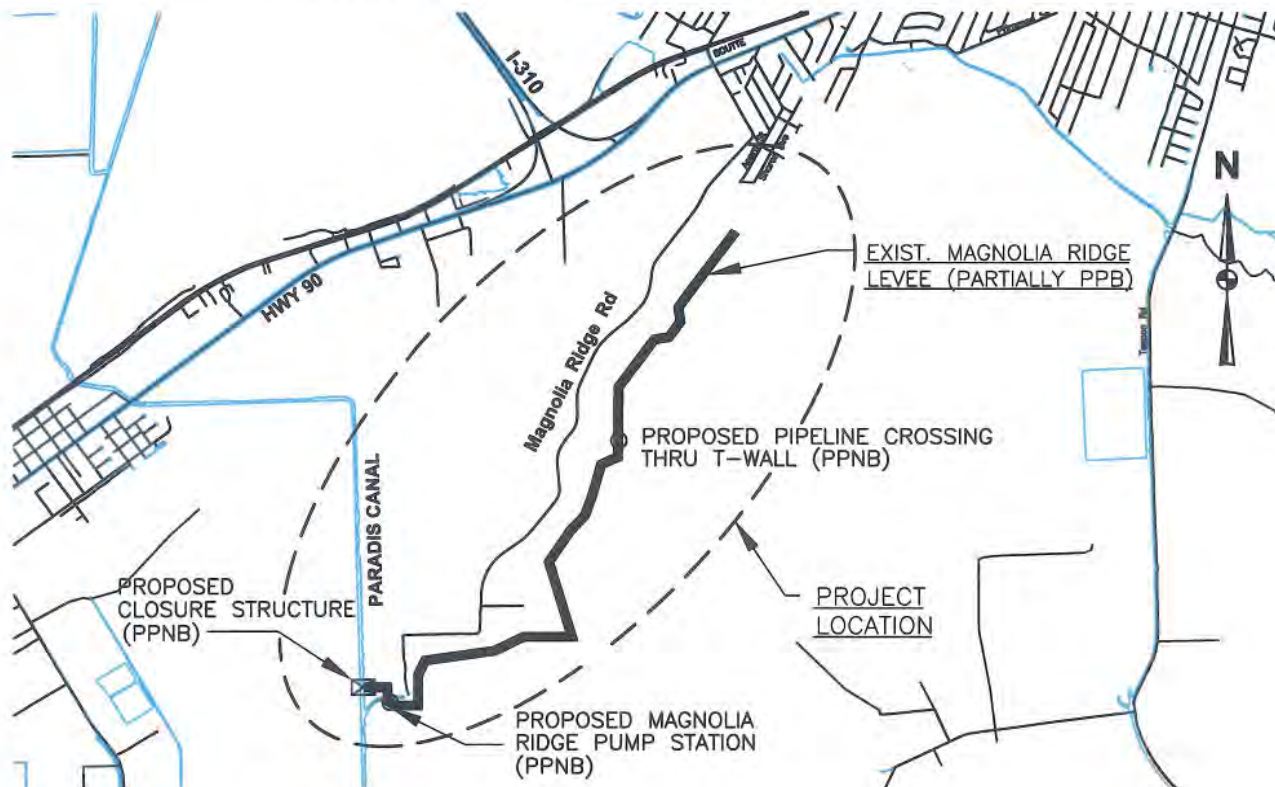


PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LOCATION MAP

DRAWING INDEX:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. LOCATION MAP/DRAWING INDEX 2. VICINITY MAP 3. COORDINATES PLAN 1 OF 2 4. COORDINATES PLAN 2 OF 2 5. COORDINATES TABLE 1 OF 2 6. COORDINATES TABLE 2 OF 2 7. PLAN KEY SHEET 8. PARTIAL PLAN 1 OF 5 9. PARTIAL PLAN 2 OF 5 10. PARTIAL PLAN 3 OF 5 11. PARTIAL PLAN 4 OF 5 12. PARTIAL PLAN 5 OF 5 13. DETAIL 1 - PUMPING STATION -SITE PLAN 14. DETAIL 2 - GRAND BAYOU DETAIL 15. DETAIL 3 - PIPELINE CROSSING 15A. SECTIONS A, B & C 15B. DETAILS 1 & 2 16. DETAIL 4 - LEVEE TRANSITION 17. LEVEE/CANAL TYPICAL SECTION 18. FLOOD WALL ELEVATIONS "A" AND "B" | <ol style="list-style-type: none"> 19. TRANSMISSION LINE CROSSINGS PLAN 20. TRANSMISSION LINE CROSSINGS SECTION 21. PARADIS CANAL CLOSURE STRUCTURE 22. MAGNOLIA RIDGE PUMPING STATION PLAN 23. MAGNOLIA RIDGE PUMPING STATION SECTION |
|---|---|

LEGEND:

TIS TIDAL INTERCHANGE STRUCTURE (PPNB)
 PPB PREVIOUSLY PERMITTED & BUILT
 PPNB PREVIOUSLY PERMITTED & NOT BUILT

PARISH OF ST. CHARLES

APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 1 OF 23

LOCATION MAP / DRAWING INDEX

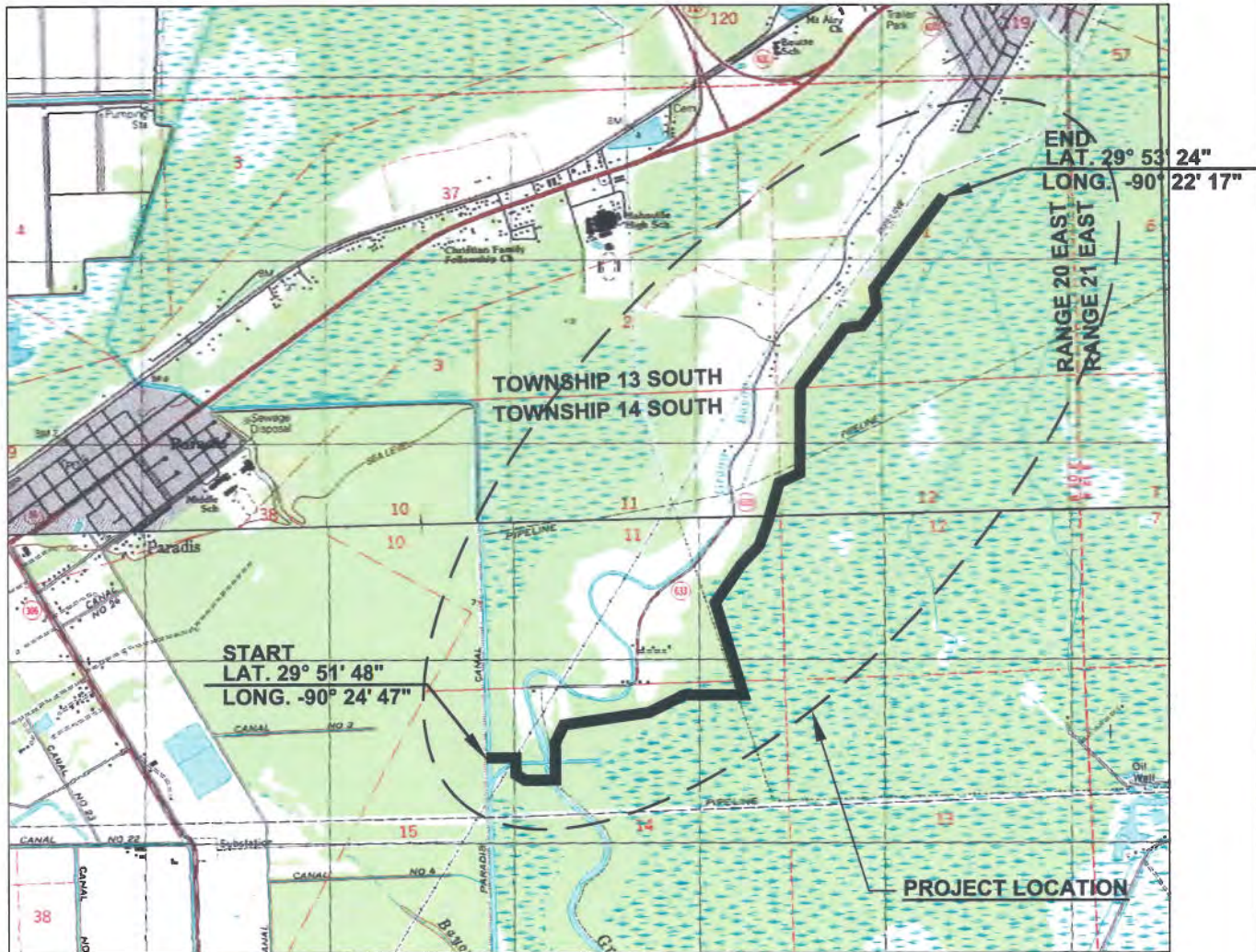
BURK-KLEINPETER, INC.

ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
 4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
 (504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA AREA ST. CHARLES PARISH, LOUISIANA



VICINITY MAP

SCALE: 1" = 3000'



PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

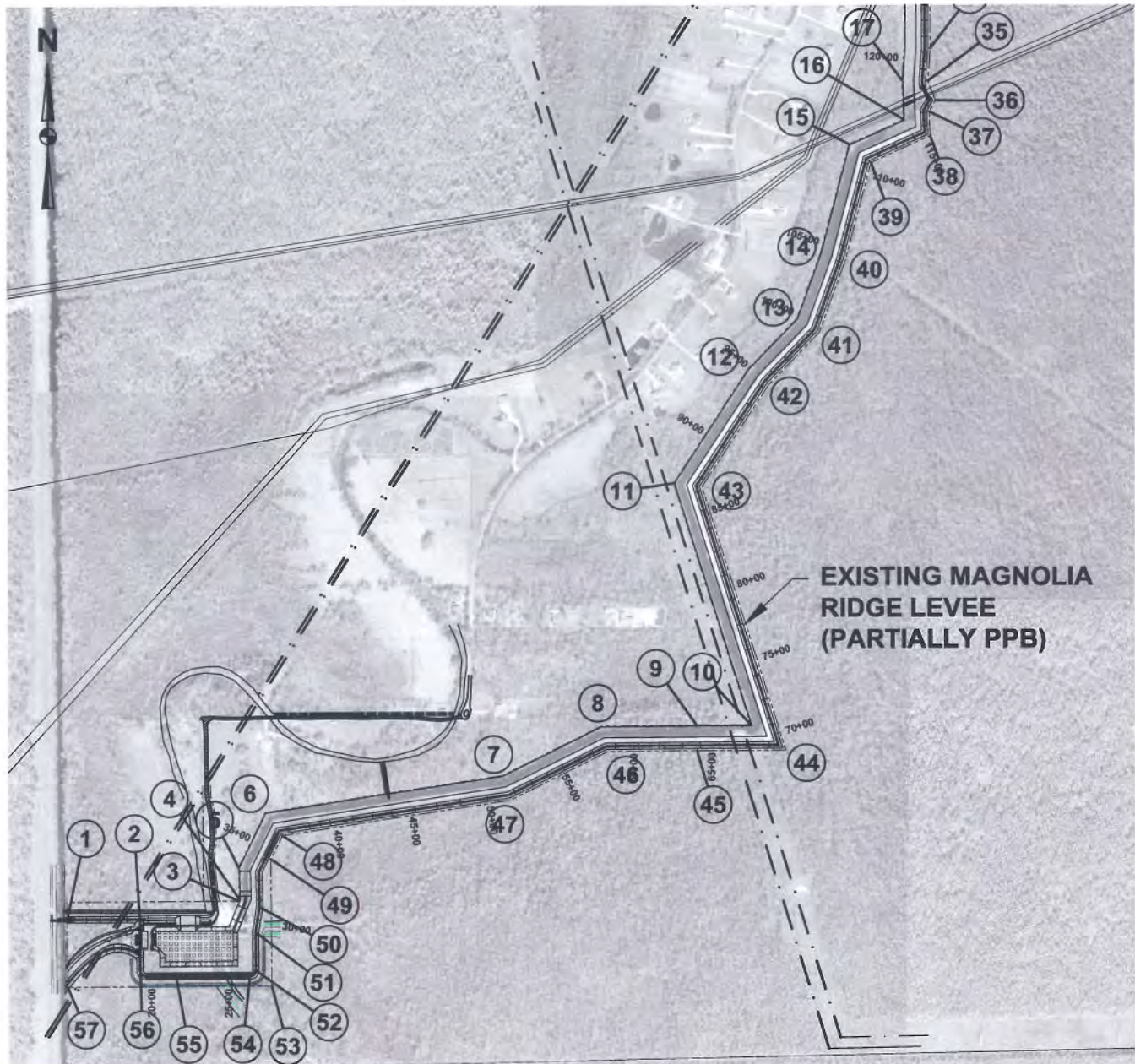
SHEET: 2 OF 23

VICINITY MAP

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714
BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- LEVEE BASELINE
- == : == : == : == EXISTING ENTERGY OVERHEAD POWER
- PPB PREVIOUSLY PERMITTED & BUILT

SCALE: 1" = 1000'

800 400 0 1000'

