



**PERMIT APPLICATION REVIEW FORM FOR
CABLE, CONDUIT, AND POLE LINE ACTIVITY
IN FORT BEND COUNTY**

**Fort Bend County
Engineering Department**
301 Jackson Suite 401
Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytx.gov

- Right of Way Permit
 Commercial Driveway Permit

Permit No: 2017-17465

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.

(1) COMPLETE APPLICATION FORM:

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

(2) BOND:

- County Attorney, approval when applicable.
- Perpetual bond currently posted. Bond No: _____ Amount: _____
- Performance bond submitted. Bond No: XXXXXXXXXX Amount: \$5,000.00
- Cashier's Check Check No: _____ Amount: _____

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

Charles O. Ay

Permit Administrator

2/23/2018

Date



**REVIEW BY FORT BEND COUNTY
COMMISSIONERS COURT**

**Fort Bend County
Engineering Department**
301 Jackson Suite 401
Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytx.gov

Right of Way Permit

Commercial Driveway Permit

Permit No: 2017-17465

Applicant: Barnier Building Systems, Inc.

Job Location Site: 15151 West Drive, Houston, TX 77053

Bond No. **Date of Bond:** 12/18/2017 **Amount:** \$5,000.00

The above applicant came to make use of certain Fort Bend County property subject to, "The 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, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Chapter 181, Vernon's Texas Statutes and Codes Annotated.

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, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 6th day of March, 2018, 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.

Signature

Presented to Commissioners Court and approved.

By: 
County Engineer

Date Recorded _____ Comm. Court No. _____

By: N/A
Drainage District Engineer/Manager

Clerk of Commissioners Court

By: _____
Deputy

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

AUTHORIZED

BOND NO. [REDACTED] _____

THE STATE OF TEXAS

§

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND

§

THAT WE, Barnier Building Systems, Inc. whose address is 1105 Northville, Houston, TX 77038 Texas, hereinafter called the Principal, And Western Surety Company, a Corporation existing under and by virtue of the laws of the state of South Dakota and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at P.O. Box 5077, Sioux Falls, SD 57117-5077, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Ron Bartulla and Whose address is 5151 San Felipe, Suite 1800, Houston, TX 77056, 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 and No/100 ----- Dollars (\$5,000.00 -----) current, lawful money of the United States 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 18th day of December, 2017.

Barnier Building Systems, Inc.

PRINCIPAL

Abe Maria Barnes

BY

Western Surety Company

SURETY

Gloria Villa

BY Gloria Villa, Attorney-in-Fact

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Sue Kohler, David R Groppell, Beverly A Ireland, Sharen Groppell, Roxanne G Brune, Sharon Cavanaugh, Kurt A Risk, Francine Hay, Gloria Villa, Individually

of Houston, TX, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 1st day of August, 2016.



WESTERN SURETY COMPANY

Paul T. Bruflat

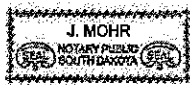
Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 1st day of August, 2016, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

June 23, 2021



J. Mohr

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 18th day of December, 2017.



WESTERN SURETY COMPANY

L. Nelson

L. Nelson, Assistant Secretary



Western Surety Company

Figure: 28 TAC §1.601(a)(3)

1 IMPORTANT NOTICE

To obtain information or make a complaint:

2 You may contact Western Surety Company at 605-336-0850.

3 You may call Western Surety Company's toll-free telephone number for information or to make a complaint at:

1-800-331-6053

4 You may also write to Western Surety Company at:

P.O. Box 5077
Sioux Falls, SD 57117-5077

5 You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at:

1-800-252-3439

6 You may write the Texas Department of Insurance:

P.O. Box 149104
Austin, TX 78714-9104
Fax: (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-Mail: ConsumerProtection@tdi.state.tx.us

7 PREMIUM OR CLAIM DISPUTES:

Should you have a dispute concerning your premium or about a claim you should contact Western Surety Company first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

8 ATTACH THIS NOTICE TO YOUR POLICY:

This notice is for information only and does not become a part or condition of the attached document.

AVISO IMPORTANTE

Para obtener informacion o para someter una queja:

Puede comunicarse con Western Surety Company al 605-336-0850.

Usted puede llamar al numero de telefono gratis de Western Surety Company's para informacion o para someter una queja al:

1-800-331-6053

Usted tambien puede escribir a Western Surety Company:

P.O. Box 5077
Sioux Falls, SD 57117-5077

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al:

1-800-252-3439

Puede escribir al Departamento de Seguros de Texas:

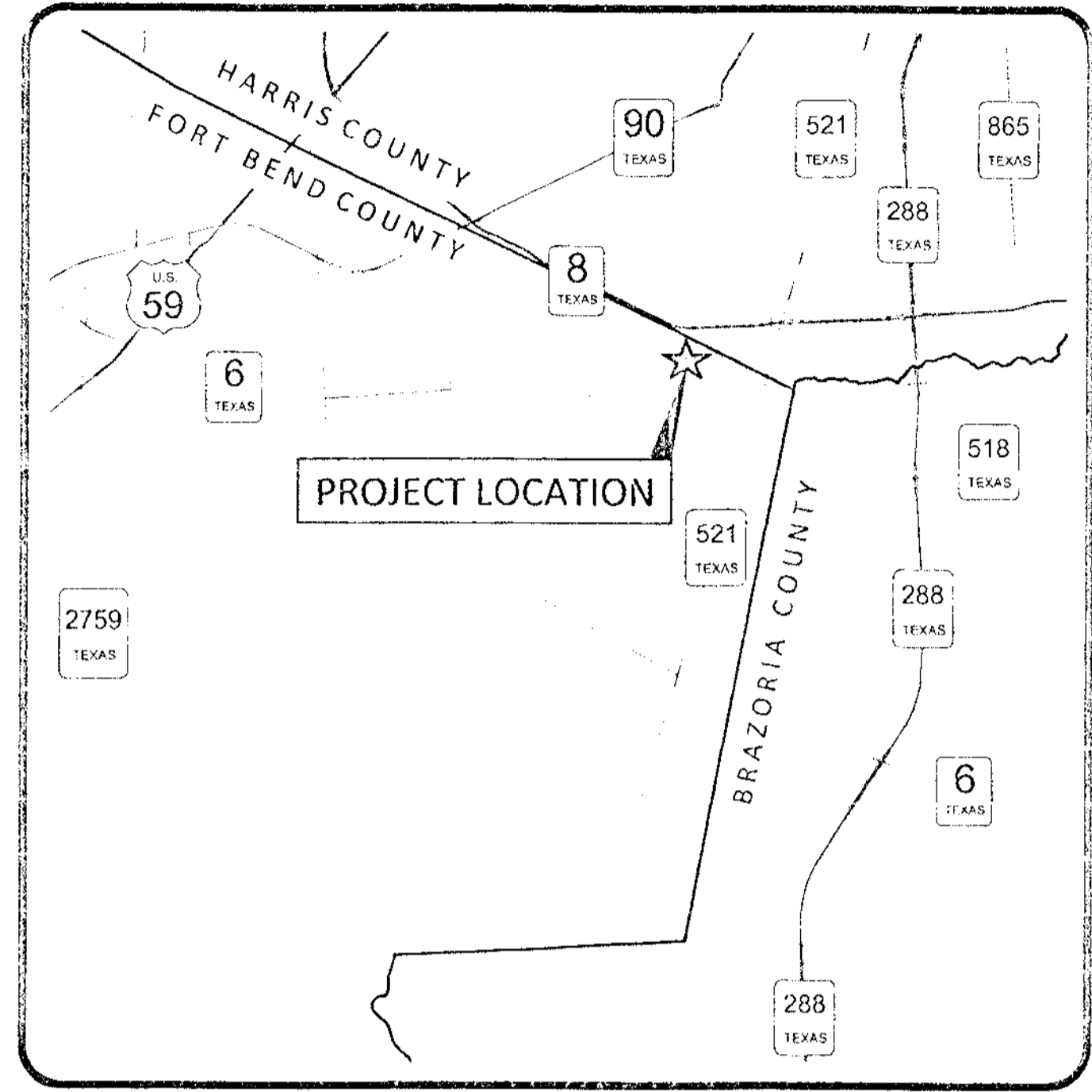
P.O. Box 149104
Austin, TX 78714-9104
Fax: (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-Mail: ConsumerProtection@tdi.state.tx.us

DISPUTAS SOBRE PRIMAS O RECLAMOS:

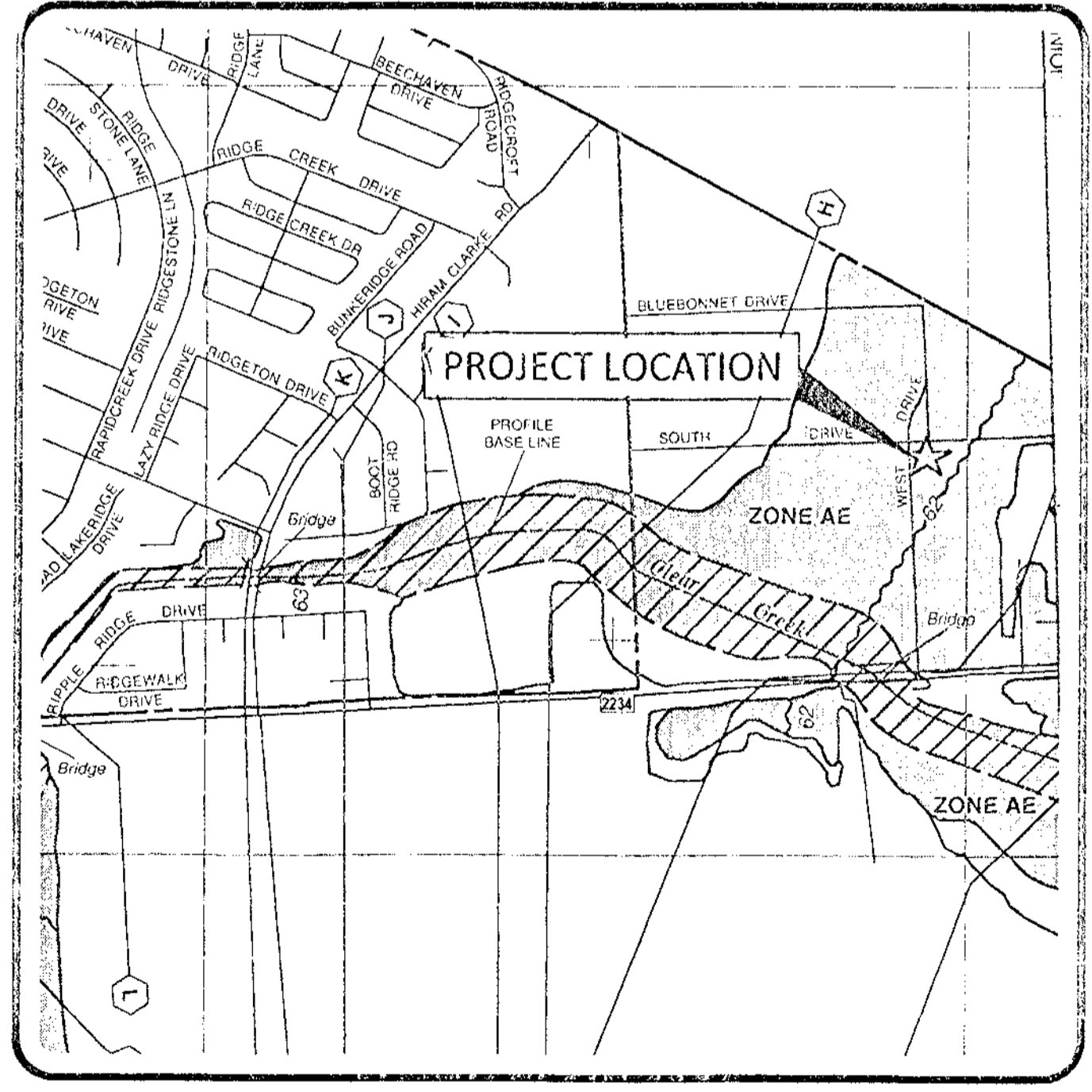
Si tiene una disputa concierne a su prima o a un reclamo, debe comunicarse con el Western Surety Company primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).

UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.

CIVIL PLANS FOR THE CONSTRUCTION OF SUNBURST TRADING



LOCATION MAP
NTS

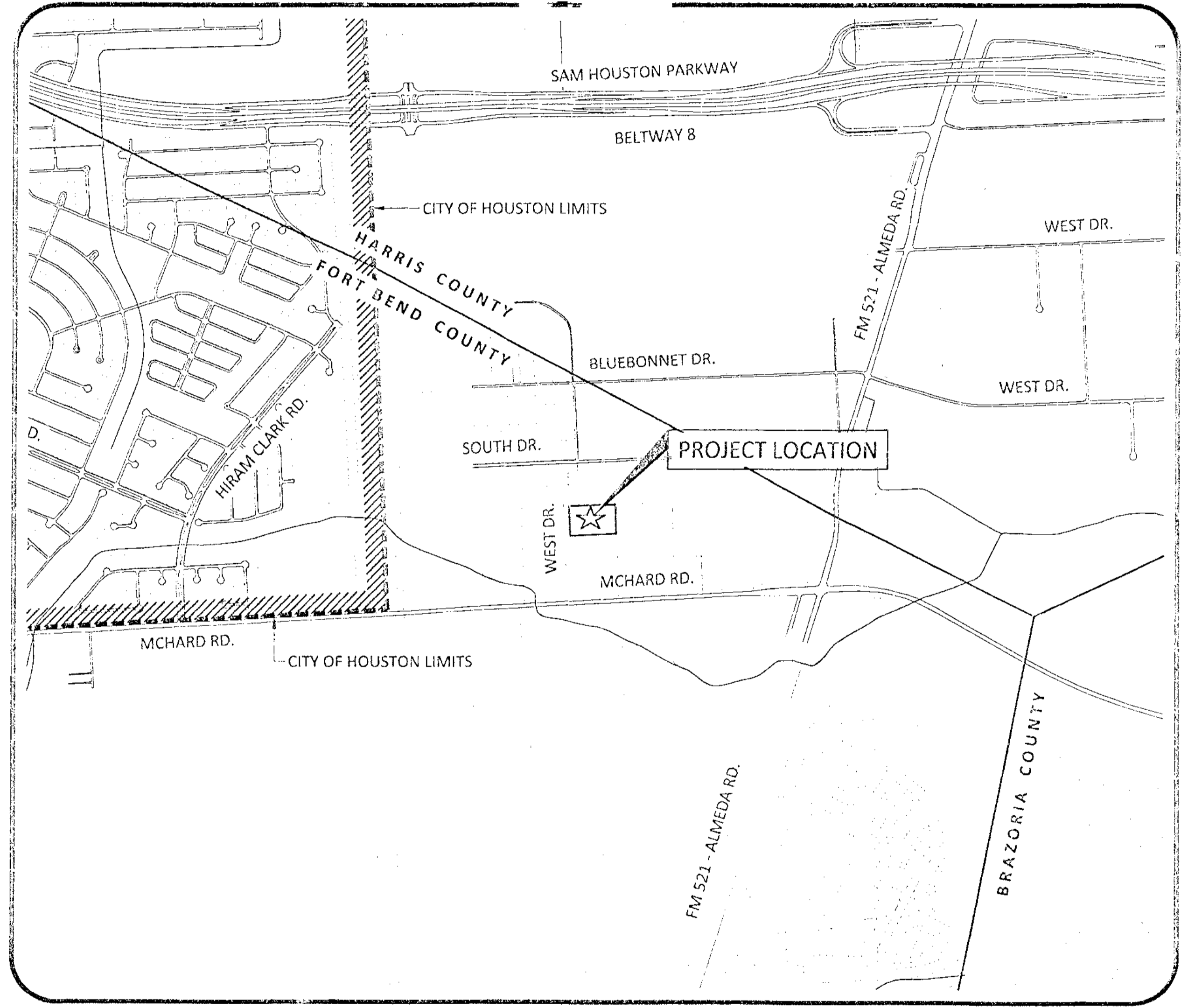


FLOOD PLAIN MAP
SCALE: 1" = 1000' (11"x17" 8.5"x11")
1" = 2000' (11"x17" 8.5"x11")

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY
FLOOD INSURANCE RATE MAP COMMUNITY
PANEL No. 48157C0305L DATED: 04/02/2014
THIS TRACT LIES WITHIN ZONE "A", AREAS WITHIN THE 100 YEAR FLOOD PLAIN
THE BASE FLOOD ELEVATION IS: 62.00±

OWNER INFORMATION:
SIVADI INTEREST, LLC
ATTN: SERPIAN DAVIS
1711 HATTERAS CT.
SUGARLAND, TEXAS 77479

PROJECT LOCATION:
15151 WEST DRIVE
HOUSTON, TEXAS 77053



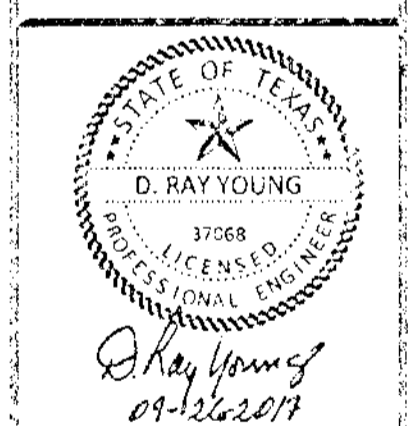
VICINITY MAP
FORT BEND COUNTY, TEXAS
KEY MAP: 612 A
SCALE: 1" = 1000' (11"x17" 8.5"x11")
1" = 2000' (11"x17" 8.5"x11")

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
01	COVER SHEET
02	SITE PLAN
03	PAVING PLAN
04	DRAINAGE AREA PLAN
05	GRADING & DRAINAGE PLAN
06	MITIGATION PLAN
07	CIVIL DETAILS 1
08	CIVIL DETAILS 2
09	STORMWATER POLLUTION PREVENTION PLAN
10	STORMWATER POLLUTION PREVENTION DETAILS
11	TRAFFIC CONTROL PLAN
12	GENERAL NOTES

REVISION	DATE

WATER ENGINEERS, INC.
Water & Wastewater Treatment Consultants
TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066
27230 HUFFMEISTER ROAD
CYPRESS, TEXAS 77429
TEL: 281-373-0500
FAX: 281-373-1113

CIVIL PLANS FOR THE CONSTRUCTION OF
SUNBURST TRADING
15151 WEST DRIVE
HOUSTON, TEXAS 77053



FORT BEND COUNTY ENGINEER

ENGINEER: *Richard W. Stolleis, P.E.*
for Richard W. Stolleis, P.E.

