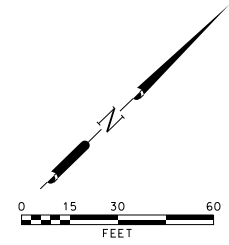
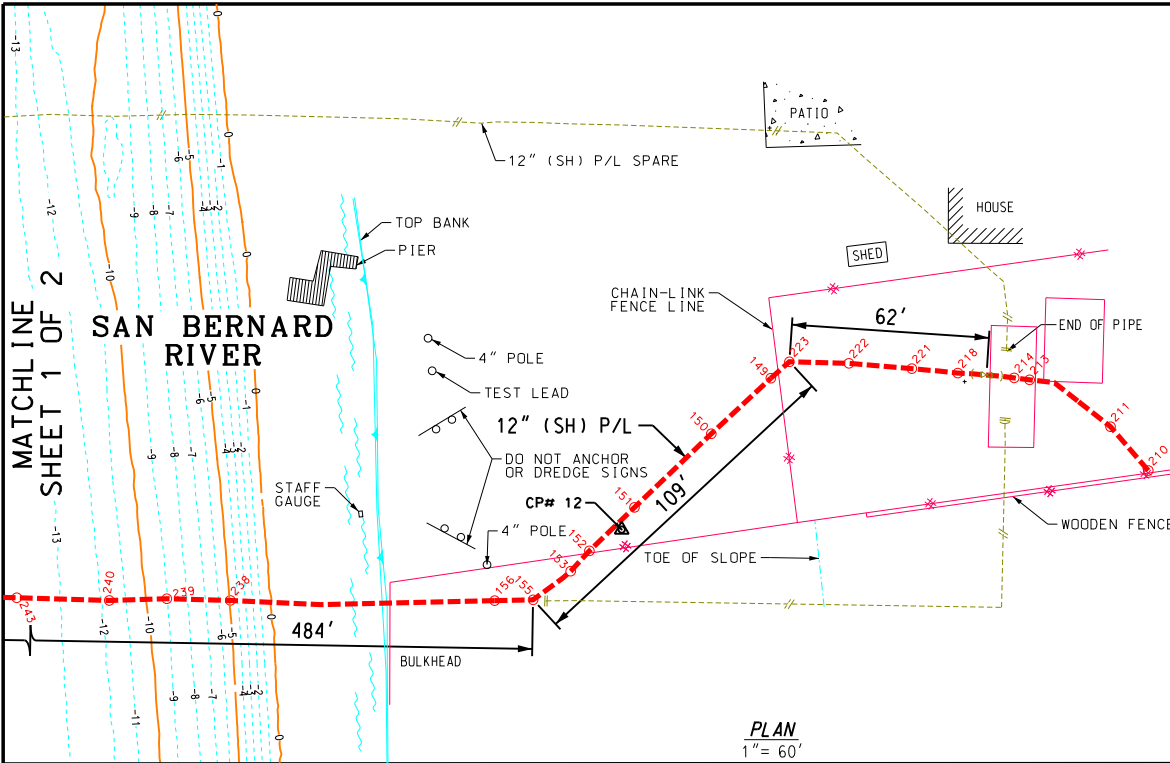
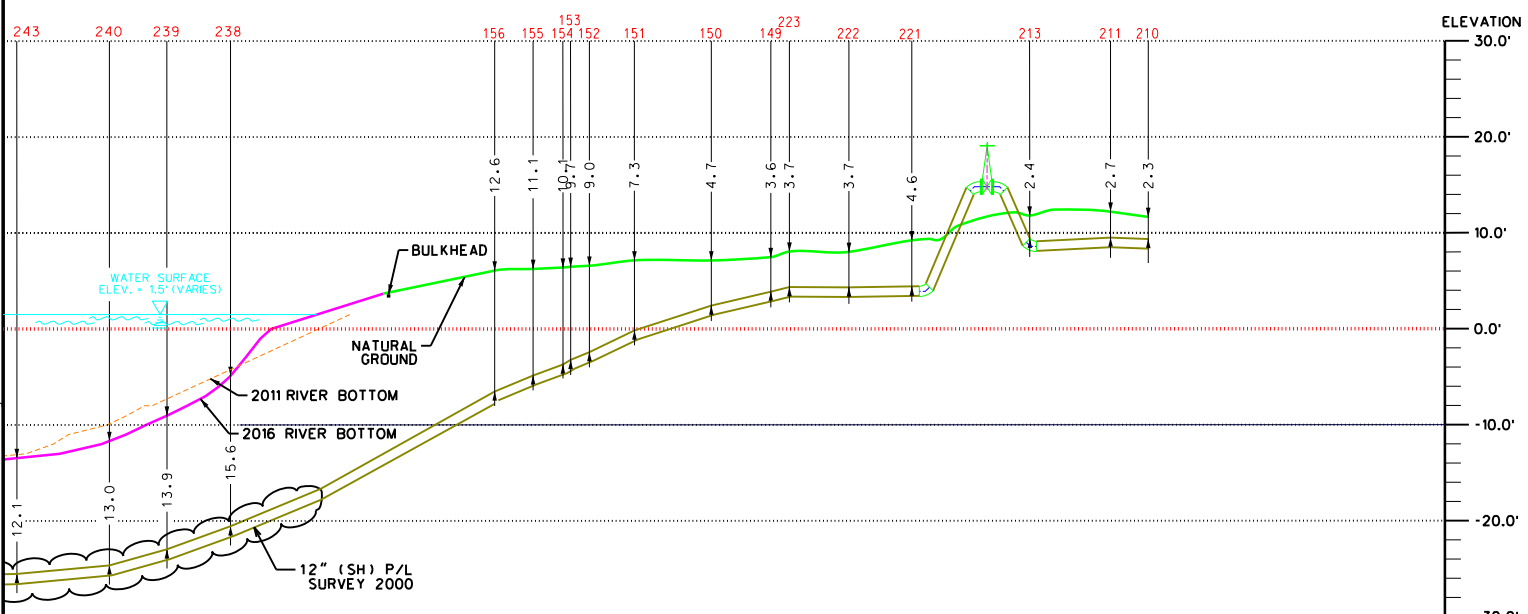