1000 600 200

GRAPHIC SCALE

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 3 OF 23

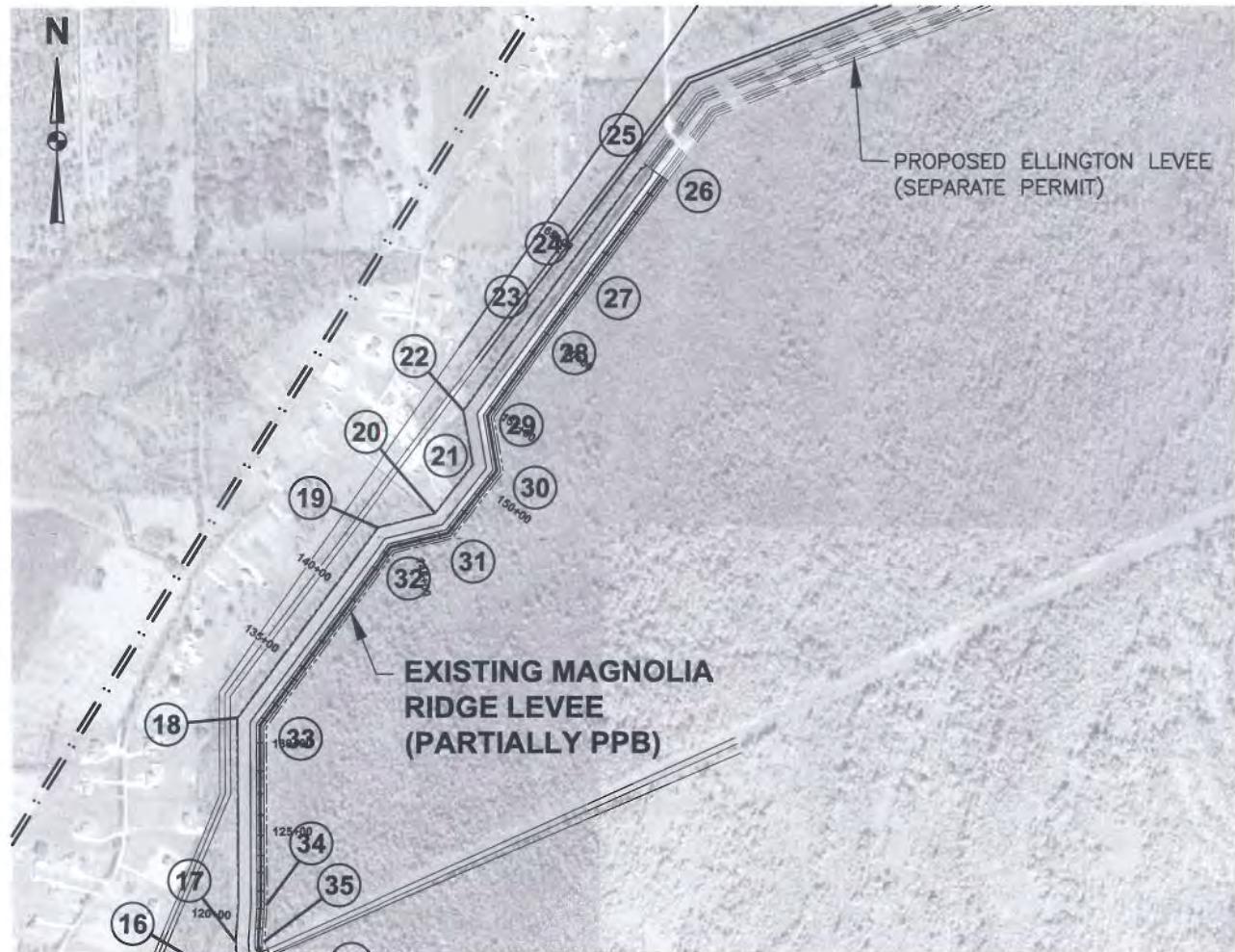
COORDINATES PLAN 1 OF 2

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

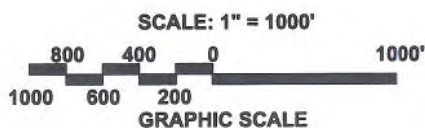
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- +---+---+---+ LEVEE BASELINE
- == : == : == : == EXISTING ENTERGY OVERHEAD POWER
- PPB PREVIOUSLY PERMITTED & BUILT



PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 4 OF 23

COORDINATES PLAN 2 OF 2

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714
BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA

PT# NORTHING EASTING

1	496965.75	3572488.86
2	496967.35	3572956.72
3	497083.05	3573597.00
4	497094.35	3573601.73
5	497299.34	3573597.05
6	497654.36	3573770.41
7	497888.57	3575293.80
8	498206.46	3575929.68
9	498211.56	3576543.81
10	498214.42	3576888.35
11	499781.28	3576405.49
12	500521.18	3576877.35
13	500847.04	3577188.53
14	501269.69	3577340.21
15	501975.29	3577523.67
16	502134.26	3577875.82
17	502388.23	3577864.90
18	503656.22	3577877.16
19	504794.58	3578539.16
20	504817.69	3578996.95
21	505091.94	3579209.41
22	505399.72	3579156.87
23	505937.34	3579539.41
24	506251.78	3579771.30
25	506800.25	3580175.44
26	506702.41	3580308.24
27	506153.85	3579904.09
28	505840.54	3579673.04
29	505359.92	3579331.05
30	505048.22	3579384.25
31	504671.12	3579092.12
32	504592.15	3578769.67
33	503602.30	3578042.30
34	502596.21	3578044.89
35	502386.00	3578030.15
36	502258.93	3578077.36
37	502184.52	3578041.01
38	502029.80	3578072.37
39	501857.38	3577663.50

NOTE:

COORDINATES SHOWN ARE LOUISIANA STATE PLAN SOUTH NAD83.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 5 OF 23

COORDINATES TABLE 1 OF 2

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA

PT#	NORTHING	EASTING
40	501263.12	3577498.02
41	500758.38	3577332.01
42	500418.54	3577007.48
43	499757.38	3576580.52
44	498051.27	3577112.00
45	498046.56	3576545.18
46	498041.78	3575969.27
47	497729.42	3575344.44
48	497504.39	3573880.80
49	497351.89	3573806.33
50	497043.55	3573731.29
51	496879.60	3573705.00
52	496633.92	3573705.84
53	496533.78	3573809.61
54	496596.30	3573668.45
55	496596.30	3573191.52
56	496730.06	3572957.53
57	496529.25	3572490.36

NOTE:

COORDINATES SHOWN ARE LOUISIANA STATE PLAN SOUTH NAD83.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 6 OF 23

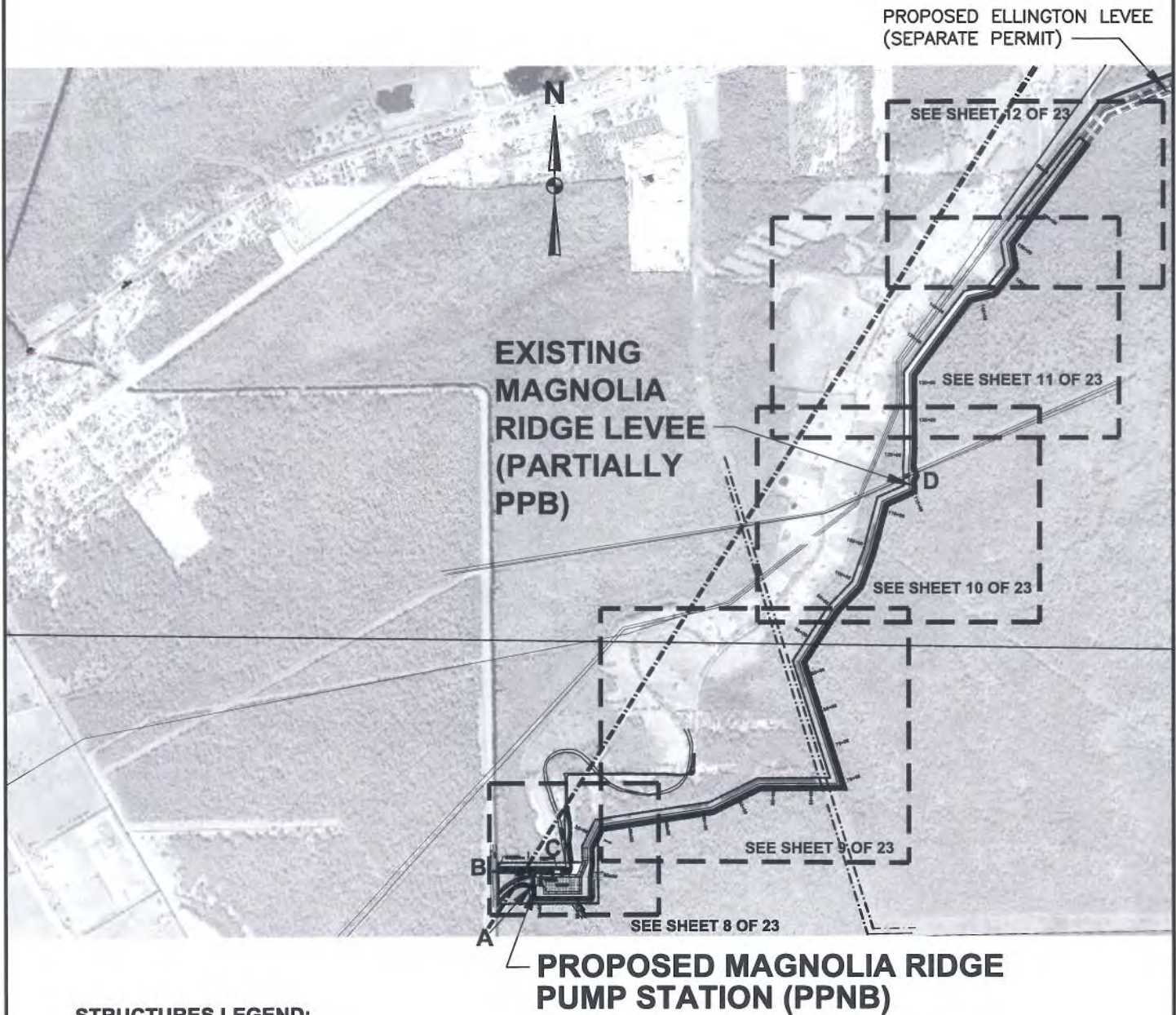
COORDINATES TABLE 2 OF 2

BURK-KLEINPETER, INC.
 ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
 4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
 (504) 486-5901 FAX (504) 486-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

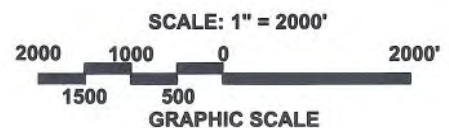
PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA PLANTATION AREA ST. CHARLES PARISH, LOUISIANA



STRUCTURES LEGEND:

- A PROPOSED PUMPING STATION (PPNB)
- B PROPOSED CLOSURE STRUCTURE (PPNB)
- C PROPOSED 100' WEIR
- D PROPOSED PIPELINE CROSSING THRU T-WALL (PPNB)

(PPNB) = PREVIOUSLY PERMITTED & NOT BUILT
(PPB) = PREVIOUSLY PERMITTED & BUILT



PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 7 OF 23

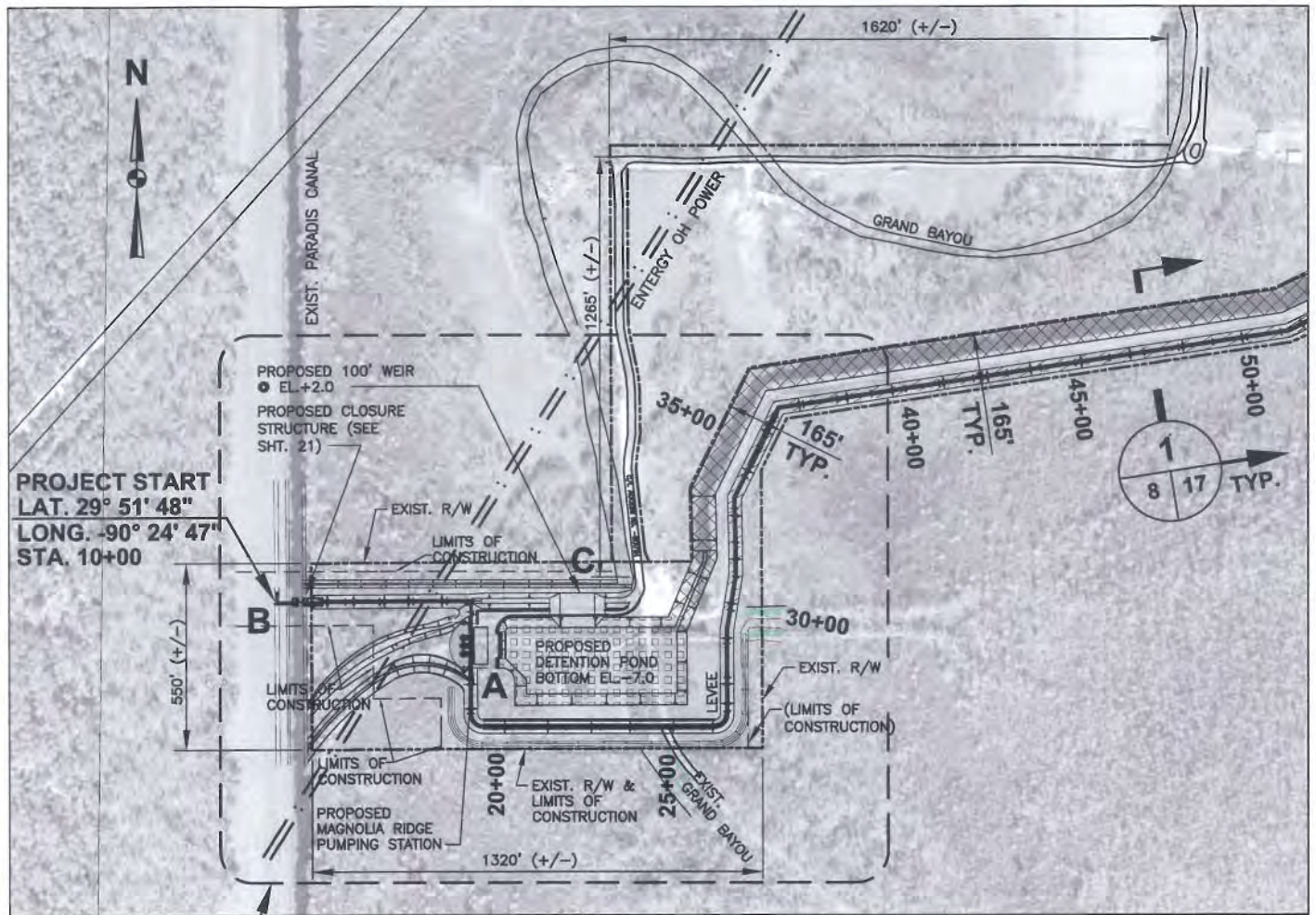
PLAN KEY SHEET

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



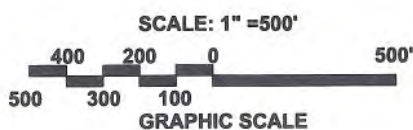
SEE DETAIL 1,
SHT. 13

LEGEND:

---	LIMITS OF CONSTRUCTION
----	LEVEE RIGHT OF WAY
-----	LEVEE BASELINE
---	EXISTING ENTERGY OVERHEAD POWER
XXXXXX	EXCAVATION (PPB)
XXXXXX	FILL (PPB)
XXXXXX	DETENTION POND (PPNB)
PPB	PREVIOUSLY PERMITTED & BUILT
PPNB	PREVIOUSLY PERMITTED & NOT BUILT

NOTE:

UTILITY LINES SHOWN ARE APPROXIMATE POSITIONS OF UTILITY EASEMENTS AND ARE NOT MEANT TO INDICATE ACTUAL OWNERSHIP OR POSITION OF PIPELINE OR POWERLINES.



PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 8 OF 23

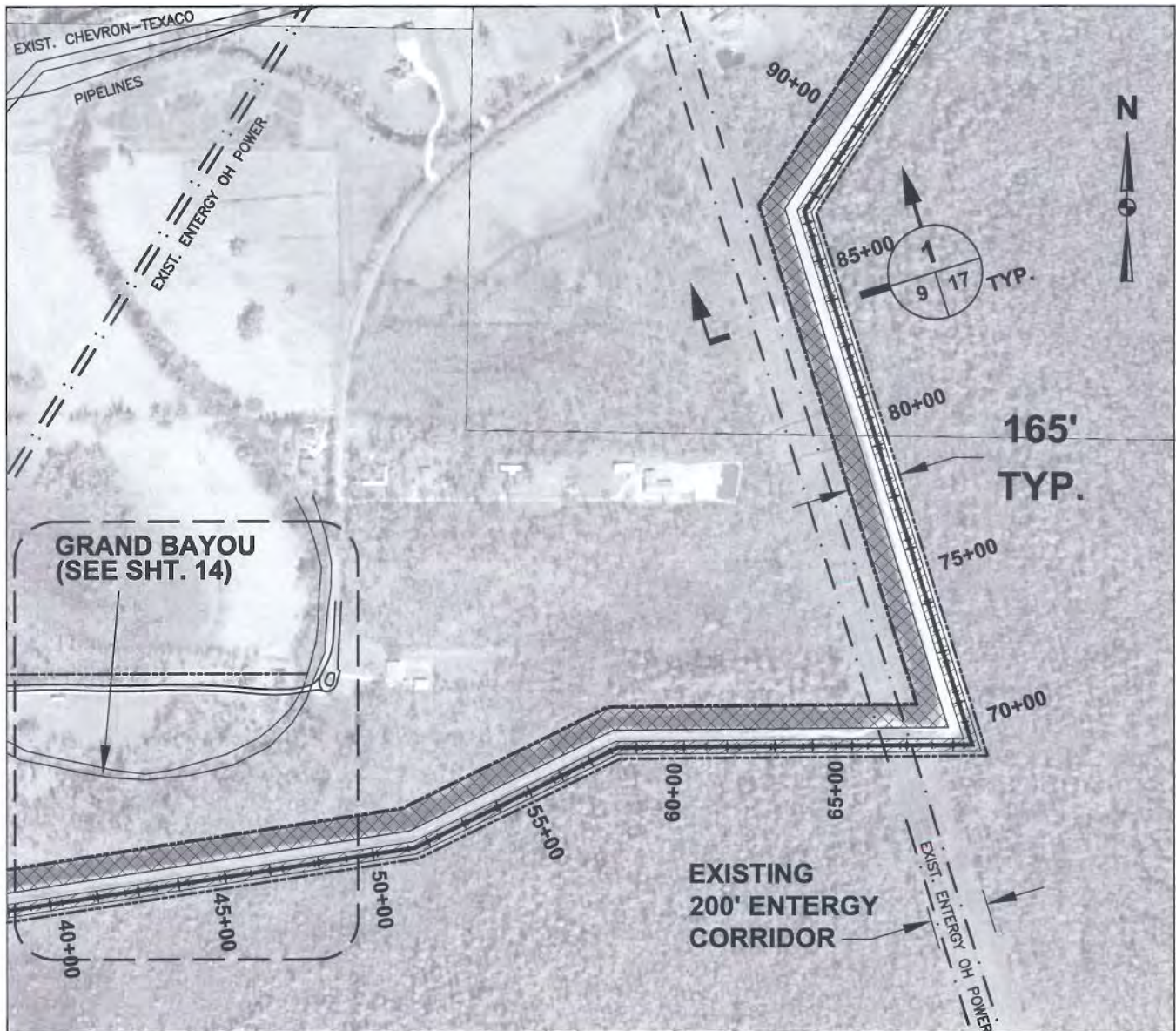
PARTIAL PLAN 1 OF 5

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

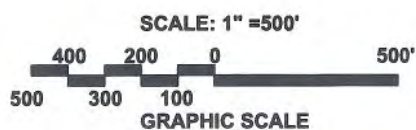
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- LEVEE BASELINE
- ===== EXISTING ENTERGY OVERHEAD POWER
- XXXXXX EXCAVATION (PPB)
- ===== FILL (PPB)
- PPB PREVIOUSLY PERMITTED & BUILT



NOTE:

UTILITY LINES SHOWN ARE APPROXIMATE POSITIONS OF UTILITY EASEMENTS AND ARE NOT MEANT TO INDICATE ACTUAL OWNERSHIP OR POSITION OF PIPELINE OR POWERLINES.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 9 OF 23

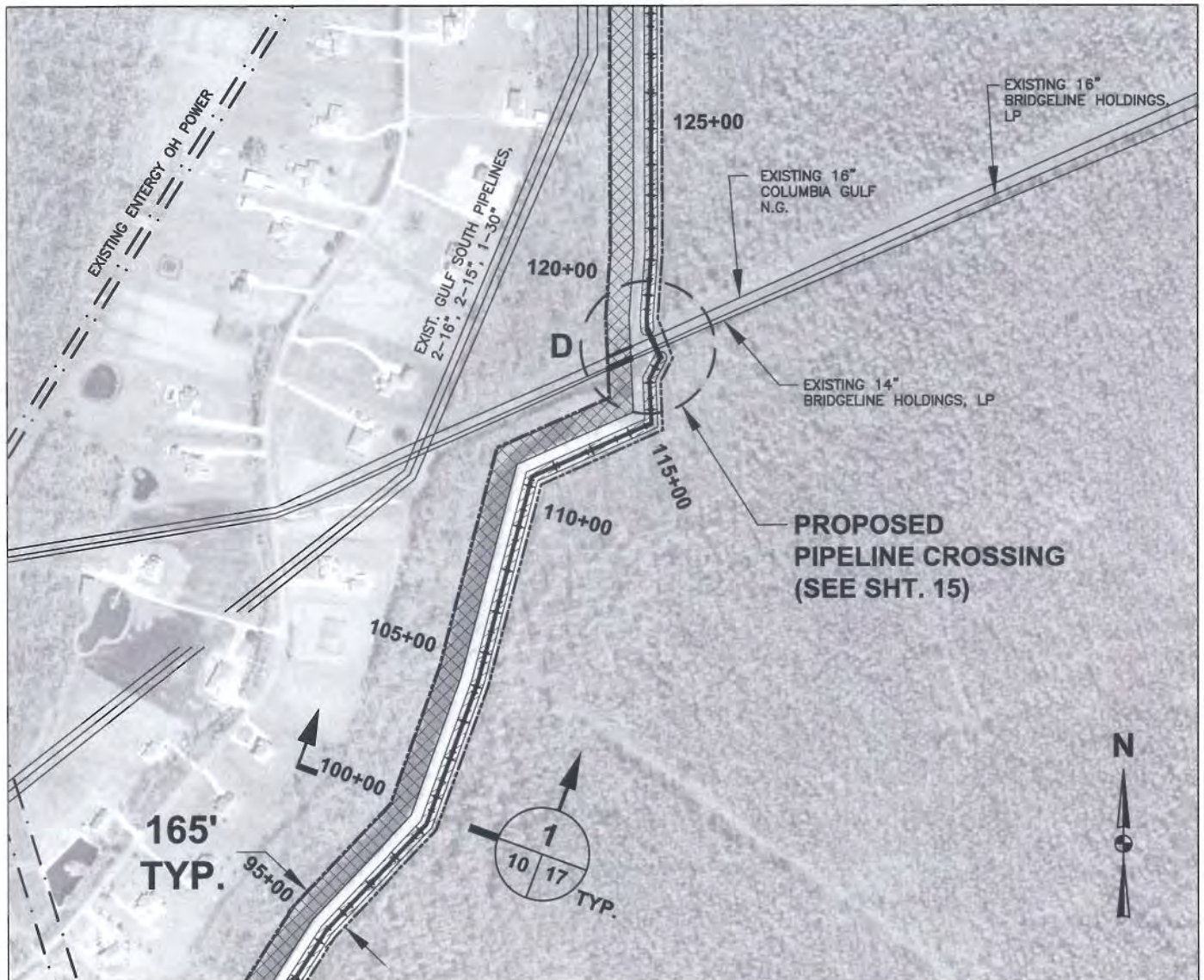
PARTIAL PLAN 2 OF 5

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

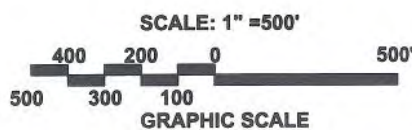
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- +----- LEVEE BASELINE
- == : == : == EXISTING ENTERGY OVERHEAD POWER
- XXXXXX EXCAVATION (PPB)
- ////// FILL (PPB)
- PPB PREVIOUSLY PERMITTED & BUILT



NOTE:

UTILITY LINES SHOWN ARE APPROXIMATE POSITIONS OF UTILITY EASEMENTS AND ARE NOT MEANT TO INDICATE ACTUAL OWNERSHIP OR POSITION OF PIPELINE OR POWERLINES.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 10 OF 23

PARTIAL PLAN 3 OF 5

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

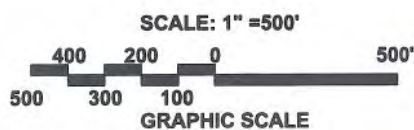
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- ++++ LEVEE BASELINE
- == : == : == EXISTING ENTERGY OVERHEAD POWER
- XXXXXX EXCAVATION (PPB)
- ////// FILL (PPB)
- PPB PREVIOUSLY PERMITTED & BUILT



NOTE:

UTILITY LINES SHOWN ARE APPROXIMATE POSITIONS OF UTILITY EASEMENTS AND ARE NOT MEANT TO INDICATE ACTUAL OWNERSHIP OR POSITION OF PIPELINE OR POWERLINES.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 11 OF 23