DATE: 12/11/17

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

APPROVED: *[Signature]*
Development Coordinator

DATE: 12/11/17

SHEET NAME:
COVER SHEET

DRAWN BY: JLW
CHECKED BY: DRY
PROJECT No.: 5759.1
DATE: 9/26/2017
SHEET No.:
01 OF 12

CONTRACTOR SHALL COORDINATE ALL WORK WITHIN FORT BEND COUNTY ROAD RIGHT OF WAY OF WEST DRIVE WITH FORT BEND COUNTY ROAD AND BRIDGE DEPARTMENT, 281-342-4513

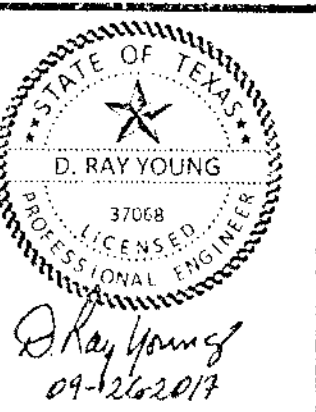
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REVISION	DATE

WATER ENGINEERS, INC.
 Water & Wastewater Treatment Consultants
 TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM NO. 2066
 17220 HUFMEISTER ROAD
 CYPRESS, TEXAS 77429
 TEL: 281-373-0500
 FAX: 281-373-1113

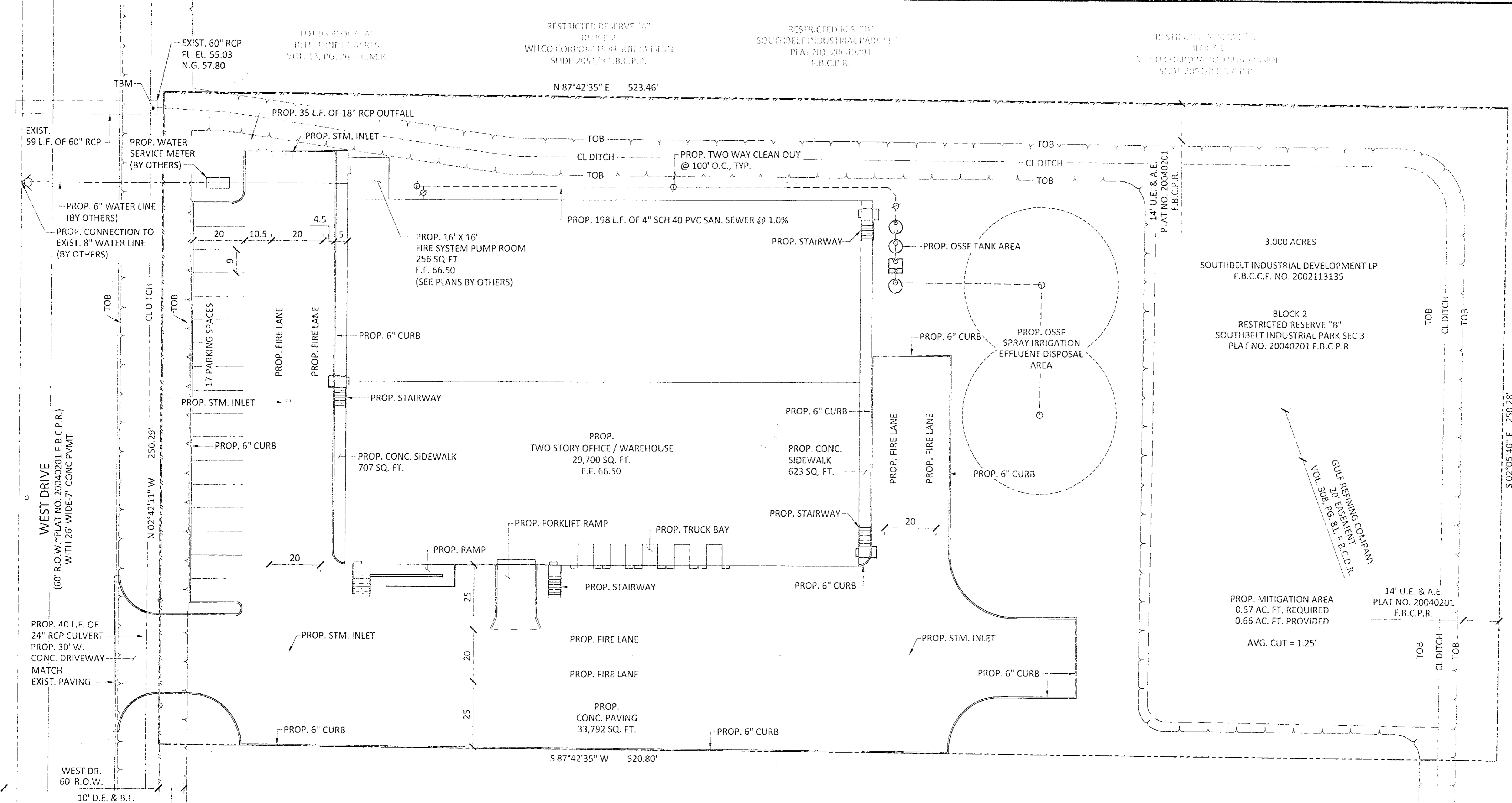
THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND MAY NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF WATER ENGINEERS, INC.

**CIVIL PLANS FOR THE CONSTRUCTION OF
 SUNBURST TRADING**
 15151 WEST DRIVE
 HOUSTON, TEXAS 77053



SHEET NAME:
SITE PLAN

DRAWN BY: JLW
 CHECKED BY: DRY
 PROJECT No.: 5759.1
 DATE: 9/25/2017
 SHEET No.:



SITE DESCRIPTION:
 3,000 ACRES OF LAND LOCATED IN THE HENRY LEVERING SURVEY, ABSTRACT 279, FORT BEND COUNTY, TEXAS AND BEING A PORTION OF RESTRICTED RESERVE "B", BLOCK 2 OF SOUTHBELT INDUSTRIAL PARK SEC 3, RECORDED IN PLAT NO. 20040201 OF F.B.C.P.R.

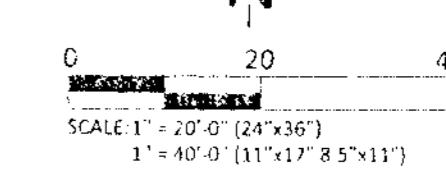
FLOOD PLAIN:
 ACCORDING TO FEMA FLOOD INSURANCE RATE MAP (FIRM) NO. 48157C0305L, MAP REVISED 04/02/2014, THE SURVEYED TRACT LIES IN ZONE AE, THE 100 YEAR FLOOD PLAIN ELEVATION APPEARS TO BE @ 62.0

SURVEY INFORMATION:
 PROVIDED BY JH MERCER ENGINEERS

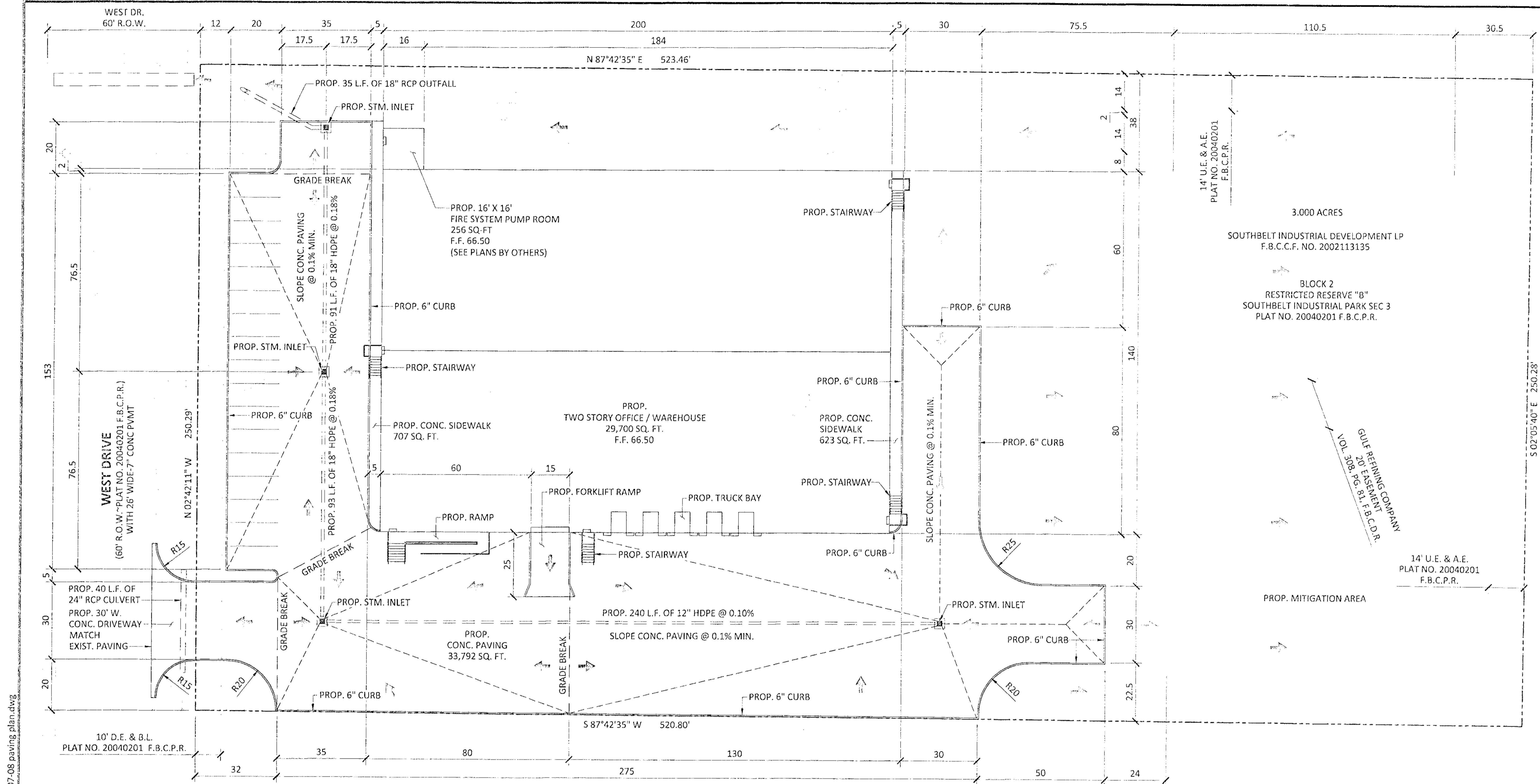
TBM:
 IS THE TOP THE 60" RCP CULVERT LOCATED AT THE NORTH WEST CORNER OF THE SITE. ELEVATION = 60.26 (2001 ADJUSTED DATUM)

BENCHMARK:
 RIM 010215, FROM SH 288 AT FM 2234: TRAVEL ± 3.25 MILE WEST ON FM 2234 TO CLEAR CREEK AND STATION ON RIGHT (NORTH). MONUMENT IS AT THE CENTER OF HEADWALL ON THE NORTH SIDE OF FM 2234. ELEVATION 62.95, 2001 ADJUSTED DATUM.

CONTRACTOR SHALL COORDINATE ALL WORK WITHIN FORT BEND COUNTY ROAD RIGHT OF WAY OF WEST DRIVE WITH FORT BEND COUNTY ROAD AND BRIDGE DEPARTMENT, 281-342-4513



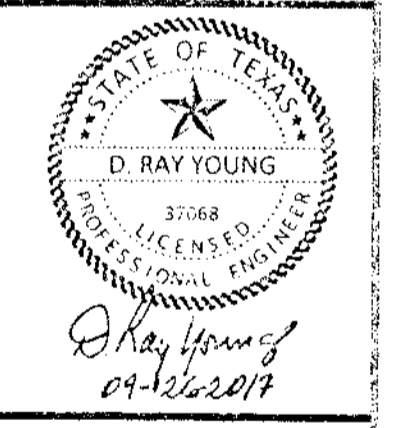
APPROVED: *[Signature]*
 Development Coordinator
 DATE: 9/25/2017



REVISION	DATE
DESCRIPTION	M/D/Y

WATERENGINEERS, INC.
 Water & Wastewater Treatment Consultants
 TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM NO. 2066
 17230 HUFFMEISTER ROAD
 CYPRESS, TEXAS 77429
 TEL: 281-373-0500
 FAX: 281-373-1113

**CIVIL PLANS FOR THE CONSTRUCTION OF
 SUNBURST TRADING**
 15151 WEST DRIVE
 HOUSTON, TEXAS 77053



SHEET NAME:
PAVING PLAN

DRAWN BY: JLW
 CHECKED BY: DRY
 PROJECT No.: 5759.1
 DATE: 9/26/2017
 SHEET No.: **03 OF 12**

SITE DESCRIPTION:
 3.000 ACRES OF LAND LOCATED IN THE HENRY LEVERING SURVEY, ABSTRACT 279, FORT BEND COUNTY, TEXAS AND BEING A PORTION OF RESTRICTED RESERVE "B", BLOCK 2 OF SOUTHBELT INDUSTRIAL PARK SEC 3, RECORDED IN PLAT NO. 20040201 OF F.B.C.P.R.

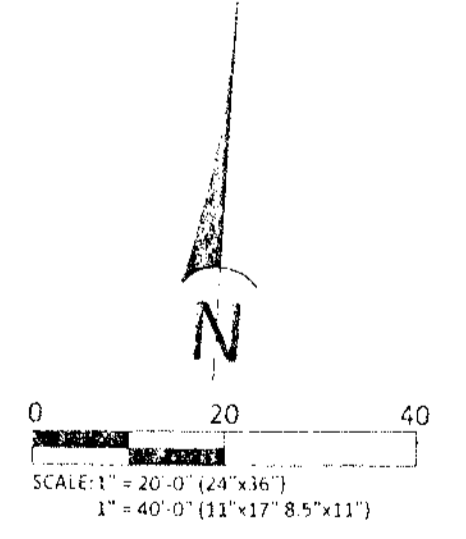
FLOOD PLAIN:
 ACCORDING TO FEMA FLOOD INSURANCE RATE MAP (FIRM) NO. 48157C03051, MAP REVISED 04/02/2014, THE SURVEYED TRACT LIES IN ZONE AE, THE 100 YEAR FLOOD PLAIN ELEVATION APPEARS TO BE @ 62.0

SURVEY INFORMATION:
 PROVIDED BY JH MERCER ENGINEERS

TBM:
 IS THE TOP THE 60" RCP CULVERT LOCATED AT THE NORTH WEST CORNER OF THE SITE. ELEVATION = 60.26 (2001 ADJUSTED DATUM)

BENCHMARK:
 FLOODPLAIN RM No. 010215, FROM SH 288 AT FM 2234: TRAVEL ± 3.25 MILE WEST ON FM 2234 TO CLEAR CREEK AND STATION ON RIGHT (NORTH). MONUMENT IS A BRASS DISC AT THE CENTER OF HEADWALL ON THE NORTH SIDE OF FM 2234. HORIZONTAL DATUM: NAD83, 2001 ADJUSTMENT. VERTICAL DATUM: NAVD88, 2001 ADJUSTMENT. ELEVATION 62.95.

CONTRACTOR SHALL COORDINATE ALL WORK WITHIN FORT BEND COUNTY ROAD RIGHT OF WAY OF WEST DRIVE WITH FORT BEND COUNTY ROAD AND BRIDGE DEPARTMENT, 281-342-4513



APPROVED: *[Signature]*
 Development Coordinator
 DATE: 12/8/17

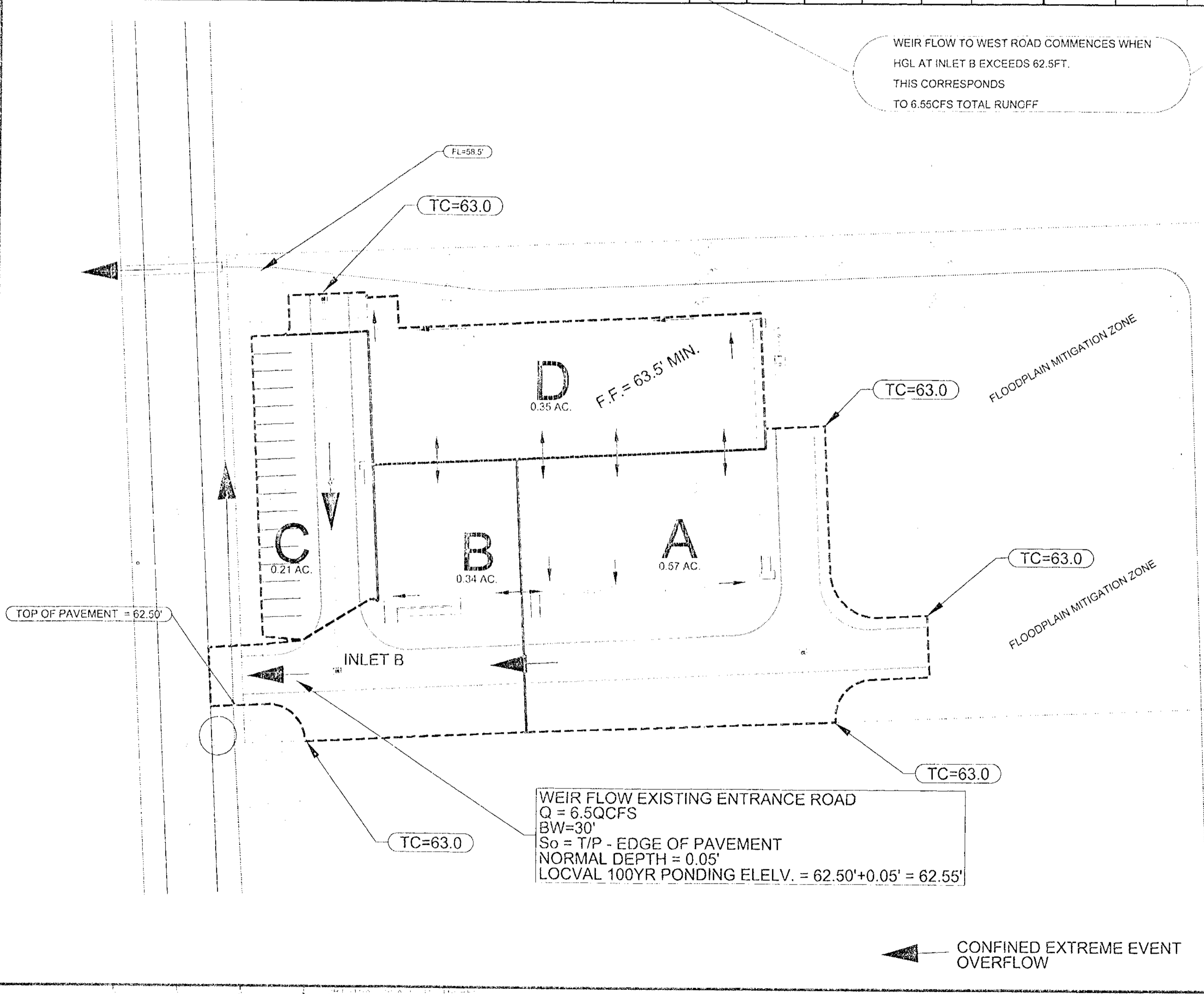
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SUNBURST TRADING
STORM SEWER CALCULATIONS
LOT FULL ANALYSIS (TW=100-YR IN DITCVH)

