



AGENDA MEMORANDUM

Planning Commission Meeting of November 01, 2017

DATE: October 24, 2017

TO: William J. Green, P.E., Interim Director, Development Services

FROM: Ratna S. Pottumuthu, Engineer IV, Development Services
ratnap@cctexas.com
(361) 826-3585

Wastewater Collection System Master Plan Amendment for OSO W.R.P. Service Area Sub Basin SPA 30 for Flour Bluff and Encinal Farm and Garden Tract 17.87 acres out of Lot 13, Sec 25

PURPOSE:

The purpose of the amendment is to realign the planned collection line shown in the Wastewater Collection System Master Plan OSO W.R.P. Service Area Sub Basin SPA 30. The legal description for the subject property is Flour Bluff and Encinal Farm and Garden Tract 17.87 acres out of Lot 13, Sec 25. The subject tract is approximately 17.87 acres in area, located northeast of Yorktown Boulevard about 0.4 miles east of intersection of Rodd Field Road and Yorktown Boulevard.

BACKGROUND AND FINDINGS:

The subject tract is currently situated within the Lift Station # 13 internal boundary. The Wastewater Collection System Master Plan OSO W.R.P. Service Area, Sub Basin SPA 30 (2006) (Exhibit A) shows a planned collection line beginning at the southerly end of the property, extending through the property to its northern boundary, then extends east approximately 1,650 feet, then turns north (crossing Master Channel 31) a distance of approximately 1,900 feet to the Lift Station 13. The wastewater collection system described does not currently exist and there are no easements dedicated for the installation of the collection system.

The developer is proposing an amendment to the adopted SPA 30 wastewater master plan be considered which will allow the subject tract to be served by the Airline Lift Station collection system instead of the Lift Station 13. Airline Estates located to the west of the subject tract is at the intersection of Airline Road and Yorktown Boulevard, is currently under development. Airline Estates is proposing a 12 inch collection line along the northerly boundary of the property, eastward up to the church property. The proposed master plan amendment would call for future extension of the 12 inch collection line to the subject tract. Providing service through the proposed route will require obtaining easement rights from only the adjoining church owner. A detailed analysis of the capacity of the systems are provided on the attached narrative for the requested amendment.

RECOMMENDATION:

Staff recommends approval of the proposed Wastewater Collection System Master Plan.

LIST OF SUPPORTING DOCUMENTS:

Narrative for the requested amendment

Exhibit A: Wastewater Collection System Master Plan for Oso W.R.P. Service Area Sub Basin
SPA 30

Exhibit B: Wastewater Collection System Master Plan for Oso W.R.P. Service Area Sub Basin
SPA 30 - Master Plan Realignment Amendment

Narrative for Requested Amendment to the City of Corpus Christi, Texas Wastewater Master Plan for Sewer Planning Area (SPA) 30

Location:

SPA 30 covers an area of approximately 2,582 acres in the south/east area of the City of Corpus Christi, generally bounded by Cimarron Boulevard to the west, Saratoga Boulevard and Brookes Road to the north, the Cayo del Oso to the east and Oso Creek to the south. The location of the proposed amendment is a land tract of approximately 17.87 acres in area, adjacent and northeast of Yorktown Boulevard about 0.4 miles east of the intersection of Rodd Field Road and Yorktown Boulevard. The land tract is legally described as 17.87 acres out of Lot 13, Section 25, of the Flour Bluff and Encinal Farm and Garden Tracts.

Land Use Information:

The land tract included in the proposed plan amendment is currently undeveloped pasture, and is currently zoned as FR use. The property to the west is a 20 acre tract partially occupied by a church entity, also zoned as FR use. A master drainage channel currently exists adjacent to the north boundary of the property. The land across the drainage channel is currently being developed as medium density residential use, with mostly RS-6 zoning. The property across Yorktown Boulevard to the south is also medium density residential use, with mostly RS-4.5 zoning. Property to the east is either undeveloped or developed as low density residential use. The adopted City of Corpus Christi Future Land Use map shows anticipated land use along the Yorktown Boulevard corridor between Rodd Field Road and the Cayo del Oso to be medium density single family residential in nature. The proposed use of the subject 17.8 acre tract is medium density single family residential with a zoning of RS-6.