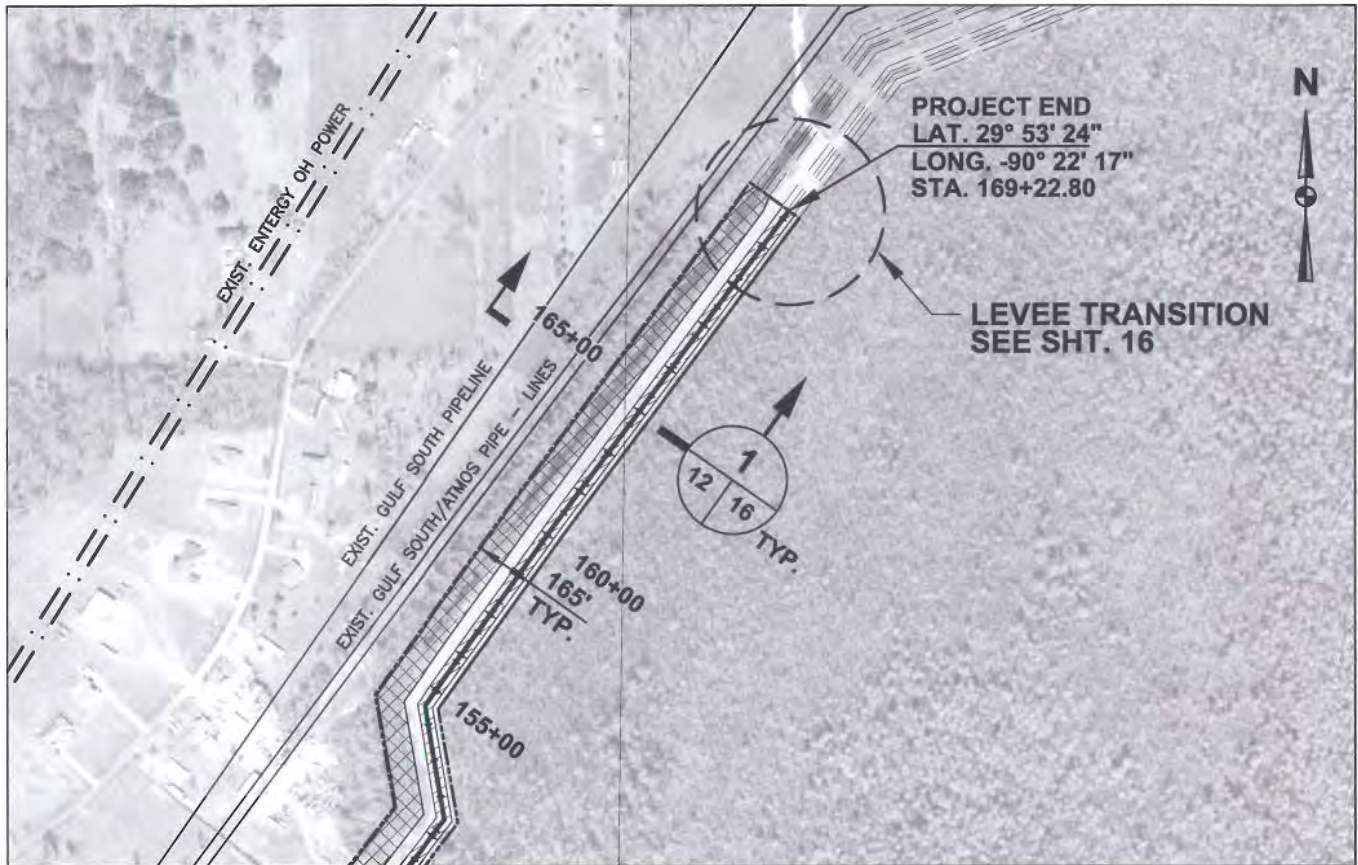
PARTIAL PLAN 4 OF 5

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 486-1714

BKI PROJ. NO. 10475-0100

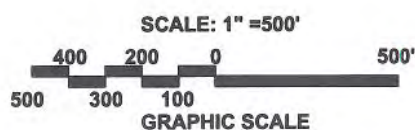
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- +++++ LEVEE BASELINE
- == : == : == EXISTING ENTERGY OVERHEAD POWER
- XXXXXX EXCAVATION (PPB)
- ////// FILL (PPB)
- PPB PREVIOUSLY PERMITTED & BUILT



NOTE:

UTILITY LINES SHOWN ARE APPROXIMATE POSITIONS OF UTILITY EASEMENTS AND ARE NOT MEANT TO INDICATE ACTUAL OWNERSHIP OR POSITION OF PIPELINE OR POWERLINES.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 12 OF 23

PARTIAL PLAN 5 of 5

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

DETAIL 1 – MAGNOLIA PUMP STATION

SCALE: 1" = 200'

REV.	DATE	DESCRIPTION	BY
------	------	-------------	----

SHEET: 13 OF 23

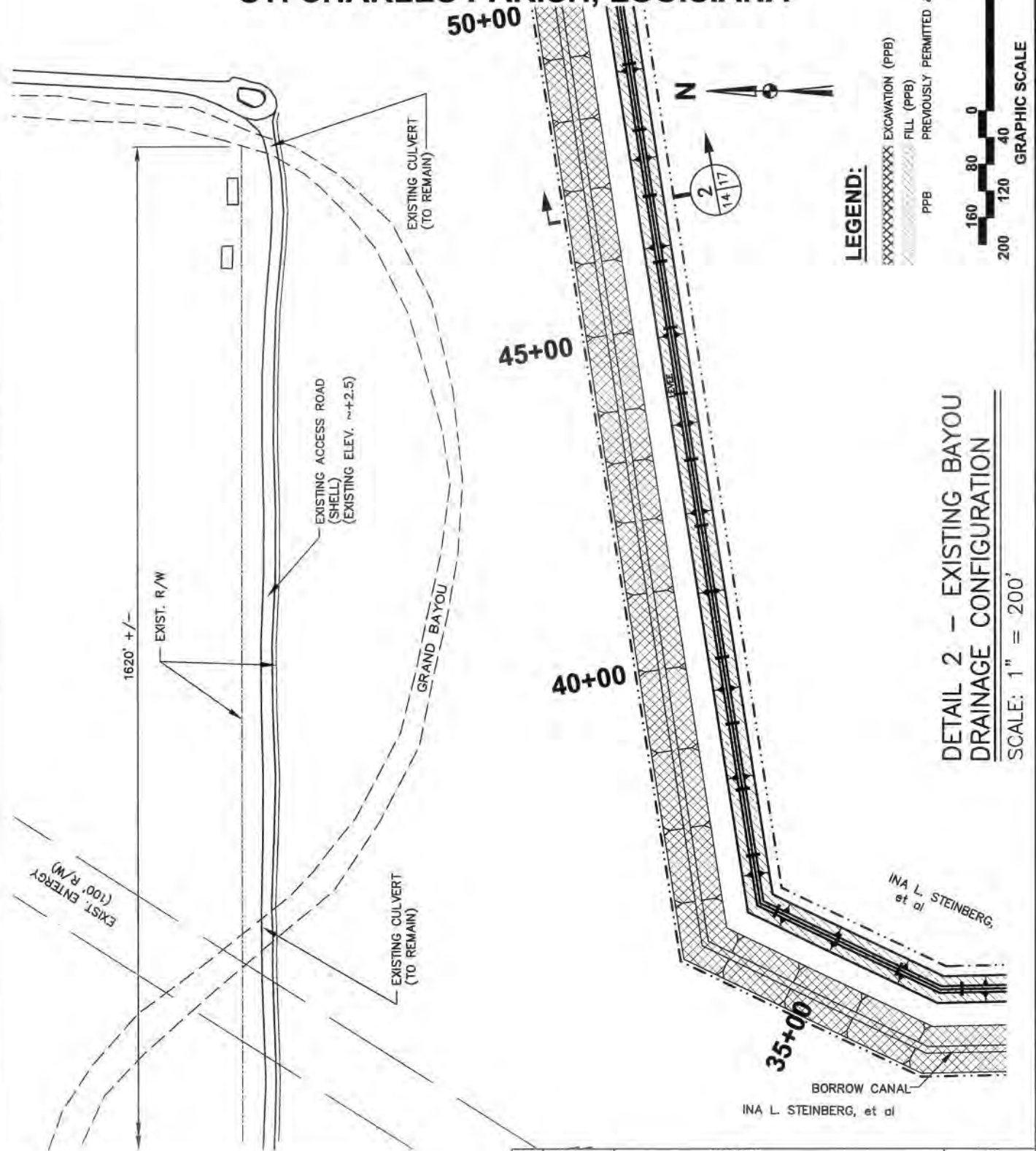
PUMP STATION - SITE PLAN

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 486-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



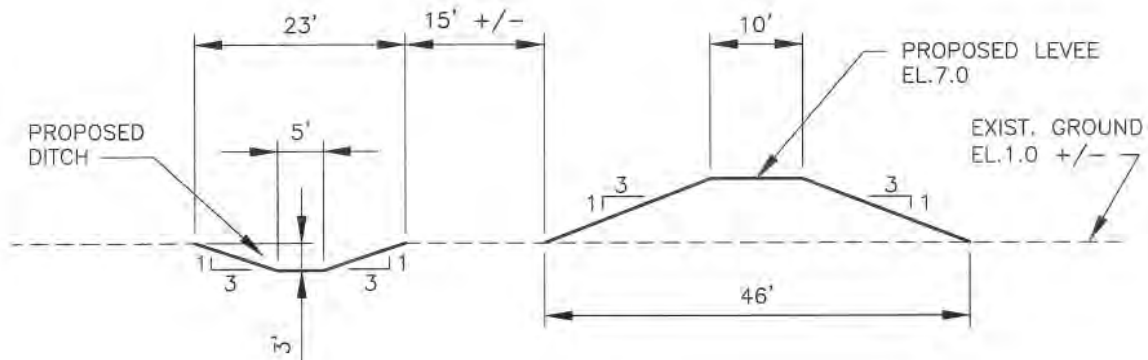
PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 14 OF 23

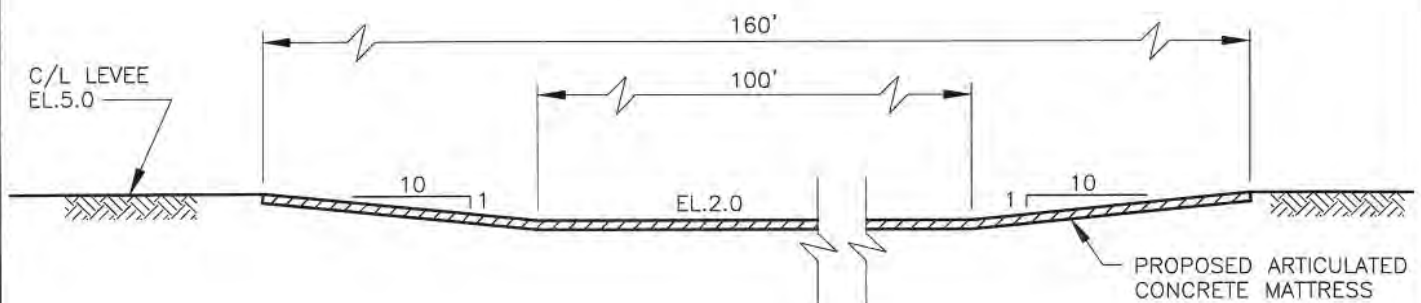
GRAND BAYOU DETAIL

REV.	DATE	DESCRIPTION	BY
BURK-KLEINPETER, INC. ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS 4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994 (504) 486-5901 FAX (504) 488-1714			
BKI PROJ. NO. 10475-0100			
APRIL 2013			

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



SECTION **B**
N.T.S. 13/15A



SECTION **C**
N.T.S. 13/15A

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

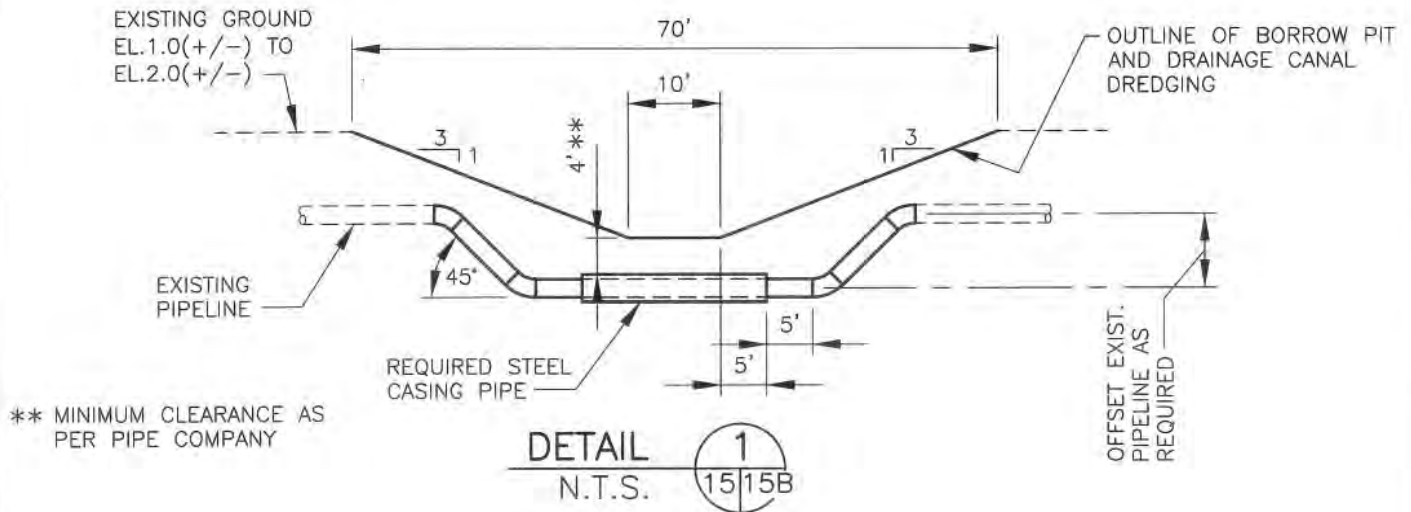
SHEET: 15A OF 23

SECTIONS A, B & C

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714
BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 15B OF 23