**BRAZORIA COUNTY
TEXAS**



JOHN McNEEL
ABSTRACT - 68

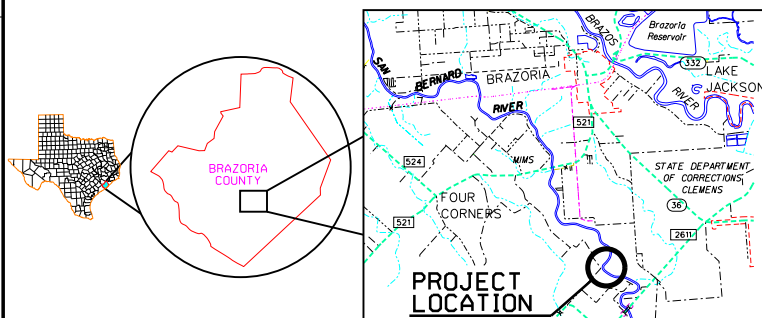
PLAN
1" = 60'



PROFILE LOOKING NORTHWEST
REFER TO PLAN VIEW THIS SHEET
1" = 60' HORIZONTAL
1" = 20' VERTICAL
(8.5" X 11" SHEET)

LEGEND

- 2016 RIVER BOTTOM
- 2011 RIVER BOTTOM
- TOP OF BANK
- TOE OF SLOPE
- EDGE OF WATER
- CENTERLINE PIPELINE
- AS-BUILT PROBE LOCATION AND POINT NUMBER (SEE TABLE)
- DO NOT ANCHOR OR DREDGE SIGN
- VALVE
- 45° OVERBEND OR SAGBEND
- 90° OVERBEND OR SAGBEND
- CHAIN LINK FENCE
- HORIZ. AND VERT. CONTROL MARKER



SHEET 2 OF 2



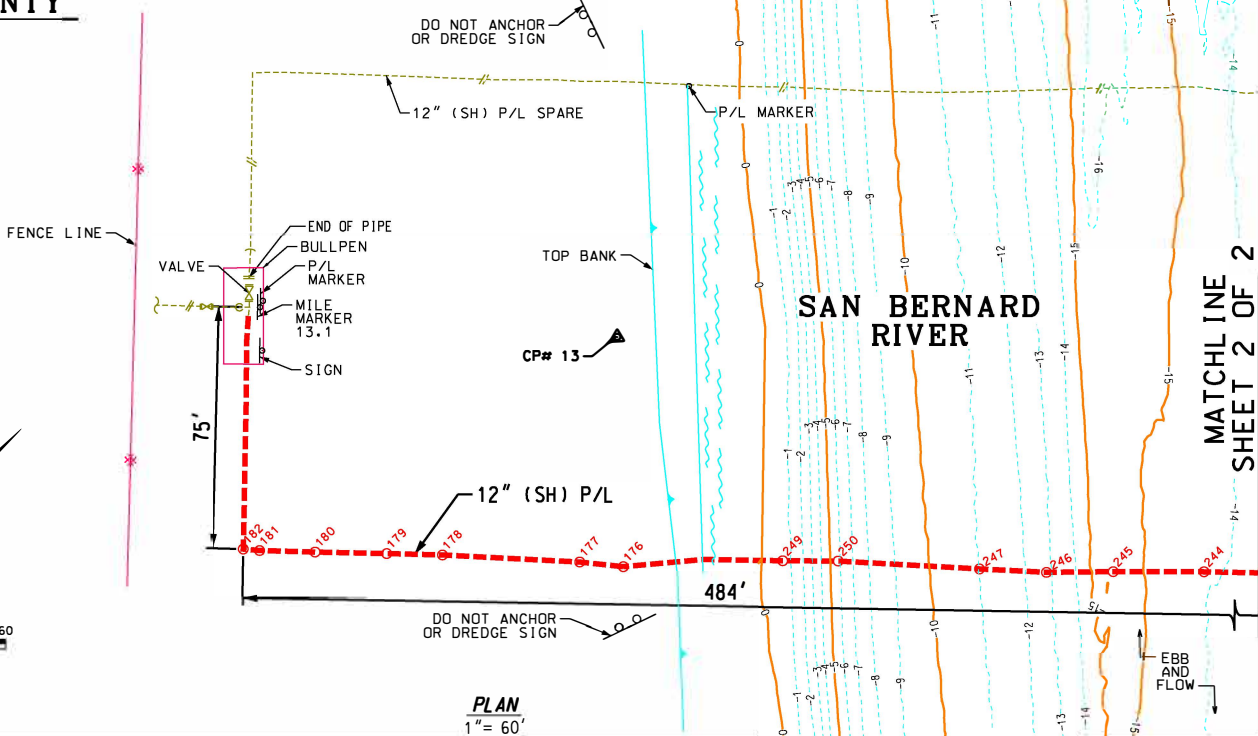
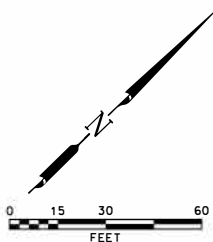
Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX: 979.265.9940 FIRM NO.: 10024500