Adopted Wastewater Master Plan Information:

The subject 17.8 acre tract is currently situated within the SPA 30 Lift Station 13 sub-basin, and according to the adopted plan is to connect to Lift Station 13 via a gravity collection system which begins at the southerly end of the property, extends through the property to its northern boundary, then extends east approximately 1,650 feet, then turns north a distance of approximately 1,700 feet to Lift Station 13.

Considerations for Master Plan Amendment:

The wastewater collection system segment described above does not currently exist, and its proposed route crosses a number of properties. One property in particular, is currently developed as a single family estate use, and it does not appear that any of the vacant tracts along this route are being considered for development in the near future. Consequently, the cost of constructing this entire portion of the wastewater collection system is anticipated to be significant. It is also anticipated that acquiring the easement rights for the installation of this collection system segment as a private entity will be extremely difficult and cost prohibitive.

Property at the intersection of Airline Road and Yorktown Boulevard to west of the subject tract is currently in preliminary stages of development. The adopted wastewater master plan proposes extension of a 1,325 long, 12 inch diameter gravity collection system segment along the northerly

boundary of this property, eastward up to the church property described in the Land Use Information section above. Flowing full at the minimum required flow velocity of 2.0 feet per second, this pipe segment would carry approximately 705 gallons per minute. Areas 35 and 36 shown on the currently adopted SPA 30 master plan are estimated to generate a combined average daily flow rate of 38 gallons per minute. The estimated peak hour flow rate for Areas 35 and 36 would be 190 gallons per minute, using a peaking factor of 5. The subject 17.8 acre tract is estimated to generate average and peak hour flow rates of 18 and 90 gallons per minute, respectively. Combining this peak flow rate with those of Areas 35 and 36 yields a total estimated peak flow rate of 280 gallons per minute, which is well below the estimated 705 gallons per minute capacity of the proposed 12 inch diameter line. The currently proposed 12 inch diameter line segment is of adequate depth to serve the subject 17.8 acre tract, if extended. The proposed master plan amendment would call for further extending this 12 inch diameter line segment an additional 1,090 feet eastward to the 17.8 acre tract. A 1,050 foot segment of 10 inch diameter gravity line would then extend southward through the 17.8 acre tract, terminating at a line depth of approximately 4.5 feet. Providing service via this route would require obtaining easement rights from only the adjoining church property.

Conclusion/Request for Master Plan Amendment:

It is requested that an amendment to the adopted SPA 30 Wastewater Master Plan be considered which will allow the subject 17.8 acre tract to be served by the Airline Lift Station basin collection system instead of the Lift Station 13 basin collection system, as depicted on the attached map. The proposed "re-routing" of wastewater flow from the subject land tract better supports current and anticipated land use and current development patterns and activity, helps to promote timely and systematic development of vacant land within the city limits of Corpus Christi, and would not adversely impact the existing or proposed wastewater collection system function.

Respectfully submitted,



6/9/2017

Juan Perales, Jr., P.E.

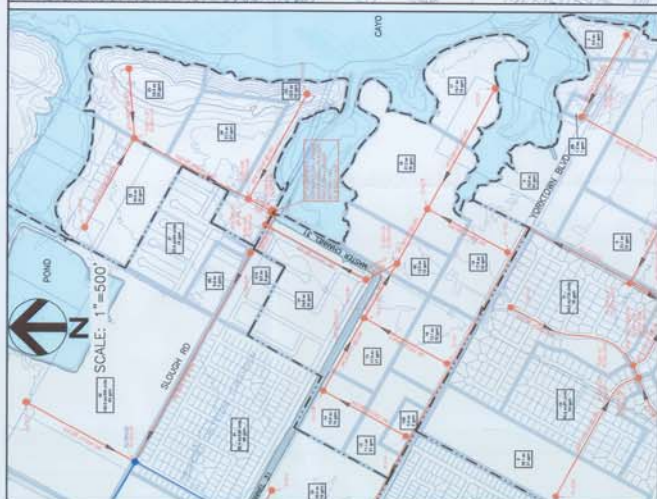
Juan Perales, Jr., P.E.

