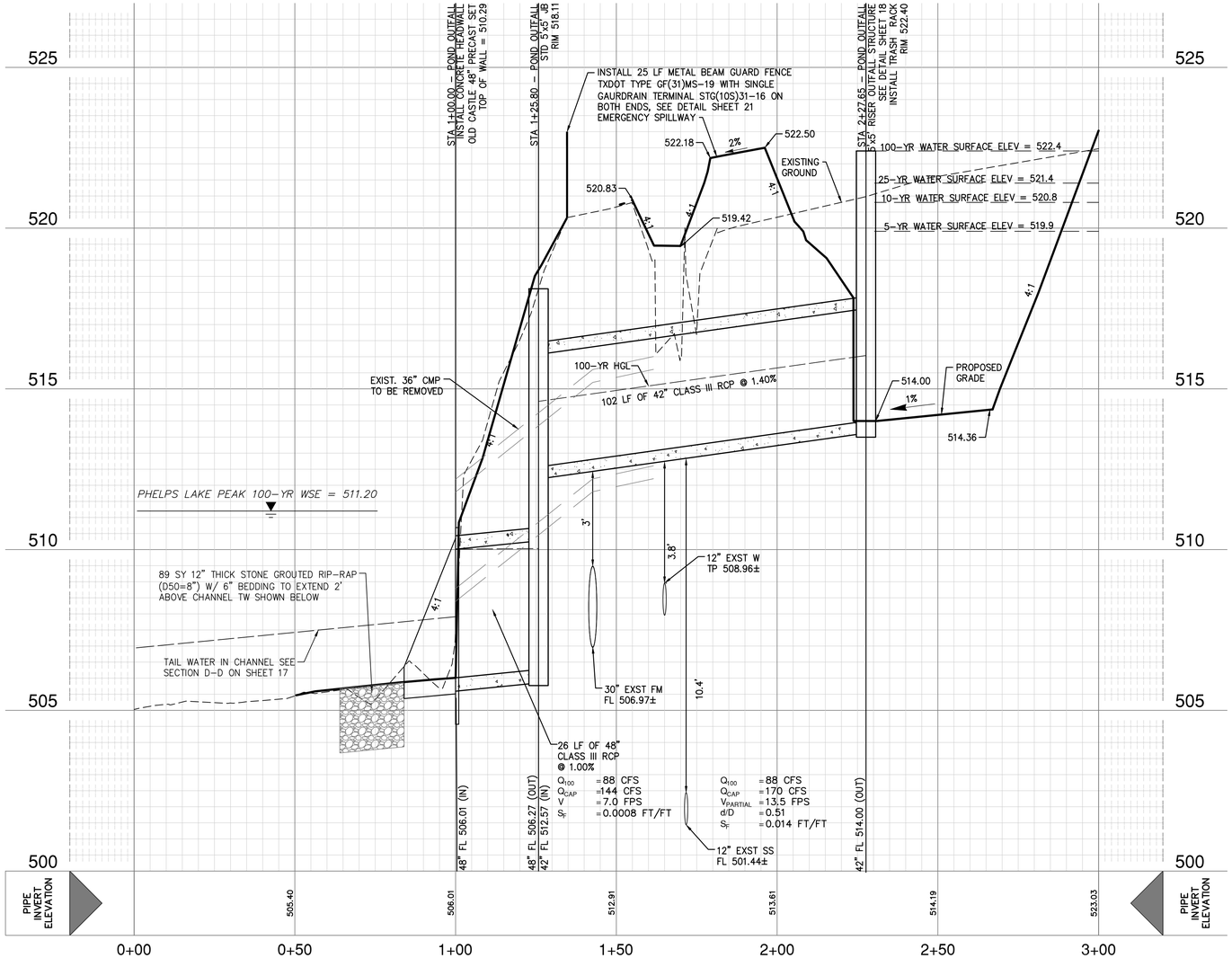


Pre-Developed Condition Summary Table				
On-Site Drainage	Peak Outflow (cfs)			
Area ID	5-year	10-Year	25-Year	100-Year
56B	18	22	26	33
60A	79	98	116	151

Post-Developed Summary - By-pass				
	5-year	10-Year	25-Year	100-Year
Peak Outflow (cfs) =	43	52	61	78

Post-Developed Summary - Pond & By-pass Combined				
	5-year	10-Year	25-Year	100-Year
Peak Outflow (cfs) =	79	91	111	150

Detention Summary Table				
	5-year	10-Year	25-Year	100-Year
Peak Inflow (cfs) =	73	88	103	131
Peak Outflow (cfs) =	39	52	62	87
Peak Storage (ac-ft) =	1.1	1.3	1.6	2.0
*Peak Elevation (ft) =	519.9	520.7	521.4	522.4

