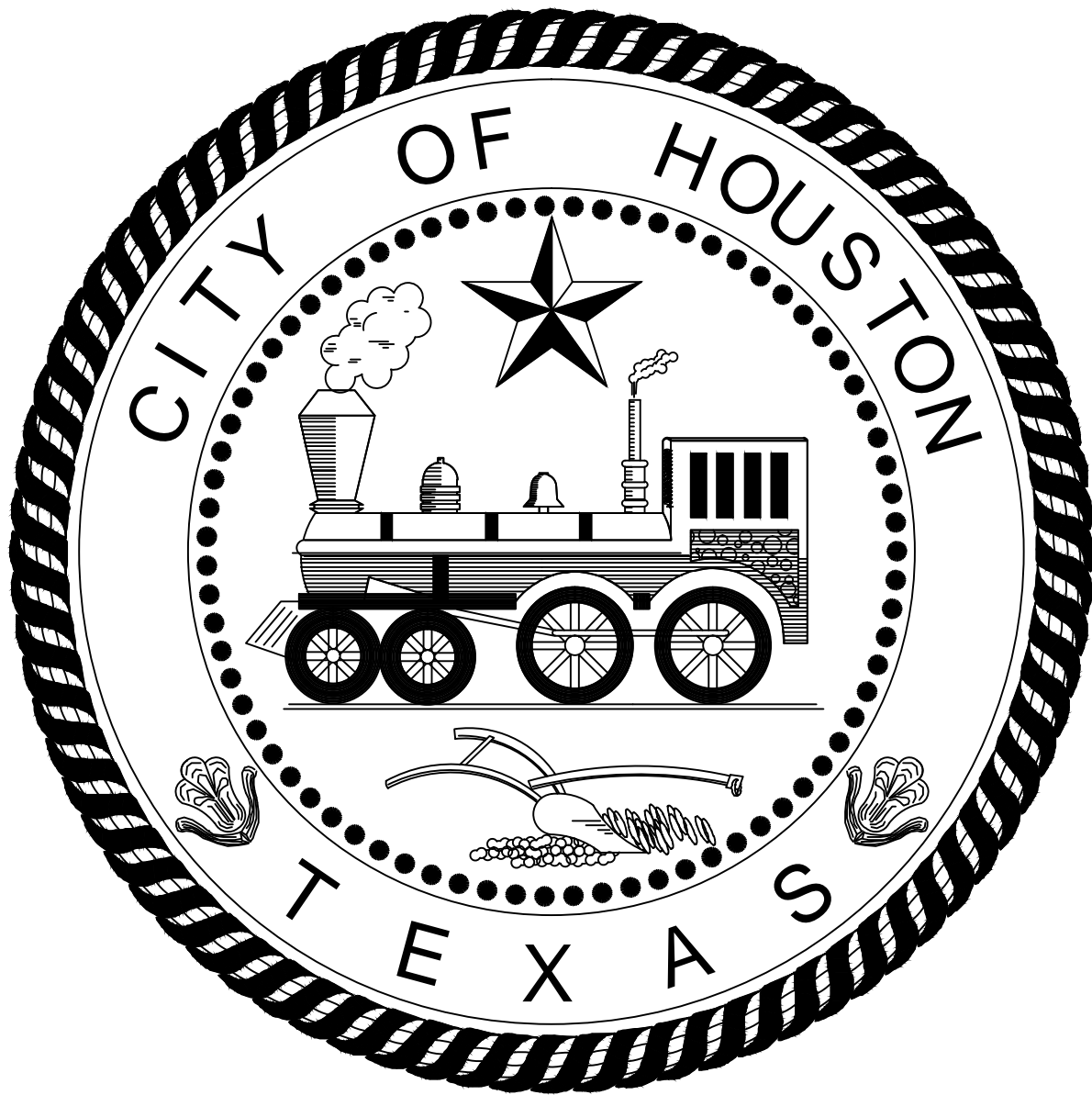


CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING AND CONSTRUCTION DIVISION
WASTEWATER ENGINEERING SECTION
DESIGN GUIDELINE DRAWINGS FOR
SUBMERSIBLE LIFT STATIONS
CIVIL, MECHANICAL, AND STRUCTURAL DRAWING SET

