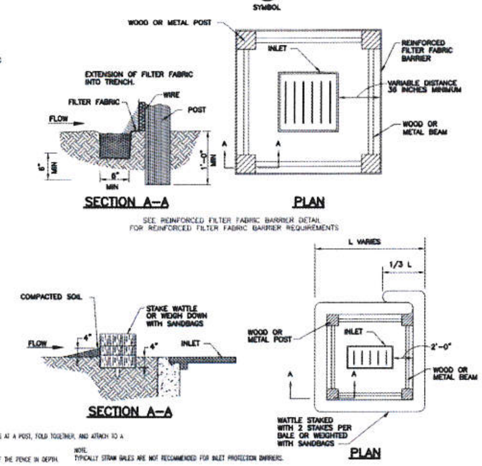


GENERAL NOTES

1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

REINFORCED FILTER FABRIC BARRIER

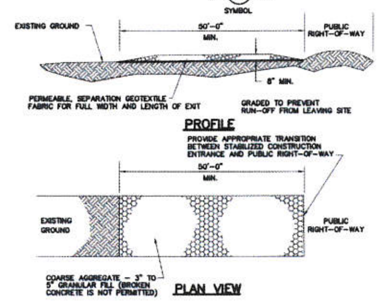
X—(RFB)—X SYMBOL



NOTE:
TYPICALLY STRAW BALES ARE NOT RECOMMENDED FOR INLET PROTECTION BARRIERS.

INLET PROTECTION BARRIERS FOR STAGE I INLETS

[IPB] SYMBOL

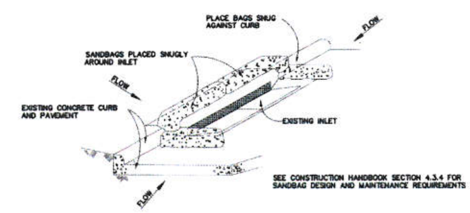


GENERAL NOTES

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. ALTERNATIVE METHODS OF CONSTRUCTION INCLUDE:
-CEMENT STABILIZED SOIL. COMPACTED CEMENT STABILIZED SOIL, LIMESTONE AGGREGATE, OR OTHER FILL MATERIAL IN AN APPLICATION OF THICKNESS OF 8 INCHES.
-WOOD MATS. OAK OR OTHER HARDWOOD TIMBERS PLACED EDGE TO EDGE AND ACROSS SUPPORT WOODEN BEAMS WHICH ARE PLACED ON TOP OF EXISTING SOIL IN AN APPLICATION THICKNESS OF 6 INCHES.
-STEEL MATS. PERFORATED MATS PLACED ACROSS PERPENDICULAR SUPPORT MEMBERS.

STABILIZED CONSTRUCTION ACCESS

(SC)⊣ SYMBOL



SEE CONSTRUCTION HANDBOOK SECTION 4.3.4 FOR SANDBAG DESIGN AND MAINTENANCE REQUIREMENTS

GENERAL NOTES

1. BAGS OR WATTLES CAN BE USED FOR THIS APPLICATION.
2. PROVIDE WOVEN OR UNWOVEN GEOTEXTILE FILTER FABRIC FOR BAGS.
3. PROVIDE COARSE SAND AND AGGREGATE MIX FOR FILL MATERIAL FOR BAGS. USE ONLY PARTICLES CONSISTING OF CLEAN, HARD, DURABLE MATERIALS FREE FROM ADHERENT COATINGS, SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT OR FLAKY MATERIALS, OR ORGANIC AND INJURIOUS MATTER.
4. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.