RUN ID AREA	NODE U/S	NODE D/S	AREA (ac)	CUM. AREA (ac)	RUNOFF COEFF. C	SUM OF C*A	TIME OF CONC. CUMUL (min)	INTENSITY i (in/hr)	SUM OF FLOWS (cfs)	REACH LENGTH (ft)	DIAM OR RISE (in)	SPAN (in)	AREA (sf)	SLOPE (%)	MANNINGS "N"	FLOWLINE UP STREAM (ft)	FLOWLINE DOWN STREAM (ft)	ACTUAL VELOCITY (fps)	HYDRAULIC GRADIENT (%)	CHANGE IN HEAD (ft)	HYD GRAD UP STREAM (ft)	HYD GRAD DOWN STREAM (ft)	TOP OF GRATE ELEV. (ft)	COMMENT
A	Inlet A	Inlet B	0.57	0.57	0.85	0.48	10.00	5.38	2.89	240	12	0	0.79	0.10	0.011	58.96	58.72	2.35	0.467	1.12	63.62	62.50	62.50	not
B	Inlet B	Inlet C	0.34	0.90	0.85	0.77	11.17	5.15	4.39	93	18	0	1.77	0.10	0.011	58.72	58.63	2.61	0.124	0.12	62.50	62.38	62.50	OK
C	Inlet C	Inlet D	0.21	1.11	0.85	0.94	12.34	4.94	5.17	91	18	0	1.77	0.10	0.011	58.63	58.54	2.70	0.173	0.16	62.38	62.23	62.50	OK
D	Inlet D	Ditch 1A	0.35	1.46	0.85	1.24	13.52	4.74	6.55	35	18	0	1.77	0.10	0.013	58.54	58.50	2.53	0.387	0.14	62.23	62.09	62.50	OK

2 YEAR STORM EVENT - PROPOSED CONDITIONS



WEIR FLOW TO WEST ROAD COMMENCES WHEN HGL AT INLET B EXCEEDS 62.5FT. THIS CORRESPONDS TO 6.55CFS TOTAL RUNOFF

SUNBURST TRADING
STORM SEWER CALCULATIONS
100-YR (PEAK FLOW ANALYSIS)

RUN ID AREA	NODE U/S	NODE D/S	AREA (ac)	CUM. AREA (ac)	RUNOFF COEFF. C	SUM OF C*A	TIME OF CONC. CUMUL (min)	INTENSITY i (in/hr)	SUM OF FLOWS (cfs)
A	Inlet A	Inlet B	0.57	0.57	0.85	0.48	10.00	11.63	5.62
B	Inlet B	Inlet C	0.34	0.90	0.85	0.77	11.17	11.22	8.62
C	Inlet C	Inlet D	0.21	1.11	0.85	0.94	12.34	10.85	10.24
D	Inlet D	Ditch 1A	0.35	1.46	0.85	1.24	13.52	10.50	13.06

Q 100 = 13.06CFS
Q MAX IN STM AT WEIR FLOW = 6.55 CFS
Q DIFF = 6.51CFS (OUTBOUND WEIR FLOW)

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
September 22, 2017

DESCRIPTION	PROGRAM INPUT DATA	VALUE
Flow Rate (cfs)		6.51
Channel Bottom Slope (ft/ft)		0.065
Manning's Roughness Coefficient (n-value)		0.013
Channel Left Side Slope (horizontal/vertical)		2:0
Channel Right Side Slope (horizontal/vertical)		2:0
Channel Bottom Width (ft)		30.0

DESCRIPTION	COMPUTATION RESULTS	VALUE
Normal Depth (ft)		6.05
Flow Velocity (fps)		4.14
Froude Number		3.196
Velocity Head (ft)		0.27
Energy Head (ft)		0.32
Cross-Sectional Area of Flow (sq ft)		1.57
Top Width of Flow (ft)		30.0

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PROVIDED BY JH MERCER ENGINEERS

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PRIVATE UTILITY LINES SHOWN

NOTES:
AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.U.W. OR BASEMENT, CALL TOLL FREE 800-451-7233 CENTER LINE 223-4567 OR 1-800-400-4343

SOUTHBELT INDUSTRIAL PARK SECTION 3

SITE DRAINAGE

SUNBURST TRADING 100YR PONDING ANALYSIS

Site Civil Engineering LP
Hydrology, Hydraulics, Engineering, Permitting

FILE NO: _____
DRAWING NO: _____
DATE: 9/25/2017

APPROVED: *Lawrence N. Lopez*
Development Coordinator
DATE: 9/25/2017

REVISION	DATE
DESCRIPTION	M/D/YY

WATERENGINEERS, INC.
Water & Wastewater Treatment Consultants
TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066
17230 HUBBARD ROAD
CYPRESS, TEXAS 77429
TEL: 281-379-0500
FAX: 281-379-1115

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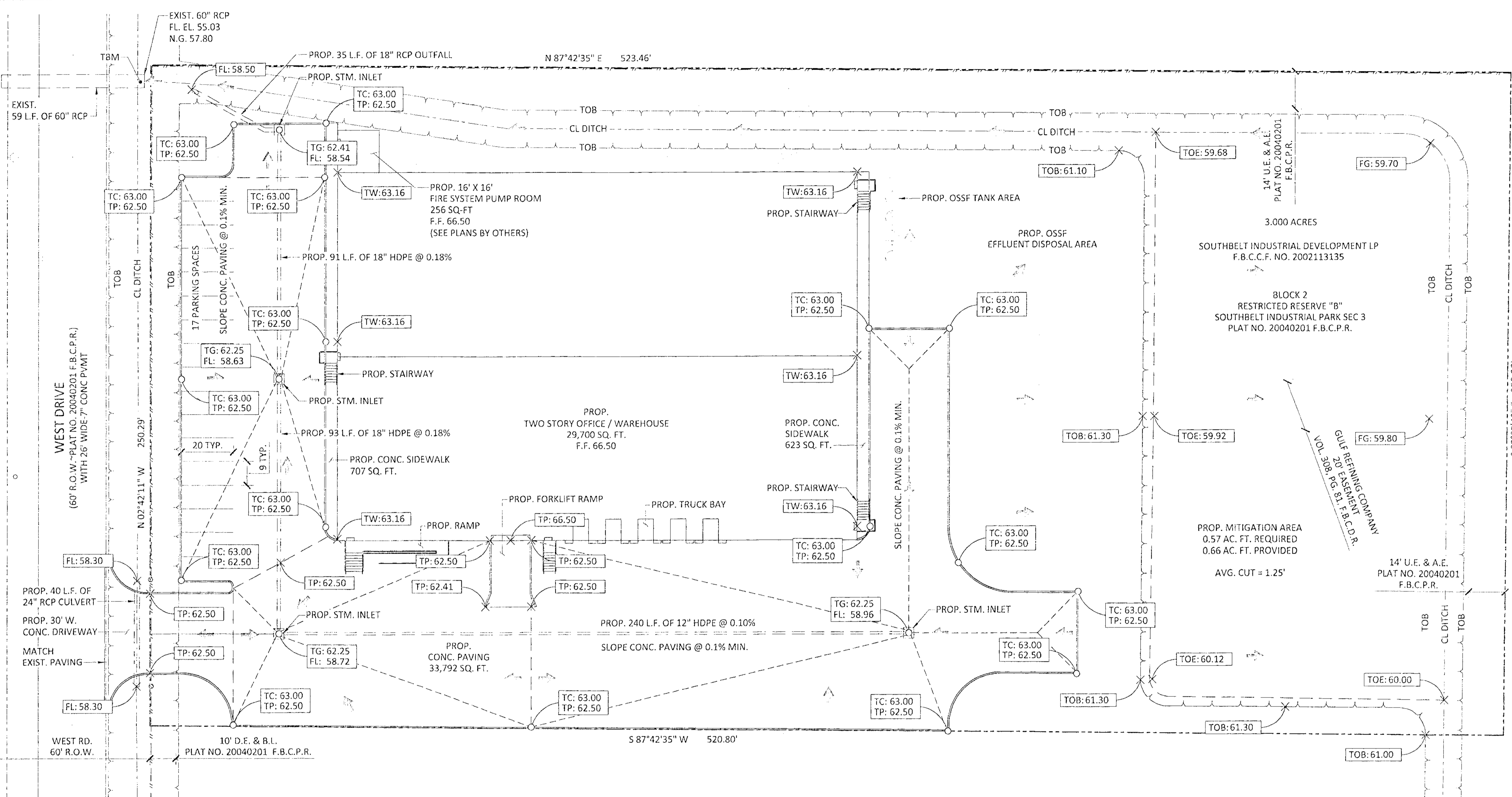
CIVIL PLANS FOR THE CONSTRUCTION OF
SUNBURST TRADING
15151 WEST DRIVE
HOUSTON, TEXAS 77053

SHEET NAME:
DRAINAGE AREA PLAN

DRAWN BY: JLW
CHECKED BY: DRY

PROJECT No.: 5759.1
DATE: 9/25/2017
SHEET No.: **04 OF 12**

\\server\wei\cad\current\jobs\1759\01_sunburst trading\wei\current\04-05 drainage plan.dwg



- LEGEND**
- FLOW DIRECTION
 - ▭ PROP. STORM INLET
 - ▭ PROP. STORM SEWER
 - PROP. WATERLINE
 - PROP. SAN. SEWER
 - PROP. CLEAN OUT
 - DA DRAINAGE AREA
 - TP TOP OF PAVING
 - TC TOP OF CURB
 - TW TOP OF WALK
 - TOB TOP OF BANK
 - TG TOP OF GRATE
 - FL FLOW LINE
 - FG FINISHED GRADE
 - CL CENTER LINE

SITE DRAINAGE ANALYSES :
 SEE ATTACHED REPORT PREPARED BY:
 LAWRENCE S. LOPEZ, P.E. (TEXAS LICENSE No. 88565)
 4SITE CIVIL ENGINEERING, LP (FIRM No. F-5076)

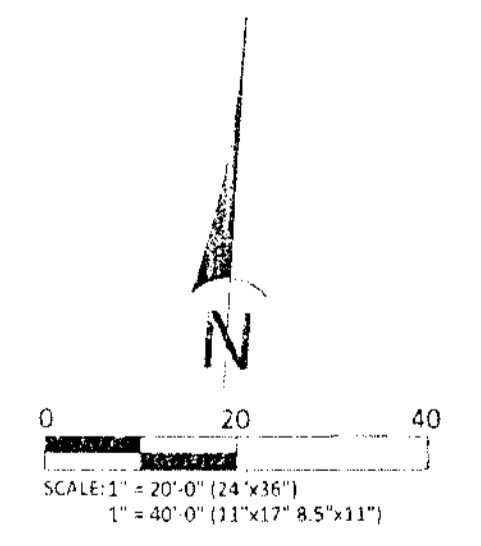
SITE DESCRIPTION:
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FLOOD PLAIN:
 ACCORDING TO FEMA FLOOD INSURANCE RATE MAP (FIRM) NO. 48157C0305L, MAP REVISED 04/02/2014, THE SURVEYED TRACT LIES IN ZONE AE, THE 100 YEAR FLOOD PLAIN ELEVATION APPEARS TO BE @ 62.0

SURVEY INFORMATION:
 PROVIDED BY JH MERCER ENGINEERS

TBM:
 IS THE TOP THE 60" RCP CULVERT LOCATED AT THE NORTH WEST CORNER OF THE SITE. ELEVATION = 60.26 (2001 ADJUSTED DATUM)

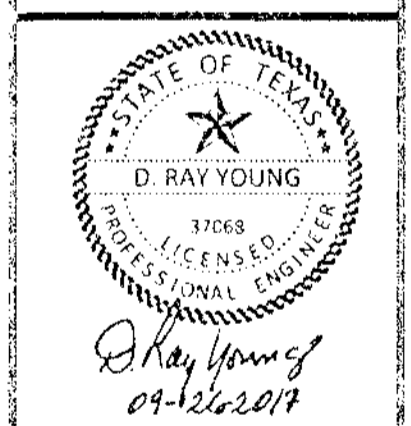
BENCHMARK:
 FLOODPLAIN RM No. 010215, FROM SH 288 AT FM 2234: TRAVEL ± 3.25 MILE WEST ON FM 2234 TO CLEAR CREEK AND STATION ON RIGHT (NORTH). MONUMENT IS A BRASS DISC AT THE CENTER OF HEADWALL ON THE NORTH SIDE OF FM 2234. HORIZONTAL DATUM: NAD83, 2001 ADJUSTMENT. VERTICAL DATUM: NAVD88, 2001 ADJUSTMENT. ELEVATION 62.95.



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 17230 HUFFMEISTER ROAD TEL: 281-373-0500
 CYPRESS, TEXAS 77429 FAX: 281-373-1113

**CIVIL PLANS FOR THE CONSTRUCTION OF
 SUNBURST TRADING**
 15151 WEST DRIVE
 HOUSTON, TEXAS 77053



SHEET NAME:

GRADING & DRAINAGE PLAN

DRAWN BY: JLW

CHECKED BY: DRY

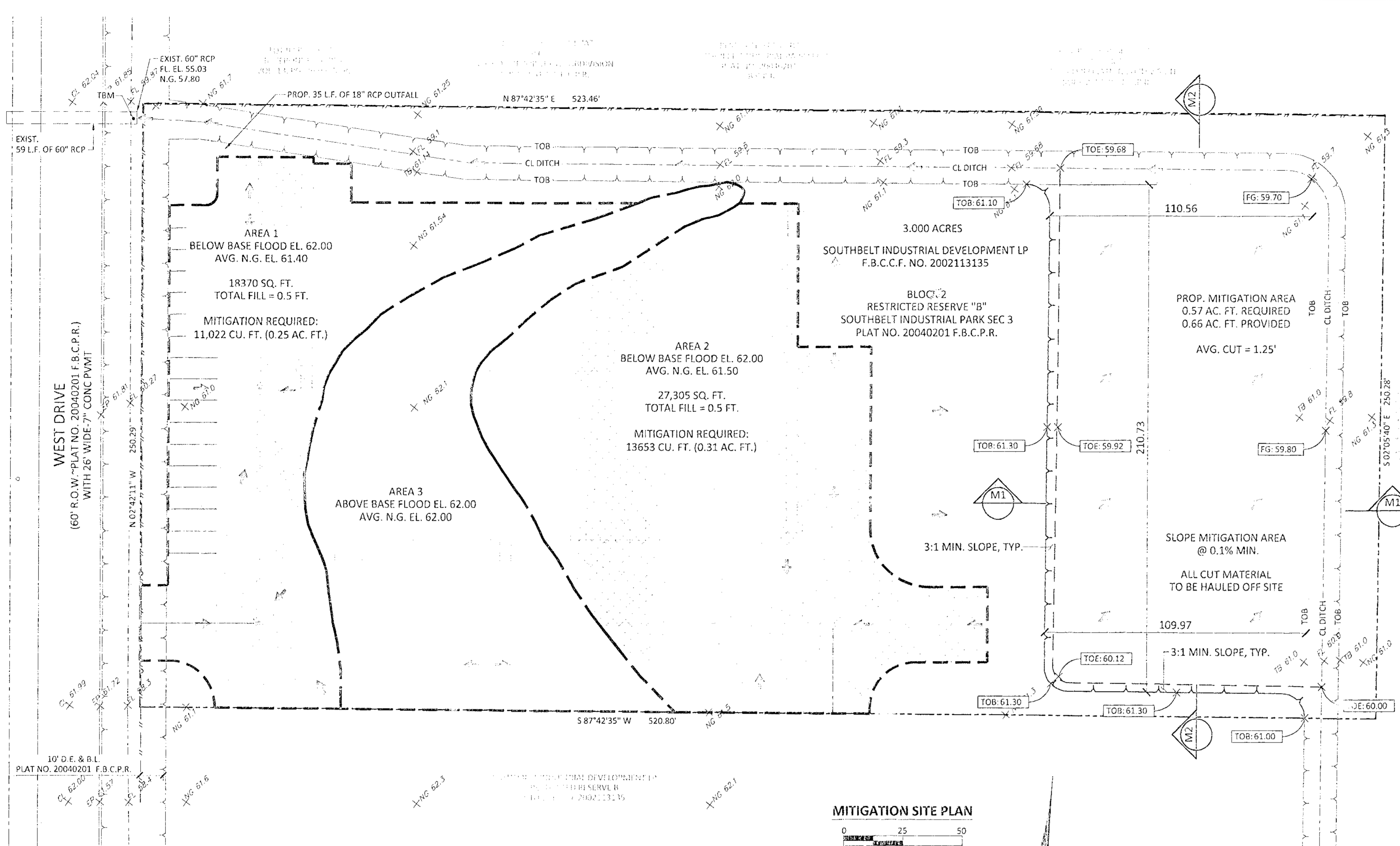
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DATE: 9/25/2017