dba J. Perales Civil Engineering and Planning Services

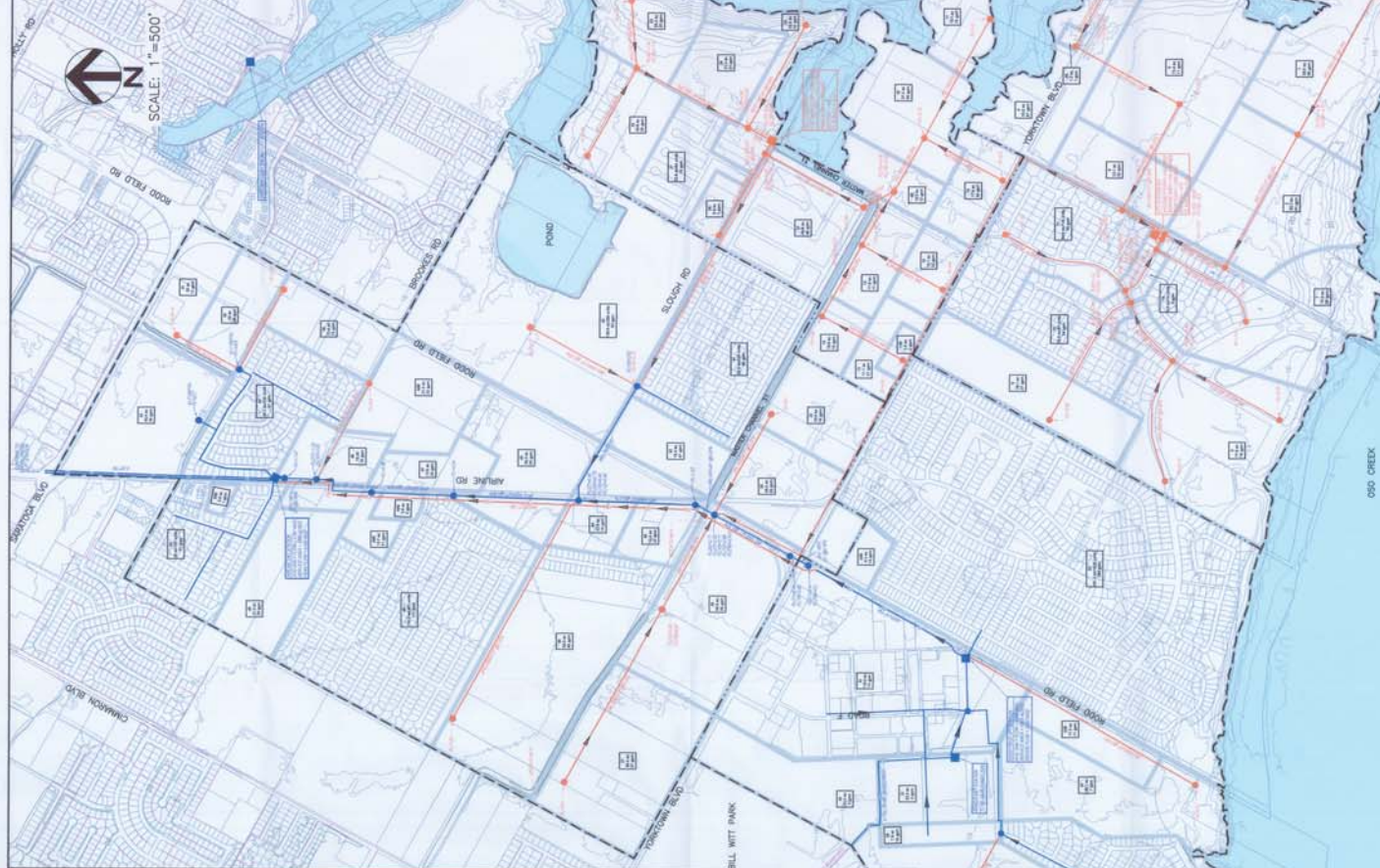
P. O. Box 260547

Corpus Christi, Texas 78426

T.B.P.E. Firm No. F-14207



Model	Package	% developed	ASAP developed	PLM/PLP	MP	MOORE	MP/DIA	P/Class	2001 Capacity
1	14%	10	2-70	7.6	AP027	100	531	702	
2	24%	270	3-70	8	AP027	100	521	1230	