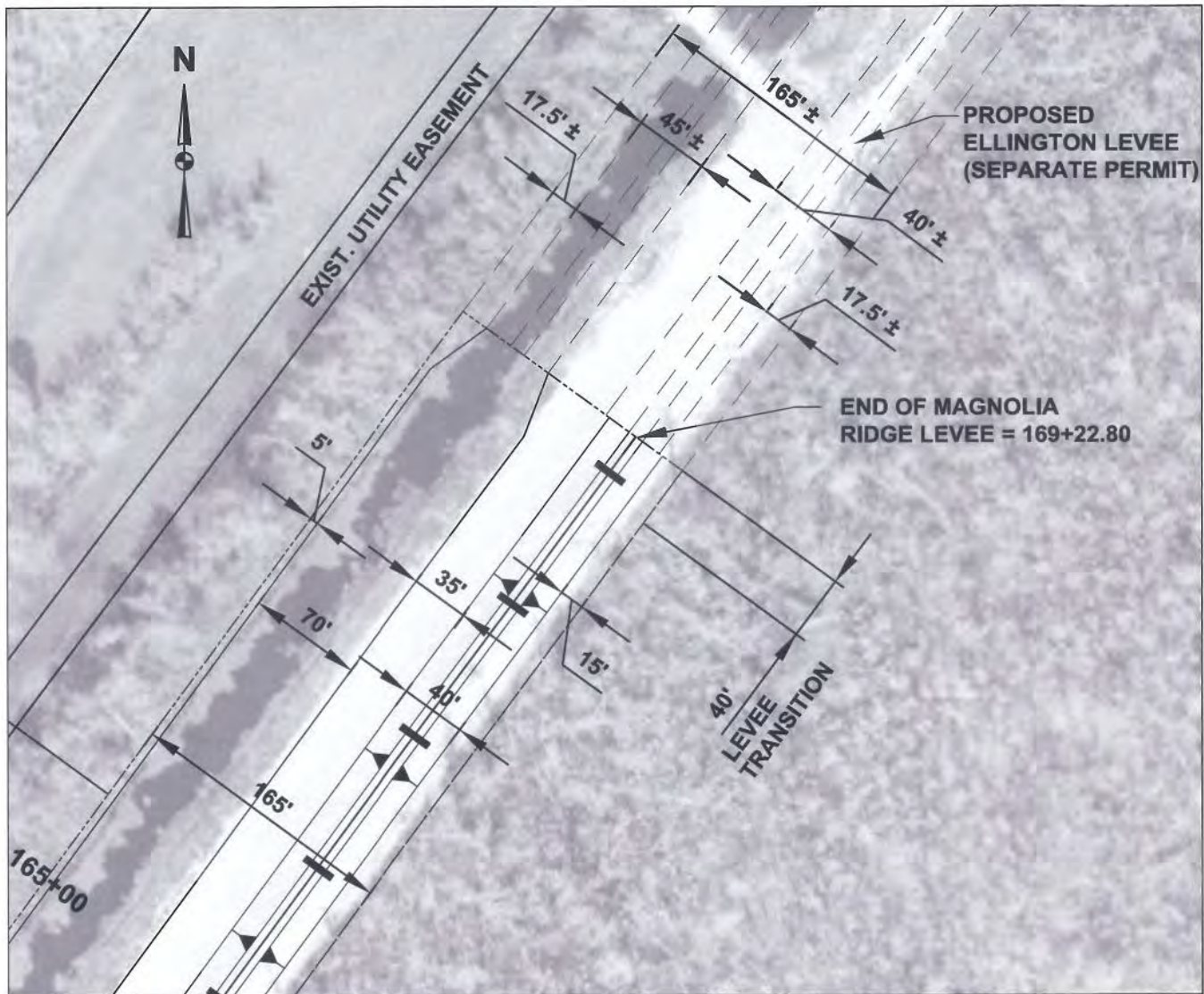
DETAILS 1, 2 & 3

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA

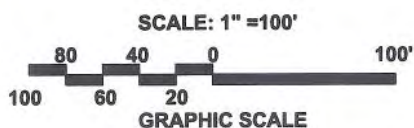


DETAIL 4 - LEVEE TRANSITION

SCALE: 1" = 100'

LEGEND:

- — — — — LEVEE RIGHT OF WAY
- + + + + + LEVEE BASELINE



PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 16 OF 23

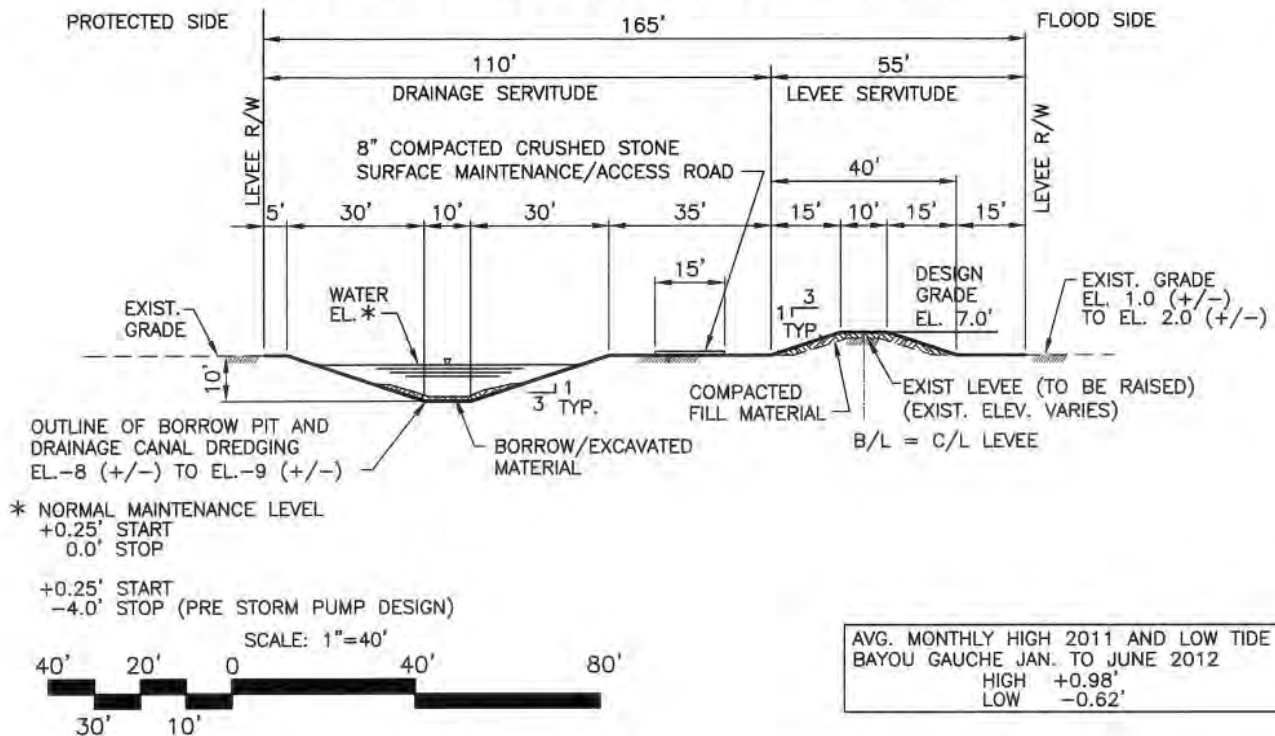
LEVEE TRANSITION

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

APRIL 2013


PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEVEE/CANAL TYPICAL SECTION



LEGEND:

 FILL (LEVEE AND EXIST. DITCH)

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

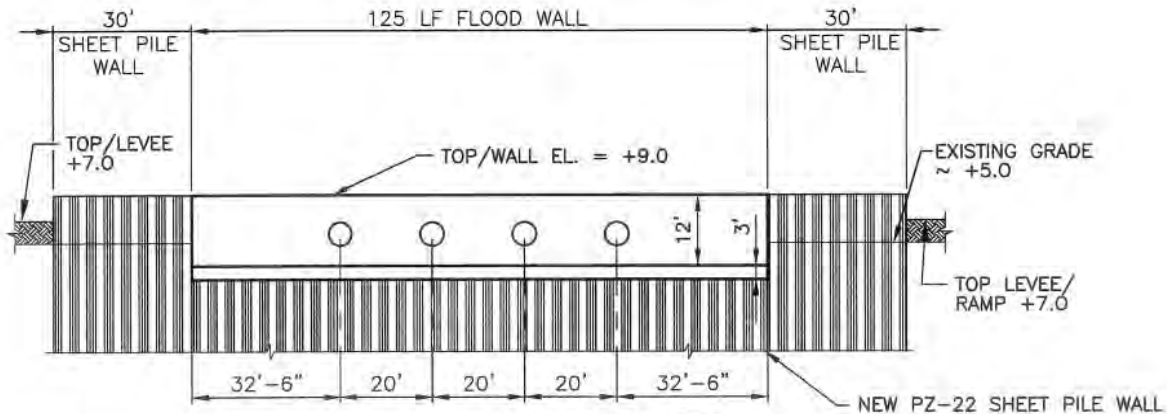
SHEET: 17 OF 23 LEVEE/CANAL & ACCESS ROAD TYPICAL SECTION

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

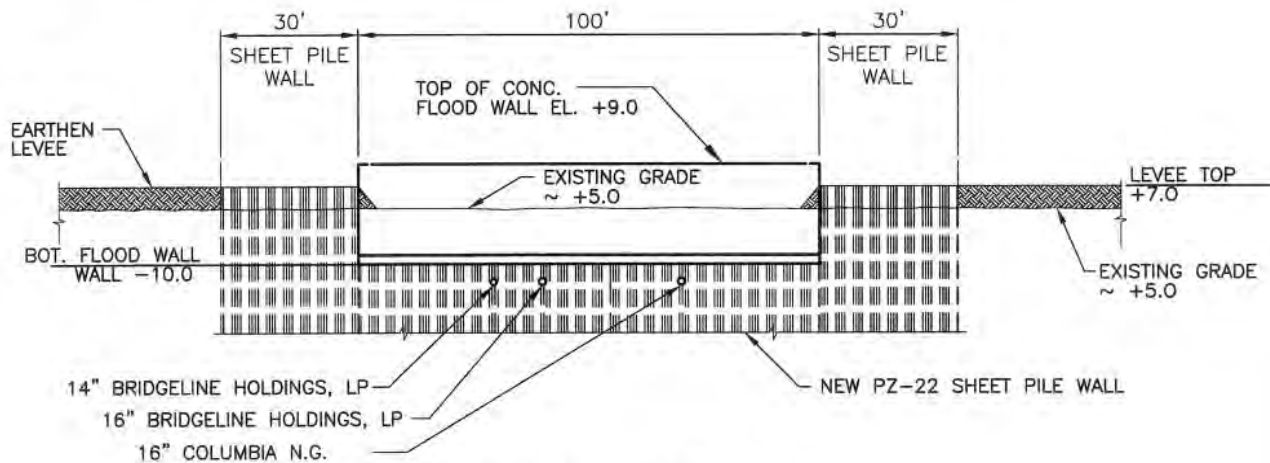
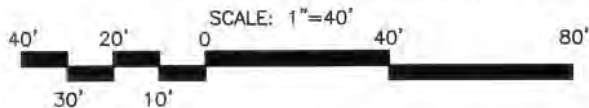
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



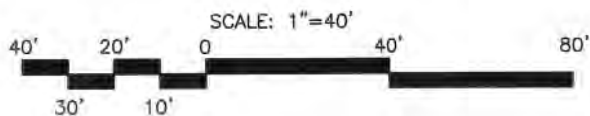
ELEVATION A
1318

T-WALL AT MAGNOLIA RIDGE PUMP STATION



ELEVATION B
1318

FLOOD WALL AT PIPELINE CROSSINGS (TYP.)