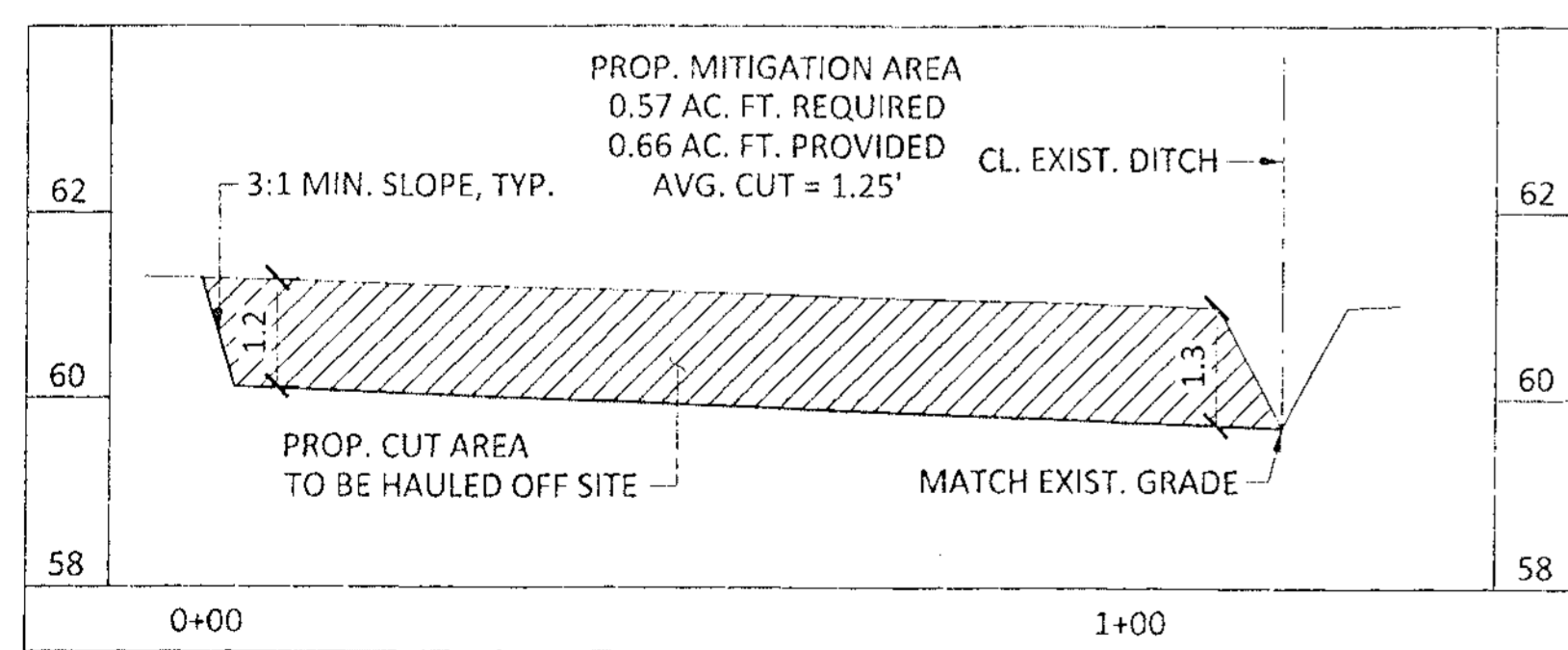
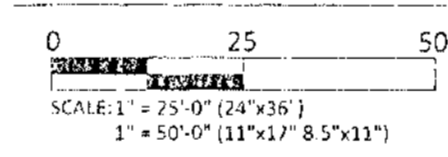
SHEET No.:

05 OF 12

APPROVED: *[Signature]*
 Development Coordinator
 DATE: 9/25/17

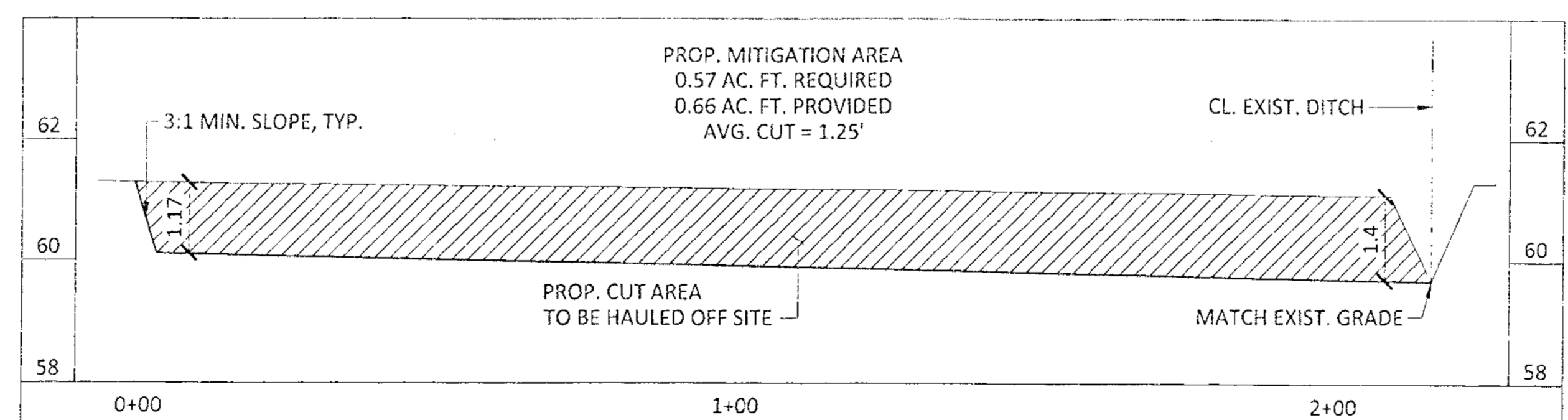


MITIGATION SITE PLAN



M1 LATITUDINAL MITIGATION PROFILE

SCALE:
HORIZONTAL: 1" = 20'-0" / VERTICAL: 1" = 2'-0"



M2 LONGITUDINAL MITIGATION PROFILE

SCALE:
HORIZONTAL: 1" = 20'-0" / VERTICAL: 1" = 2'-0"

MITIGATION DESIGN CALCULATIONS	
WIDTH (LATITUDINAL)	110 FT.
LENGTH (LONGITUDINAL)	210 FT.
TOTAL PROPOSED CUT	1.25 FT.
LAT. CROSS SECTIONAL AREA	137.5 SQ. FT.
LAT. VOLUME	28875 CU. FT.
	0.66 AC.-FT.
LONG. CROSS SECTIONAL AREA	264 SQ. FT.
LONG. VOLUME	29040 CU. FT.
	0.67 AC.-FT.
TOTAL MITIGATION PROVIDED	28957.50 CU. FT.
	0.66 AC.-FT.

Note: based on average volumes across the Site

MITIGATION REQUIREMENT CALCULATION	
BASE FLOOD ELEVATION	62.00 FT.
AREAS BELOW BASE FLOOD ELEVATION	
AREA 1	18370 SQ. FT.
AVERAGE NATURAL GRADE ELEV.	61.4 FT.
PROP. AVERAGE FILL	0.6 FT.
AREA 1 MITIGATION REQUIRED	11022 CU. FT.
	0.25 AC.-FT.
AREA 2	27305 SQ. FT.
AVERAGE NATURAL GRADE ELEV.	61.5 FT.
PROP. AVERAGE FILL	0.5 FT.
AREA 2 MITIGATION REQUIRED	13652.5 CU. FT.
	0.31 AC.-FT.
TOTAL MITIGATION REQUIRED	24674.5 CU. FT.
	0.57 AC.-FT.

SITE DRAINAGE ANALYSES :
SEE ATTACHED REPORT PREPARED BY:
LAWRENCE S. LOPEZ, P.E. (TEXAS LICENSE No. 88565)
4SITE CIVIL ENGINEERING, LP (FIRM No. F-5076)

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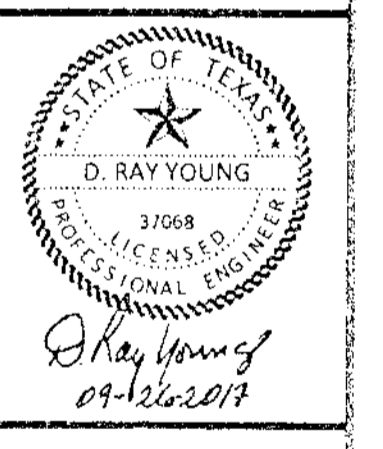
APPROVED: *[Signature]*
Development Coordinator

DATE: 8/31/2017

REVISION	DATE

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CIVIL PLANS FOR THE CONSTRUCTION OF
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SHEET NAME:
MITIGATION PLAN

DRAWN BY: JLW

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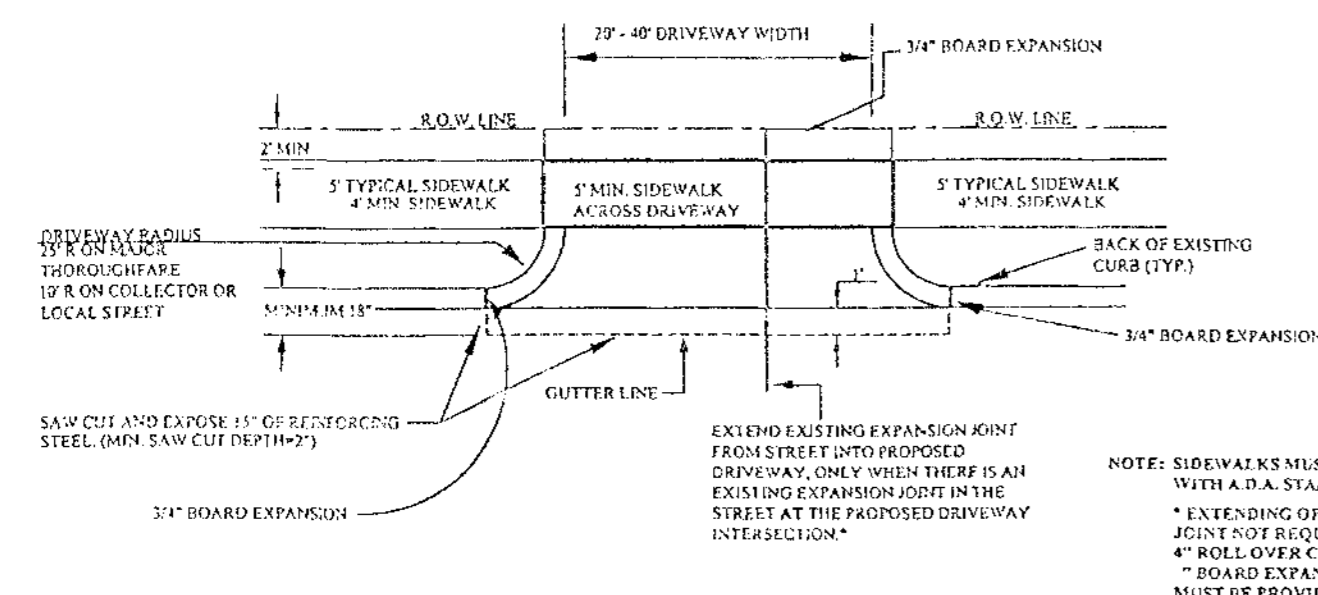
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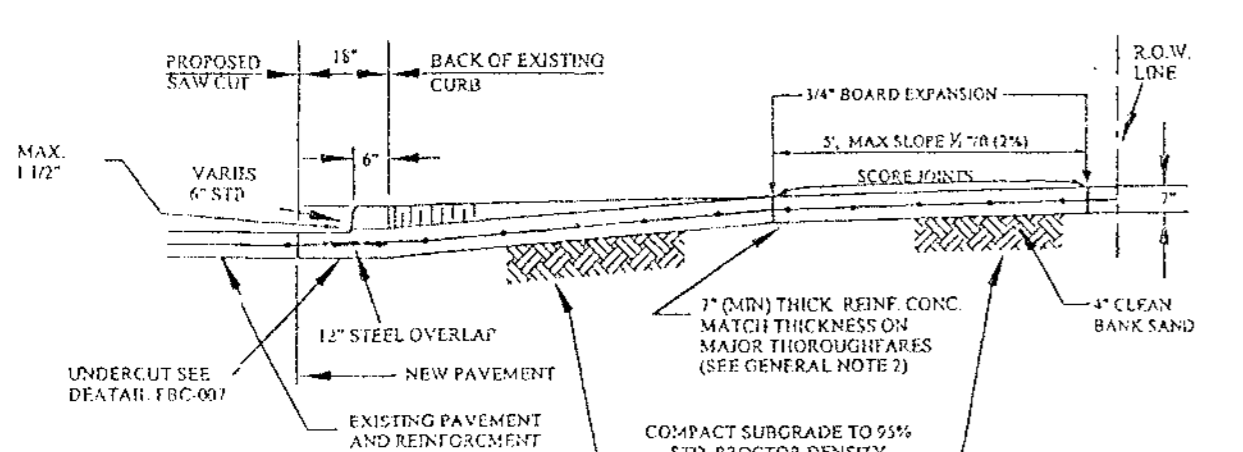
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WHEN A COMMERCIAL SIDEWALK, DRIVEWAY, CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR GRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURB TYPE STREETS, USE SECTIONS APPLICABLE.

A. USE FOR ALL PROPOSED EXISTING CURB REMOVAL FOR DRIVEWAYS (PLAN VIEW NOT TO SCALE)



B. USE FOR ALL PROPOSED DRIVES ON CURBED TYPE STREETS

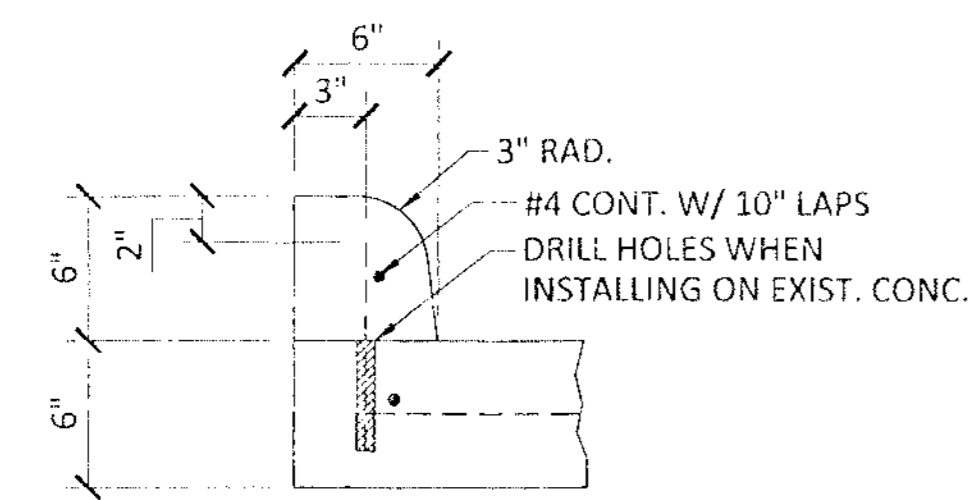


GENERAL NOTES:

1. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO R.O.W. LINE. COMPACT TO 95% OF STANDARD PROCTOR DENSITY (4% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
2. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 DEFORMED REINFORCING BARS (ASTM A615 GRADE 60, UNLESS NOTED) SPACED AT 24 INCHES C.C. EACH WAY WITH 12 INCHES MINIMUM LAP (6" x 6" W6 x W6 AS ALTERNATE) FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE.
3. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 7 INCHES THICK FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE (PROPERTY LINE).
4. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 4 INCHES THICK.
5. FOR TYPICAL SIDEWALK OF ATAIL SEE FCB 025A.

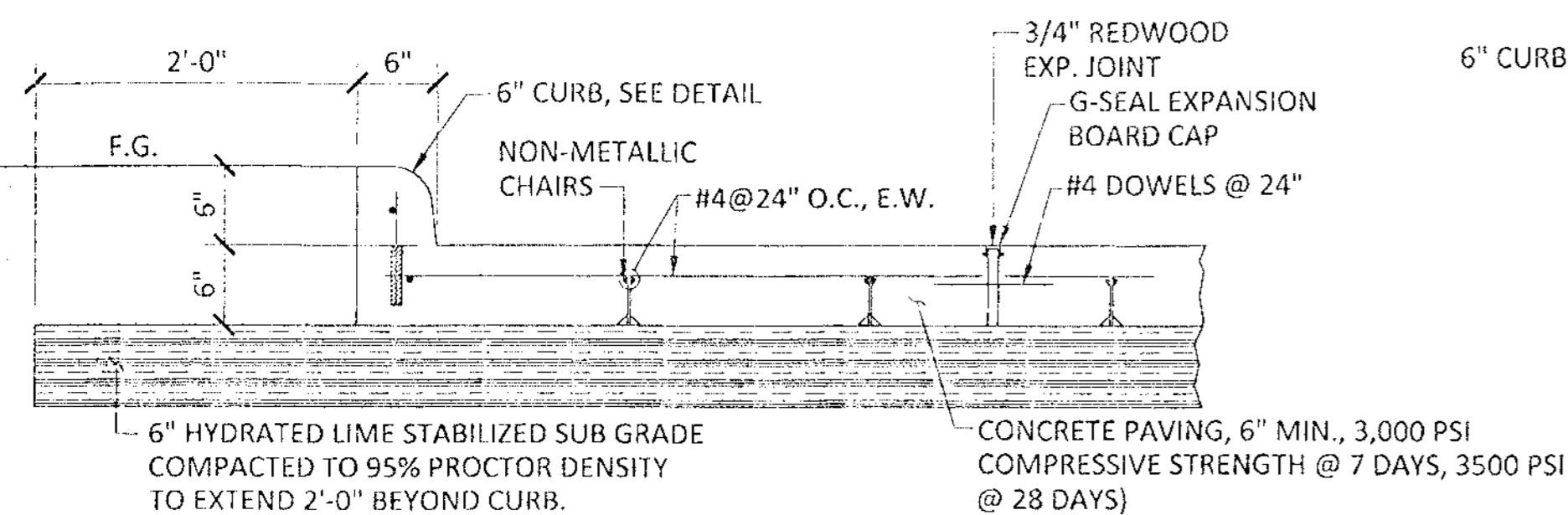
SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: J. NETARDUS DATE REVISED: 4-7-09
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-025A

