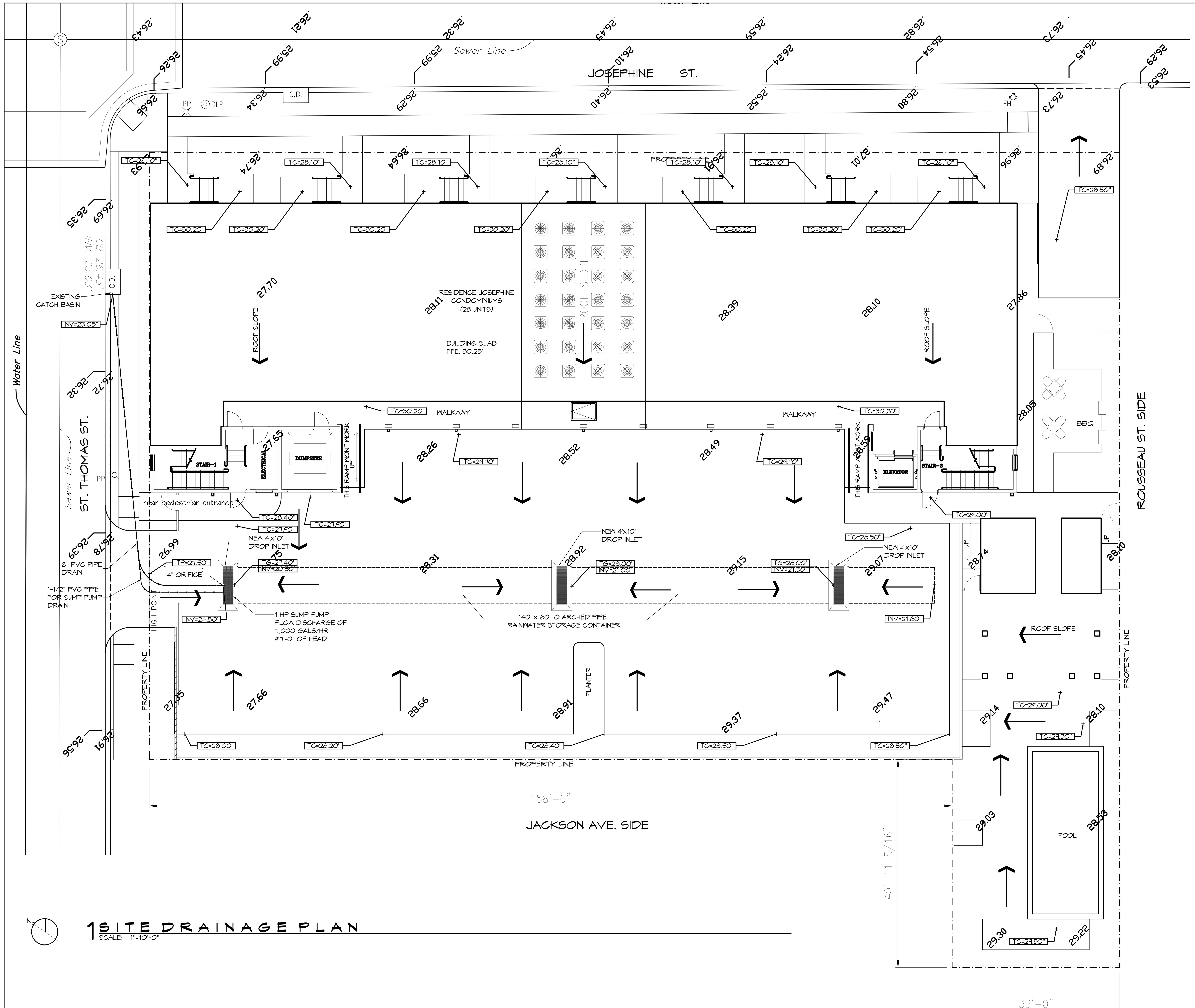


1 SITE DRAINAGE PLAN
SCALE: 1"=10'-0"

GENERAL SITE DRAINAGE NOTES

1. DRAIN PIPE(S) MUST BE THE BELL AND SPIGOT TYPE WITH "O" RING RUBBER GASKETS. THE BELLS OF THE PIPES SHALL BE LAID UPSTREAM. ALL JOINTS SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. ALL PIPES SHALL REQUIRE A 3" COMPACTED SAND OR LIMESTONE BASE.
2. REMOVE DEBRIS AND CLEAN BOTTOM OF DITCHES DOWN 6" IN DEPTH - REPLACE ANY BROKEN/CRUSHED PIPES OR CULVERTS WITH SAME SIZE AND TYPE.
3. DRAIN PIPE AND FITTINGS WITHIN PROPERTY LINE SHALL BE POLYVINYL CHLORIDE PLASTIC PIPE, MEETING CLASS 100 C-900 PVC.
4. ELEVATIONS SHOWN ARE MSL.
5. FIELD VERIFY ALL ELEVATIONS AND AND DRAINAGE SYSTEM PLACEMENT PRIOR TO START OF WORK.
6. PROVIDE VERTICAL ELBOW AT DOWNSPOUTS FOR CONNECTION TO SUBSURFACE DRAINAGE WHERE INDICATED. ELBOW ID SHALL BE SIZED SUCH THAT THE DOWNSPOUT CAN BE INSERTED INTO THE PIPE OPENING WITHOUT DEFORMATION TO THE DOWNSPOUT.