LEGEND:



EARTHEN LEVEE

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 18 OF 23

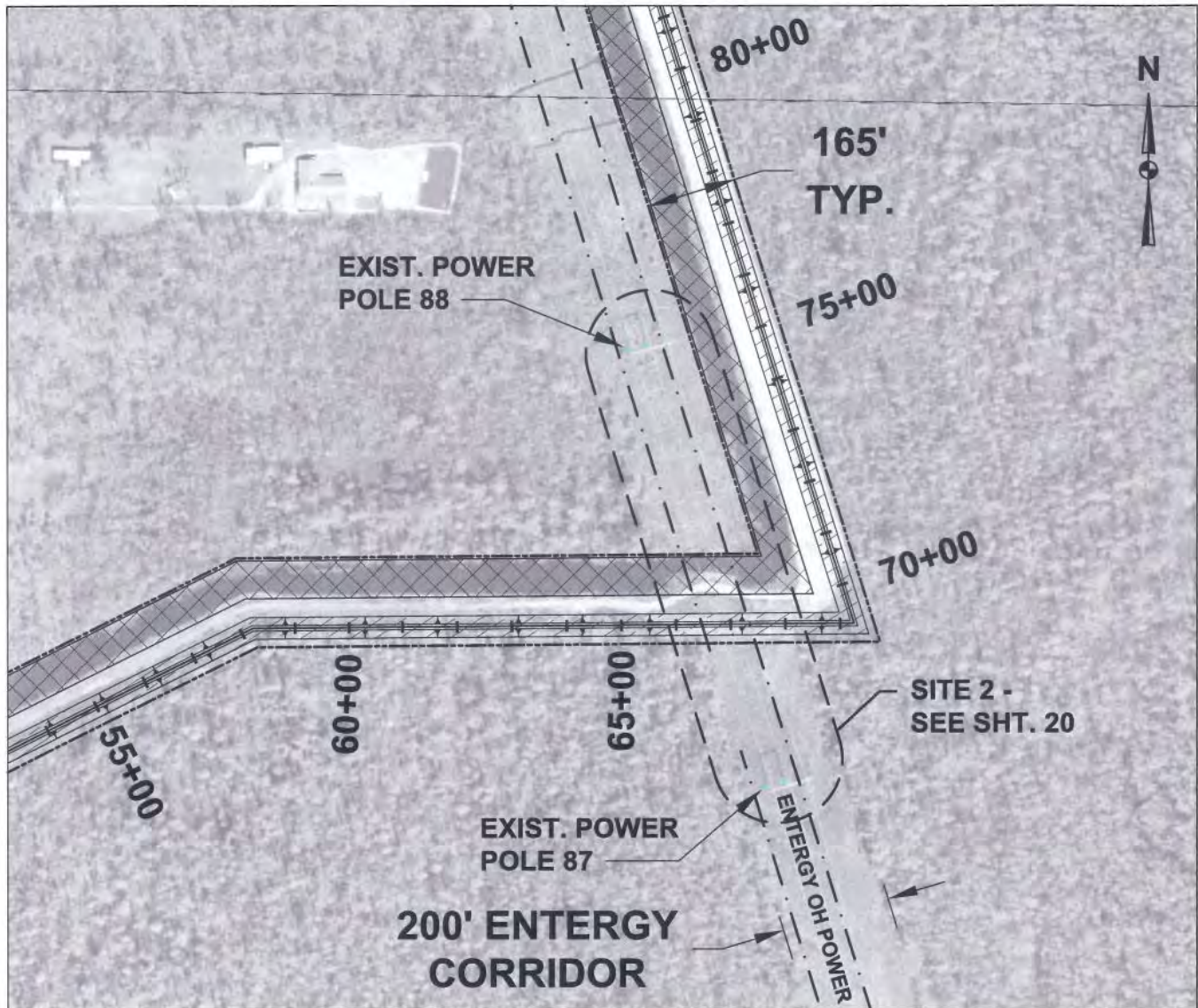
FLOOD WALL ELEVATIONS "A" & "B"

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

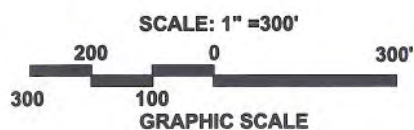
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



LEGEND:

- LEVEE RIGHT OF WAY
- LEVEE BASELINE
- == : == : == ENTERGY OVERHEAD POWER
- XXXXXX EXCAVATION (PPB)
- ////// FILL (PPB)
- PPB PREVIOUSLY PERMITTED & BUILT



NOTE:

UTILITY LINES SHOWN ARE APPROXIMATE POSITIONS OF UTILITY EASEMENTS AND ARE NOT MEANT TO INDICATE ACTUAL OWNERSHIP OR POSITION OF PIPELINE OR POWERLINES.

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 19 OF 23

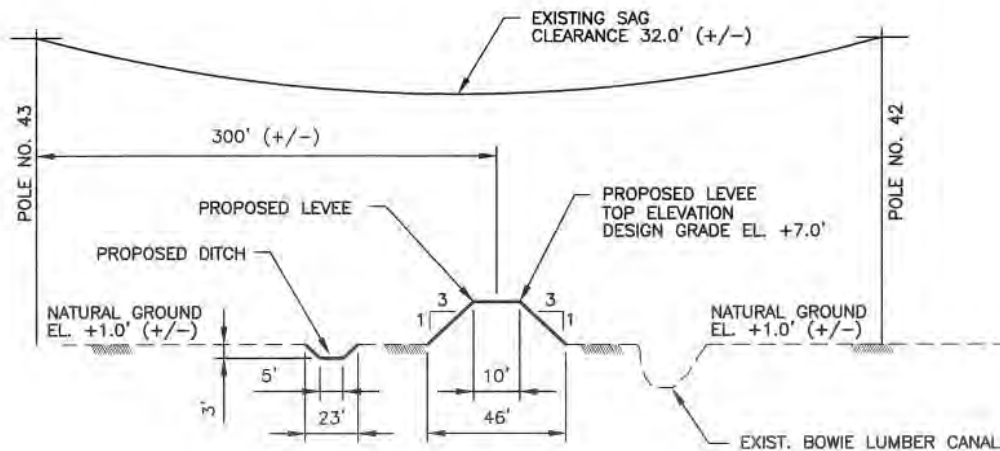
TRANSMISSION LINE CROSSING PLAN

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
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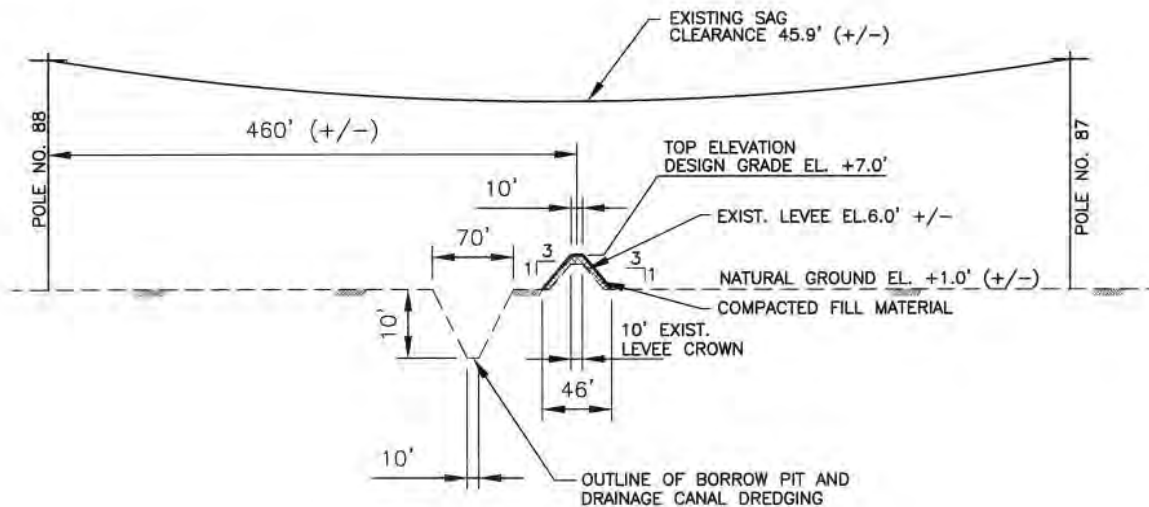
BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA TRANSMISSION LINE CROSSINGS



SITE 1
SEE SHEET 13



SITE 2
SEE SHEET 19

TRANSMISSION LINE CROSSINGS
SCALE: NTS

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 20 OF 23

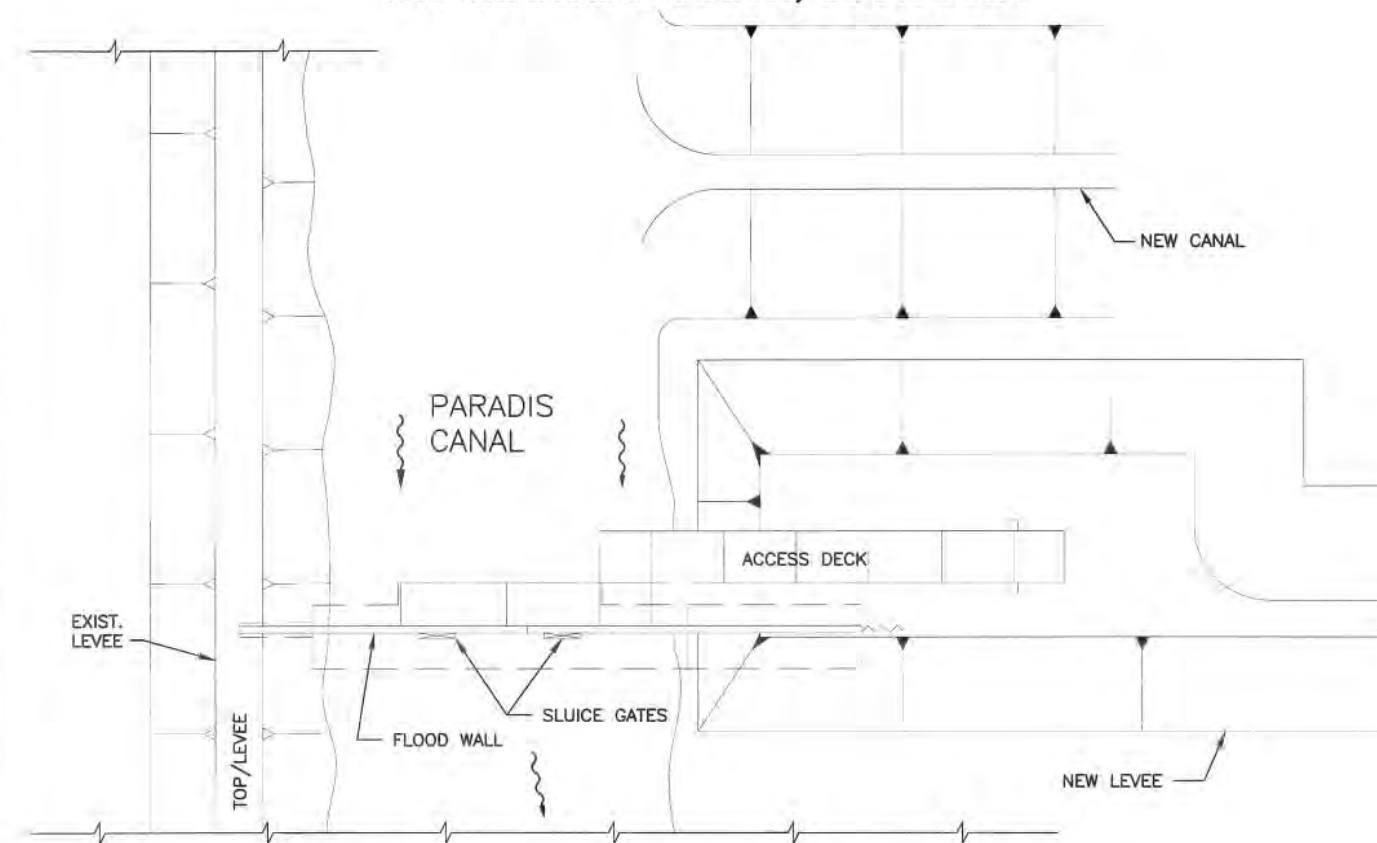
TRANSMISSION LINE CROSSINGS SECTION

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

BKI PROJ. NO. 10475-0100

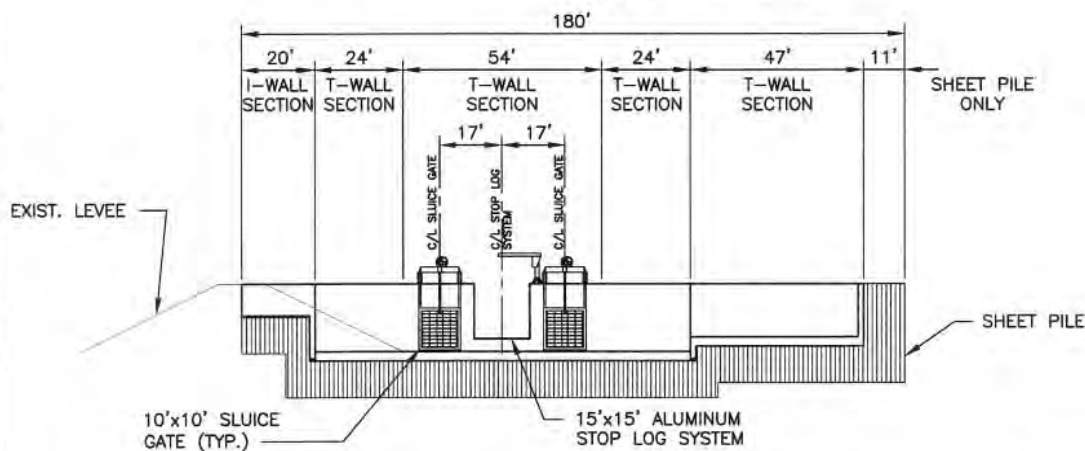
APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



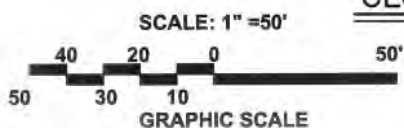
CLOSURE STRUCTURE PLAN (PPNB)

SCALE: 1" = 50'



CLOSURE STRUCTURE ELEVATION (PPNB)

SCALE: 1" = 50'



