

DETENTION BASIN CALCULATIONS  
 HIGH WATER AREA = 6651 S.F.  
 BOTTOM AREA = 2336 S.F.  
 MAX. DEPTH = 4.60'  
 $(6651 + 2336) / 2 = 4494$  S.F. AVG.  
 $4494 \text{ S.F.} \times 4.60' \text{ DEEP} = 20,670 \text{ C.F.}$   
 $20,670 \text{ C.F.} > 20,288 \text{ C.F. (REQ'D)} = \text{OK}$

**NOT APPROVED**

**REVIEWED**  
 By Michael Tuttle at 4:58 pm, Oct 01, 2012

**RECEIVED**  
 By Michael Tuttle at 11:45 am, Oct 01, 2012

**NOTE:**  
 IF LAND DRAIN REQUIRED BY GEOTECH STUDY,  
 IT WILL BE ADDED.

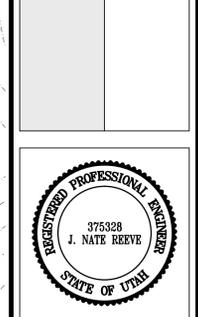


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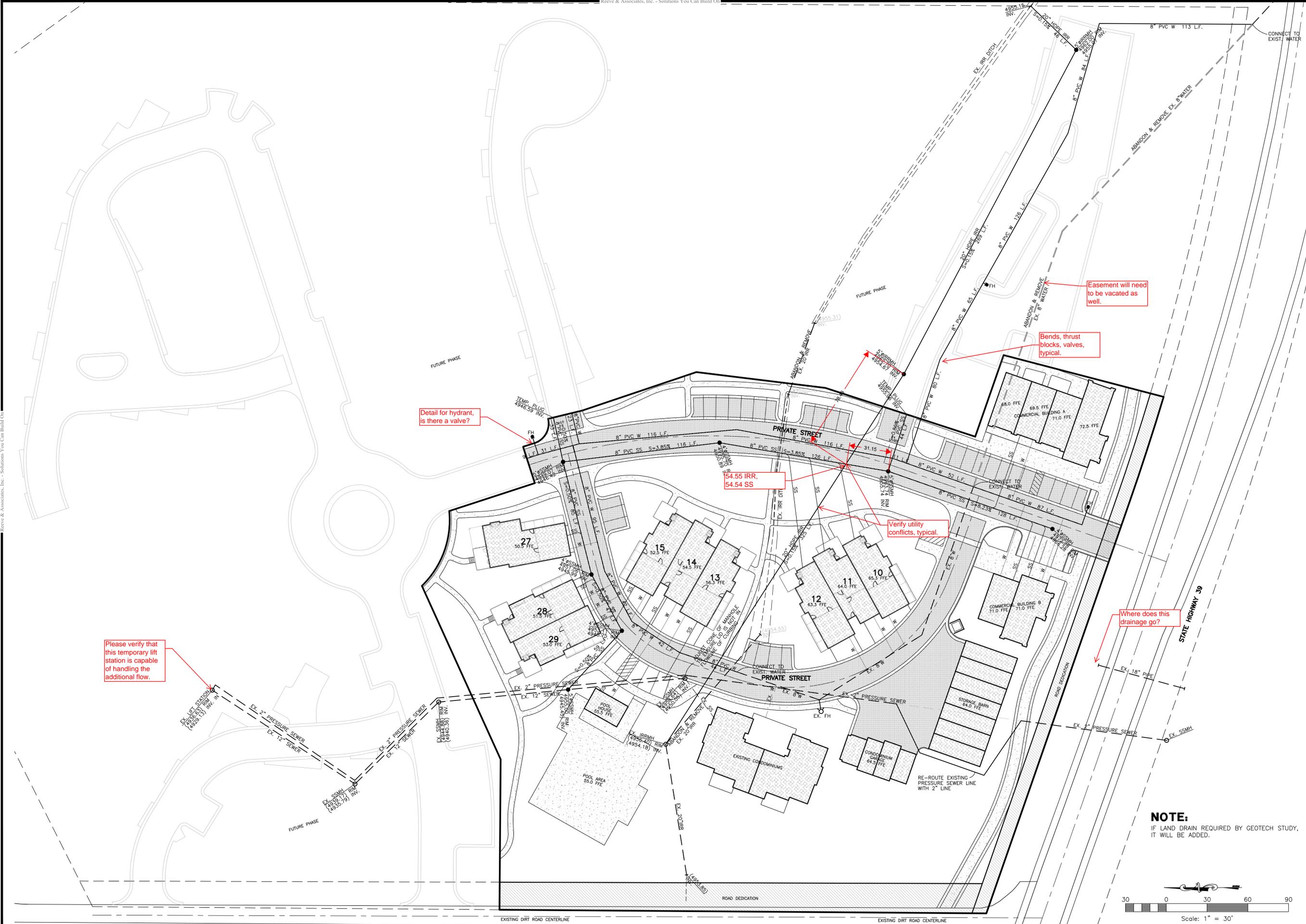


| REVISIONS | DATE    | DESCRIPTION        |
|-----------|---------|--------------------|
|           | 7-20-12 | RH Utility Changes |
|           | 7-31-12 | RH Design Complete |

