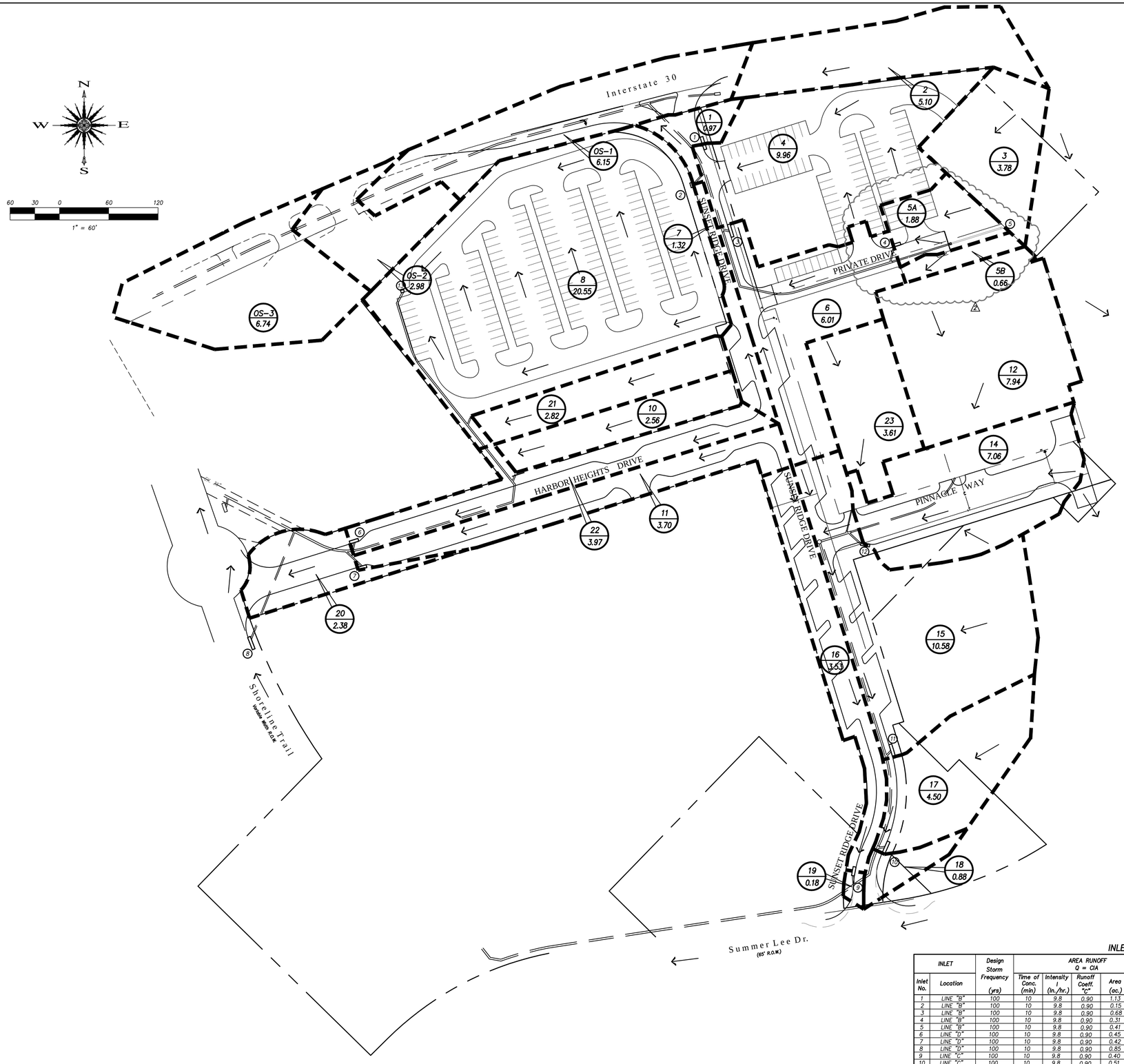


## LEGEND

DRAIN. AREA NO.
Q (cfs)

DRAINAGE DIVIDE

DIRECTIONAL FLOW

EXIST. STORM SEWER — EX. 36"

PROP. STORM SEWER — PROP.. 27"

## DRAINAGE CALCULATIONS

| AREA NO. | AREA (AC.) | TC (MIN.) | C | I 100 IN/HR | Q 100 C.F.S. | DRAINS TO |
|---|---|---|---|---|---|---|
| 1 | 0.11 | 10 | 0.90 | 9.80 | 0.97 | Ex. Ditch |
| 2 | 0.58 | 10 | 0.90 | 9.80 | 5.10 | Prop. 18" Culv. |
| 3 | 0.43 | 10 | 0.90 | 9.80 | 3.78 | "Y" Inlet |
| 4 | 1.13 | 10 | 0.90 | 9.80 | 9.96 | 15' Inlet |
| 5A | 0.21 | 10 | 0.90 | 9.80 | 1.88 | 10' Inlet |
| 5B | 0.074 | 10 | 0.90 | 9.80 | 0.66 | Trench Drain |
| 6 | 0.68 | 10 | 0.90 | 9.80 | 6.01 | 15' Inlet |
| 7 | 0.15 | 10 | 0.90 | 9.80 | 1.32 | 5' Inlet |
| 8 | 2.33 | 10 | 0.90 | 9.80 | 20.55 | "Y" Inlet |
| 10 | 0.29 | 10 | 0.90 | 9.80 | 2.56 | *Future Roof Drain |
| 11 | 0.42 | 10 | 0.90 | 9.80 | 3.70 | 10' Inlet |
| 12 | 0.90 | 10 | 0.90 | 9.80 | 7.94 | 18" Culv. |
| 14 | 0.80 | 10 | 0.90 | 9.80 | 7.06 | 10' Inlet |
| 15 | 1.20 | 10 | 0.90 | 9.80 | 10.58 | 15' Inlet |
| 16 | 0.40 | 10 | 0.90 | 9.80 | 3.53 | 10' Inlet |
| 17 | 0.51 | 10 | 0.90 | 9.80 | 4.50 | 15' Inlet |
| 18 | 0.10 | 10 | 0.90 | 9.80 | 0.88 | Ex. Inlet |
| 19 | 0.02 | 10 | 0.90 | 9.80 | 0.18 | Ex. 15' Inlet |
| 20 | 0.27 | 10 | 0.90 | 9.80 | 2.38 | 15' Inlet |
| 21 | 0.32 | 10 | 0.90 | 9.80 | 2.82 | *Future Roof Drain |
| 22 | 0.45 | 10 | 0.90 | 9.80 | 3.97 | 10' Inlet |
| 23 | 0.41 | 10 | 0.90 | 9.80 | 3.61 | 18" Culv. |
| OS-1 | 0.70 | 10 | 0.90 | 9.80 | 6.15 | 24" Culv. |
| OS-2 | 0.34 | 10 | 0.90 | 9.80 | 2.98 | 24" Culv. |
| OS-3 | 0.76 | 10 | 0.90 | 9.80 | 6.74 | 24" Culv. |

Q(cfs)=C x I x A
C=0.90
I=9.80 in/hr (Based on 10 min Tc)
A=Acres

* Drainage areas 10 and 21 are to be graded to drain to the proposed "Y" inlet number 13 prior to construction of future building pads.

## INLET DESIGN CALCULATIONS

| INLET | | Design Storm Frequency | AREA RUNOFF Q = CIA | | | | | Carry-Over From Upstream Inlet | Total Gutter Flow | Gutter Capacity | Gutter Slope | Crown Type | SELECTED INLET | | Inlet Capacity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inlet No. | Location | (yrs) | Time of Conc. (min) | Intensity I (in./hr.) | Runoff Coeff. "C" | Area (ac.) | "Q" (c.f.s.) | (c.f.s) | (c.f.s.) | (c.f.s.) | (ft/100ft) | | Length "L" (Feet) | Type | (c.f.s.) |
| 1 | LINE "B" | 100 | 10 | 9.8 | 0.90 | 1.13 | 9.97 | 0 | 9.97 | – | 0.71% | Parabolic | 15' | I | 9.60 |
| 2 | LINE "B" | 100 | 10 | 9.8 | 0.90 | 0.15 | 1.32 | 0 | 1.32 | – | 0.71% | Parabolic | 5' | I | 2.50 |
| 3 | LINE "B" | 100 | 10 | 9.8 | 0.90 | 0.68 | 6.00 | 0 | 6.00 | – | 0.71% | Parabolic | 15' | I | 9.60 |
| 4 | LINE "B" | 100 | 10 | 9.8 | 0.90 | 0.31 | 2.73 | 0 | 2.73 | – | Low | – | 10' | I | 4.60 |
| 5 | LINE "B" | 100 | 10 | 9.8 | 0.90 | 0.41 | 3.62 | 0 | 3.62 | – | Low | – | 3'x3' | V | 15.00 |
| 6 | LINE "D" | 100 | 10 | 9.8 | 0.90 | 0.45 | 3.97 | 0 | 3.97 | – | 10.3% | Parabolic | 10' | IA | 4.60 |
| 7 | LINE "D" | 100 | 10 | 9.8 | 0.90 | 0.42 | 3.70 | 0 | 3.70 | – | 10.3% | Parabolic | 10' | IA | 4.60 |
| 8 | LINE "D" | 100 | 10 | 9.8 | 0.90 | 0.85 | 7.50 | 0 | 7.50 | – | 3.76% | Parabolic | 15' | I | 8.30 |
| 9 | LINE "C" | 100 | 10 | 9.8 | 0.90 | 0.40 | 3.53 | 0 | 3.53 | – | 4.52% | Parabolic | 10' | IA | 5.00 |
| 10 | LINE "C" | 100 | 10 | 9.8 | 0.90 | 0.51 | 4.50 | 3.08 | 7.58 | – | 9.98% | Parabolic | 15' | I | 7.50 |
| 11 | LINE "C" | 100 | 10 | 9.8 | 0.90 | 1.20 | 10.58 | 0 | 10.58 | – | 9.98% | Parabolic | 15' | I | 7.50 |
| 12 | LINE "C" | 100 | 10 | 9.8 | 0.90 | 0.80 | 7.06 | 0 | 7.06 | – | Low | – | 10' | IA | 9.00 |
| 13 | LINE "D" | 100 | 10 | 9.8 | 0.90 | *2.33 | *20.55 | 0 | *20.55 | – | Low | – | 4'x4' | V | 26.00 |

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RECORD DRAWING

| Revision | Date | Description |
|---|---|---|
| | | |

Owner:
CITY OF ROCKWALL

Developer:
Sterling One Construction L.L.C.
#2 Horizon Court • Heath, Texas 75032 • 469-772-9400

# Harbor District Infrastructure
Rockwall, Texas

~ Civil Engineer ~
F.C. CUNY CORPORATION
#2 Horizon Court • Heath, Texas 75032 • (469) 402-7700
Texas Registered Engineering Firm F-7449

05/09/2014

STATE OF TEXAS
CAMERON A. SLOWN
106317
LICENSED
PROFESSIONAL ENGINEER

| Drawn By: | Checked By: |
|---|---|
| F.C. CUNY | F.C. CUNY |
| Date: 08/11 | Project No.: – |

Sheet Title:
Drainage Area Map

| Scale: | Sheet No.: |
|---|---|
| 1" = 60' | 10 of 21 |