PPNB = PREVIOUSLY PERMITTED & NOT BUILT

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 21 OF 23

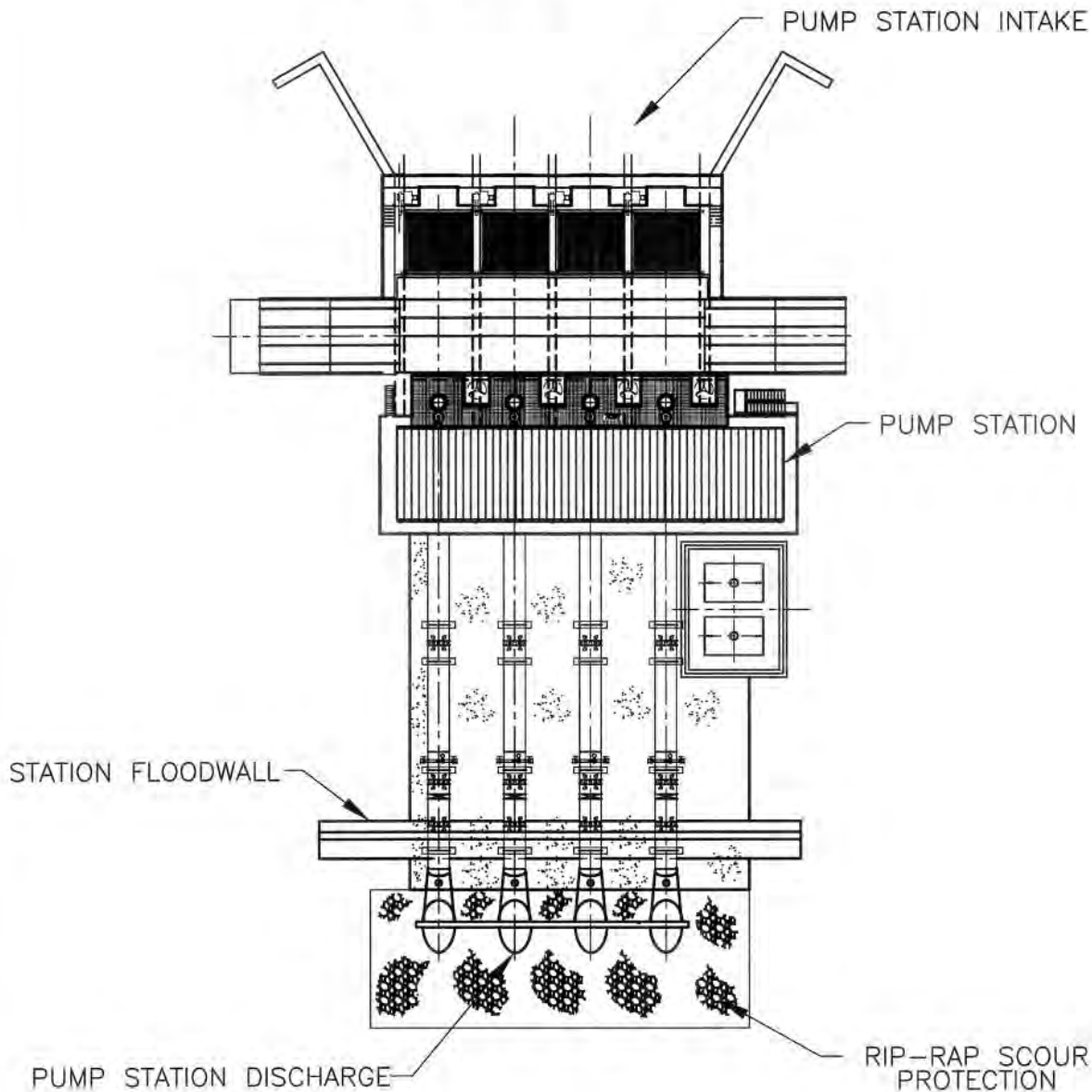
PARADIS CANAL CLOSURE STRUCTURE

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
(504) 486-5901 FAX (504) 488-1714

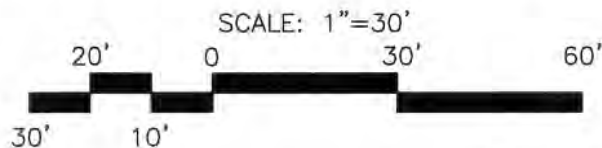
BKI PROJ. NO. 10475-0100

APRIL 2013

PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



MAGNOLIA RIDGE PUMPING STATION PLAN (PPNB)



PPNB = PREVIOUSLY PERMITTED & NOT BUILT

PARISH OF ST. CHARLES
APPLICATION BY: PARISH OF ST. CHARLES

SHEET: 22 OF 23

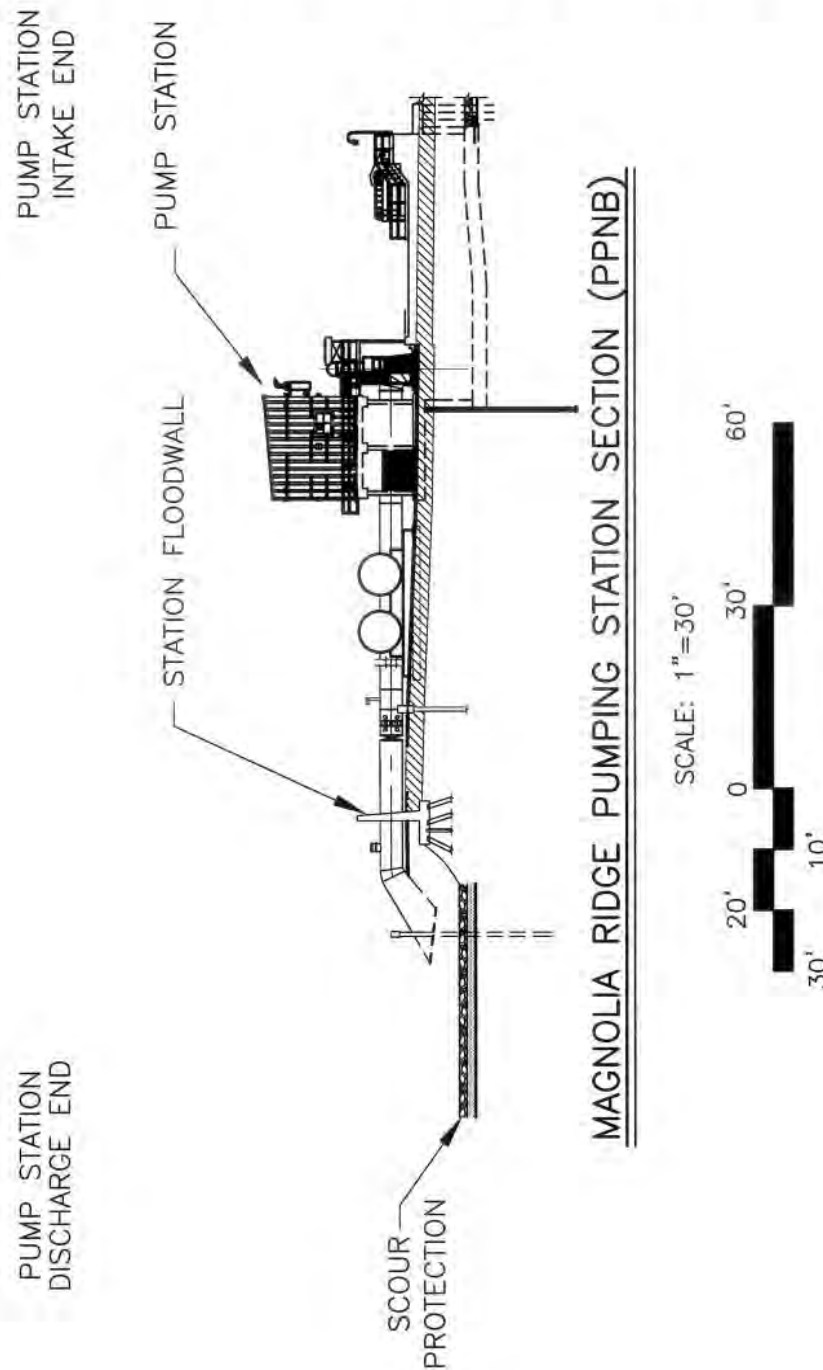
MAGNOLIA RIDGE PUMPING STATION PLAN

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
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PROPOSED HURRICANE PROTECTION LEVEE MAGNOLIA RIDGE AREA ST. CHARLES PARISH, LOUISIANA



PPNB = PREVIOUSLY PERMITTED & NOT BUILT

PARISH OF ST. CHARLES
APPLICATION BY: **PARISH OF ST. CHARLES**

SHEET: 23 OF 23 **MAGNOLIA RIDGE PUMPING STATION SECTION**

BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LOUISIANA 70119-5994
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BKI PROJ. NO. 10475-0100

APRIL 2013

West Bank Hurricane Protection Levee
Phase I – Magnolia Ridge Hurricane Protection Levee System
St. Charles Parish

Joint Use Permit Application

Operations Plan

September, 2012

GENERAL

In order to protect and maintain the health of valuable natural resources and at the same time provide needed hurricane protection, including protection from excessively high tides, the following Operations Plan has been developed for the proposed Magnolia Ridge (Phase I) Hurricane Protection Levee system.

OBJECTIVES

This Operations Plan distinguishes between “Normal” operational conditions and “Emergency” operational conditions. In the Normal Operational Conditions the Closure Structure (Item B, below) will remain open to allow flow for Paradis Canal, and the proposed Magnolia Ridge Pumping station will operate according to the requirements of rainfall to keep the inhabited areas free of flooding.

Notes:

1. Reference is made to the Coastal Use Permit Application, latest revision.
2. All elevations are in NAVD 88- 2004.65 Datum.

OPERATIONAL STRUCTURES

(See Permit Application sheet 7 of 23 for location of structures by alphabetic callout)

Named Structures in Permit Application

- Item A. Proposed (Magnolia Ridge) Pumping Station
- Item B. Proposed Closure Structure (normally opened)
- Item C. Proposed 100' Weir (not an operational structure)
- Item D. Proposed Pipeline Crossing thru T-Wall (not an operational structure)

I. NORMAL OPERATIONAL CONDITIONS

Normal operational conditions are considered to be a rainfall storm up to a 10-yr. event and tides below Elev. +2.0.

Water levels in the Magnolia Ridge Canal

Canal Normal Water Level	(-)2.0 ft.
Canal Allowable High Water (10-yr. storm)	0.1 ft.
Paradis Swamp ¹ Allowable High Water (10-yr. storm)	2.0 ft.

- A. Pump Station – **Start +0.5, Stop 0.1**
- B. Closure Structure - **Open**
- C. 100' Weir – N/A - Not an operational structure
- D. Pipeline Crossing thru T-Wall – N/A - Not an operational structure

Gated Culverts between the Ellington system (separate permit) and the Magnolia Ridge system – normally closed.

II. EMERGENCY OPERATIONAL CONDITIONS

The following events are considered “Emergency Conditions”:

1. Conditions due to extreme rainfall (greater than 10-year intensity, non-tropical storm).
2. Conditions due to approaching hurricane or tropical storm.
3. Conditions caused by stoppage (planned or unplanned) of either the Ellington Pumping Station or the Willowridge Pumping Station.

Notes:

1. Normal Conditions prevail once event causing emergency condition has ended.
2. USACE-NOD must be notified and documentation provided when an Emergency Condition arises.

Water levels in the Magnolia Ridge Canal

Canal Normal Water Level	(-)2.0 ft.
Canal Allowable High Water (100-yr. storm)	1.5 ft.
Paradis Swamp Allowable High Water (100-yr. storm)	2.0 ft.

A. Surge Event-

1. National Weather Service Notice: Hurricane/Tropical Storm Warning for Coastal Louisiana.

- A. Pump Station – **Start and Stop as needed** (Suction Bay to El. (-)4.0 for pre-pump)
- B. Closure Structure – **Open/Closed**
- C. 100' Weir – N/A- Not an operational structure
- D. Pipeline Crossing thru T-Wall – N/A- Not an operational structure

¹ No Biological investigation has been performed for the Paradis Swamp; however water surface elevation of 2' should be adequate to maintain the vegetation in the Paradis Swamp. The existing elevation of the berm around the Hahnville High School appears to have gaps less than elevation of 2' and should be raised to protect the school from higher water levels from the Swamp.

2. High Tide greater than elevation +2.0 NAVD88 w/o NWS notice.

- A. Pump Station – **Start and Stop as needed** (Suction Bay to El. (-)4.0)
- B. Closure Structure - **Closed**
- C. 100' Weir – N/A- Not an operational structure
- D. Pipeline Crossing thru T-Wall – N/A- Not an operational structure

B. Rainfall Event-

- 1. National Weather Service Notice: Projected major rainfall event for Coastal Louisiana.

- A. Pump Station – **Start and Stop as needed** (Suction Bay to El. (-)4.0)
- B. Closure Structure – **Open/Closed**
- C. 100' Weir –N/A- Not an operational structure
- D. Pipeline Crossing thru T-Wall –N/A- Not an operational structure

C. Special Operational Event-

- 1. Events deemed necessary by public works director.
- 2. Notification and Documentation must be provided to USACE-NOD

- A. Pump Station – **Start and Stop as needed** (Suction Bay to El. (-)4.0)
- B. Closure Structure – **Open/Closed**
- C. 100' Weir –N/A- Not an operational structure
- D. Pipeline Crossing thru T-Wall –N/A- Not an operational structure

Under any of the above emergency conditions the following may be implemented at the discretion of the Director of Public Works:

A. Gated Culverts between the Ellington system and the Magnolia Ridge system could be opened according to the Ellington CUP (P20100821) Operations Plan.

III. DOCUMENTATION

A. Monitoring of the basin water levels, gate closures, and pumping operations is necessary to insure that wetland habitat values of the basin will not be compromised. A record of each emergency operation is to document the event by storm name, and type, date and time of operation, duration of operation, and lowest interior water levels of the basin.