APPLICATION BY:
**THE DOW CHEMICAL COMPANY FOR THE 12" SH PIPELINE
ABANDONMENT CROSSING THE SAN BERNARD RIVER
IN BRAZORIA COUNTY, TEXAS**

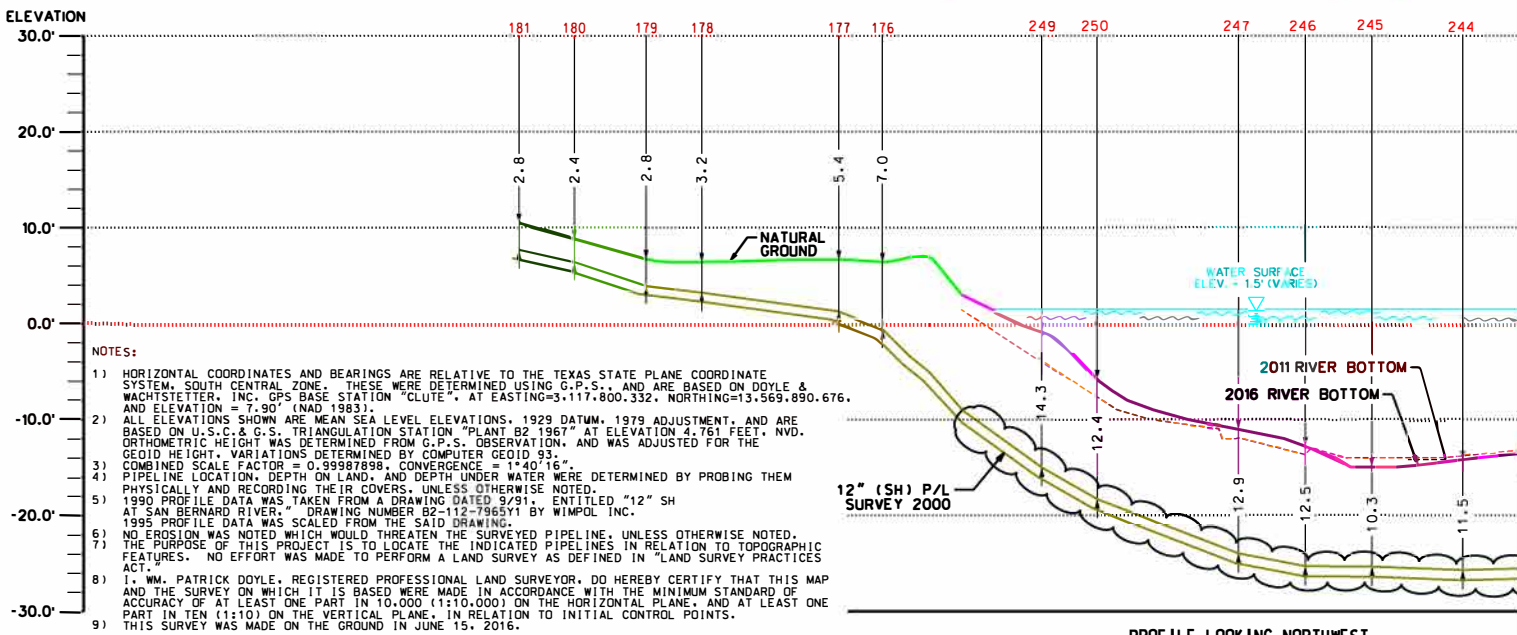
DRAWN:	BY	DATE	JOB NO.	PERMIT NO.
CHKD.	HG	6/20	20014337107	A2-12SHCOE02-7107
APPO.	JD	6/20		

