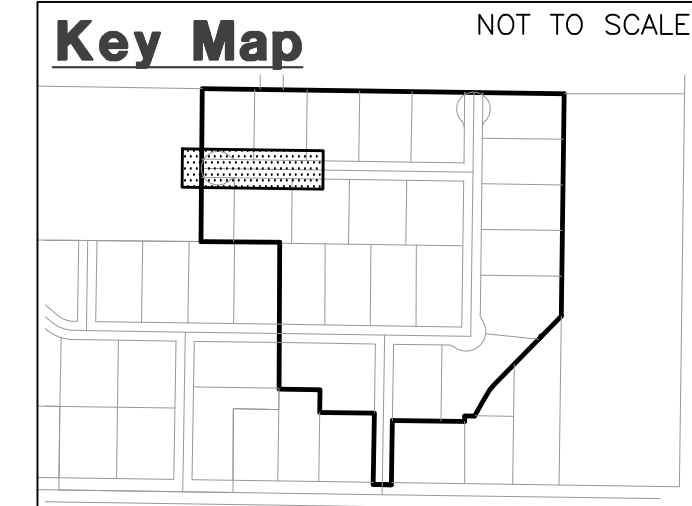


DETENTION VOLUME CALCULATIONS
 HIGH WATER AREA (45.90') = 18,351 S.F.
 BOTTOM AREA (43.80') = 14,656 S.F.
 $(18,351 + 14,656) / 2 = 16,504$ S.F. AVG.
 $16,504$ S.F. x $2.1'$ DEEP = $34,657$ C.F.
 $36,657$ C.F. > $33,641$ C.F. (REQ'D.) = OK



Construction Notes:

- 1) ALL CONSTRUCTION IS TO CONFORM TO THE STANDARD DRAWINGS AND SPECIFICATIONS OF WEBER COUNTY.
- CULINARY WATER**
W/8 - 8" PVC C-900 CLASS 200 WATER
- SANITARY SEWER**
SS/8 - 8" PVC C-900 SEWER LINE
SS/10 - 10" PVC C-900 SEWER LINE
- STORM DRAIN**
SD/15 - 15" RCP STORM DRAIN
- SECONDARY WATER**
SW/8 - 8" PVC C-900 SECONDARY WATER LINE

Storm Runoff Calculations
Mallard Springs Subdivision

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the West Haven, UT area taken from data compiled by NOAA Atlas14, using a 100 year storm.

Runoff storm water has been calculated for two different sets of conditions, one being the existing undeveloped land and the other with land fully improved. The difference between the two quantities will be detained in a holding pond. All water that runs off and over the property at present will be diverted into the holding pond and released at a reduced rate into the existing drainage system.

The calculations are as follows:

- Runoff from the undeveloped existing land.

| | | |
|---------------------------|-----|--------------|
| Runoff Coefficient | C = | 0.200 |
| Rainfall Intensity | i = | 2.81 IN./HR. |
| Runoff Quantity | Q = | 0.2 per acre |
| Acresage | A = | 24.68 ACRES |
| Q(out) = A ^{0.2} | | 4.94 CFS |
- Runoff from developed land

