

Population Equivalent Calculations

Project: Reserve at Muir Park
 Location: Prospect Heights, IL
 Project #: 18-231

Prepared: PAC
 Reviewed: TAS
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Population Equivalent Calculation:

Number of Bedrooms/Unit	Number of Units	Population Equivalent/Unit	Population Equivalent
Single Family	0	3.5	0
1	0	1.5	0
2	69	3	207
3			
Total	69		207

Design Average Flow PE Calculation:

Total PE = 207 PE
 Total Flow = 20,700 GPD

P.E. BOD₅ = 35.2 lbs BOD₅
 P.E. Suspended Solids = 41.4 lbs Suspended Solids

Design Max Flow PE Calculation:

Peaking factor = $Q_{peak}/Q_{avg} = (18 + P^{0.5}) / (4 + P^{0.5})$
 Peaking Factor = 4.143

Design Max. = Peaking Factor x Flow
 Design Max. = 857.5 PE
 Design Max. = 85,751 GPD
 Design Max. = 0.13 CFS

P.E. BOD₅ = 145.8 lbs BOD₅ (Including Peaking Factor)
 P.E. Suspended Solids = 171.5 lbs Suspended Solids (Including Peaking Factor)