JET-1000													
PHASE	N SPINDLES	REV/MIN	FEED/REV	IPF	MODE	MAX 2D FLUCT. CAPACITY	PHASE	N SPINDLES	REV/MIN	FEED/REV	IPF	MODE	MAX 2D FLUCT. CAPACITY
1	2	2,000	2.500	2.5	2	100	1	2	2,000	2.500	2.5	2	100
2	2	2,000	2.500	2.5	2	100	2	2	2,000	2.500	2.5	2	100
3	2	2,000	2.500	2.5	2	100	3	2	2,000	2.500	2.5	2	100
4	2	2,000	2.500	2.5	2	100	4	2	2,000	2.500	2.5	2	100
5	2	2,000	2.500	2.5	2	100	5	2	2,000	2.500	2.5	2	100
6	2	2,000	2.500	2.5	2	100	6	2	2,000	2.500	2.5	2	100
7	2	2,000	2.500	2.5	2	100	7	2	2,000	2.500	2.5	2	100
8	2	2,000	2.500	2.5	2	100	8	2	2,000	2.500	2.5	2	100
9	2	2,000	2.500	2.5	2	100	9	2	2,000	2.500	2.5	2	100
10	2	2,000	2.500	2.5	2	100	10	2	2,000	2.500	2.5	2	100
11	2	2,000	2.500	2.5	2	100	11	2	2,000	2.500	2.5	2	100
12	2	2,000	2.500	2.5	2	100	12	2	2,000	2.500	2.5	2	100
13	2	2,000	2.500	2.5	2	100	13	2	2,000	2.500	2.5	2	100
14	2	2,000	2.500	2.5	2	100	14	2	2,000	2.500	2.5	2	100
15	2	2,000	2.500	2.5	2	100	15	2	2,000	2.500	2.5	2	100
16	2	2,000	2.500	2.5	2	100	16	2	2,000	2.500	2.5	2	100
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22	2	2,000	2.500	2.5	2	100	22	2	2,000	2.500	2.5	2	100
23	2	2,000	2.500	2.5	2	100	23	2	2,000	2.500	2.5	2	100
24	2	2,000	2.500	2.5	2	100	24	2	2,000	2.500	2.5	2	100
25	2	2,000	2.500	2.5	2	100	25	2	2,000	2.500	2.5	2	100
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27	2	2,000	2.500	2.5	2	100	27	2	2,000	2.500	2.5	2	100
28	2	2,000	2.500	2.5	2	100	28	2	2,000	2.500	2.5	2	100
29	2	2,000	2.500	2.5	2	100	29	2	2,000	2.500	2.5	2	100
30	2	2,000	2.500	2.5	2	100	30	2	2,000	2.500	2.5	2	100
31	2	2,000	2.500	2.5	2	100	31	2	2,000	2.500	2.5	2	100
32	2	2,000	2.500	2.5	2	100	32	2	2,000	2.500	2.5	2	100
33	2	2,000	2.500	2.5	2	100	33	2	2,000	2.500	2.5	2	100
34	2	2,000	2.500	2.5	2	100	34	2	2,000	2.500	2.5	2	100
35	2	2,000	2.500	2.5	2	100	35	2	2,000	2.500	2.5	2	100
36	2	2,000	2.500	2.5	2	100	36	2	2,000	2.500	2.5	2	100
37	2	2,000	2.500	2.5	2	100	37	2	2,000	2.500	2.5	2	100
38	2	2,000	2.500	2.5	2	100	38	2	2,000	2.500	2.5	2	100
39	2	2,000	2.500	2.5	2	100	39	2	2,000	2.500	2.5	2	100
40	2	2,000	2.500	2.5	2	100	40	2	2,000	2.500	2.5	2	100
41	2	2,000	2.500	2.5	2	100	41	2	2,000	2.500	2.5	2	100
42	2	2,000	2.500	2.5	2	100	42	2	2,000	2.500	2.5	2	100
43	2	2,000	2.500	2.5	2	100	43	2	2,000	2.500	2.5	2	100
44	2	2,000	2.500	2.5	2	100	44	2	2,000	2.500	2.5	2	100
45	2	2,000	2.500	2.5	2	100	45	2	2,000	2.500	2.5	2	100
46	2	2,000	2.500	2.5	2	100	46	2	2,000	2.500	2.5	2	100
47	2	2,000	2.500	2.5	2	100	47	2	2,000	2.500	2.5	2	100
48	2	2,000	2.500	2.5	2	100	48	2	2,000	2.500	2.5	2	100
49	2	2,000	2.500	2.5	2	100	49	2	2,000	2.500	2.5	2	100
50	2	2,000	2.500	2.5	2	100	50	2	2,000	2.500	2.5	2	100