**Edgewater Beach Resort Phase-1**  
 WEBER COUNTY, UTAH  
**Grading Plan**



**Project Info.**  
 Engineer: J. NATE REEVE, P.E.  
 Drafter: R. HANSEN  
 Begin Date: JULY 09, 2012  
 Name: EDGEWATER ESTATES PHASE-1  
 Number: 5917-15



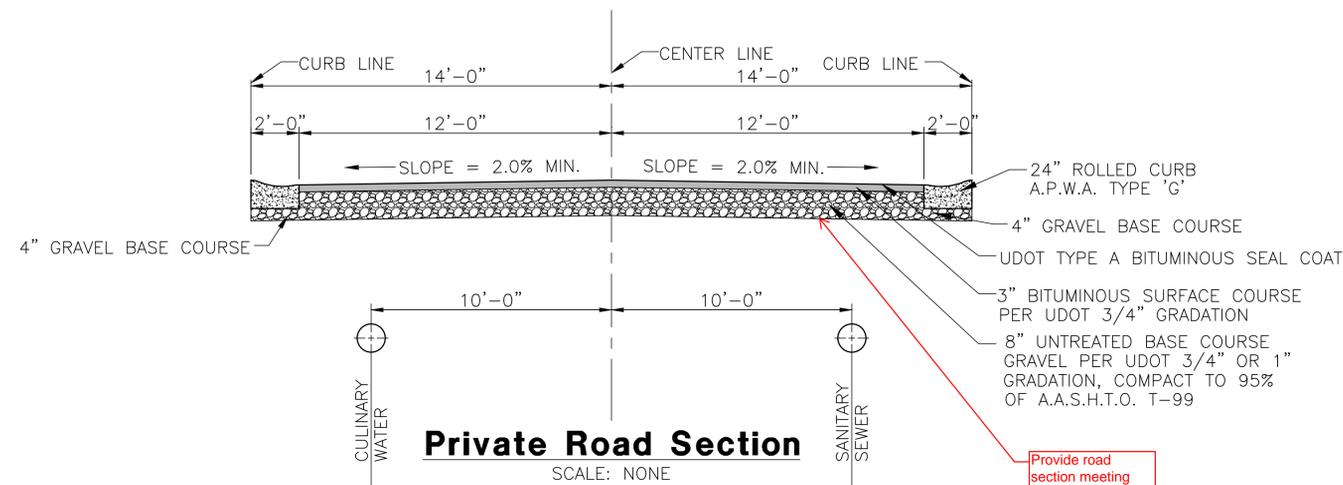
**Reeve & Associates, Inc.**  
 920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403  
 TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com  
 LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS  
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**Edgewater Beach Resort Phase-1**  
 WEBER COUNTY, UTAH  
**Utility Plan**



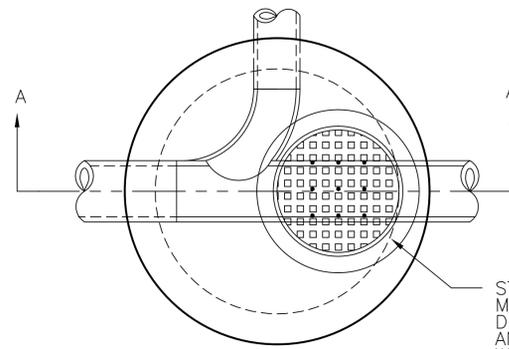
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**Private Road Section**