FORT BEND COUNTY ENGINEERING DEPARTMENT



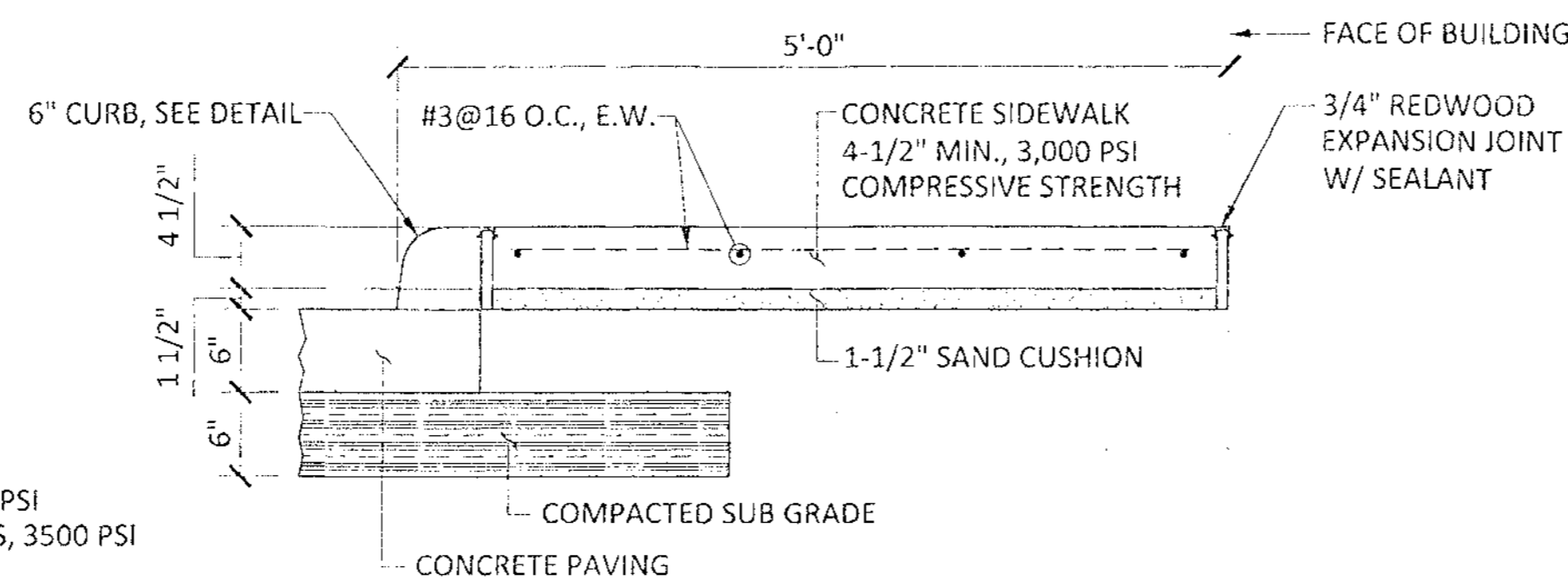
6" CURB DETAIL
NTS

NOTE:
SET #4 DOWELS, 9" LONG @ 18" O.C. WHEN PAVEMENT SECTION IS POURED. WHEN CONCRETE CURB IS PLACED ON AN EXISTING CONC. BASE, SET #4 BARS, 9" LONG @ 8" O.C. AS SHOWN, SET IN SULPHUR OR QUICK SETTING CEMENT.



CONCRETE PAVING DETAIL
NTS

SEE CONSTRUCTION DWGS FOR SIDEWALK WIDTHS REQ'D. SIDEWALKS OVER 8' WIDE TO HAVE LONGITUDINAL EXPANSION JOINT IN CENTER



SIDEWALK DETAIL
NTS

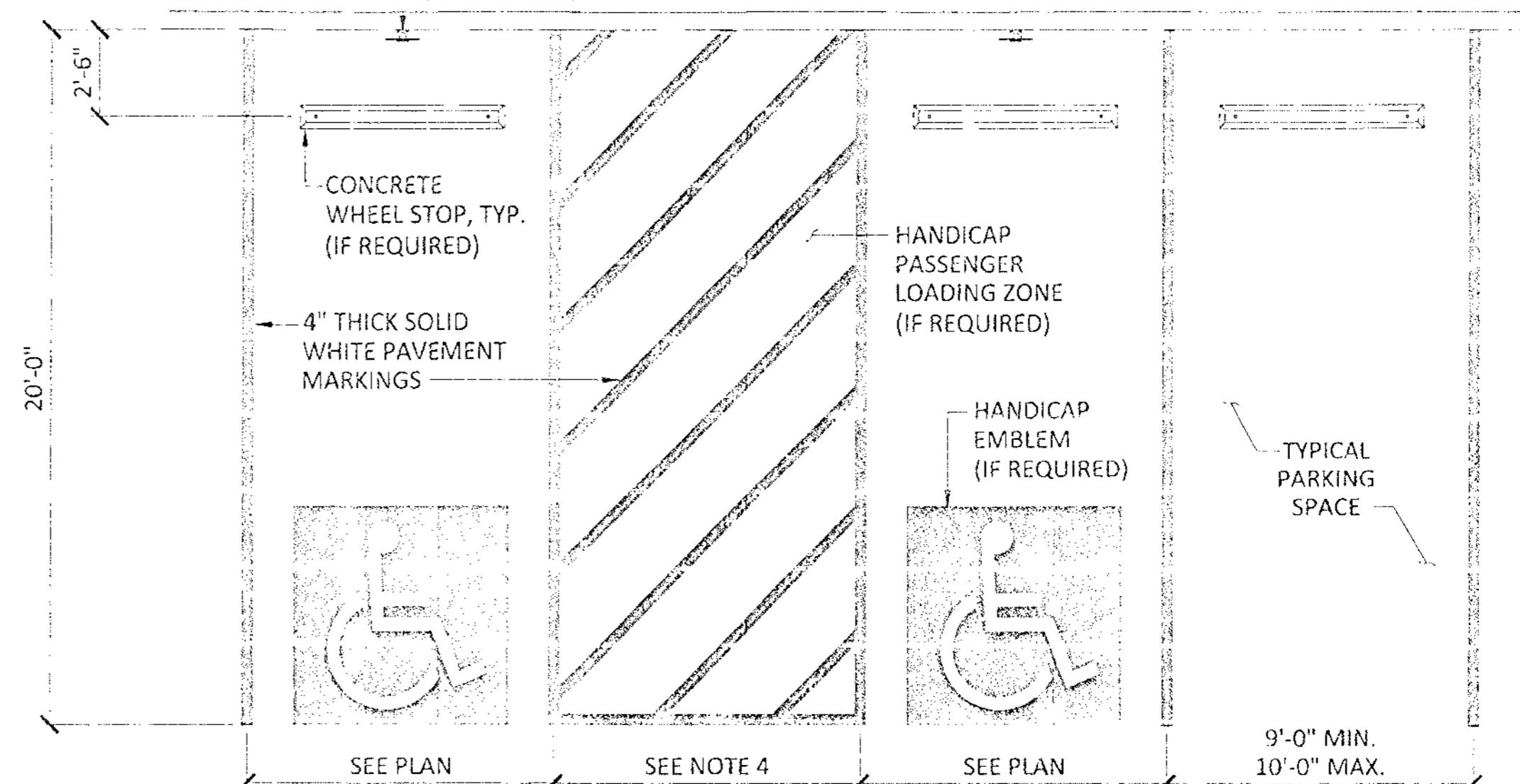
GENERAL NOTES FOR SIDEWALKS AND DRIVEWAYS

1. SAW CUT EXISTING CURB AT EACH END AND KNOCK OUT CURB FROM BEGINNING TO END OF PROPOSED DRIVEWAY.
2. SAW CUT EXISTING PAVEMENT A MINIMUM OF 18" INCHES AWAY FROM BACK OF CURB (GUTTER LINE) AND BREAK OUT TO EXPOSE EXISTING REINFORCEMENT STEEL.
3. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT-OF-WAY LINE. COMPACT TO 95% OF STANDARD PROCTOR DENSITY (4% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
4. PLACE AND COMPACT 4" CLEAN BANK SAND.
5. MAINTAIN GUTTER LINE WITH FACE OF EXISTING CURB.
6. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE TIED TO EXISTING ROADWAY REINFORCING STEEL WITH A MINIMUM LAP OF 12 INCHES.
7. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 DEFORMED REINFORCING BARS (ASTM A615 GRADE 60, UNLESS NOTED) SPACED AT 24 INCHES C.C. EACH WAY WITH 12 INCHES MINIMUM LAP (6" x 6" W6 x W6 AS ALTERNATE) FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE.
8. PROPOSED DRIVEWAY, CURB, GUTTER LINE, AND GRADE SHALL MATCH EXISTING STREET.
9. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 7 INCHES THICK FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE (PROPERTY LINE).
10. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 4 INCHES THICK AND 4 FEET MINIMUM WIDTH. SEE DRAWING NO. FBC 24A FOR ADDITIONAL INFORMATION AND DETAILS.

CONSTRUCTION NOTES FOR SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: L. BRDECKA DATE REVISED: 3-10-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-025B

FORT BEND COUNTY ENGINEERING DEPARTMENT

POST MOUNTED HANDICAP ACCESSIBLE SIGN (IF REQUIRED)



ACCESSIBLE PARKING NOTES:

1. ALL SLOPES FOR ACCESSIBLE SPACES, AND ACCESSIBLE AISLES SHALL NOT EXCEED 2%
2. COLUMNS SHALL NOT ENCRUCH INTO SPACES, AISLE OR PASSENGER LOADING ZONE.
3. PAVEMENT MARKINGS SHALL BE 5 FEET WIDE FOR CARS, AND 9 FEET FOR VANS.

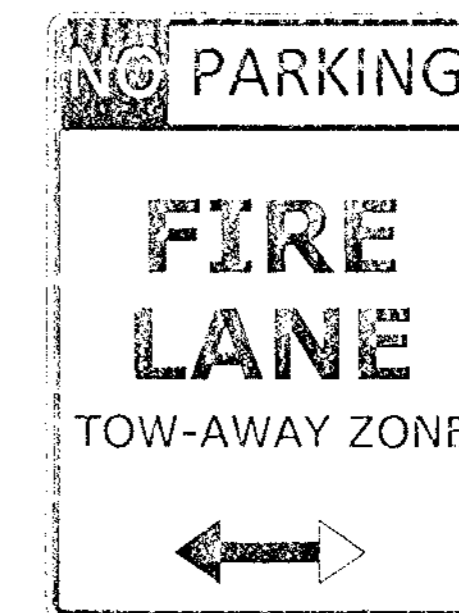
PARKING DETAIL
NTS

FIRE LANE SIGN NOTES:

1. AT THE BEGINNING AND END OF THE FIRE LANE,
2. THE SIGN SHALL HAVE A SINGLE HEADED ARROW POINTING IN THE DIRECTION THE REGULATION IS IN EFFECT. THE INTERMEDIATE SIGN SHALL HAVE DOUBLE HEADED ARROWS POINTING IN BOTH DIRECTIONS.
3. DESIGNATED CURBS SHALL BE PAINTED "RED" CURBS SHALL BE CONSPICUOUSLY AND LEGIBLY MARKED WITH THE WARNING "FIRE LANE NO PARKING/TOW-AWAY ZONE" IN WHITE LETTER AT LEAST 3" IN HEIGHT, AT INTERVALS NOT EXCEEDING 50'.
4. THE SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° WITH THE CURB OR LINE OF TRAFFIC FLOW.
5. THE CLEARANCE TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. THERE SHALL BE NO OTHER SIGNS ATTACHED TO THE SIGN OR SIGN POLE.

FIRE LANE NOTES

1. STANDARD 6" CURB: PAINT RED LANE STRIPE ON BOTH FACE AND TOP OF CURB PAINT WHITE LETTERS ON FACE AND TOP OF CURB ONLY.
2. LOW CURB (HEADER CURB OR NO CURB): PAINT RED LANE STRIPE AND WHITE LETTERS ON TOP OF HEADER CURB OR PAVEMENT.
3. DESIGNATED CURBS SHALL BE PAINTED "RED" CURBS SHALL BE CONSPICUOUSLY AND LEGIBLY MARKED WITH THE WARNING "FIRE LANE NO PARKING/TOW-AWAY ZONE" IN WHITE LETTER AT LEAST 3" IN HEIGHT, AT INTERVALS NOT EXCEEDING 50'.
4. DESIGNATED STRIPE ON PAVEMENT SHALL BE PAINTED "RED". STRIPES SHALL BE CONSPICUOUSLY AND LEGIBLY MARKED WITH THE WARNING "FIRE LANE NO PARKING/ TOW-AWAY ZONE" IN WHITE LETTERS AT LEAST 3" IN HEIGHT, AT INTERVALS NOT EXCEEDING 50'.
5. CURBS LOCATED ON EITHER SIDE OF A FIRE LANE SHALL BE PAINTED RED OR A RED STRIPE SHALL BE PLACED ALONG THE PAVEMENT WHERE THERE IS NO CURB. WHERE A FIRE LANE PASSES BETWEEN HEAD IN PARKING SPACES, THE RED STRIPE SHOULD BE PLACED ALONG THE REAR OF THESE SPACES CLEARLY DEFINING THE FIRE LANE.
6. PAINTED CURBS AND FIRE LANE STRIPES SHALL ALSO BE CONSPICUOUSLY AND LEGIBLY MARKED WITH THE WARNING "FIRE LANE-TOW AWAY ZONE" IN WHITE LETTERS AT LEAST THREE (3) INCHES IN HEIGHT, AT INTERVALS NOT EXCEEDING (50) FEET.
7. WHERE ARE LANES ARE CLEARLY DEFINED BY CURB/PAVEMENT STRIPING, FIRE LANE SIGNS ARE NOT REQUIRED. FIRE LANE SIGNS SHOULD BE PLACED EVERY (75) FEET ALONG ANY FIRE LANE WHERE PAVEMENT OR CURB STRIPING IS NOT PRACTICAL
8. ANY COLOR OTHER THAN RED MAY BE USED IN "NO PARKING" AREAS THAT ARE NOT APPROVED FIRE LANES.
9. RED COLORED CURBS, PAVEMENT STRIPING OR WHEEL STOPS SHALL BE USED ONLY TO DESIGNATE APPROVED FIRE LANES. THE PLANS WILL BE APPROVED WITH THE CIVIL SITE-PLAN REVIEW BUT MAY BE REVISED AT FIRE CODE REVIEW, BY THE BUILDING OFFICIAL

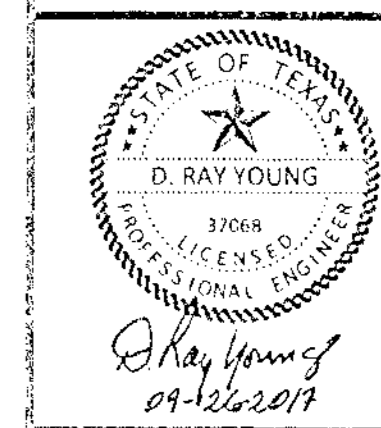


FIRE LANE SIGN DETAIL
NTS

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TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM NO. 20669
17330 NUTMEATER ROAD
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CIVIL PLANS FOR THE CONSTRUCTION OF
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SHEET NAME:

CIVIL DETAILS 1

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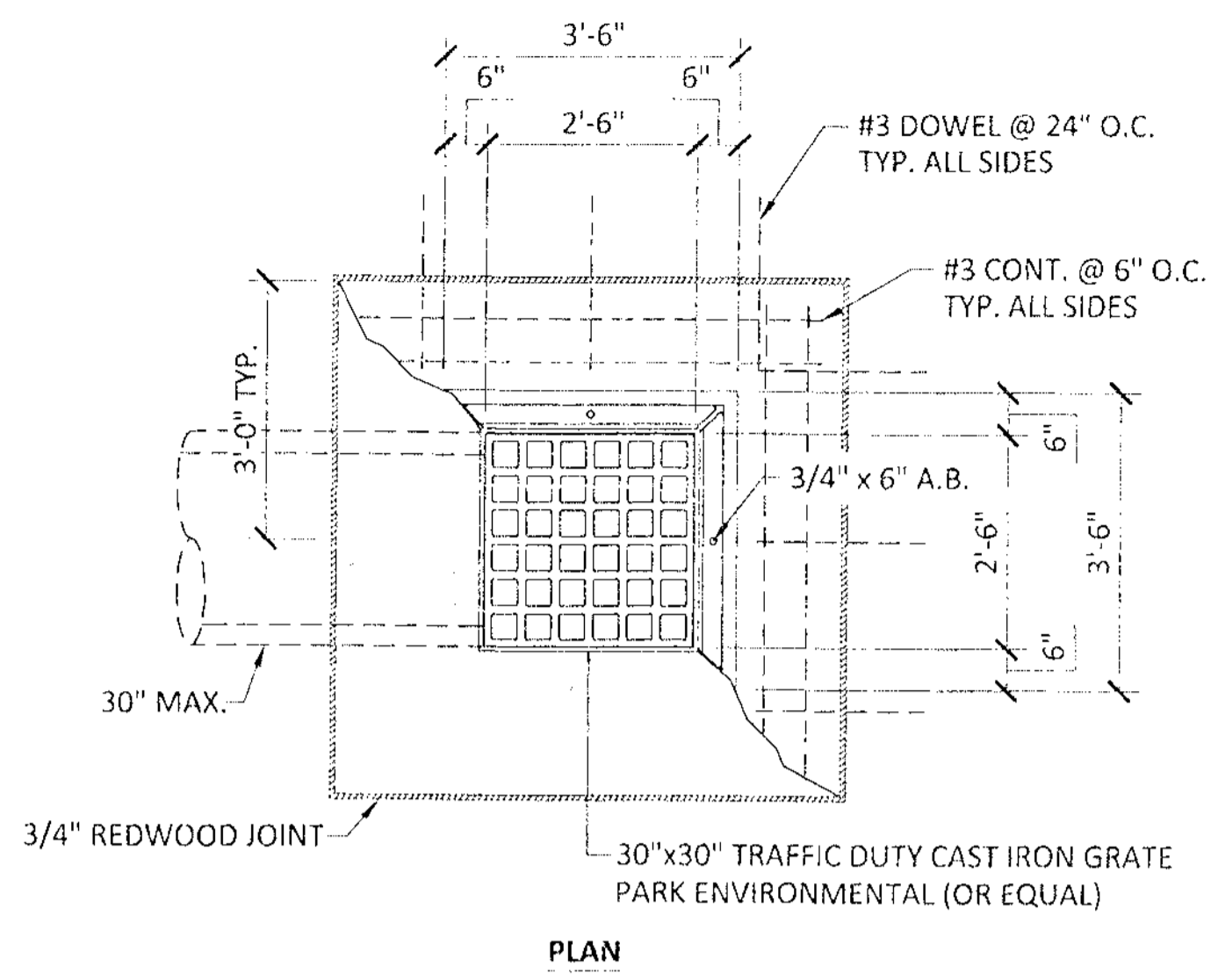
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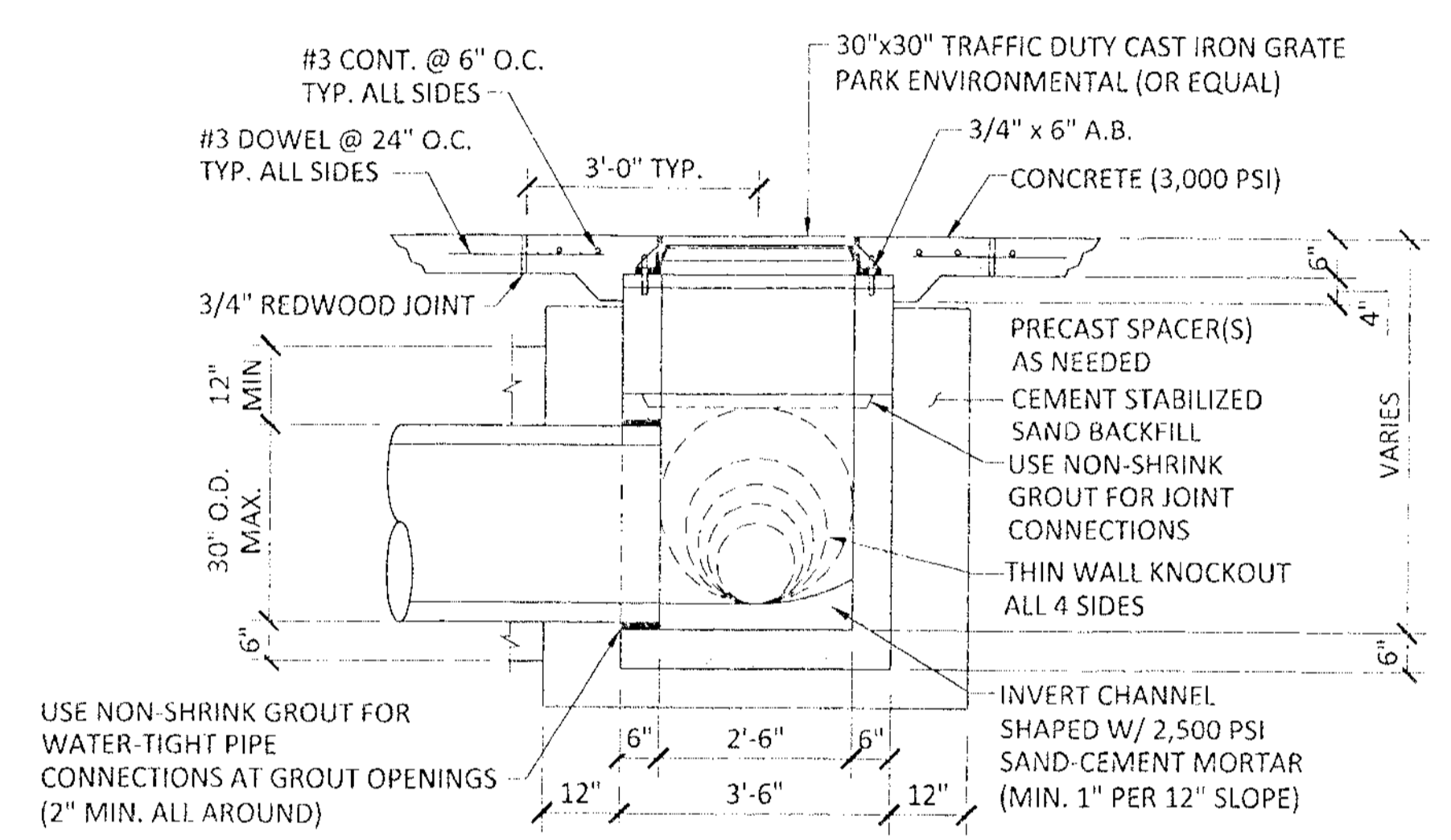
07 OF 12

APPROVED: [Signature]
Development Coordinator

DATE: 9/26/17



PLAN



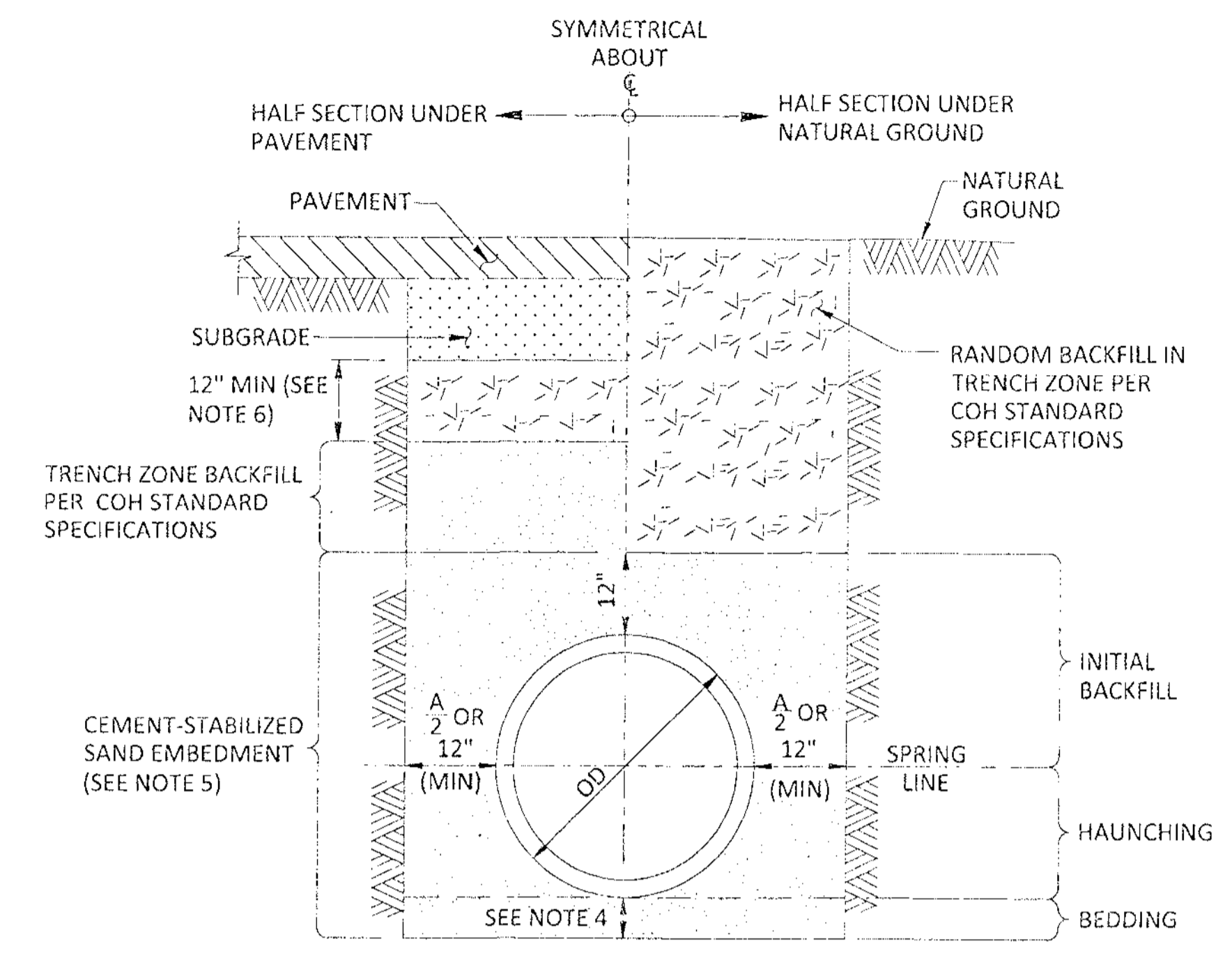
SECTION

STORM SEWER TYPE "A" GRATED INLET DETAIL

NTS

GENERAL NOTES:

1. PRECAST STRUCTURE TO MEET ASTM C913
2. KNOCK-OUTS ARE NOT PERMISSIBLE FOR PRECAST CONSTRUCTION OF INLET.
3. CEMENT STABILIZED SAND SHALL EXTEND TO THE BOTTOM OF PAVEMENT OR SLOPE PAVING, OR 12 INCHES BELOW THE SURFACE IF INLET IS LOCATED IN AN UNPAVED AREA.



TYPICAL CROSS-SECTION

SANITARY & STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH

NTS

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:

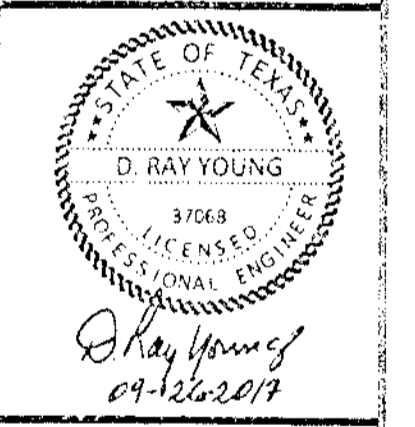
NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"
3. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
4. MIN BEDDING DEPTH SHALL BE THE GREATER OF PIPE OD OR 6 INCHES.
5. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.
6. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.

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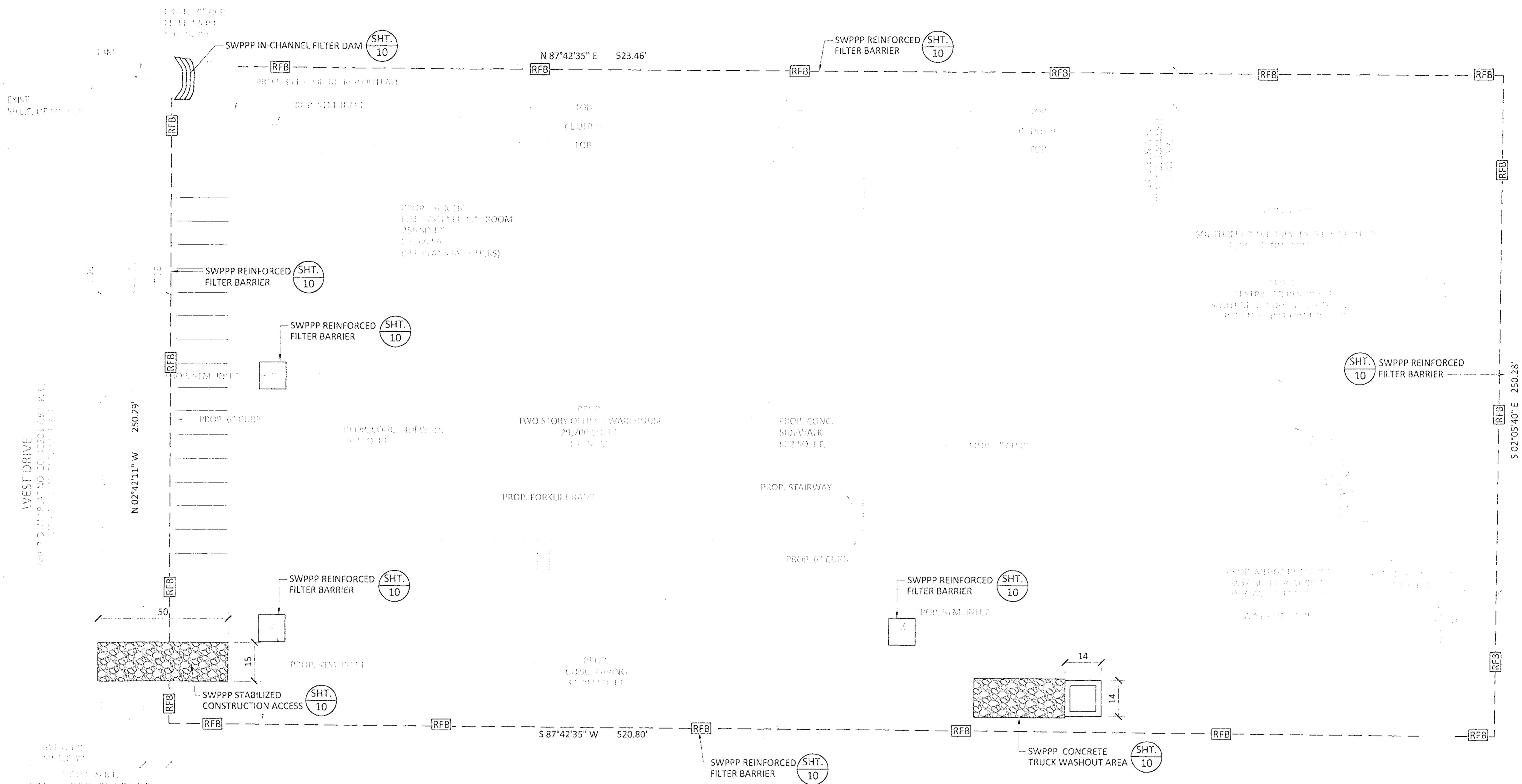
SHEET NAME:
CIVIL DETAILS 2

DRAWN BY: JLW
 CHECKED BY: DRY
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APPROVED: *[Signature]*
 Development Coordinator
 DATE: 10/10/17

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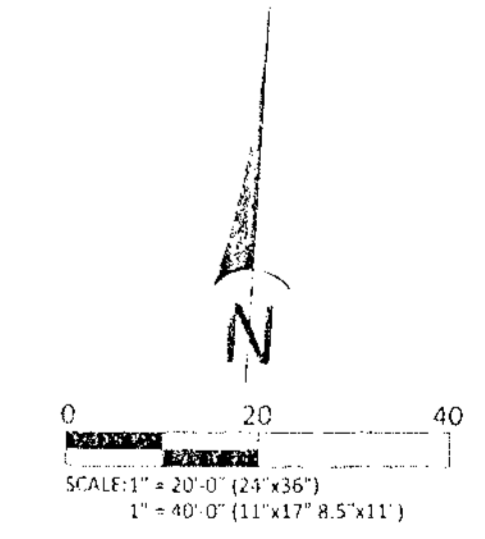
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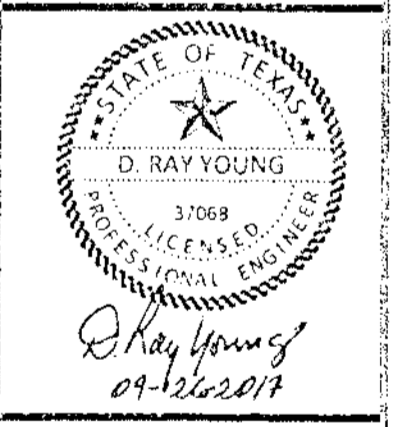


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DESCRIPTION	M/O/Y/Y

WATERENGINEERS, INC.
 Water & Wastewater Treatment Consultants
 TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM NO. 2066
 17230 HUFFMEISTER ROAD
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**CIVIL PLANS FOR THE CONSTRUCTION OF
 SUNBURST TRADING**
 15151 WEST DRIVE
 HOUSTON, TEXAS 77053



SHEET NAME:
STORMWATER POLLUTION PREVENTION PLAN

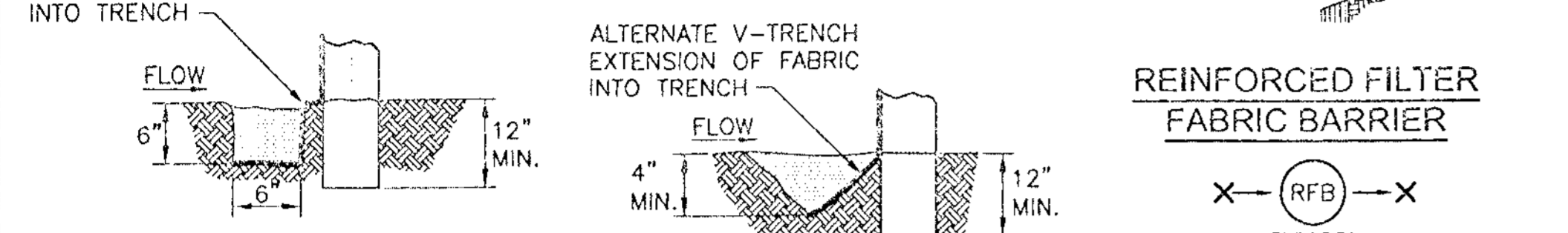
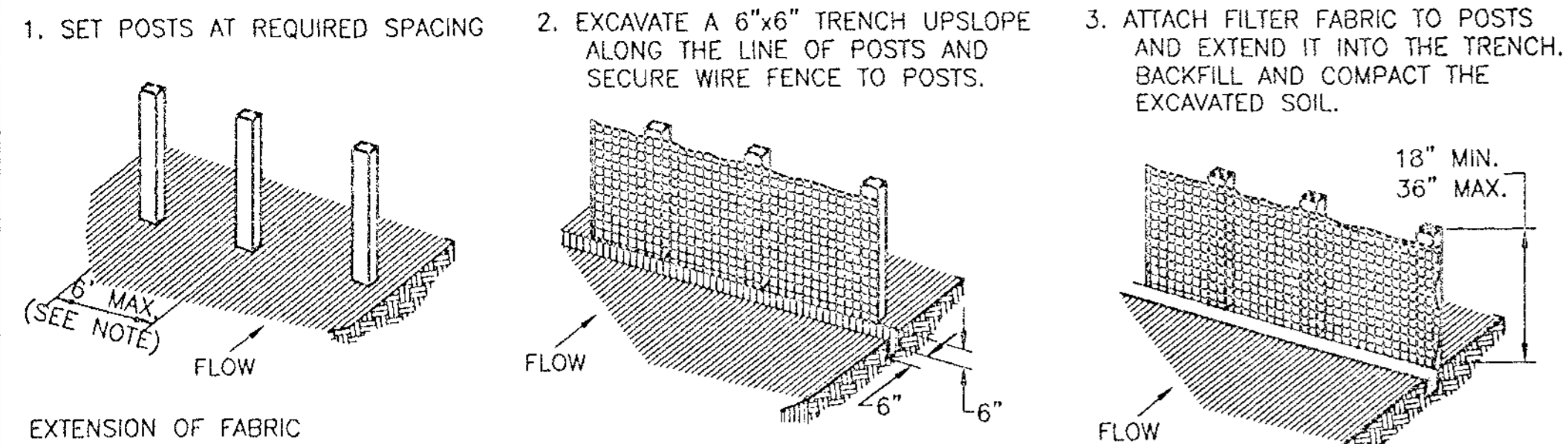
DRAWN BY: JLW
 CHECKED BY: DRY