**BRAZORIA COUNTY
TEXAS**

**R. CUMMINGS
ABSTRACT - 57**



MATCHLINE
SHEET 2 OF 2



- NOTES:**
- 1) HORIZONTAL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE. THESE WERE DETERMINED USING G.P.S., AND ARE BASED ON DOYLE & WACHTSTETTER, INC. GPS BASE STATION "CLUTE", AT EASTING=3,117,800.332, NORTHING=13,569,890.676, AND ELEVATION = 7.90' (NAD 1983).
 - 2) ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL ELEVATIONS, 1929 DATUM, 1979 ADJUSTMENT, AND ARE BASED ON U.S.C. & G.S. TRIANGULATION STATION "PLANT B2 1967" AT ELEVATION 4,761 FEET, NVD. ORTHOMETRIC HEIGHT WAS DETERMINED FROM G.P.S. OBSERVATION, AND WAS ADJUSTED FOR THE GEOID HEIGHT, VARIATIONS DETERMINED BY COMPUTER GEOID 93.
 - 3) COMBINED SCALE FACTOR = 0.99987898, CONVERGENCE = 1'40".16"
 - 4) PIPELINE LOCATION, DEPTH ON LAND, AND DEPTH UNDER WATER WERE DETERMINED BY PROBING THEM PHYSICALLY AND RECORDING THEIR COVERS, UNLESS OTHERWISE NOTED.
 - 5) 1990 PROFILE DATA WAS TAKEN FROM A DRAWING DATED 9/91, ENTITLED "12" SH AT SAN BERNARD RIVER," DRAWING NUMBER B2-112-7965711 BY WIMPOL INC. 1995 PROFILE DATA WAS SCALED FROM THE SAID DRAWING.
 - 6) NO OBSTRUCTION WAS NOTED WHICH WOULD THREATEN THE SURVEYED PIPELINE, UNLESS OTHERWISE NOTED.
 - 7) THE PURPOSE OF THIS PROJECT IS TO LOCATE THE INDICATED PIPELINES IN RELATION TO TOPOGRAPHIC FEATURES. NO EFFORT WAS MADE TO PERFORM A LAND SURVEY AS DEFINED IN "LAND SURVEY PRACTICES ACT."
 - 8) I, WM. PATRICK DOYLE, REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS MAP AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE MINIMUM STANDARD OF ACCURACY OF AT LEAST ONE PART IN 10,000 (1:10,000) ON THE HORIZONTAL PLANE, AND AT LEAST ONE PART IN TEN (1:10) ON THE VERTICAL PLANE, IN RELATION TO INITIAL CONTROL POINTS.
 - 9) THIS SURVEY WAS MADE ON THE GROUND IN JUNE 15, 2016.

PROFILE LOOKING NORTHWEST
REFER TO PLAN VIEW THIS SHEET
1" = 60' HORIZONTAL
1" = 20' VERTICAL
(8.5" X 11" SHEET)

DATA TABLE

POINT	GRID COORDINATES		DEPTH TABLE		DESCRIPTION	POINT	GRID COORDINATES		DEPTH TABLE		DESCRIPTION
	EASTING	NORTHING	GRND. EL.	PIPE COV.			EASTING	NORTHING	GRND. EL.	PIPE COV.	
235	3067236.58	13551235.74	0.1	16.8	12" PIPELINE	156	3067281.01	13551278.59	6.1	12.6	12" PIPELINE
238	3067218.28	13551214.14	-4.2	16.3	12" PIPELINE	176	3067049.49	13551000.26	6.4	7.0	12" PIPELINE
239	3067205.78	13551198.64	-7.3	14.7	12" PIPELINE	177	3067040.01	13550990.45	6.7	5.4	12" PIPELINE
240	3067195.49	13551184.08	-9.9	13.7	12" PIPELINE	178	3067012.16	13550957.8	6.4	3.2	12" PIPELINE
243	3067176.96	13551161.64	-13.1	12.8	12" PIPELINE	179	3067001.23	13550944.26	6.7	2.8	12" PIPELINE
244	3067162.88	13551144.14	-13.8	12.1	12" PIPELINE	180	3066987.21	13550926.82	8.8	2.4	12" PIPELINE
245	3067145.58	13551121.75	-14.0	10.3	12" PIPELINE	181	3066976.28	13550913.35	10.5	2.8	12" PIPELINE
246	3067133.08	13551105.05	-13.7	13.2	12" PIPELINE	210	3067369.22	13551465.36	11.7	2.3	12" PIPELINE
247	3067119.48	13551081.15	-13.9	13.6	12" PIPELINE	211	3067341.20	13551461.36	11.2	1.7	12" PIPELINE
249	3067079.96	13551041.95	-13.9	15.4	12" PIPELINE	213	3067314.17	13551453.23	11.8	2.4	12" PIPELINE
250	3067090.58	13551055.63	-12.7	13.2	12" PIPELINE	221	3067288.58	13551426.18	8.3	4.6	12" PIPELINE
148	3067264.48	13551369.40	7.5	3.6	12" PIPELINE	222	3067275.63	13551421.60	8.0	3.7	12" PIPELINE
150	3067286.91	13551394.99	7.1	4.7	12" PIPELINE	223	3067263.96	13551397.13	8.0	3.7	12" PIPELINE
152	3067272.77	13551371.59	8.6	7.0	12" PIPELINE	CP14	3066499.63	13551147.58	N/A	N/A	CONTROL POINT #14
153	3067274.11	13551393.03	8.5	8.1	12" PIPELINE	CP15	3066715.23	13552210.50	7.3	N/A	CONTROL POINT #15
154	3067274.33	13551299.89	8.4	10.1	12" PIPELINE						
155	3067274.12	13551288.28	8.3	11.1	12" PIPELINE						

* AT TOP OF MONUMENT

SHEET 1 OF 2



APPLICATION BY:
**THE DOW CHEMICAL COMPANY FOR THE 12" SH PIPELINE
ABANDONMENT CROSSING THE SAN BERNARD RIVER
IN BRAZORIA COUNTY, TEXAS**