51	2	2,000	2.500	2.5	2	100	51	2	2,000	2.500	2.5	2	100
52	2	2,000	2.500	2.5	2	100	52	2	2,000	2.500	2.5	2	100
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54	2	2,000	2.500	2.5	2	100	54	2	2,000	2.500	2.5	2	100
55	2	2,000	2.500	2.5	2	100	55	2	2,000	2.500	2.5	2	100
56	2	2,000	2.500	2.5	2	100	56	2	2,000	2.500	2.5	2	100
57	2	2,000	2.500	2.5	2	100	57	2	2,000	2.500	2.5	2	100
58	2	2,000	2.500	2.5	2	100	58	2	2,000	2.500	2.5	2	100
59	2	2,000	2.500	2.5	2	100	59	2	2,000	2.500	2.5	2	100
60	2	2,000	2.500	2.5	2	100	60	2	2,000	2.500	2.5	2	100
61	2	2,000	2.500	2.5	2	100	61	2	2,000	2.500	2.5	2	100
62	2	2,000	2.500	2.5	2	100	62	2	2,000	2.500	2.5	2	100
63	2	2,000	2.500	2.5	2	100	63	2	2,000	2.500	2.5	2	100
64	2	2,000	2.500	2.5	2	100	64	2	2,000	2.500	2.5	2	100
65	2	2,000	2.500	2.5	2	100	65	2	2,000	2.500	2.5	2	100
66	2	2,000	2.500	2.5	2	100	66	2	2,000	2.500	2.5	2	100
67	2	2,000	2.500	2.5	2	100	67	2	2,000	2.500	2.5	2	100
68	2	2,000	2.500	2.5	2	100	68	2	2,000	2.500	2.5	2	100
69	2	2,000	2.500	2.5	2	100	69	2	2,000	2.500	2.5	2	100
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71	2	2,000	2.500	2.5	2	100	71	2	2,000	2.500	2.5	2	100
72	2	2,000	2.500	2.5	2	100	72	2	2,000	2.500	2.5	2	100
73	2	2,000	2.500	2.5	2	100	73	2	2,000	2.500	2.5	2	100
74	2	2,000	2.500	2.5	2	100	74	2	2,000	2.500	2.5	2	100
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77	2	2,000	2.500	2.5	2	100	77	2	2,000	2.500	2.5	2	100
78	2	2,000	2.500	2.5	2	100	78	2	2,000	2.500	2.5	2	100
79	2	2,000	2.500	2.5	2	100	79	2	2,000	2.500	2.5	2	100
80	2	2,000	2.500	2.5	2	100	80	2	2,000	2.500	2.5	2	100
81	2	2,000	2.500	2.5	2	100	81	2	2,000	2.500	2.5	2	100
82	2	2,000	2.500	2.5	2	100	82	2	2,000	2.500	2.5	2	100
83	2	2,000	2.500	2.5	2	100	83	2	2,000	2.500	2.5	2	100
84	2	2,000	2.500	2.5	2	100	84	2	2,000	2.500	2.5	2	100
85	2	2,000	2.500	2.5	2	100	85	2	2,000	2.500	2.5	2	100
86	2	2,000	2.500	2.5	2	100	86	2	2,000	2.500	2.5	2	100
87	2	2,000	2.500	2.5	2	100	87	2	2,000	2.500	2.5	2	100
88	2	2,000	2.500	2.5	2	100	88	2	2,000	2.500	2.5	2	100
89	2	2,000	2.500	2.5	2	100	89	2	2,000	2.500	2.5	2	100
90	2	2,000	2.500	2.5	2	100	90	2	2,000	2.500	2.5	2	100
91	2	2,000	2.500	2.5	2	100	91	2	2,000	2.500	2.5	2	100
92	2	2,000	2.500	2.5	2	100	92	2	2,000	2.500	2.5	2	100
93	2	2,000	2.500	2.5	2	100	93	2	2,000	2.500	2.5	2	100
94	2	2,000	2.500	2.5	2	100	94	2	2,000	2.500	2.5	2	100
95	2	2,000	2.500	2.5	2	100	95	2	2,000	2.500	2.5	2	100
96	2	2,000	2.500	2.5	2	100	96	2	2,000	2.500	2.5	2	100
97	2	2,000	2.500	2.5	2	100	97	2	2,000	2.500	2.5	2	100
98	2	2,000	2.500	2.5	2	100	98	2	2,000	2.500	2.5	2	100
99	2	2,000	2.500	2.5	2	100	99	2	2,000	2.500	2.5	2	100
100	2	2,000	2.500	2.5	2	100	100	2	2,000	2.500	2.5	2	100