FEBRUARY, 2015



MAYOR
ANNISE D. PARKER

CONTROLLER
RONALD C. GREEN

DISTRICT
COUNCIL MEMBERS

BRENDA STARDIG
DISTRICT A

DWIGHT BOYKINS
DISTRICT D

OLIVER PENNINGTON
DISTRICT G

JERRY DAVIS
DISTRICT B

DAVE MARTIN
DISTRICT E

EDWARD GONZALEZ
DISTRICT H

MIKE LASTER
DISTRICT J

LARRY GREEN
DISTRICT K

ELLEN R. COHEN
DISTRICT C

RICHARD NGUYEN
DISTRICT F

ROBERT GALLEGOS
DISTRICT I

COUNCIL MEMBERS
AT-LARGE

STEPHEN C. COSTELLO
POSITION 1

MICHAEL KUBOSH
POSITION 3

DAVID ROBINSON
POSITION 2

C.O. BRADFORD
POSITION 4

JACK CHRISTIE
POSITION 5

SEAL

CADD DWG. FILE NO. :
FILENAME.DWG (Scale: ###)

COHSTD.BDR

0 1 2 3

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

NOTES TO DESIGN ENGINEER:

- A. THESE LIFT STATION DRAWINGS ARE CONSIDERED TO BE DESIGN GUIDELINES FOR THE CONSTRUCTION OF CITY OF HOUSTON WASTEWATER SUBMERSIBLE LIFT STATIONS. THEIR INTENDED USE IS AS A FRAMEWORK FOR THE CONTRACTED DESIGN ENGINEER IN DEVELOPING SPECIFIC LIFT STATION DESIGNS.
IT IS THE RESPONSIBILITY OF THE CONTRACTED DESIGN ENGINEER TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION HEREIN CONTAINED AND TO ADJUST ACCORDING TO SPECIFIC SITE REQUIREMENTS.
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NOTES:

TITLE PAGE

PROJECT NO.

R-0267-02-2

TITLE

CITY OF HOUSTON
DESIGN GUIDELINE DRAWINGS
FOR SUBMERSIBLE LIFT STATIONS

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE GROUP

APPROVALS

WATER DESIGN

TRAFFIC AND SIGNAL DESIGN

STORM SEWER DESIGN

STREET, BRIDGE & R.O.W.

WASTEWATER DESIGN

CONSTRUCTION

OTHER REVIEWS

PLANNING AND DEVELOPMENT

CITY ENGINEER

DATE

SCALE:

AS NOTED

DESIGNED BY:

SUBMITTED:

DRAWN BY:

DATE:

SHEET NO.

OF

SHEETS

SURVEY BY:

DWG. NO.

FIELD BOOK NO.

TITLE

REV. NO.