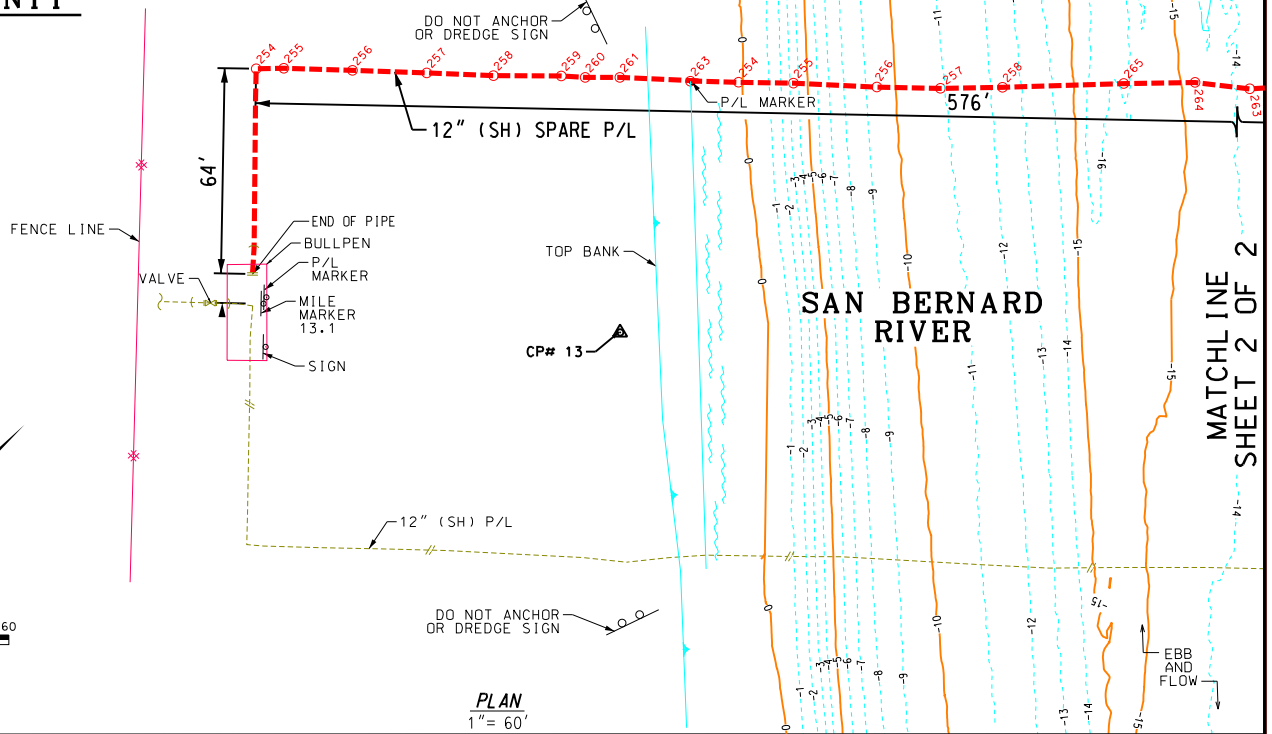
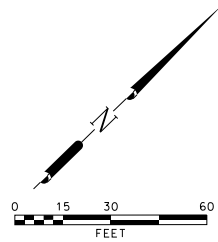
Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX: 979.265.9940 FIRM NO.: 10024500

	BY	DATE	JOB NO.	PERMIT NO.
DRAWN:	HG	6/20	20014337107	A2-12SHCOE01-7107
CHKD:	JD	6/20		
APPO:				

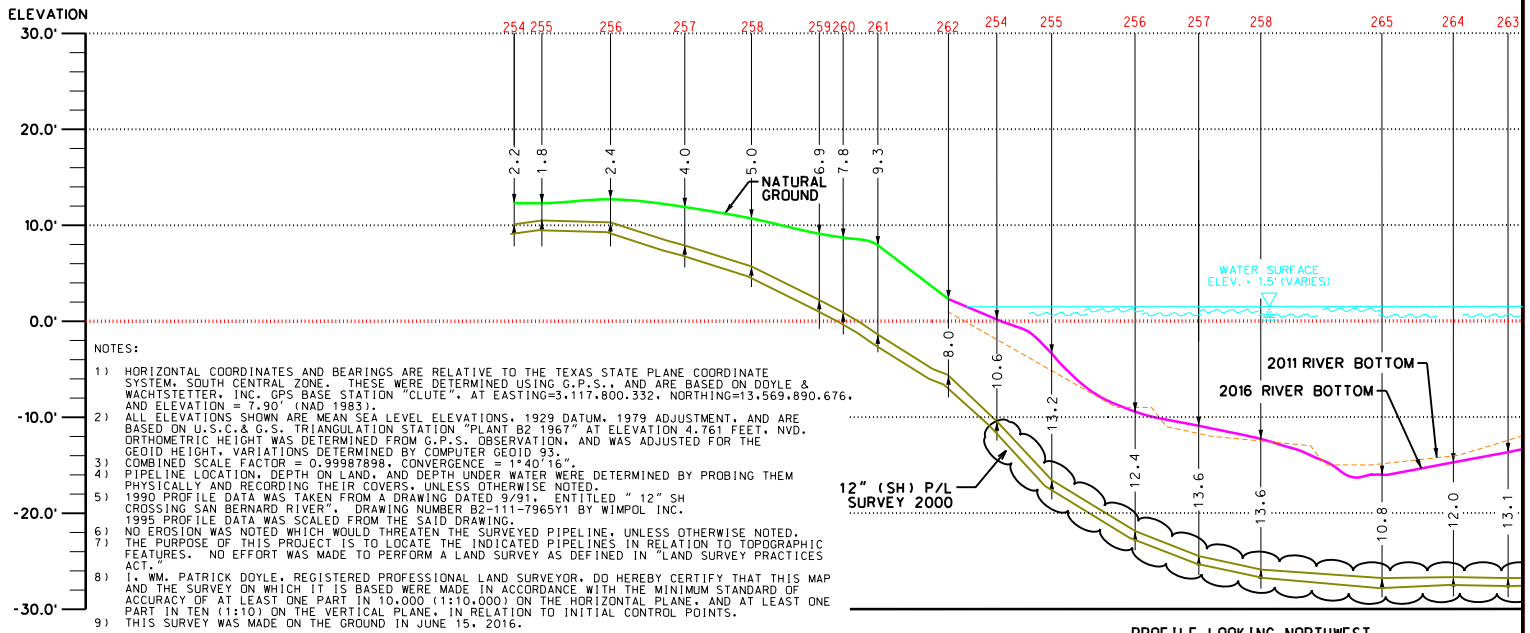
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**BRAZORIA COUNTY
TEXAS**