NOTES

1. LAND USE CHARACTERISTICS WERE DETERMINED FROM 1990 LAND USE AND DEVELOPMENT PLAN, FEBRUARY 1, 2000, FROM THE CITY OF CHICAGO CORPUS CHARTER LAND USE MAP MAY 14, 2000, AND THE CHICAGO ZONING ORDINANCE WITH DEVELOPMENT SERVICES STAFF CHAIRMAN, 1, 2006.
2. IN THE ABSENCE OF EXISTING FLOOD DATA, ASSIDENTIFIED FLOOD ZONES WERE DETERMINED BY THE CHICAGO DEPARTMENT OF WATER AND SEWERAGE (DWS) USING A 100-YEAR FLOOD MAP FOR THE CITY OF CHICAGO, 1980 (DATED JANUARY 6, 2008).
3. AS PER SOURCE, ARE DEVELOPMENT PLAN ONLY DEVELOPEABLE AREAS (DPA) ARE DETERMINED IN THE POPULATION PROJECTION CALCULATIONS.
4. AIRLINE LIFT STATIONS SERVICE AREA HAS BEEN DEFINED BY THE LIFT STATION SERVICE AREA MAP SUPPLIED BY THE CITY, AUGUST 31, 2007.
5. 380' CIRCUMFERENCE FILLAL AND THROUGH DISCUSSION WITH CITY STAFF.
6. PROBABILITY INTRODUCED FOR THE SOURCEWATER WATRI HAS BEEN DETERMINED BY THE CHICAGO DEPARTMENT OF WATER AND SEWERAGE (DWS) USING A 100-YEAR FLOOD MAP FOR THE CITY OF CHICAGO, 1980 (DATED JANUARY 6, 2008).
7. THE PAVING FACTOR WAS CALCULATED USING THE HANCOCK E BASINITY FORMULA (HMO HAS BEEN IN USE) / USED IN PREVIOUS STUDIES.
8. SOME WATERSHEDS ARE NOT SHOWN FOR CLARITY.
9. THE SERVICE AREA HAS ASSUMED TO BE FULLY DEVELOPED.
10. THE CITY OF CHICAGO CORPUS CHARTER LAND USE MAP MAY 14, 2000, AND THE CHICAGO ZONING ORDINANCE WITH DEVELOPMENT SERVICES STAFF CHAIRMAN, 1, 2006.
11. TO THE EXTENT POSSIBLE, THE UPRIDEAM END OF ALL LATERALS SHALL MAINTAIN A MINIMUM DEPTH OF 5 FEET.

LEGEND

- PROPOSED HASTWATER LINE
- EXISTING HASTWATER LINE
- PROPOSED FOREMAN
- EXISTING HASTWATER LINES
- OUTSIDE OF AREA 2
- SPALL SERVICE AREA BOUNDARY
- LIFT STATION INTERNAL BOUNDARY
- SUB AREA BOUNDARY
- WATER
- SUB AREA CALLOUT
- PROPOSED LIFT STATION
- EXISTING LIFT STATION
- PROPOSED MANHOLE
- EXISTING MANHOLE

BROWN AND CALDWELL

ENVIRONMENTAL ENGINEERING

engineers & consultants

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MARINE • CONSTRUCTION MANAGEMENT

801 NAVIGATOR DRIVE • SUITE 100 • DALLAS, TEXAS 75248
PH: (214) 883-1964 • FAX: (214) 883-1966 • WWW.BNCE.COM




I hereby certify that the within and foregoing is a true and correct copy of the original as the same appears from the records of the City of Los Angeles.

Mayor

City of Los Angeles

1912

FINAL

 CITY OF
CORPUS CHRISTI
TEXAS
WASTEWATER
DEPARTMENT

Department of Engineering Services
MAY 12, 2006

WASTEWATER COLLECTION
SYSTEM MASTER PLAN
OSO W.R.P. SERVICE AREA
SUB BASIN SPA 30

EXHIBIT 3

SPA 30 Wastewater Master Plan Amendment