DESCRIPTION

APP'D

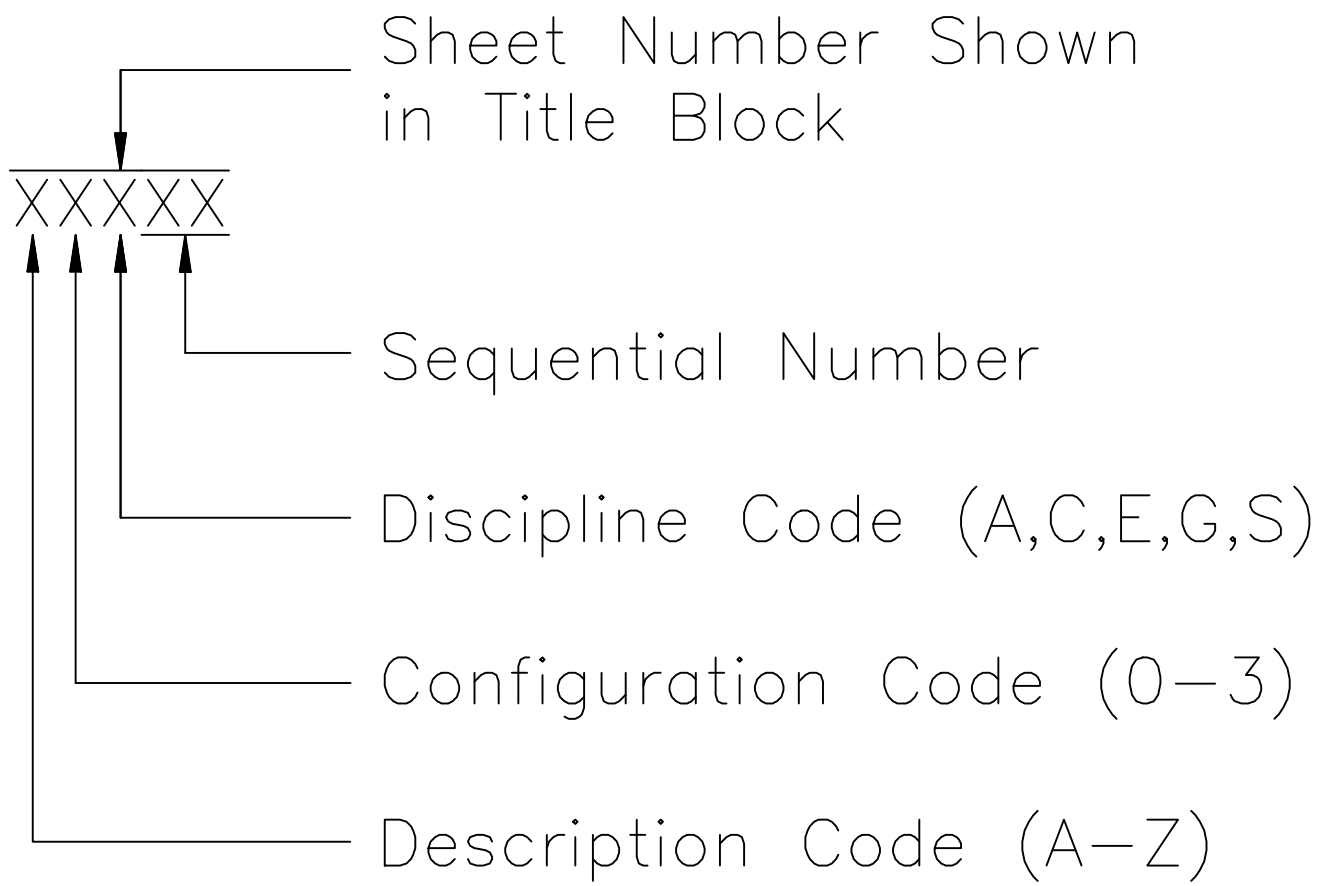
DATE

City Of Houston

Design Guideline Drawings
For Submersible Lift Stations
Filename & Sheet Numbering Designation Codes

Description			Maximum Firm
Code	Station Configuration	Pump Size Range	Station Capacity
A	2-Pump Station	0-199 gpm Per Pump	199 gpm
B	2-Pump Station	200-499 gpm Per Pump	499 gpm
C	2-Pump Station	500-999 gpm Per Pump	999 gpm
D	3-Pump Station	250-500 gpm Per Pump	1000 gpm
E	3-Pump Station	500-999 gpm Per Pump	1998 gpm
F	3-Pump Station	1000-1399 gpm Per Pump	2798 gpm
G	3-Pump Station	1400-1999 gpm Per Pump	3998 gpm
H	3-Pump Station	2000-3499 gpm Per Pump	6998 gpm
I	4-Pump Station	500-2500 gpm Per Pump	7500 gpm
J	4-Pump Station	800-3499 gpm Per Pump	10497 gpm
K	5-Pump Station	2500-3999 gpm Per Pump	15996 gpm
L	5-Pump Station	3 Wet & 2 Dry Weather Pumps	
M	6-Pump Station	3000- 5299 gpm Per Pump	26495 gpm
N	6-Pump Station	4 Wet & 2 Dry Weather Pumps	
O	6-Pump VFD Station	Conduit Layout	
P	Open		
Q	Open		
R	Open		
S	Open		
T	Open		
U	Open		
V	Open		
W	Open		
X	2, 3, & 4 Pump Station	Outdoor Control Cabinet & Wiring	
Y	All Pump Stations	Indoor Control Cabinet & Wiring	
Z	All Pump Stations	Common Drawings	