INLET PROTECTION BARRIERS FOR STAGE II INLETS

[IPB] SYMBOL

CONSTRUCTION HANDBOOK-
STORM WATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES PREPARED BY CITY OF HOUSTON, HARRIS COUNTY, AND HARRIS COUNTY FLOOD CONTROL DISTRICT. 2001 EDITION

JONES|CARTER
Texas Board of Professional Engineers Registration No. F-439
22330 Merchants Way, Suite 170, Katy, TX 77449 • 832.913.4000

NO.	REVISIONS	DATE	NAME
1	CHANGED TITLE BLOCK	7/21/98	R.L.S.
2	ADDED CONTINENTAL CROSSWALK	8/3/98	ALP

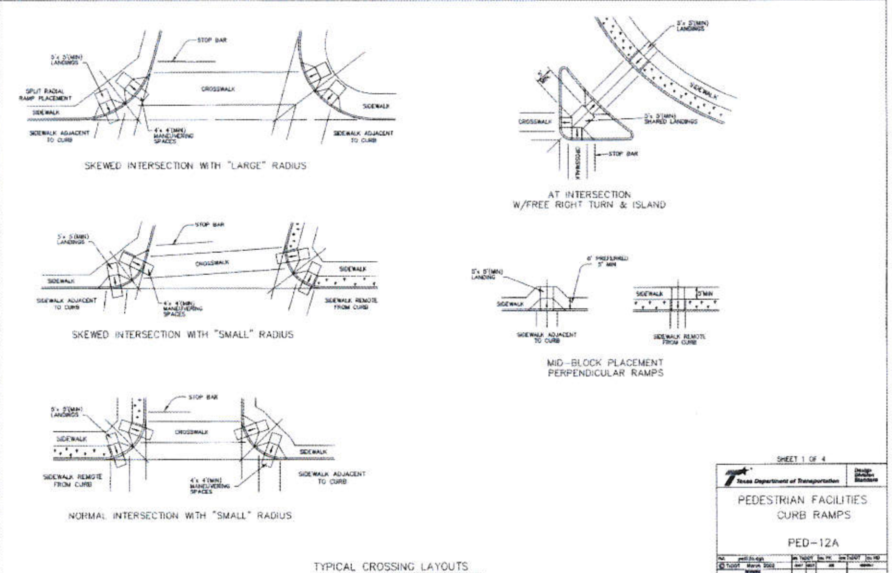
FORT BEND COUNTY
ENGINEERING DEPARTMENT

EXCELLENCE — FORT BEND COUNTY, TEXAS

STATE OF TEXAS — CHRISTOPHER C. JOUGAN — 111507 — LICENSED PROFESSIONAL ENGINEER
6/9/2016

PROJECT TITLE: HARVEST GREEN FARM PARKING PHASE I
SHEET DESCRIPTION: STORM WATER POLLUTION PREVENTION PLAN DETAILS
DRAWN BY: R.L.S.
SCALE: N.T.S.
DATE: 6/27/01
FILE NAME: PHASE1L
SHT NO. 10 / 11