Elevation - Volume - Discharge Rating Curve

Elevation (ft)	Area (ft2)	Area (ac)	Volume Provided (a-c-ft)	Primary Q (cfs)	Comments
514	5	0.00	0.0	0.0	
515	5,272	0.12	0.1	7.3	
516	6,694	0.15	0.2	18.4	
517	8,244	0.19	0.4	25.6	
518	9,955	0.23	0.6	30.8	
519	11,694	0.27	0.8	35.6	
519.9	11,694	0.27	1.1	39.2	5-year WSE
520	13,545	0.31	1.1	39.4	
520.7	14,536	0.33	1.3	50.7	10-year WSE
521	15,525	0.36	1.5	56.2	
521.4	16,588	0.38	1.6	61.7	25-year WSE
522	17,649	0.41	1.8	76.6	
522.4	18,781	0.43	2.0	87.4	100-year WSE
523	19,911	0.46	2.3	-	
524	22311	0.51	2.7	-	
524.4	22912	0.53	3.0	-	

5' x 5' Riser Structure	
Orifice 1	
FL (ft) =	514
Coefficient ©	0.67
Number of Openings	1
Length (ft) =	2
Width (ft) =	1.625
Orifice 2	
FL (ft) =	519.5
Coefficient ©	0.67
Number of Openings	1
Length (ft) =	1.75
Width (ft) =	1.75
Weir 1	
FL (ft) =	521.25
Coefficient ©	2.65
Number of Openings	1
Length (ft) =	5
Emergency Spillway 1	
Crest Elevation (ft) =	522.4
Weir Length (ft) =	80
Weir Coefficient =	2.7
WSE (ft) =	522.5
Top of Embankment (ft) =	524.4
Freeboard (ft) =	1.9
Velocity (fps) =	2.73
*Calculated Q (cfs) =	131.0

* Assumes primary outlet is clogged

BENCHMARKS

TBM NO. 1
X-CUT SET IN CONCRETE LOCATED IN THE CENTER OF A CURB INLET IN THE SOUTHWESTERLY CURB LINE OF NORTH JOHN KING BOULEVARD AND BEING +/- 235' SOUTHEST OF THE NORTHWEST CORNER OF THE SUBJECT TRACT AND +/- 535' NORTHWEST OF THE INTERSECTION OF N. JOHN KING BOULEVARD AND EAST QUAIL RUN ROAD
ELEV: 546.16'

TBM NO. 2
X-CUT SET IN CONCRETE LOCATED IN THE CENTER OF A CURB INLET IN THE WEST CURB LINE OF NORTH JOHN KING BOULEVARD AND BEING +/- 662' NORTH OF THE INTERSECTION NORTH JOHN KING BOULEVARD AND WEST QUAIL RUN ROAD AND +/- 723' SOUTHEAST OF THE INTERSECTION OF N. JOHN KING BOULEVARD AND EAST QUAIL RUN ROAD.
ELEV: 530.38'

LEGEND

- 600 — EXISTING MAJOR CONTOUR
- 601 — EXISTING MINOR CONTOUR
- 600 — PROPOSED MAJOR CONTOUR
- 601 — PROPOSED MINOR CONTOUR
- EXISTING STORM DRAIN
- EXISTING CURB INLET
- PROPOSED STORM DRAIN
- PROPOSED CURB INLET
- PROPOSED AREA DRAIN

NOTES

1. CONTRACTOR SHALL PROTECT ALL EXISTING TREES, FENCES, RETAINING WALLS AND STRUCTURES UNLESS OTHERWISE NOTED.

BERM CONSTRUCTION NOTES:

1. DETENTION POND EMBANKMENT MATERIAL SHOULD BE PLACED IN LOSE LIFTS NOT EXCEEDING 8 INCHES, MOISTURE CONDITIONED BETWEEN OPTIMUM AND 4 PERCENTAGE POINTS ABOVE OPTIMUM, AND MECHANICALLY COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.

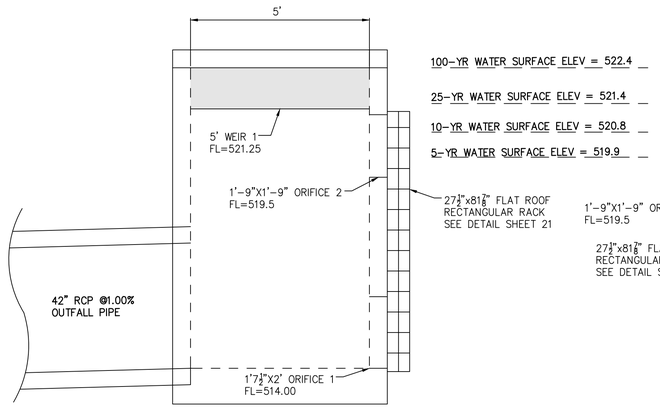
2. THE SOIL USED A STRUCTURAL FILL FOR THE DETENTION POND SHALL HAVE A PLASTICITY INDEX RANGING BETWEEN 25 TO 50, WITH A MINIMUM OF 60 PERCENT PASSING THE NO. 200 SIEVE, AND CLASSIFIED AS A FAT CLAY (CH).