Filename Designation



Discipline Codes

- A – Architectural
- B – Civil
- E – Electrical & Instrumentation
- G – General
- S – Structural

Configuration Codes

- 0 – Dwg Non–Specific to Configuration
- 1 – Alternate High Profile Configuration
- 2 – Preferred Configuration
- 3 – Alternate Low Profile Configuration

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NOTES:

FILE NAME & SHEET NUMBERING DESIGNATION CODE SHEET 1 OF 1	
PROJECT NO. R-0267-02-2	
TITLE CITY OF HOUSTON DESIGN GUIDELINE DRAWINGS FOR SUBMERSIBLE LIFT STATIONS	
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE GROUP	
APPROVALS	
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WASTEWATER DESIGN	CONSTRUCTION
OTHER REVIEWS	
PLANNING AND DEVELOPMENT	
CITY ENGINEER	DATE
SCALE: AS NOTED	DESIGNED BY:
SUBMITTED:	DRAWN BY:
DATE:	SHEET NO. OF SHEETS
SURVEY BY:	DWG. NO.
REV. NO.	FIELD BOOK NO.
LEGEND	

I SERIES (500-2500 GPM)

Alternate High Profile Configuration

Drawing No.

Title

I1C01

Plan View @ Grade - 4 Pumps @ 500-2500 GPM Per Pump

I1C02

Elevation Section - 4 Pumps @ 500-2500 GPM Per Pump

I1C03

Base Section - 4 Pumps @ 500-2500 GPM Per Pump

I1S01

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I1S02

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I1S03

Structural - 4 Pumps @ 500-2500 GPM Per Pump

Preferred Configuration

Drawing No.

Title

I2C01

Plan View @ Grade - 4 Pumps @ 500-2500 GPM Per Pump

I2C02

Elevation Section - 4 Pumps @ 500-2500 GPM Per Pump

I2C03

Base Section - 4 Pumps @ 500-2500 GPM Per Pump

I2S01

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I2S02

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I2S03

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I2S04

Structural - 4 Pumps @ 500-2500 GPM Per Pump

Alternate Low Profile Configuration

Drawing No.

Title

I3C01

Plan View @ Grade - 4 Pumps @ 500-2500 GPM Per Pump

I3C02

Elevation Section - 4 Pumps @ 500-2500 GPM Per Pump

I3C03

Base Section - 4 Pumps @ 500-2500 GPM Per Pump

I3S01

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I3S02

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I3S03

Structural - 4 Pumps @ 500-2500 GPM Per Pump

I3S04

Structural - 4 Pumps @ 500-2500 GPM Per Pump

M SERIES (3000-5299 GPM)

Alternate High Profile Configuration

Drawing No.

Title

M1C01

Plan View @ Grade - 6 Pumps @ 3000-5299 GPM Per Pump

M1C02

Elevation Section - 6 Pumps @ 3000-5299 GPM Per Pump

M1C03

Base Section - 6 Pumps @ 3000-5299 GPM Per Pump

M1C04

Station Operation Tables - 6 Pumps @ 3000-5299 GPM Per Pump

M1S01

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M1S02

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M1S03

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

Preferred Configuration

Drawing No.