PROJECT No.: 5759.1
 DATE: 8/31/2017

SHEET No.: **09 OF 12**

APPROVED: *[Signature]*
 Development Coordinator

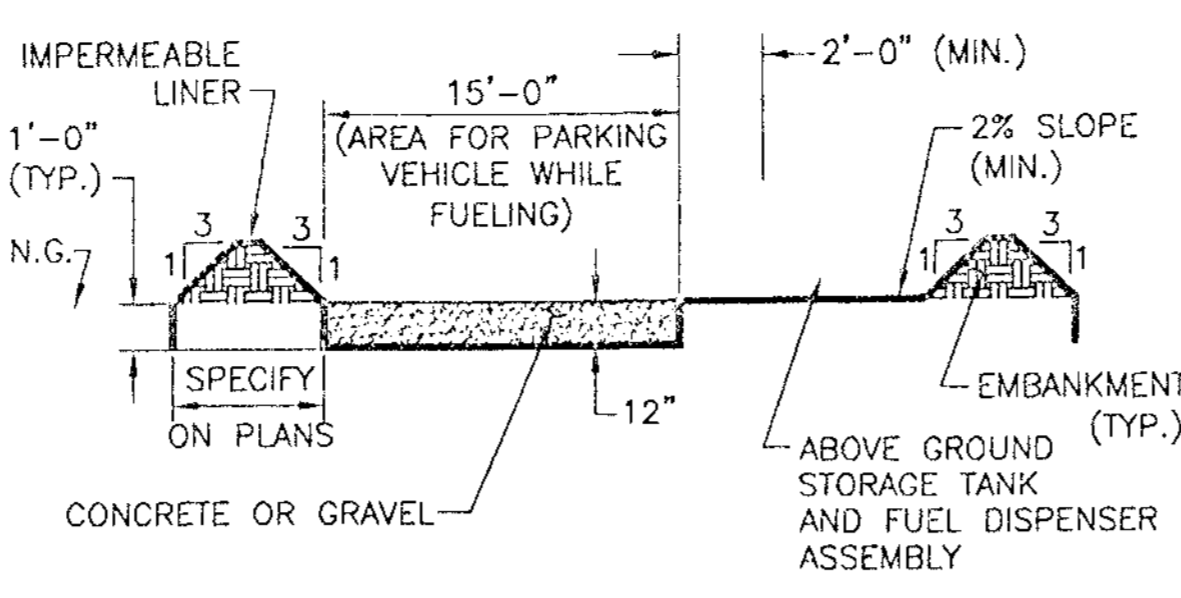
DATE: 8/31/2017



REINFORCED FILTER FABRIC BARRIER

GENERAL NOTES:

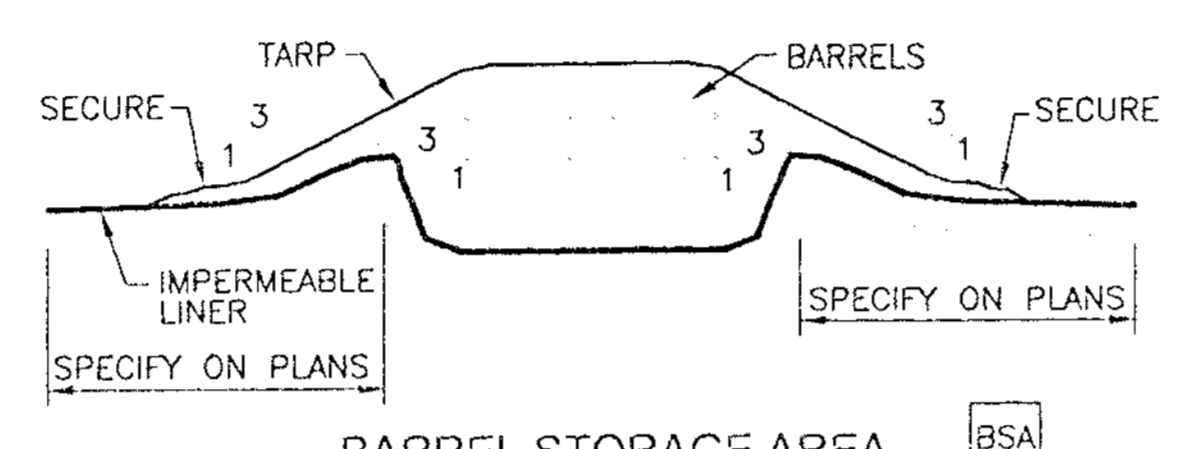
1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE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



ABOVE GROUND TEMP. VEHICLE & EQUIPMENT FUELING AREA WITH TANK

GENERAL NOTES:

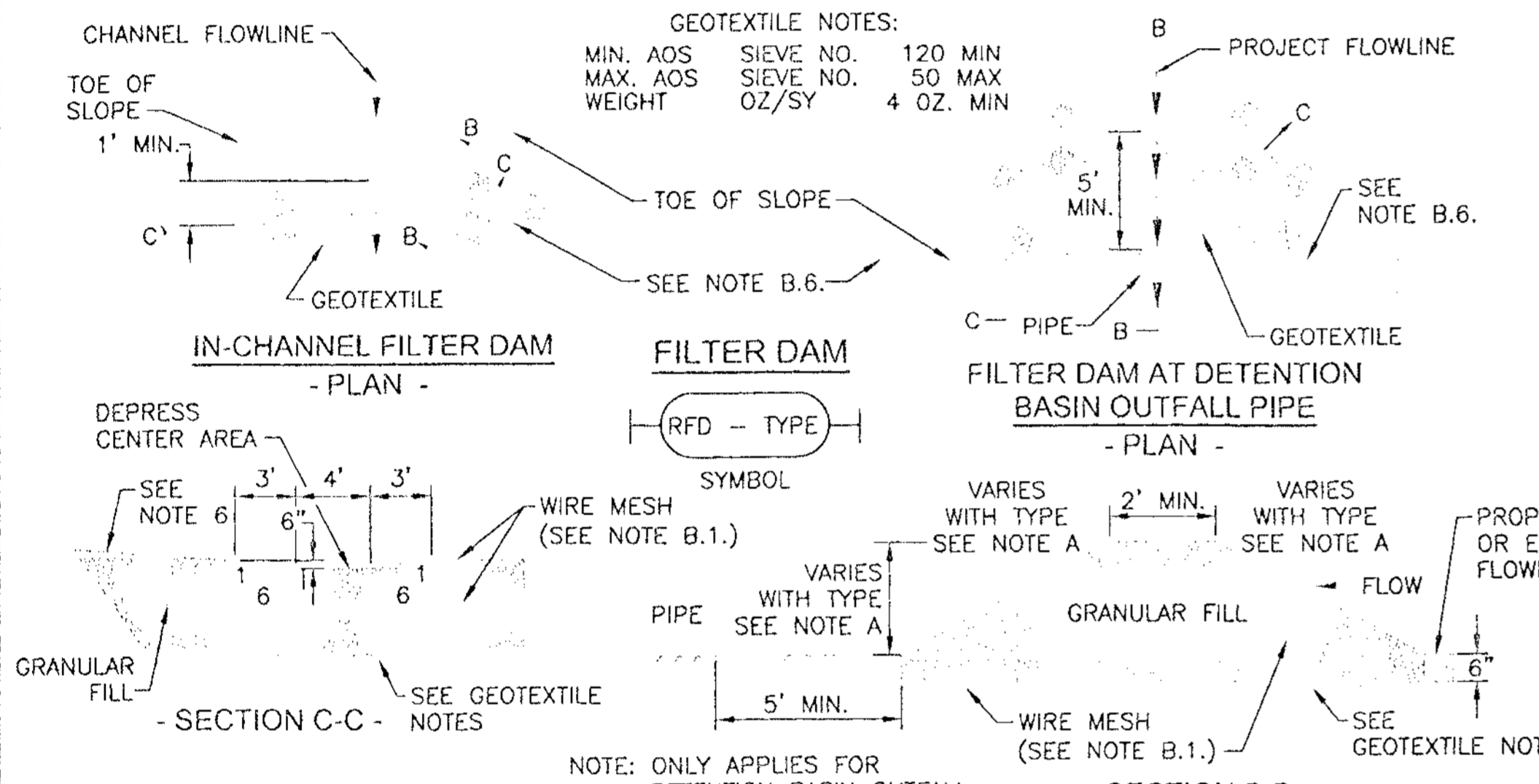
1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
2. PROVIDE A MINIMUM SLOPE OF 2% TOWARD THE SUMP PIT.
3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.



BARREL STORAGE AREA

GENERAL NOTES:

1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 mil MINIMUM.
3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.



IN-CHANNEL FILTER DAM

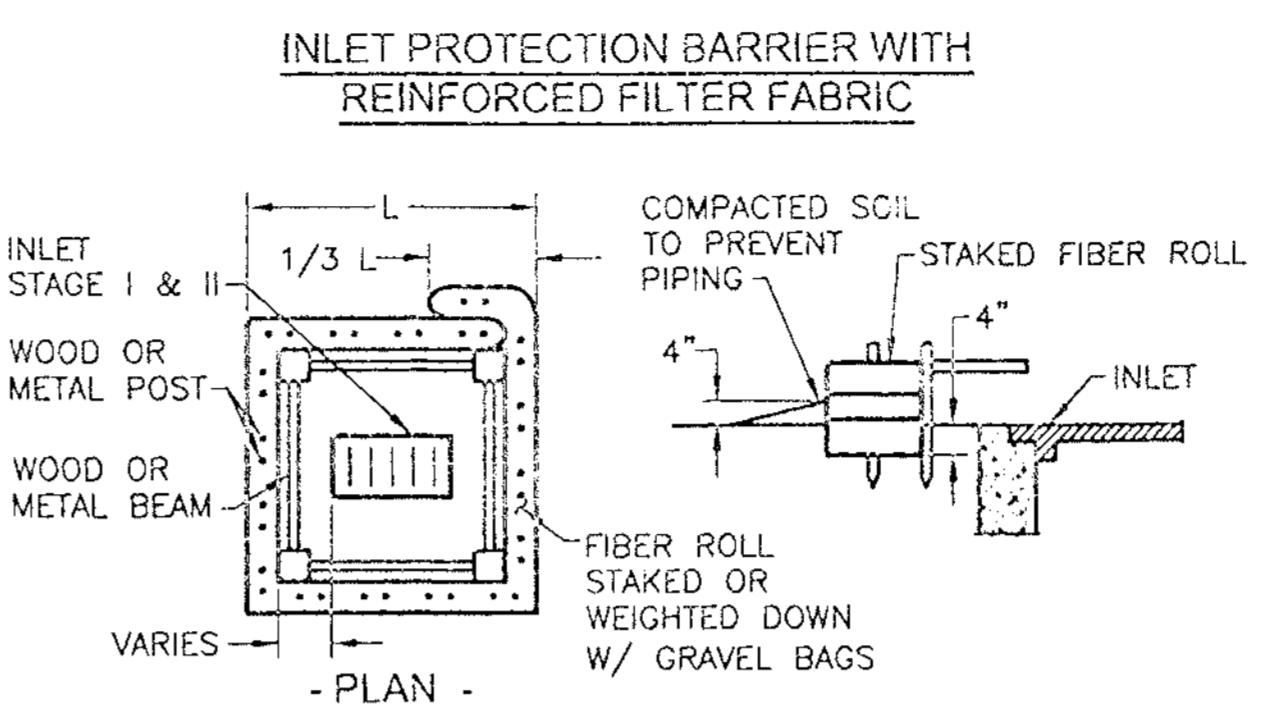
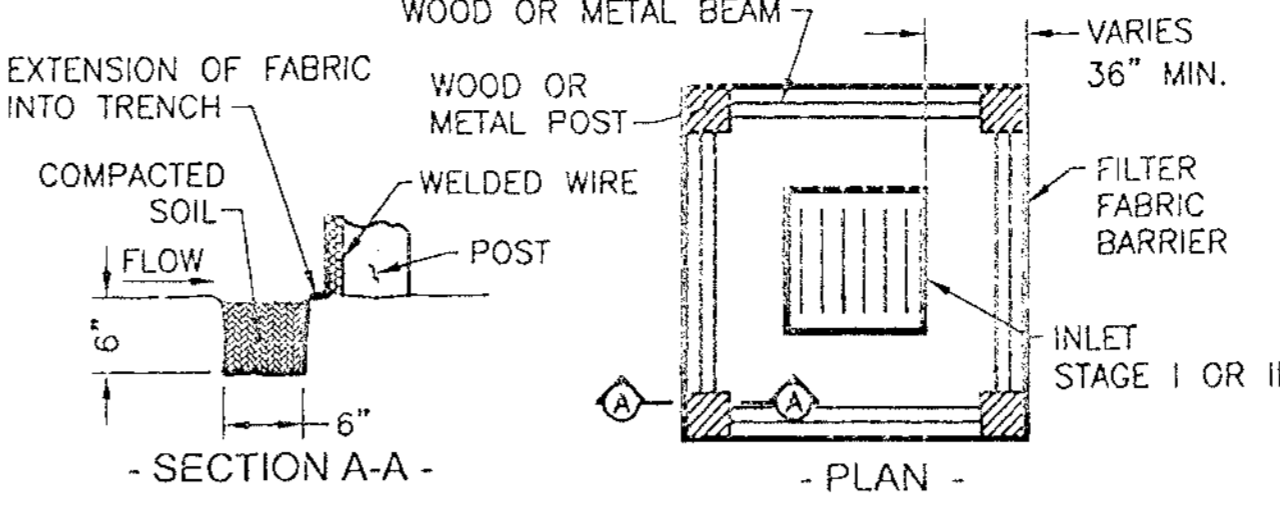
FILTER DAM AT DETENTION BASIN OUTFALL PIPE

GENERAL NOTES:

1. TYPE 1 (NON-REINFORCED)
 - a. HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM)
 - c. SLOPES - 2:1 (MAXIMUM).
2. TYPE 2 (REINFORCED).
 - a. HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM).
 - c. SLOPES - 2:1 (MAXIMUM).
3. TYPE 3 (REINFORCED)
 - a. HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM).
 - c. SLOPES - 3:1 (MAXIMUM).
4. TYPE 4 (GABION)
 - a. HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM).
5. TYPE 5. AS SHOWN ON THE PLANS.

CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.

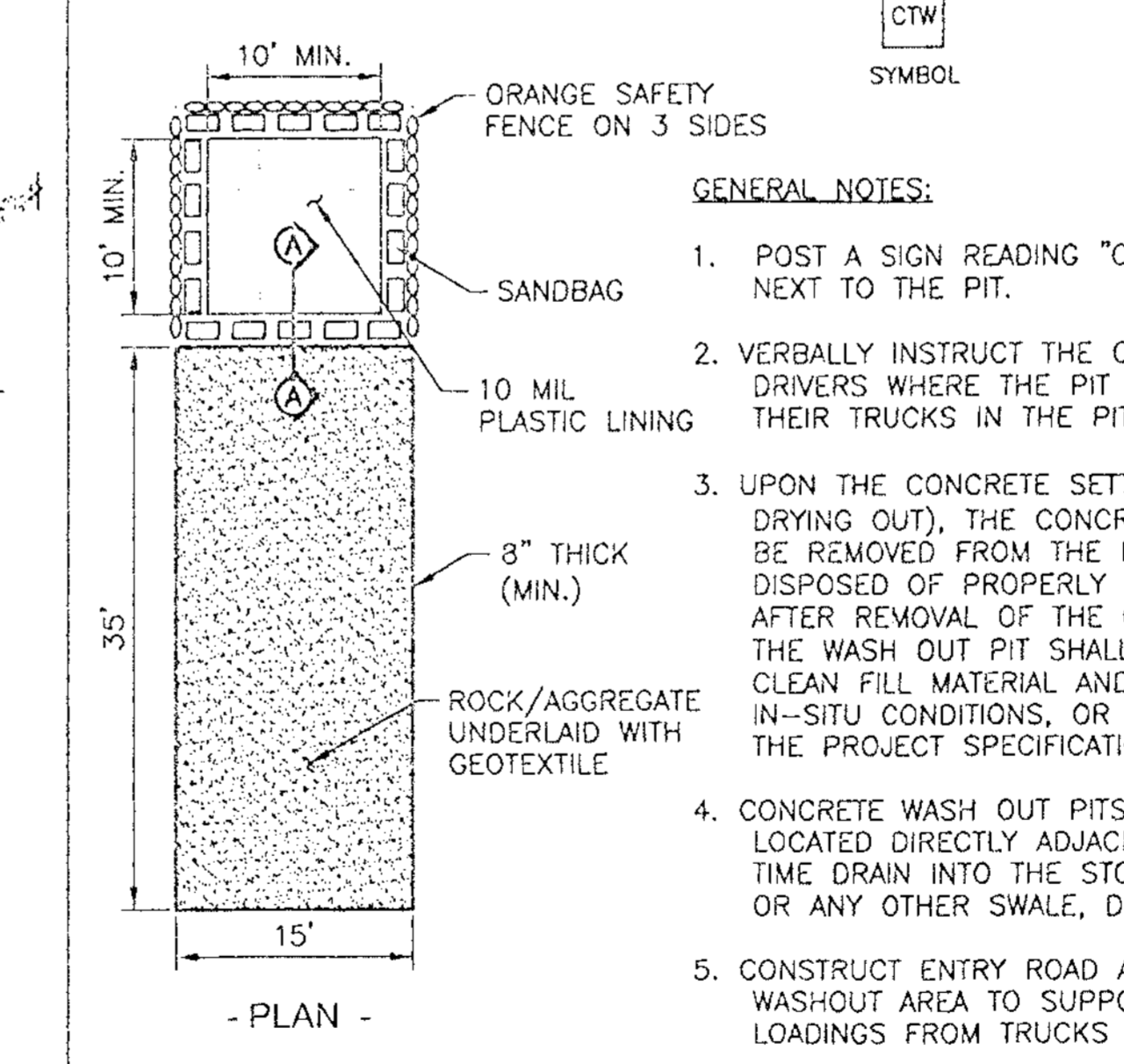
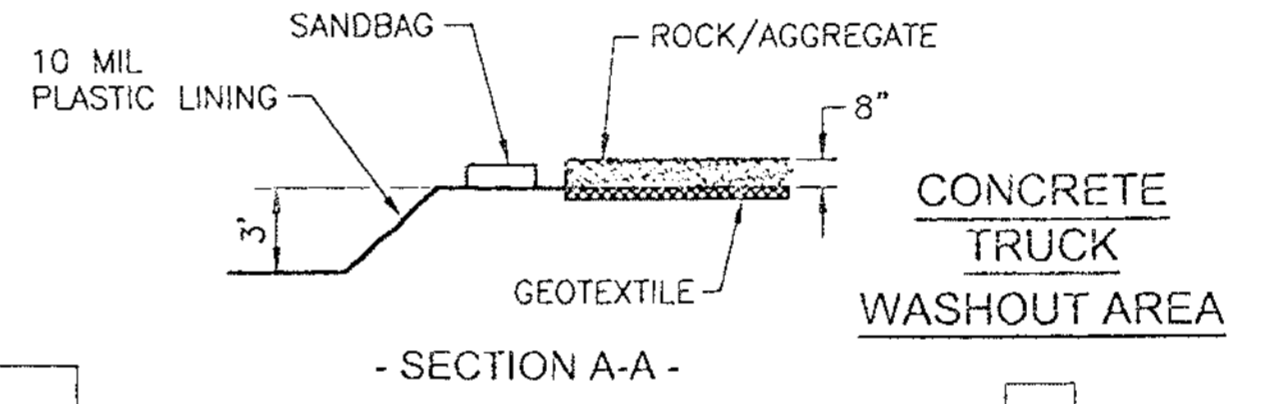
1. TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGONAL OPENINGS.
2. GRANULAR FILL:
 - a. PLACE ON MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
 - b. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1,2, AND 4 AND 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION NO. 02378-RIPRAP AND GRANULAR FILL.
3. WIRE MESH: FOLD AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
5. SEE SPECIFICATION SECTION NO. 02364-FILTER DAMS.
6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.