B. Operations Plan to be administered under Parish Council Ordinance.

END OPERATIONS PLAN

West Bank Hurricane Protection Levee - Phase I Magnolia Ridge, St. Charles Parish, Louisiana



Location Map



Exhibit A
Phase I Magnolia Ridge
P20121273
Previous Wetland Impacts



Legend

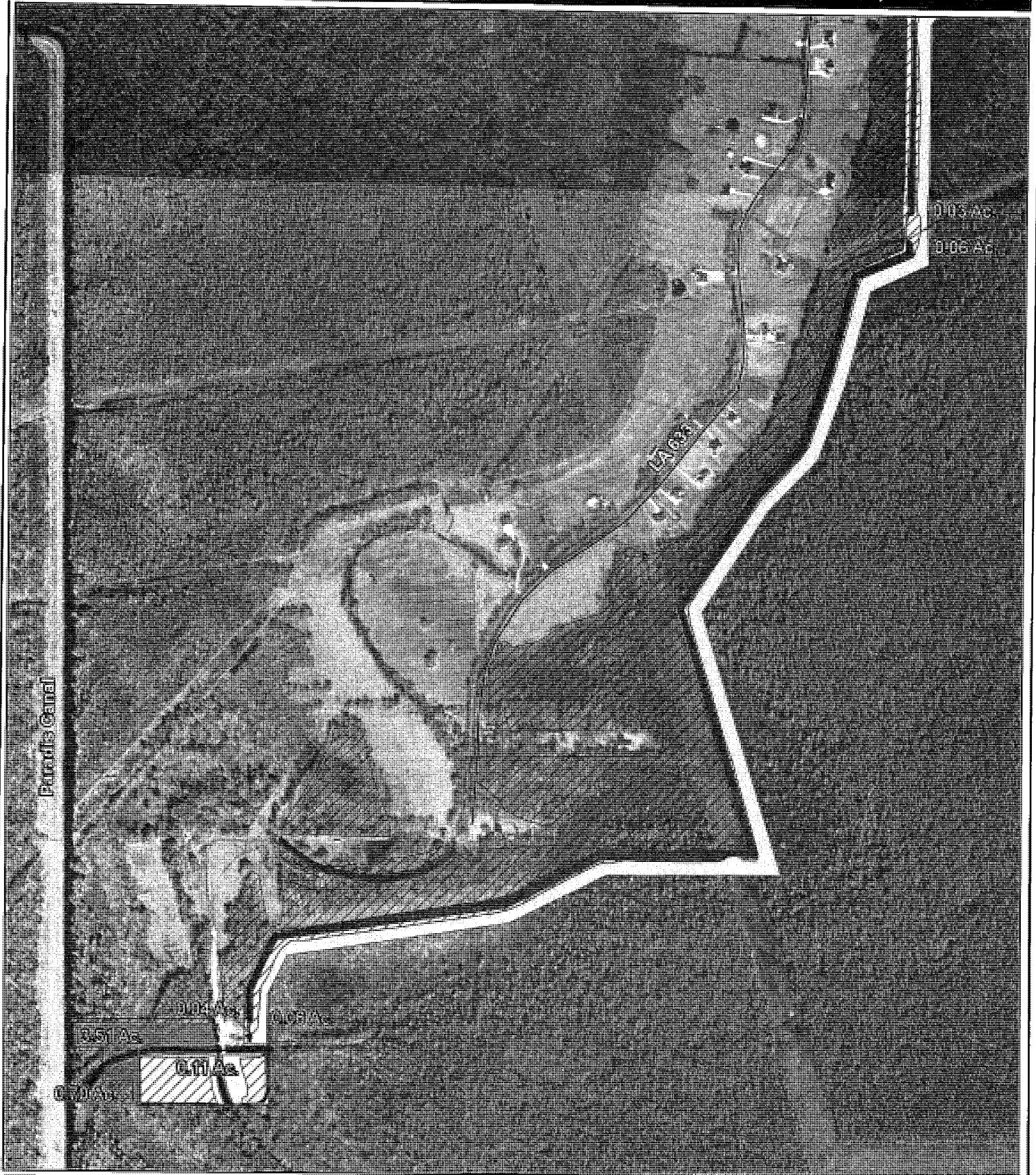
 Previously Mitigated Wetlands

0 500 1,000 2,000 Feet

Aerial Image dated 2004 obtained from U.S.G.S.



West Bank Hurricane Protection Levee - Phase I Magnolia Ridge, St. Charles Parish, Louisiana

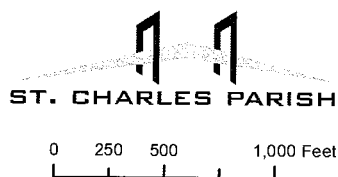


Location Map



**Exhibit B
Phase I Magnolia Ridge
P20121273
New Wetland Impacts**

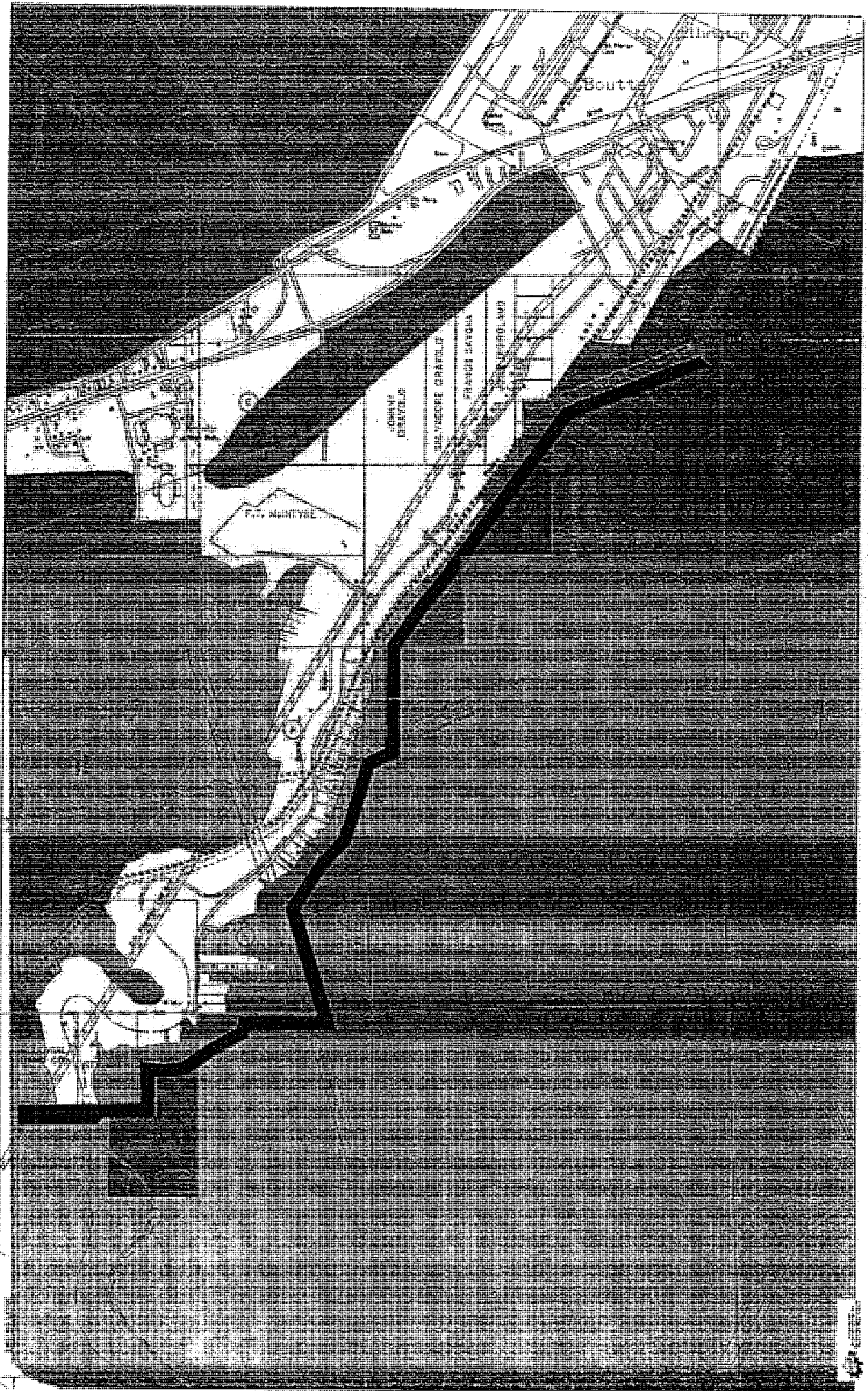
Aerial Image dated 2004 obtained from U.S.G.S.



Legend

- Non-Mitigated Wetlands (4.5 ac)
- Previously Mitigated Wetlands
- Wetlands (404 and 404/10)
- Waters of the US







ST. CHARLES PARISH
DEPARTMENT OF PUBLIC WORKS
~172.79 ACRES
BOUTTE, LA
WETLAND DELINEATION
"MAGNOLIA RIDGE"

U.S. ARMY CORPS OF ENGINEERS

APPROVED

JURISDICTIONAL DETERMINATION


USACE


I.H. 3 Nov 11


BY: P. Castaing

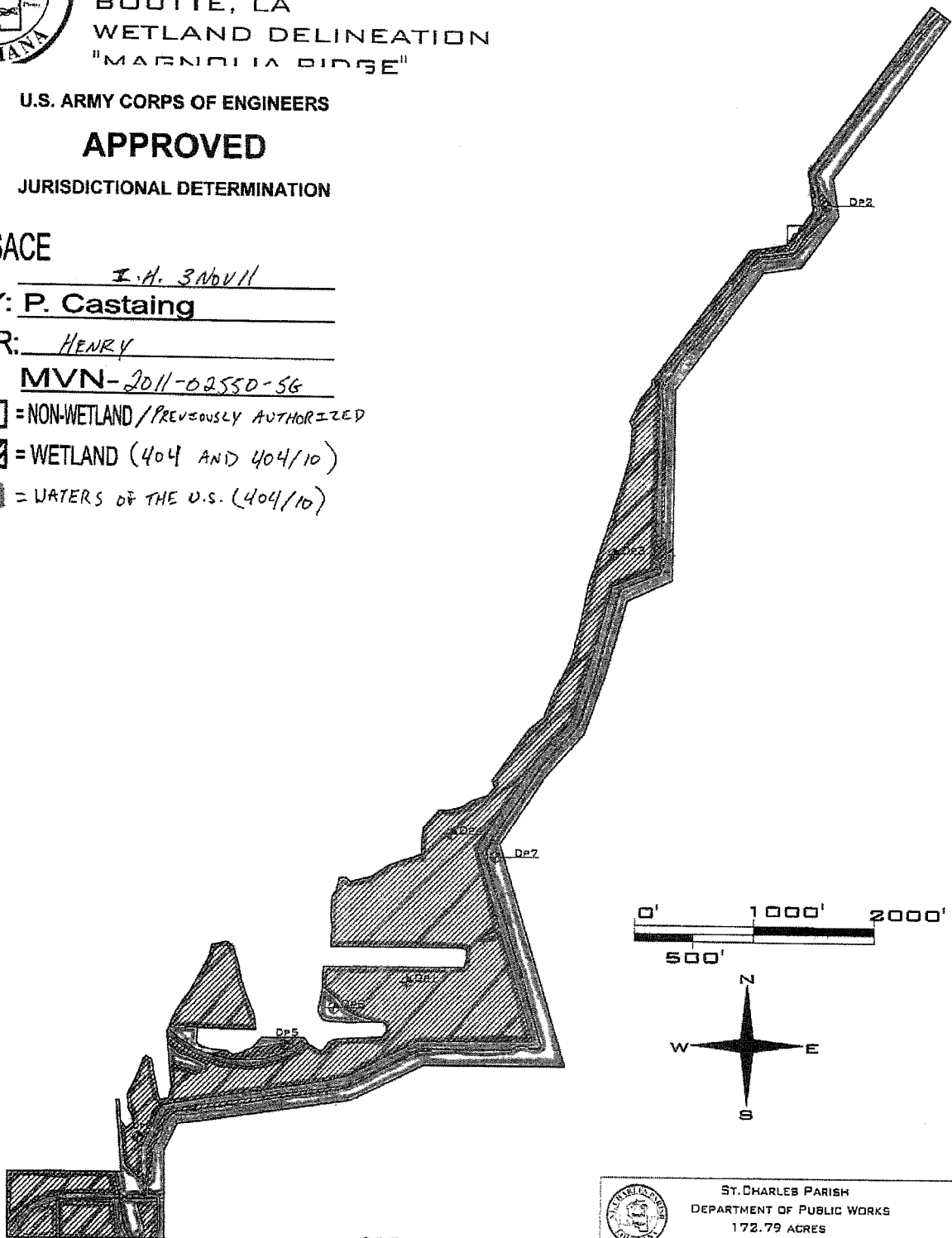
FOR: HENRY

MVN-2011-02550-SG


 = NON-WETLAND / PREVIOUSLY AUTHORIZED

 = WETLAND (404 AND 404/10)

 = WATERS OF THE U.S. (404/10)



PREPARED BY:
HYDRIK
WETLAND AND GIS CONSULTANTS
WWW.HYDRIK.COM

 ST. CHARLES PARISH DEPARTMENT OF PUBLIC WORKS 172.79 ACRES BOUTTE, LA	
FILE: 11068	DATE: 07 31 11
FIGURE: MATCH	REV :
DRAWING: PV	APPROVED: MJH