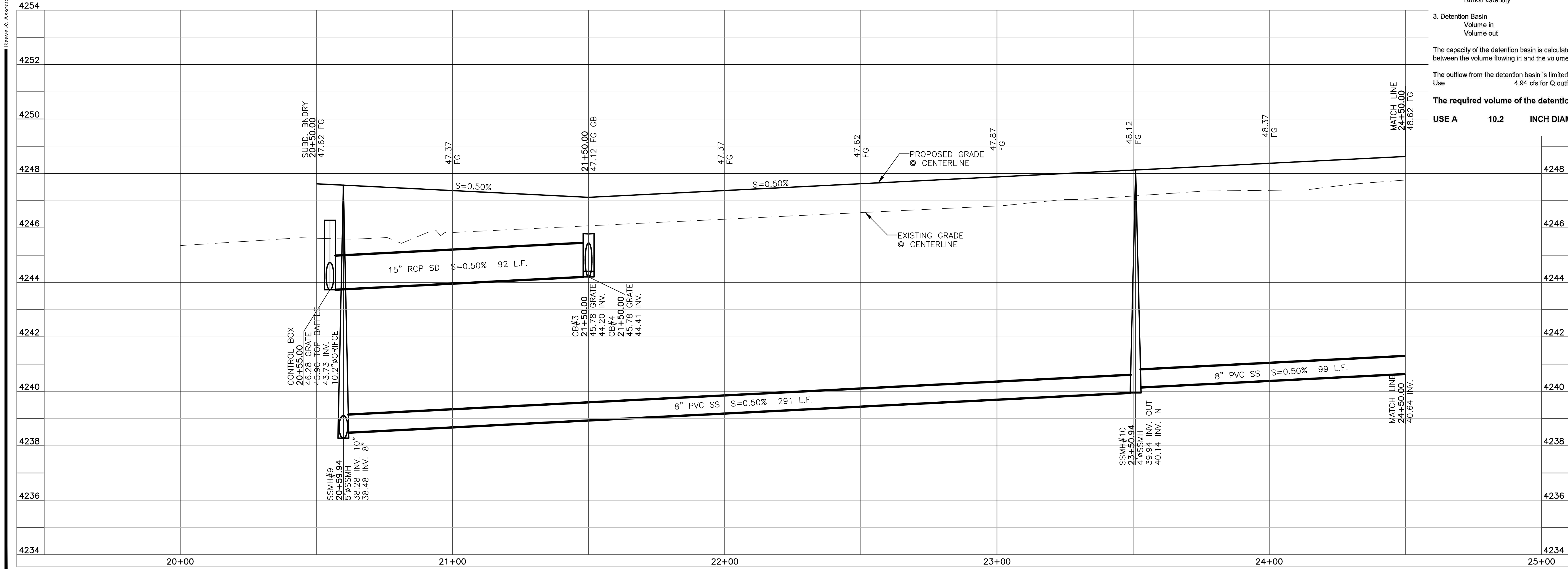
| | | |
|-----------------------------|----------------------|----------|
| Paved Area | 117,875 | C = 0.9 |
| Landscaped Area | 857,012 | C = 0.2 |
| Roof | 100,000 | C = 0.8 |
| Weighted Runoff Coefficient | | C = 0.33 |
| Rainfall Intensity | i = varies with time | |
| Runoff Quantity | Q = CIA | |
- Detention Basin

| | |
|------------|----------|
| Volume in | Q * t |
| Volume out | 4.94 * t |

The capacity of the detention basin is calculated as the maximum difference between the volume flowing in and the volume flowing out.

The outflow from the detention basin is limited to outflow if undeveloped. Use 4.94 cfs for Q outflow

The required volume of the detention basin is **33,641 cubic feet**
USE A 10.2 INCH DIAMETER ORIFICE AT OUTLET

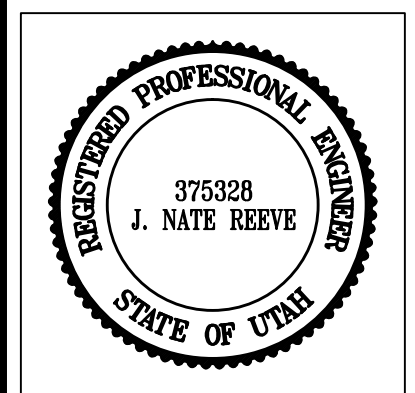


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| REVISIONS | DESCRIPTION | DATE |
|-----------|-------------|------|
| | | |
| | | |
| | | |
| | | |

Mallard Springs Subdivision
 WEBER COUNTY, UTAH
2400 South Street
20+00.00 - 24+50.00



Project Info.
 Engineer: J. NATE REEVE, P.E.
 Drafter: R. HANSEN
 Begin Date: NOVEMBER 4, 2013
 Name: MALLARD SPRINGS SUBDIVISION
 Number: 3442-A30