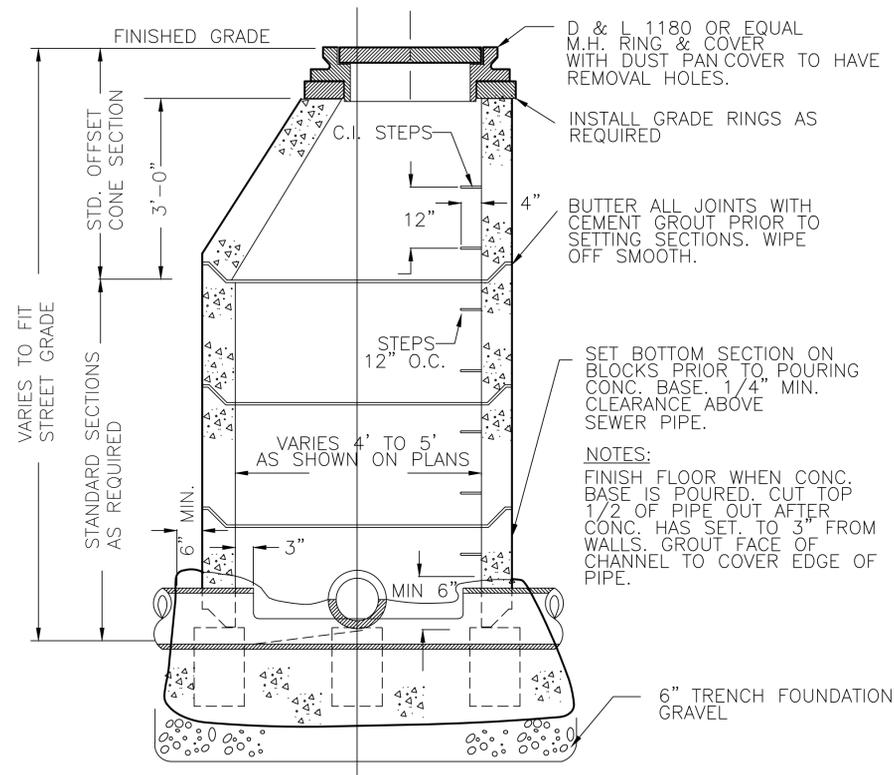
SCALE: NONE

Provide road section meeting county requirements.



**Plan**

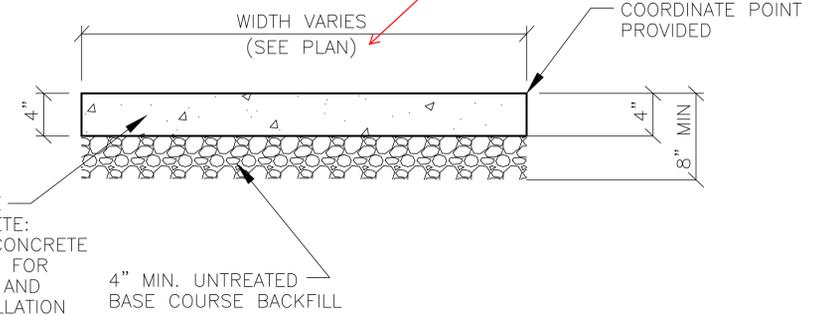
STANDARD DESIGN "A" MANHOLE CASTING D & L 1180 OR AN APPROVED EQUIVALENT WITH REMOVAL HOLES



**Standard Sewer Manhole**

SCALE: NONE

4" THICK SIDEWALK CLASS "B" CONCRETE: 6-BAG 4000 psi CONCRETE REFER TO MAVERIK FOR AGGREGATE SIZING AND FIBER MESH INSTALLATION



**Walkway Detail**

SCALE: NONE (REFER TO SITE SPECIFIC GEOTECHNICAL REPORT)

Please provide geotechnical report.

**Storm Runoff Calculations**  
Edgewater Estates-Phase 1

7/31/2012  
The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Huntsville, 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:

|   |                  |
|---|------------------|
| 1. Runoff from the undeveloped existing land. | C = 0.2          |
| Runoff Coefficient                            | i = 3.20 IN./HR. |
| Rainfall Intensity                            | Q = CIA          |
| Runoff Quantity                               | A = 3.80 ACRES   |
| Acreage                                       |                  |
| Q(out) = C*A =                                | 2.43 CFS         |

2. Runoff from developed land

|                     |        |         |
|---------------------|--------|---------|
| Runoff Coefficients |        |         |
| Paved Area          | 39,774 | C = 0.9 |
| Landscaped Area     | 97,778 | C = 0.2 |
| Roof                | 28,173 | C = 0.8 |

Weighted Runoff Coefficient C = 0.47

|                    |                      |
|--------------------|----------------------|
| Rainfall Intensity | i = varies with time |
| Runoff Quantity    | Q = CIA              |

3. Detention Basin

|            |          |
|------------|----------|
| Volume in  | Q * t    |
| Volume out | 2.43 * 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 2.43 cfs for Q outflow

The required volume of the detention basin is 5,917 cubic feet

USE A 7.2 INCH DIAMETER ORIFICE AT OUTLET

**Storm Runoff Calculations**  
Edgewater Estates-Full

7/31/2012  
The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Huntsville, 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:

|   |                  |
|---|------------------|
| 1. Runoff from the undeveloped existing land. | C = 0.2          |
| Runoff Coefficient                            | i = 3.20 IN./HR. |
| Rainfall Intensity                            | Q = CIA          |
| Runoff Quantity                               | A = 13.02 ACRES  |
| Acreage                                       |                  |
| Q(out) = C*A =                                | 8.34 CFS         |

2. Runoff from developed land

|                     |         |         |
|---------------------|---------|---------|
| Runoff Coefficients |         |         |
| Paved Area          | 135,807 | C = 0.9 |
| Landscaped Area     | 334,282 | C = 0.2 |
| Roof                | 97,276  | C = 0.8 |

Weighted Runoff Coefficient C = 0.47

|                    |                      |
|--------------------|----------------------|
| Rainfall Intensity | i = varies with time |
| Runoff Quantity    | Q = CIA              |

3. Detention Basin

|            |          |
|------------|----------|
| Volume in  | Q * t    |
| Volume out | 8.34 * 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 8.34 cfs for Q outflow

The required volume of the detention basin is 20,288 cubic feet

USE A 13.3 INCH DIAMETER ORIFICE AT OUTLET

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