3. VEGETATION AND ALL LOOSE OR ORGANIC MATERIAL SHALL BE STRIPPED AND REMOVED FROM THE SITE. SUBSEQUENT TO STRIPPING OPERATIONS, THE SUBGRADE SHALL BE PROOFROLLED TO IDENTIFY SOFT ZONES. ANY SOFT ZONE DETECTED SHALL BE REMOVED TO A FIRM SUBGRADE SOILS AND REPLACED WITH COMPACTED SATISFACTORY SOILS TO REACH SUBGRADE LEVEL. UPON THE ACCEPTANCE OF PROOFROLLING OPERATIONS THE SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, MOISTURE CONDITIONED AND COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698, THE STANDARD PROCTOR, BETWEEN OPTIMUM AND 4 PERCENTAGE POINTS ABOVE OF THE OPTIMUM MOISTURE CONTENT. THE EXPOSED SUBGRADE SHALL NOT BE ALLOWED TO DRY OUT PRIOR TO PLACING STRUCTURAL FILL.

4. CONTRACTOR SHALL COORDINATE WITH GEOTECHNICAL ENGINEER FOR COMPACTION TESTING AND INSPECTION OF BERM CONSTRUCTION.

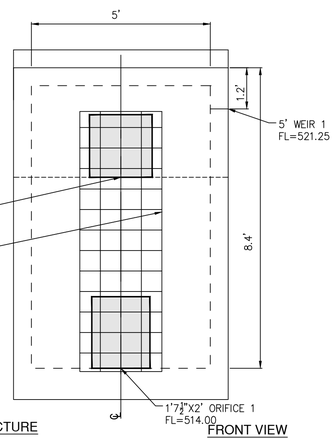
5. DETENTION SYSTEM MUST BE FUNCTIONAL WITH EROSION PROTECTION ON SIDES AND BOTTOM PRIOR TO ANY PAVING OPERATIONS (INCLUDING SLAB)

6. FOR DETENTION POND, REFER TO PAPE-DAWSON DRAINAGE STUDY DATED MARCH 2021.

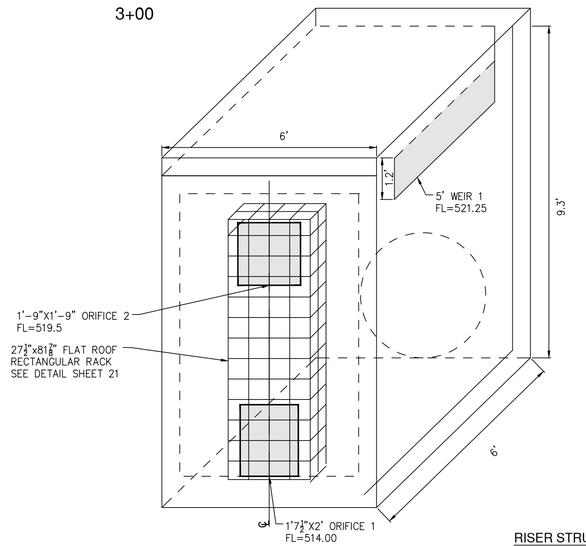


SIDE VIEW

100-YR WATER SURFACE ELEV = 522.4
25-YR WATER SURFACE ELEV = 521.4
10-YR WATER SURFACE ELEV = 520.8
5-YR WATER SURFACE ELEV = 519.9



OUTFALL STRUCTURE
(NOT TO SCALE)
FRONT VIEW



RISER STRUCTURE

RECORD DRAWING
THESE RECORD DRAWINGS ARE BASED ON AS-BUILT DOCUMENTS PROVIDED BY THE CONTRACTOR OR DEVELOPER. FIELD INSPECTION OF CONSTRUCTION, IF REQUIRED FOR COMPLIANCE WITH CERTAIN REGULATORY STANDARDS, WAS NOT PERFORMED BY THE DESIGN ENGINEER. IT IS NOT GUARANTEED THAT THIS DOCUMENT REPRESENTS "AS-BUILT CONDITIONS."
03/22/2022

UTILITY NOTE

THE EXISTING UTILITIES SHOWN ON THESE PLANS WERE COMPILED FROM VARIOUS SOURCES AND ARE INTENDED TO SHOW THE GENERAL EXISTENCE AND LOCATION OF THE UTILITY INFORMATION ON THE PLANS. THE CONTRACTOR SHALL CONTACT A UTILITY LOCATING SERVICE 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND OF ALL EXISTING UTILITIES AND DETERMINE IF THERE ARE ANY CONFLICTS WITH THE PROPOSED FACILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS WITH EXISTING UTILITIES ARE DISCOVERED.

RESPONSIBILITY NOTE

ALL RESPONSIBILITY FOR THE ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF DESIGN.

NO.	REVISION	DATE

STATE OF TEXAS
ADAM S. REEVES
98410
LICENSED
PROFESSIONAL ENGINEER
6.8.2021

PAPE-DAWSON ENGINEERS
FORT WORTH I SAN ANTONIO I AUSTIN I HOUSTON I DALLAS
6500 W FWY, STE 700 I FT. WORTH, TX 76102 I 817.870.3668
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION #470

GIDEON GROVE - PHASE 2
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS
DETENTION POND OUTFALL

PLAT NO. #
JOB NO. 6126300
DATE June 21
DESIGNER OEK
CHECKED ASR DRAWN OEK
SHEET 18