Maggie 6/29/16



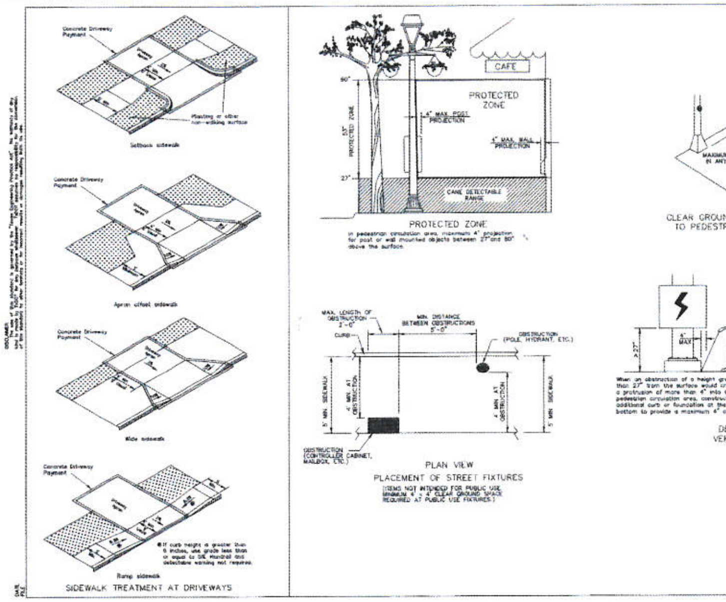
TYPICAL CROSSING LAYOUTS

SHEET 1 OF 4

Texas Department of Transportation

PEDESTRIAN FACILITIES
CURB RAMPS

PED-12A

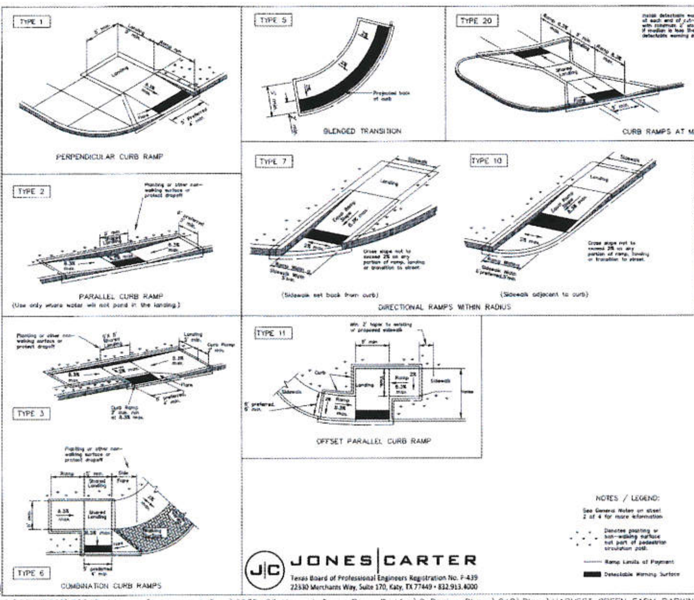


SHEET 2 OF 4

Texas Department of Transportation

PEDESTRIAN FACILITIES
CURB RAMPS

PED-12A



NOTES / LEGEND:

See General Notes on sheet 2 of 4 for more information.

Denotes planting or non-walking surface not part of pedestrian circulation path.

Ramp Limits of Payment

Detectable Warning Surface

JONES | CARTER

Texas Board of Professional Engineers Registration No. F-439
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SHEET 3 OF 4

Texas Department of Transportation

PEDESTRIAN FACILITIES
CURB RAMPS

PED-12A

General Notes

Curb Ramps

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
4. Landings shall be 5'x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever an accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

Detectable Warning Material

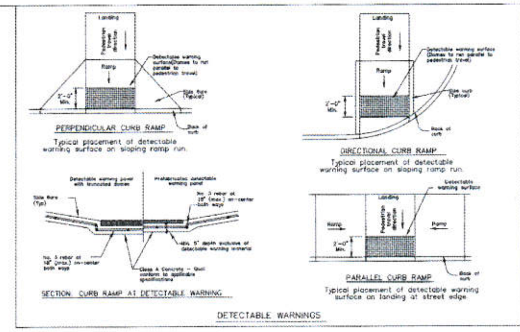
18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

Detectable Warning Pavers

24. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
25. Lay full-size units first followed by closure units consisting of at least 25 percent of a full unit. Cut detectable warning paver units using a power saw.

Sidewalks

26. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
27. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
28. Street grades and cross slopes shall be as shown elsewhere in the plans.
29. Changes in level greater than 1/4 inch are not permitted.
30. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than 5% must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 505.
31. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
32. Driveways and turnouts shall be constructed and paid for in accordance with Item, "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
33. Sidewalk details are shown elsewhere in the plans.



DETECTABLE WARNINGS

APPROVED: Maggie [signature] DEVELOPMENT COORDINATOR

DATE: 6/29/16

HARVEST GREEN
FARM PARKING
PHASE I

SHEET 4 OF 4

Texas Department of Transportation

PEDESTRIAN FACILITIES
CURB RAMPS

PED-12A

STATE OF TEXAS ★ CHRISTOPHER C. JOUBAN 111507 LICENSED PROFESSIONAL ENGINEER [signature] 6/27/2016