**R. CUMMINGS
ABSTRACT - 57**



PLAN
1" = 60'



PROFILE LOOKING NORTHWEST
REFER TO PLAN VIEW THIS SHEET
1" = 60' HORIZONTAL
1" = 20' VERTICAL
(8.5" X 11" SHEET)

NOTES:

- 1) HORIZONTAL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE. THESE WERE DETERMINED USING G.P.S., AND ARE BASED ON DOYLE & WACHTSTETTER, INC. GPS BASE STATION "CLUTE", AT EASTING=3,117,800.332, NORTHING=13,569,890.676, AND ELEVATION = 7.90' (NAD 1983).
- 2) ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL ELEVATIONS, 1929 DATUM, 1979 ADJUSTMENT, AND ARE BASED ON U.S.C. & G.S. TRIANGULATION STATION "PLANT B2 1967" AT ELEVATION 4.761 FEET, MVD. ORTHOMETRIC HEIGHT WAS DETERMINED FROM G.P.S. OBSERVATION, AND WAS ADJUSTED FOR THE GEOID HEIGHT VARIATIONS DETERMINED BY COMPUTER GEOID 93.
- 3) COMBINED SCALE FACTOR = 0.99987898, CONVERGENCE = 1"40' 16".
- 4) PIPELINE LOCATION, DEPTH ON LAND, AND DEPTH UNDER WATER WERE DETERMINED BY PROBING THEM PHYSICALLY AND RECORDING THEIR COVERS, UNLESS OTHERWISE NOTED.
- 5) 1990 PROFILE DATA WAS TAKEN FROM A DRAWING DATED 9/91, ENTITLED "12" SH CROSSING SAN BERNARD RIVER", DRAWING NUMBER B2-111-7965Y1 BY WIMPOL INC. 1995 PROFILE DATA WAS SCALED FROM THE SAID DRAWING.
- 6) NO EROSION WAS NOTED WHICH WOULD THREATEN THE SURVEYED PIPELINE, UNLESS OTHERWISE NOTED.
- 7) THE PURPOSE OF THIS PROJECT IS TO LOCATE THE INDICATED PIPELINES IN RELATION TO TOPOGRAPHIC FEATURES. NO EFFORT WAS MADE TO PERFORM A LAND SURVEY AS DEFINED IN "LAND SURVEY PRACTICES ACT."
- 8) I, WM. PATRICK DOYLE, REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS MAP AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE MINIMUM STANDARD OF ACCURACY OF AT LEAST ONE PART IN 10,000 (1:10,000) ON THE HORIZONTAL PLANE, AND AT LEAST ONE PART IN TEN (1:10) ON THE VERTICAL PLANE, IN RELATION TO INITIAL CONTROL POINTS.
- 9) THIS SURVEY WAS MADE ON THE GROUND IN JUNE 15, 2016.

DATA TABLE

POINT	GRID COORDINATES		DEPTH TABLE		DESCRIPTION
	EASTING	NORTHING	GRND. EL.	PIPE COV.	
254	3066923.58	13551120.55	-1.9	10.6	12" PIPELINE
255	3066964.18	13551133.95	-5.2	13.2	12" PIPELINE
256	3066981.08	13551153.85	-9.0	12.6	12" PIPELINE
257	3066993.48	13551169.35	-11.7	13.8	12" PIPELINE
258	3067005.08	13551184.95	-12.5	13.8	12" PIPELINE
259	3067101.88	13551311.55	-3.0	19.0	12" PIPELINE
260	3067090.08	13551296.55	-7.1	20.1	12" PIPELINE
261	3067076.28	13551277.55	-9.6	16.8	12" PIPELINE
262	3067063.48	13551261.95	-10.0	15.3	12" PIPELINE
263	3067052.58	13551245.95	-12.4	13.4	12" PIPELINE
264	3067040.58	13551233.65	-14.0	12.2	12" PIPELINE
265	3067027.28	13551215.75	-14.9	11.0	12" PIPELINE
233	3067199.71	13551432.51	7.0	4.1	12" PIPELINE
234	3067173.00	13551400.28	6.3	5.4	12" PIPELINE
235	3067163.15	13551388.02	6.0	6.4	12" PIPELINE
236	3067155.79	13551379.16	5.6	7.6	12" PIPELINE