Title

M2C01

Plan View @ Grade - 6 Pumps @ 3000-5299 GPM Per Pump

M2C02

Elevation Section - 6 Pumps @ 3000-5299 GPM Per Pump

M2C03

Base Section - 6 Pumps @ 3000-5299 GPM Per Pump

M2C04

Station Operation Tables - 6 Pumps @ 3000-5299 GPM Per Pump

M2S01

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M2S02

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M2S03

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M2S04

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

Alternate Low Profile Configuration

Drawing No.

Title

M3C01

Plan View @ Grade - 6 Pumps @ 3000-5299 GPM Per Pump

M3C02

Elevation Section - 6 Pumps @ 3000-5299 GPM Per Pump

M3C03

Base Section - 6 Pumps @ 3000-5299 GPM Per Pump

M3C04

Station Operation Tables - 6 Pumps @ 3000-5299 GPM Per Pump

M3S01

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M3S02

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M3S03

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

M3S04

Structural - 6 Pumps @ 3000-5299 GPM Per Pump

J SERIES (800-3499 GPM)

Alternate High Profile Configuration

Drawing No.

Title

J1C01

Plan View @ Grade - 4 Pumps @ 800-3499 GPM Per Pump

J1C02

Elevation Section - 4 Pumps @ 800-3499 GPM Per Pump

J1C03

Base Section - 4 Pumps @ 800-3499 GPM Per Pump

J1S01

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J1S02

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J1S03

Structural - 4 Pumps @ 800-3499 GPM Per Pump

Preferred Configuration

Drawing No.

Title

J2C01

Plan View @ Grade - 4 Pumps @ 800-3499 GPM Per Pump

J2C02

Elevation Section - 4 Pumps @ 800-3499 GPM Per Pump

J2C03

Base Section - 4 Pumps @ 800-3499 GPM Per Pump

J2S01

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J2S02

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J2S03

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J2S04

Structural - 4 Pumps @ 800-3499 GPM Per Pump

Alternate Low Profile Configuration

Drawing No.

Title

J3C01

Plan View @ Grade - 4 Pumps @ 800-3499 GPM Per Pump

J3C02

Elevation Section - 4 Pumps @ 800-3499 GPM Per Pump

J3C03

Base Section - 4 Pumps @ 800-3499 GPM Per Pump

J3S01

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J3S02

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J3S03

Structural - 4 Pumps @ 800-3499 GPM Per Pump

J3S04

Structural - 4 Pumps @ 800-3499 GPM Per Pump

K SERIES (2500-3999 GPM)

Alternate High Profile Configuration

Drawing No.

Title

K1C01

Plan View @ Grade - 5 Pumps @ 2500-3999 GPM Per Pump

K1C02

Elevation Section - 5 Pumps @ 2500-3999 GPM Per Pump

K1C03

Base Section - 5 Pumps @ 2500-3999 GPM Per Pump

K1S01

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K1S02

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K1S03

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

Preferred Configuration

Drawing No.

Title

K2C01

Plan View @ Grade - 5 Pumps @ 2500-3999 GPM Per Pump

K2C02

Elevation Section - 5 Pumps @ 2500-3999 GPM Per Pump

K2C03

Base Section - 5 Pumps @ 2500-3999 GPM Per Pump

K2C04

Station Operation Tables - 5 Pumps @ 2500-3999 GPM Per Pump

K2S01

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K2S02

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K2S03

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K2S04

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

Alternate Low Profile Configuration

Drawing No.

Title

K3C01

Plan View @ Grade - 5 Pumps @ 2500-3999 GPM Per Pump

K3C02

Elevation Section - 5 Pumps @ 2500-3999 GPM Per Pump

K3C03

Base Section - 5 Pumps @ 2500-3999 GPM Per Pump

K3C04

Station Operation Tables - 5 Pumps @ 2500-3999 GPM Per Pump

K3S01

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K3S02

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K3S03

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

K3S04

Structural - 5 Pumps @ 2500-3999 GPM Per Pump

L SERIES (3 WET - 2 DRY)

Alternate High Profile Configuration

Drawing No.