SITE DRAINAGE LEGEND

TC=100.0'	TOP OF CONCRETE
TG=100.0'	TOP OF GRATE
INV=100.0'	INVERT OF PIPE
←	DRAINAGE FLOW DIRECTION ARROW

STORM WATER RUN-OFF CALCULATIONS

PROJECT: Josephine St. Condo's

STORMWATER RUN-OFF CALCULATIONS

Formulas used:

[1] RATIONAL METHOD: Q=Aci

where:
- Q= Peak discharge of watershed in cubic feet per second (cfs) due to maximum storm assumed.
- A= Area of watershed in acres.
- c= Coefficient of run-off [2].
- i= Intensity of rainfall in inches per hour based on concentration time. [3]

[4] TC=

where:
- TC= Time of concentration= time required for rain falling at most remote point to reach discharge point.
- c= Site run-off coefficient based on conditions shown.
- s= Percent slope of overland flow.

PRIOR TO DEVELOPMENT
10 Year Frequency

Q_1 = Aci						
Watertight Surfaces			0	sqft	0.000	Acres
c(1) =	0.9					
Brick Pavers			0	sqft	0.000	Acres
c(2) =	0.25					
Green Space			24,255	sqft	0.557	Acres
c(3) =	0.15					
Summary			24,255	sqft	0.557	Acres
c =	0.15					
Duration (D) = Time of concentration (TC)						
where	L =	191	run-off length ft		Elev diff	1
	c =	0.15	run-off coef			
	S =	0.5236	percent slope			
therefore	TC = D =	20.12	minutes			
Expected rainfall intensity	i =	3.14	in/hr			
Q_1 =	0.262	cfs				

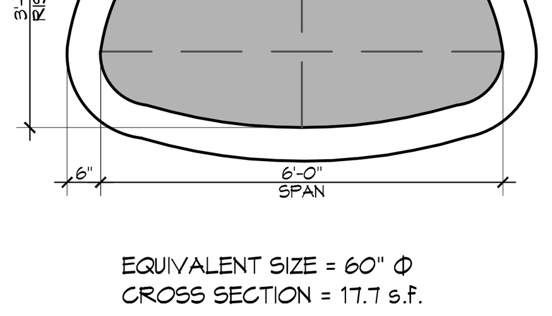
POST DEVELOPMENT
10 Year Frequency

Q_2 = Aci						
Watertight Surfaces			16,808	sqft	0.386	Acres
c(1) =	0.90					
Brick Pavers			4,302	sqft	0.099	Acres
c(2) =	0.30					
Green Space			3,145	sqft	0.072	Acres
c(3) =	0.15					
Summary			24,255	sqft	0.557	Acres
c =	0.70					
Duration (D) = Time of concentration (TC)						
where	L =	170	run-off length ft		Elev diff	1.2
	c =	0.70	run-off coef			
	S =	0.7059	percent slope			
therefore	TC = D =	7.24	minutes			
Expected rainfall intensity	i =	3.14	in/hr			
Q_2 =	1.217	cfs				

CAPTURE REQUIREMENTS

Capture the 1st 1.25" of rainfall	1.25	" OF A 10 YEAR STORM OVER 24-HR PERIOD			
Storage = 1.25"/12 x sqft of Watertight Surface		1750.8	cuft or	13,096	Gallons
Dimensions of Storage =		WIDTH	3.5	feet	
		LENGTH	140	feet	
		DEPTH	3.57	feet	

References:
1. Chen, W.F. The Civil Engineering Handbook. 1995. Eq.# 31.1, pg. 1036
2. Seelye, Elwyn E. Data Book for Civil Engineers. Vol.1 1960. Tbl. B, pg. 18-02
3. Seelye, Elwyn E. Data Book for Civil Engineers. Vol.1 1960. Fig.B, pg. 18-01
4. Chen, W.F. The Civil Engineering Handbook. 1995. Tbl. 31.2 Regan Equation (n=0.013)
5. Chen, W.F. The Civil Engineering Handbook. 1995. Eq.# 28.32, pg. 969



EQUIVALENT SIZE = 60" Ø
CROSS SECTION = 17.7 s.f.

2 CATCH BASIN SECTION
SCALE: NTS

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SCALE: AS SHOWN
FILE NAME: 15014/Elev02.A
DATE: 27 Oct. 2015

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NO.	DATE	REVISIONS

C1.2