DATA TABLE

POINT	GRID COORDINATES		DEPTH TABLE		DESCRIPTION
	EASTING	NORTHING	GRND. EL.	PIPE COV.	
237	3067148.50	13551369.91	5.2	8.5	12" PIPELINE
238	3067146.15	13551366.20	4.9	9.0	12" PIPELINE
239	3067131.11	13551348.80	4.5	15.4	12" PIPELINE
240	3067128.27	13551345.37	4.4	17.5	12" PIPELINE
254	3066856.66	13551002.55	12.3	2.2	12" PIPELINE
255	3066861.80	13551009.50	12.3	1.8	12" PIPELINE
256	3066875.40	13551026.11	12.7	2.4	12" PIPELINE
257	3066890.19	13551044.03	11.9	4.0	12" PIPELINE
258	3066903.54	13551060.05	10.7	5.0	12" PIPELINE
260	3066921.47	13551082.45	8.7	7.8	12" PIPELINE
261	3066928.06	13551091.03	7.9	9.3	12" PIPELINE
262	3066945.89	13551109.84	0.7	7.3	12" PIPELINE
CP14	3066499.63	13552147.58	* 12.0	N/A	CONTROL POINT #14
CP15	3066175.29	13552319.50	* 7.3	N/A	CONTROL POINT #15

* AT TOP OF MONUMENT

SHEET 1 OF 2



Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS

131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX: 979.265.9940 FIRM NO.: 10024500

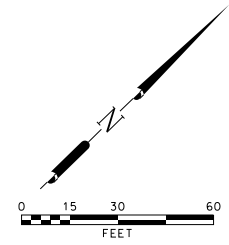
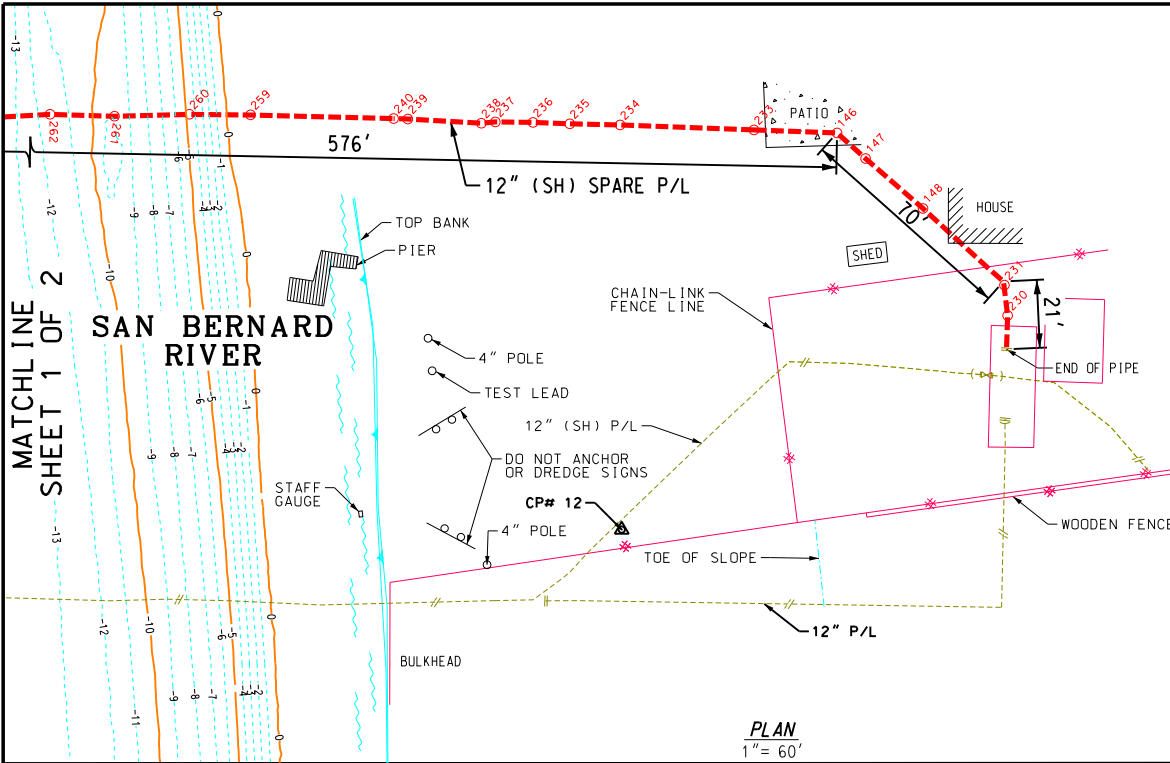
BY	DATE	JOB NO.	PERMIT NO.
HC	6/20	20014337107	A2-12SHSPARECOE01-7107
CHKD.	JD		
APPO.			

APPLICATION BY:

THE DOW CHEMICAL COMPANY FOR THE 12" SH SPARE PIPELINE ABANDONMENT CROSSING THE SAN BERNARD RIVER IN BRAZORIA COUNTY, TEXAS

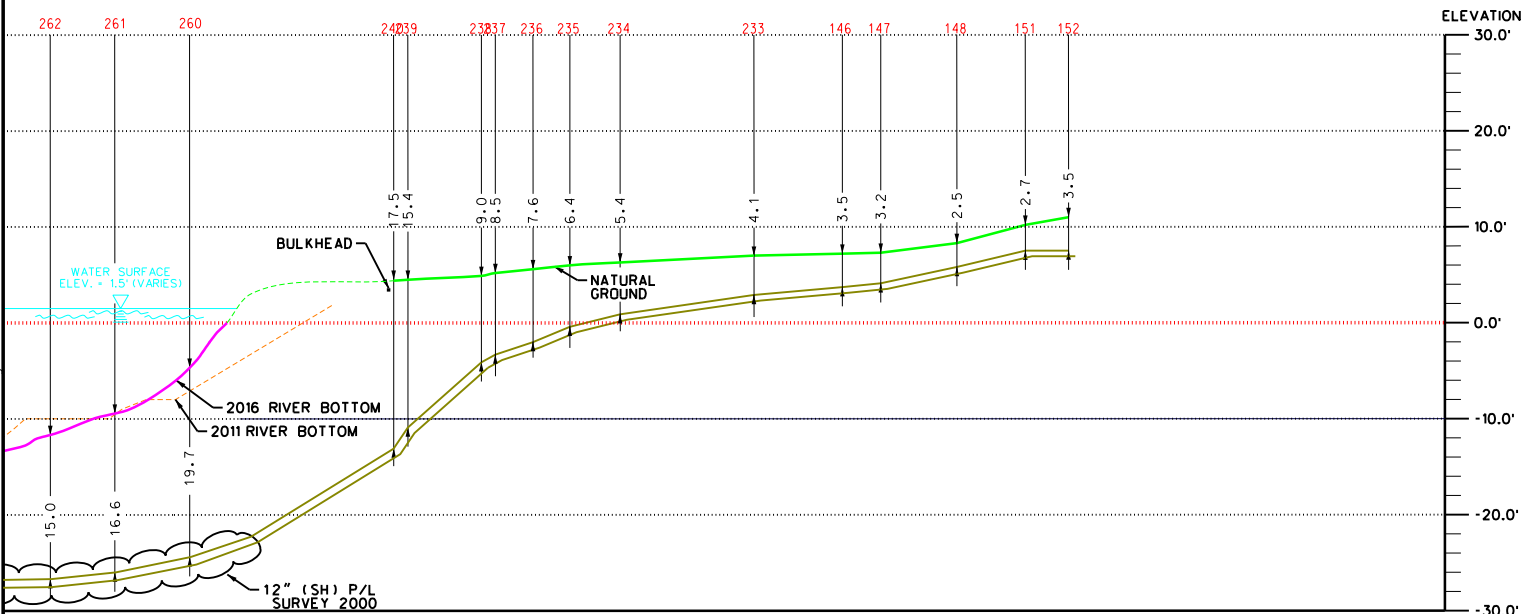
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**BRAZORIA COUNTY
TEXAS**



JOHN McNEEL
ABSTRACT - 68

PLAN
1" = 60'

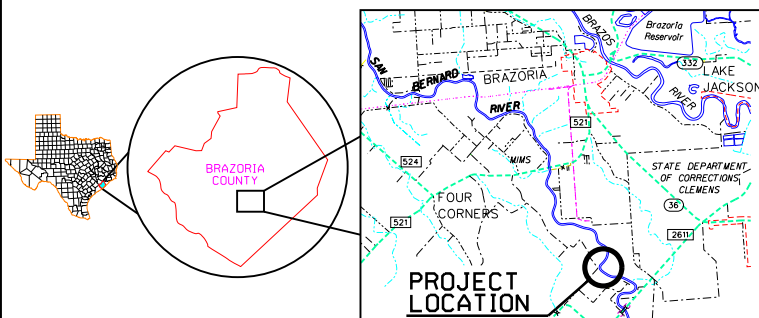


PROFILE LOOKING NORTHWEST
REFER TO PLAN VIEW THIS SHEET
1" = 60' HORIZONTAL
1" = 20' VERTICAL
(8.5" X 11" SHEET)

LEGEND

- 2016 RIVER BOTTOM
- - - 2011 RIVER BOTTOM
- TOP OF BANK
- - - TOE OF SLOPE
- EDGE OF WATER
- - - CENTERLINE PIPELINE
- AS-BUILT PROBE LOCATION AND POINT NUMBER (SEE TABLE)
- 187
- DO NOT ANCHOR OR DREDGE SIGN
- VALVE
-) 45° OVERBEND OR SAGBEND
-) 90° OVERBEND OR SAGBEND
- CHAIN LINK FENCE
- △ HORIZ. AND VERT. CONTROL MARKER

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SHEET 2 OF 2



Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX: 979.265.9940 FIRM NO.: 10024500

APPLICATION BY:
THE DOW CHEMICAL COMPANY FOR THE 12" SH SPARE PIPELINE ABANDONMENT CROSSING THE SAN BERNARD RIVER IN BRAZORIA COUNTY, TEXAS

BY	DATE	JOB NO.	PERMIT NO.
HG	6/20	20014337107	A2-12SHSPARECOE02-7107
CHKD.	JD		
APPO			