INLET PROTECTION BARRIERS FOR STAGE I INLETS

GENERAL NOTES:

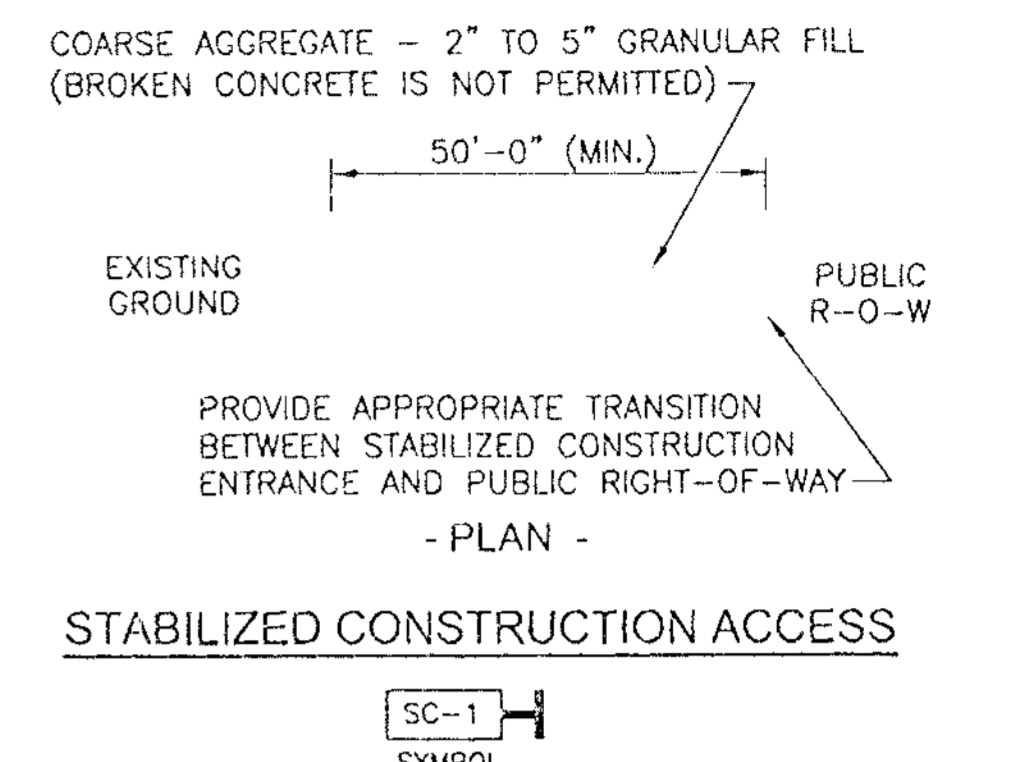
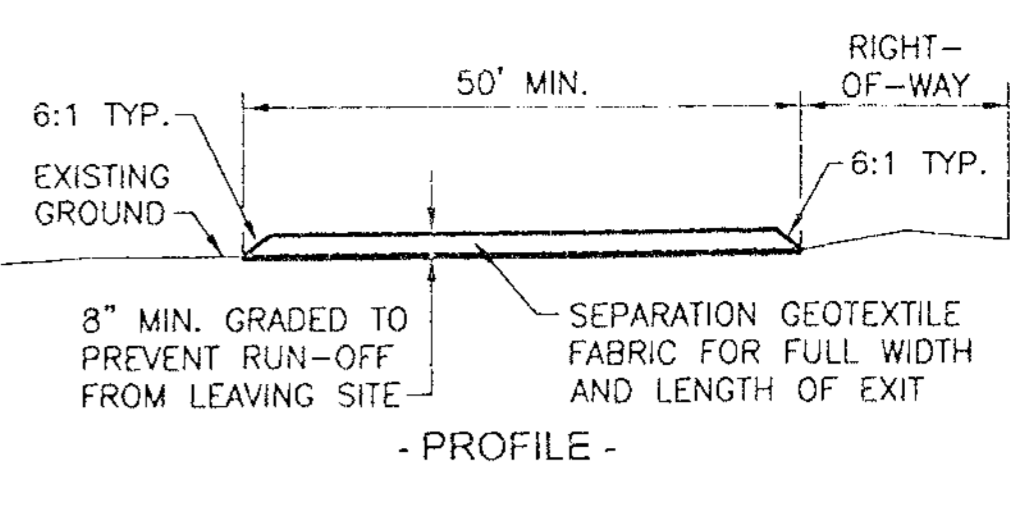
1. FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.



INLET PROTECTION BARRIERS FOR STAGE II INLETS

GENERAL NOTES:

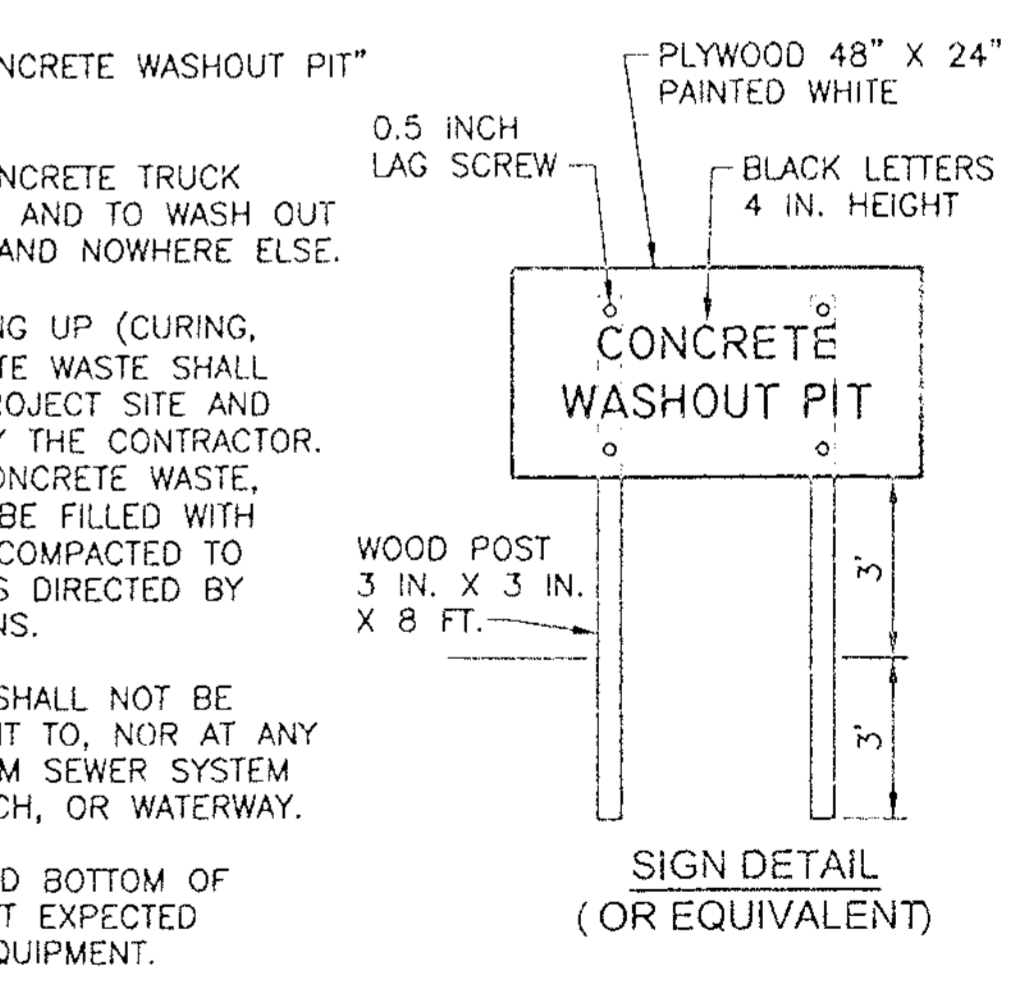
1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.



STABILIZED CONSTRUCTION ACCESS

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. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.



CONCRETE WASHOUT PIT

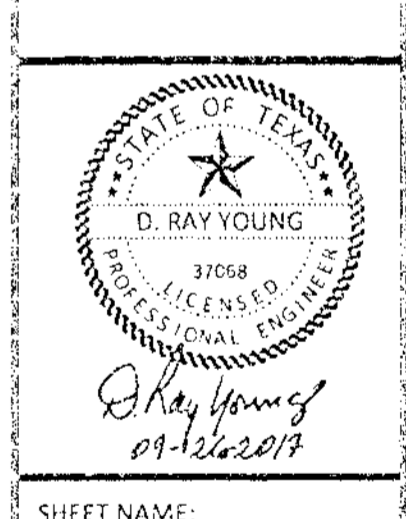
GENERAL NOTES:

1. POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASH OUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASH OUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASH OUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.

REVISION	DATE

WATER ENGINEERS, INC.
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 TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066
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CIVIL PLANS FOR THE CONSTRUCTION OF SUNBURST TRADING
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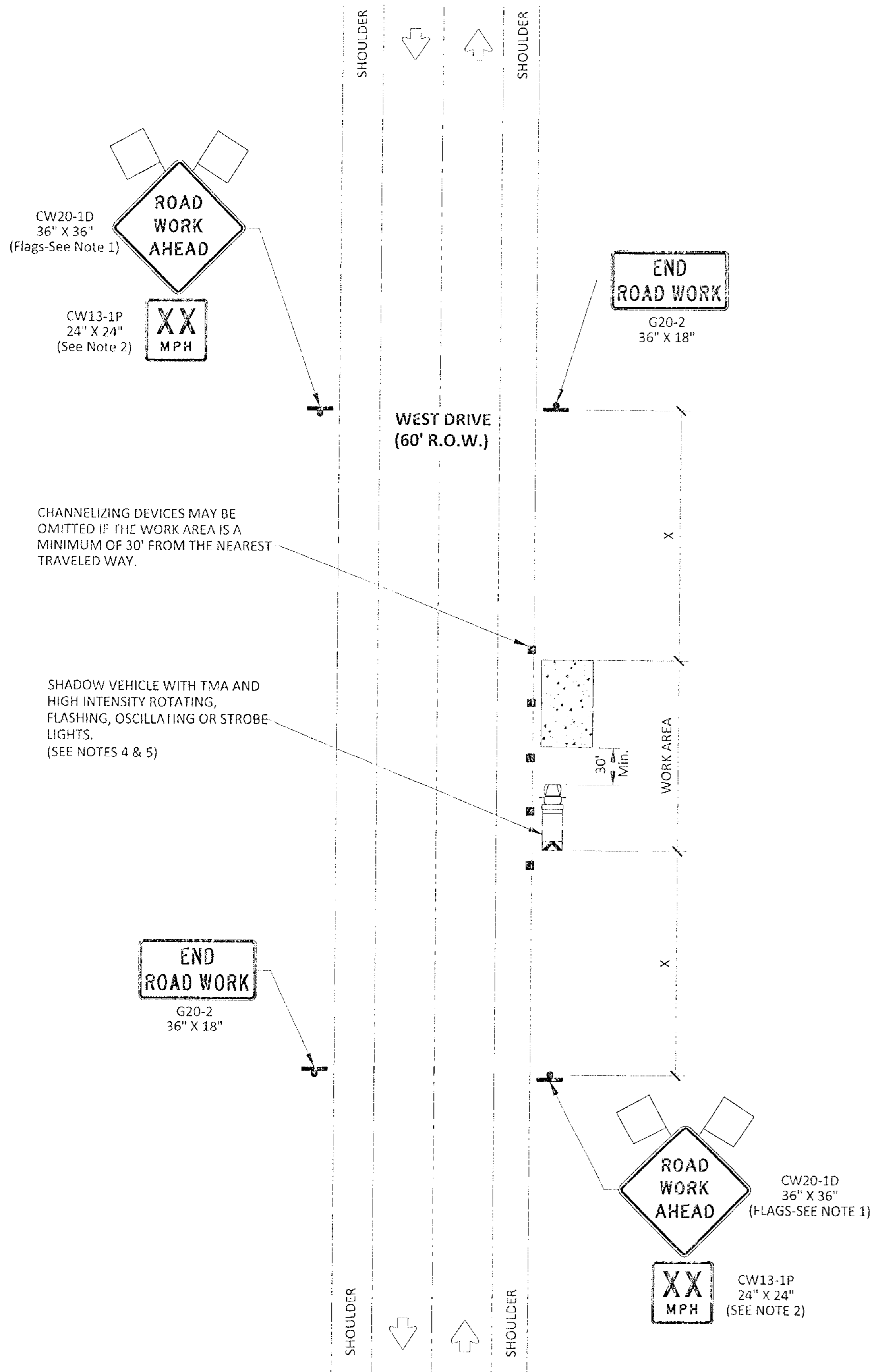
STORMWATER POLLUTION PREVENTION DETAILS

DRAWN BY: JLW
 CHECKED BY: DRY
 PROJECT No.: 5759.1
 DATE: 8/31/2017
 SHEET No.: 10 OF 12

APPROVED: [Signature]
 Development Coordinator
 DATE: 12/3/17

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WORK SPACE NEAR SHOULDER

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

TRAFFIC CONTROL PLAN SECTION
SHALL BE COMPLETED BY ENGINEER

ROADWAY	POSTED SPEED	TAPER LENGTH	SPACING CHANNELIZING DEVICES		SIGN SPACING	BUFFER SPACE
			TAPER	TANGENT		
WEST DRIVE	35	205	35	70	160	120

Posted Speed *	Formula	Minimum Desirable Taper Lengths "L"			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS ² / 60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* CONVENTIONAL ROADS ONLY
** TAPER LENGTHS HAVE BEEN ROUNDED OFF. L=LENGTH OF TAPER(FT) W=WIDTH OF OFFSET(FT) S=POSTED SPEED(MPH)

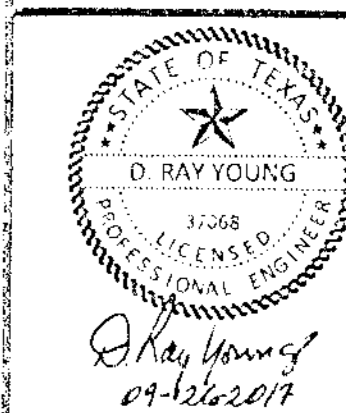
GENERAL NOTES

1. FLAGS ATTACHED TO SIGNS WHERE SHOWN ARE OPTIONAL.
2. ALL TRAFFIC CONTROL DEVICES ILLUSTRATED ARE REQUIRED, EXCEPT THOSE DENOTED WITH THE TRIANGLE SYMBOL ARE OPTIONAL.
3. INACTIVE WORK VEHICLES OR OTHER EQUIPMENT SHOULD BE PARKED NEAR THE RIGHT-OF-WAY LINE AND NOT PARKED ON THE PAVED SHOULDER.
4. A SHADOW VEHICLE WITH A TMA SHOULD BE USED ANYTIME IT CAN BE POSITIONED 30 TO 100 FEET IN ADVANCE OF THE AREA OF CREW EXPOSURE WITHOUT ADVERSELY AFFECTING THE PERFORMANCE OR QUALITY OF THE WORK. IF WORKERS ARE NO LONGER PRESENT BUT ROAD OR WORK CONDITIONS REQUIRE THE TRAFFIC CONTROL TO REMAIN IN PLACE, TYPE 3 BARRICADES OR OTHER CHANNELIZING DEVICES MAY BE SUBSTITUTED FOR THE SHADOW VEHICLE AND TMA.
5. ADDITIONAL SHADOW VEHICLES WITH TMAS MAY BE POSITIONED OFF THE PAVED SURFACE, NEXT TO THOSE SHOWN IN ORDER TO PROTECT WIDER WORK SPACES.
6. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD - LATEST EDITION WITH REVISIONS) DURING CONSTRUCTION.
7. NO LANES SHALL BE BLOCKED DURING CONSTRUCTION.
8. IF PROJECT IS WITHIN 400 FEET FROM A SIGNALIZED INTERSECTION, THE CONTRACTOR SHALL CONTACT HARRIS COUNTY ENGINEERING DEPARTMENT, TRAFFIC SIGNAL MAINTENANCE AT (713) 881-3210 FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION.

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DESCRIPTION	M/D/YY

WATER ENGINEERS, INC.
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TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066
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CIVIL PLANS FOR THE CONSTRUCTION OF
SUNBURST TRADING
15151 WEST DRIVE
HOUSTON, TEXAS 77053



SHEET NAME:

TRAFFIC CONTROL PLAN

DRAWN BY: JLW

CHECKED BY: DRY

PROJECT No.: 5759.1

DATE: 8/31/2017

SHEET No.:

APPROVED: *[Signature]*
Development Coordinator

DATE: 8/31/17