Title

L1C01

Plan View @ Grade - 3 Wet & 2 Dry Weather Pumps

L1C02

Elevation Section - 3 Wet & 2 Dry Weather Pumps

L1C03

Base Section - 3 Wet & 2 Dry Weather Pumps

L1S01

Structural - 3 Wet & 2 Dry Weather Pumps

L1S02

Structural - 3 Wet & 2 Dry Weather Pumps

L1S03

Structural - 3 Wet & 2 Dry Weather Pumps

Preferred Configuration

Drawing No.

Title

L2C01

Plan View @ Grade - 3 Wet & 2 Dry Weather Pumps

L2C02

Elevation Section - 3 Wet & 2 Dry Weather Pumps

L2C03

Base Section - 3 Wet & 2 Dry Weather Pumps

L2C04

Station Operation Tables - 3 Wet & 2 Dry Weather Pumps

L2S01

Structural - 3 Wet & 2 Dry Weather Pumps

L2S02

Structural - 3 Wet & 2 Dry Weather Pumps

L2S03

Structural - 3 Wet & 2 Dry Weather Pumps

L2S04

Structural - 3 Wet & 2 Dry Weather Pumps

Alternate Low Profile Configuration

Drawing No.

Title

L3C01

Plan View @ Grade - 3 Wet & 2 Dry Weather Pumps

L3C02

Elevation Section - 3 Wet & 2 Dry Weather Pumps

L3C03

Base Section - 3 Wet & 2 Dry Weather Pumps

L3C04

Station Operation Tables - 3 Wet & 2 Dry Weather Pumps

L3S01

Structural - 3 Wet & 2 Dry Weather Pumps

L3S02

Structural - 3 Wet & 2 Dry Weather Pumps

L3S03

Structural - 3 Wet & 2 Dry Weather Pumps

L3S04

Structural - 3 Wet & 2 Dry Weather Pumps

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NOTES:

INDEX

SHEET 2 OF 3

PROJECT NO.

R-0267-02-2

TITLE

CITY OF HOUSTON
DESIGN GUIDELINE DRAWINGS
FOR SUBMERSIBLE LIFT STATIONS

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE GROUP

APPROVALS

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STORM SEWER DESIGN

STREET, BRIDGE & R.O.W.

WASTEWATER DESIGN

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PLANNING AND DEVELOPMENT

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DESIGNED BY:

SUBMITTED:

DRAWN BY:

DATE:

SHEET NO. OF SHEETS

SURVEY BY:

DWG. NO.

FIELD BOOK NO.

INDEX-2

SEAL

CADD DWG. FILE NO. :
FILENAME.DWG (Scale: ###)

COHSTD.BDR0123ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

Z SERIES

General

Drawing No.

Title

Z0A01Control Building, Architectural

Z0C01Submersible Transducer Well Level Gauging System & Details

Z0C02Typical Details - Civil

Z0C03Typical Details - Civil

Z0C04Discharge Piping Support Details

Z0C05Typical Catwalk Details

Z0C06Typical Details - Surge Relief Valve Installation

Z0C07Typica Details - Civil

Z0C08Typical Site Details

Z0C09Example - Civil Site Plan

Z0C10Typical Site Details

Z0C11Typical Hatch Details

Z0G01Cover Sheet

Z0S01Structural Standard Details

Z0S02Structural - Standard Details, General Notes and Abbreviations

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INDEX

SHEET 3 OF 3

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FOR SUBMERSIBLE LIFT STATIONS

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CADD DWG. FILE NO. :
FILENAME.DWG (Scale: ###)

REV. NO.

DESCRIPTION

APP'D

DATE

CITY ENGINEER

DATE

SCALE: AS NOTED

DESIGNED BY:

SUBMITTED:

DRAWN BY:

DATE:

SHEET NO. OF SHEETS

SURVEY BY:

DWG. NO.

FIELD BOOK NO.

COHSTD.BDR

0

1

2

3

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS