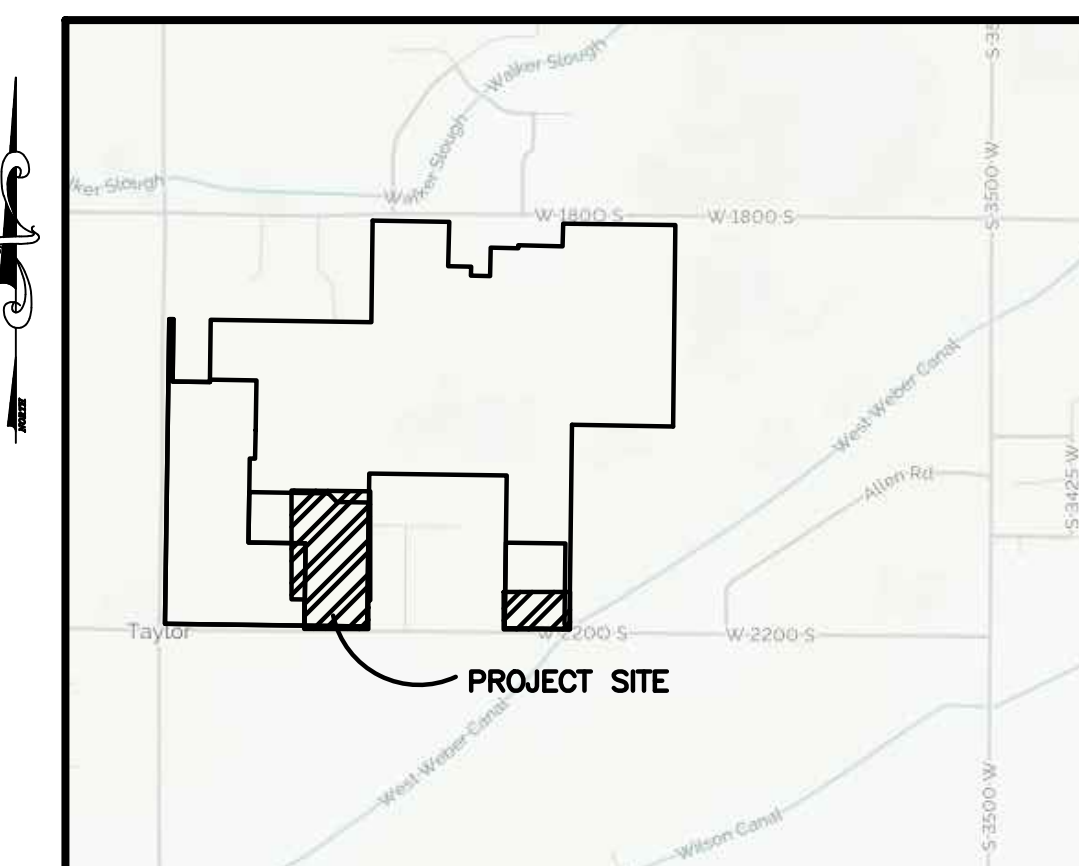


Project Narrative/Notes/Revisions

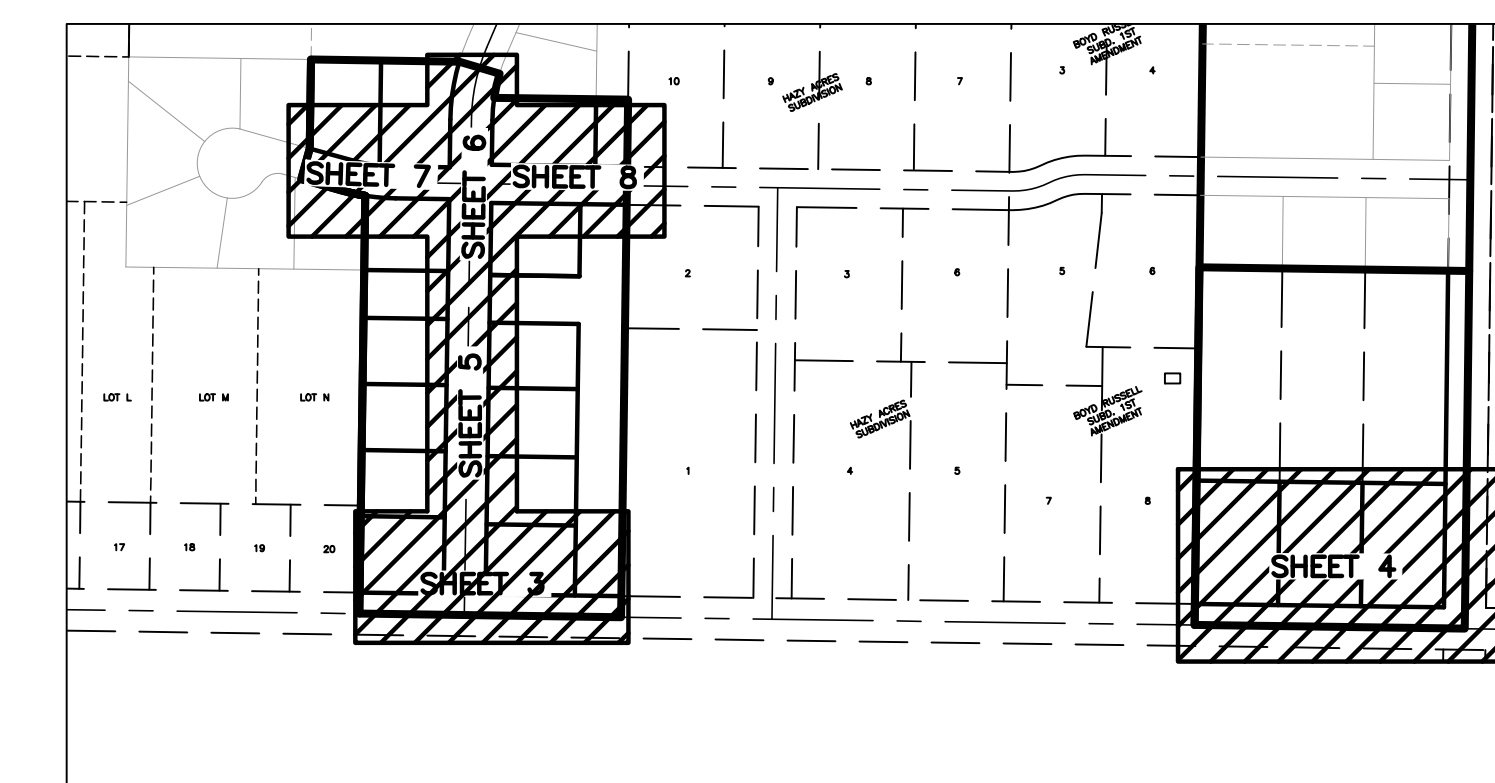
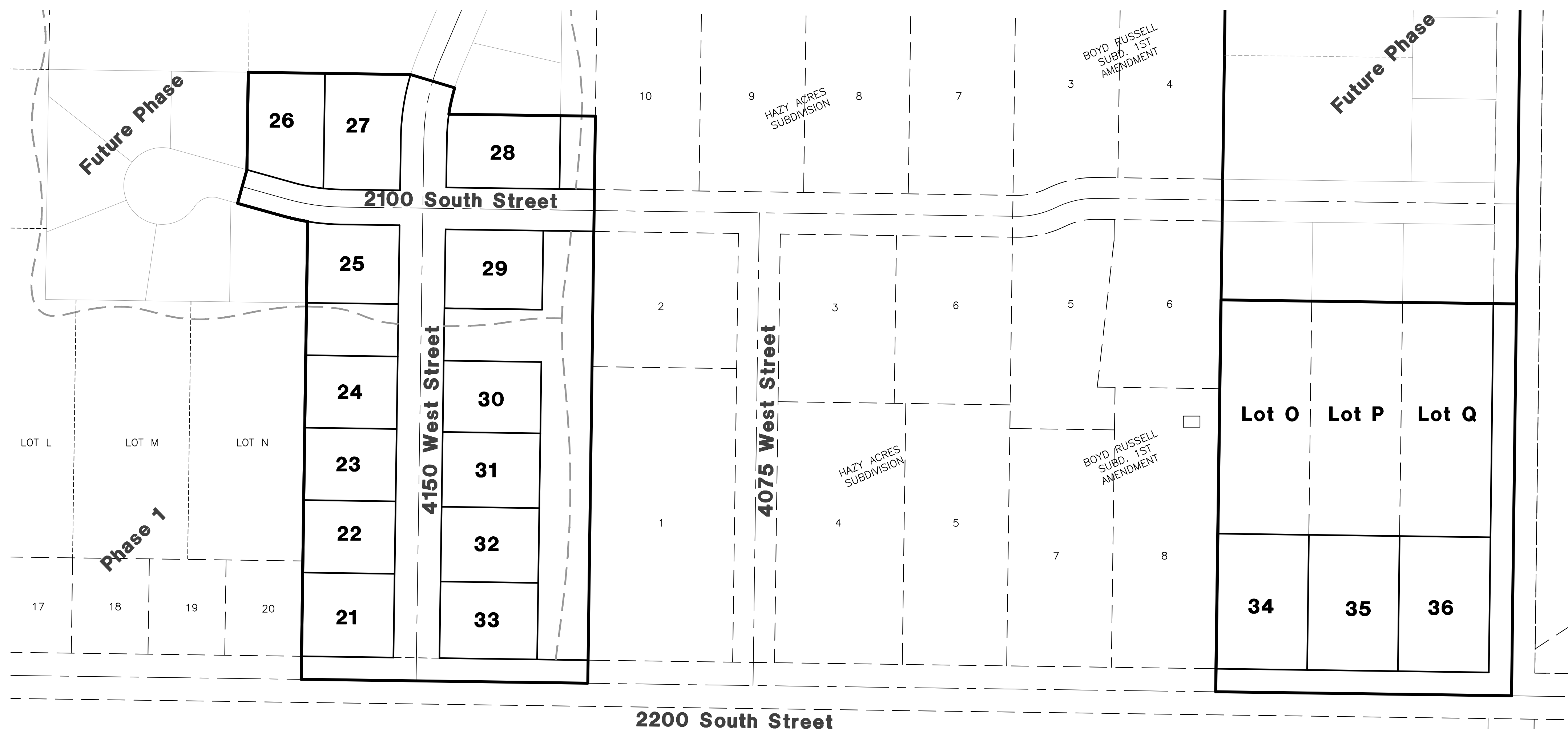
- 1. 07/09/18 KE - COMPLETED DESIGN FOR CLIENT & COUNTY REVIEW.
- 2. 08/28/18 KE - LOT AND PHASE LINE CHANGE

# Sunset Equestrian Cluster Subdivision Phase 2

WEBER COUNTY, UTAH  
JULY 2018



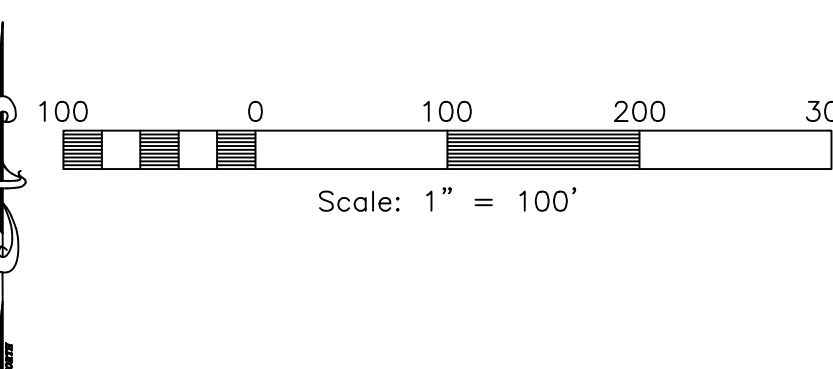
Vicinity Map  
NOT TO SCALE



Sheet Index Key Map  
NOT TO SCALE

**Sheet Index**

- Sheet 1 - Cover/Index Sheet
- Sheet 2 - Notes/Legend/Street Cross-Section
- Sheet 3 - 2200 South Street - 42+50.00 - 47+50.00
- Sheet 4 - 2200 South Street - 55+00.00 - 60+00.00
- Sheet 5 - 4150 South Street - 61+00.00 - 66+00.00
- Sheet 6 - 4150 West Street - 66+00.00 - 69+93.27
- Sheet 7 - 2100 South Street - 74+00.00 - 77+00.00
- Sheet 8 - 2100 South Street - 77+00.00 - 80+50.00
- Sheet 9 - Grading & Drainage Plan
- Sheet 10 - Utility Plan
- Sheet 11 - Retention Plan
- Sheet 12 - Storm Water Pollution Prevention Plan Exhibit
- Sheet 13 - Storm Water Pollution Prevention Plan Details
- Sheet 14 - Taylor - West Weber Water Improvement District Standard Water Details
- Sheet 15 - Hooper Irrigation Company Pressure Irrigation Standards
- Sheet 16 - Hooper Irrigation Company Pressure Irrigation Standards



**Survey Control Note:**

THE CONTRACTOR OR SURVEYOR SHALL BE RESPONSIBLE FOR FOLLOWING THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS (NSPS) MODEL STANDARDS FOR ANY SURVEYING OR CONSTRUCTION LAYOUT TO BE COMPLETED USING REEVE & ASSOCIATES, INC. SURVEY DATA OR CONSTRUCTION IMPROVEMENT PLANS. PRIOR TO PROCEEDING WITH CONSTRUCTION STAKING, THE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING HORIZONTAL CONTROL FROM THE SURVEY MONUMENTS AND FOR VERIFYING ANY ADDITIONAL CONTROL POINTS SHOWN ON AN ALTA SURVEY, IMPROVEMENT PLAN, OR ANY ELECTRONIC DATA PROVIDED. THE SURVEYOR SHALL ALSO USE THE BENCHMARKS AS SHOWN ON THE PLAN, AND VERIFY THEM AGAINST NO LESS THAN FIVE (5) EXISTING HARD IMPROVEMENT ELEVATIONS INCLUDED ON THESE PLANS OR ON ELECTRONIC DATA PROVIDED. IF ANY DISCREPANCIES ARE ENCOUNTERED, THE SURVEYOR SHALL IMMEDIATELY NOTIFY REEVE & ASSOCIATES, INC. AND RESOLVE THE DISCREPANCIES BEFORE PROCEEDING WITH ANY CONSTRUCTION STAKING.

**Flood Information Data**

FLOOD ZONE DESIGNATION "X" PER F.E.M.A. FLOOD INSURANCE RATE MAPS, COMMUNITY PANEL NUMBERS 49011C0075E DATED JUNE 18, 2007.

AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

(THE ABOVE STATEMENT IS FOR INFORMATION ONLY AND THE SURVEYOR ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE CITED MAP OR THE LOCATION OF THE FLOOD ZONE BOUNDARY. IN ADDITION, THE ABOVE STATEMENT DOES NOT REPRESENT THE SURVEYOR'S OPINION OF THE PROBABILITY OF FLOODING.)

**Elevation Datum**

PROJECT BENCHMARK - W 1/4 CORNER 28, T6N, R2W, SLB&M.  
EL. - 4239.806' (NAVD 88)

**Engineer's Notice To Contractors**

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE INFORMATION PROVIDED BY OTHERS. THE LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO CONTACT THE UTILITY COMPANIES AND TAKE DUE PRECAUTIONARY MEASURE TO PROTECT ANY UTILITY LINES SHOWN, AND ANY OTHER LINES OBTAINED BY THE CONTRACTOR'S RESEARCH, AND OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

**Developer Contact:**

Fieldbrook Properties, Inc.  
Chris Haertel/Doug Nosler  
Irvine, CA 92618  
PH: (949) 453-9279

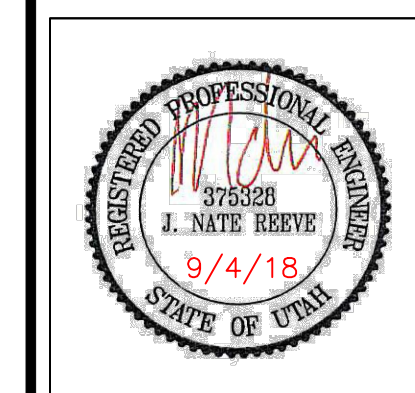
Blue Stakes Location Center

**Call: Toll Free 1-800-662-4111**  
Two Working Days Before You Dig



REVISIONS	DESCRIPTION	DATE

Sunset Equestrian Cluster Subdivision Phase 2  
WEBER COUNTY, UTAH  
Cover/Index Sheet

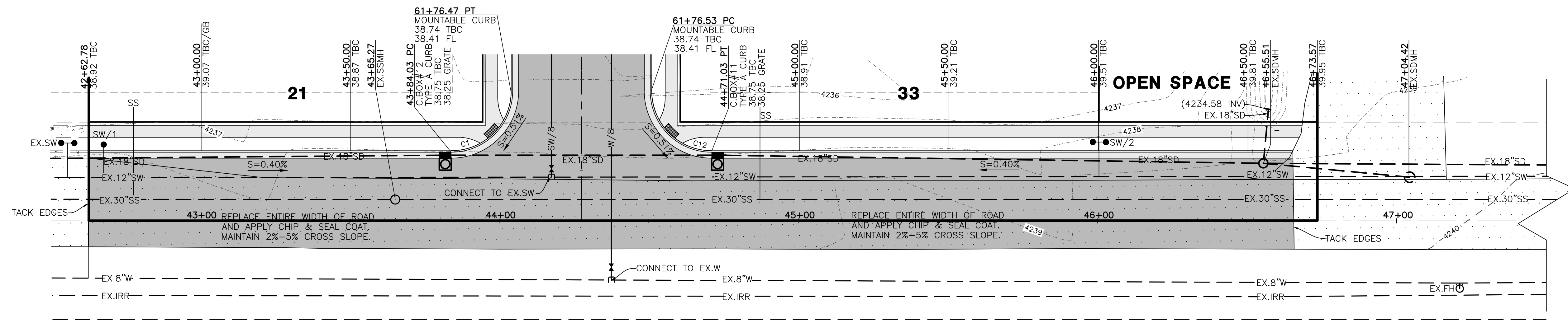


**Project Info.**

Engineer: J. NATE REEVE, P.E.  
Drafter: C. KINGSLEY  
Begin Date: APRIL 2018  
Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
Number: 5336-05

Sheet	16
1	Sheets

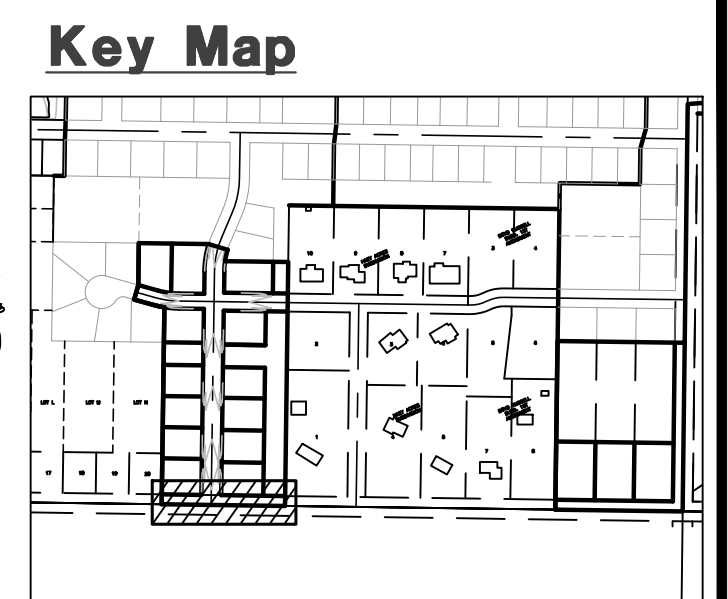
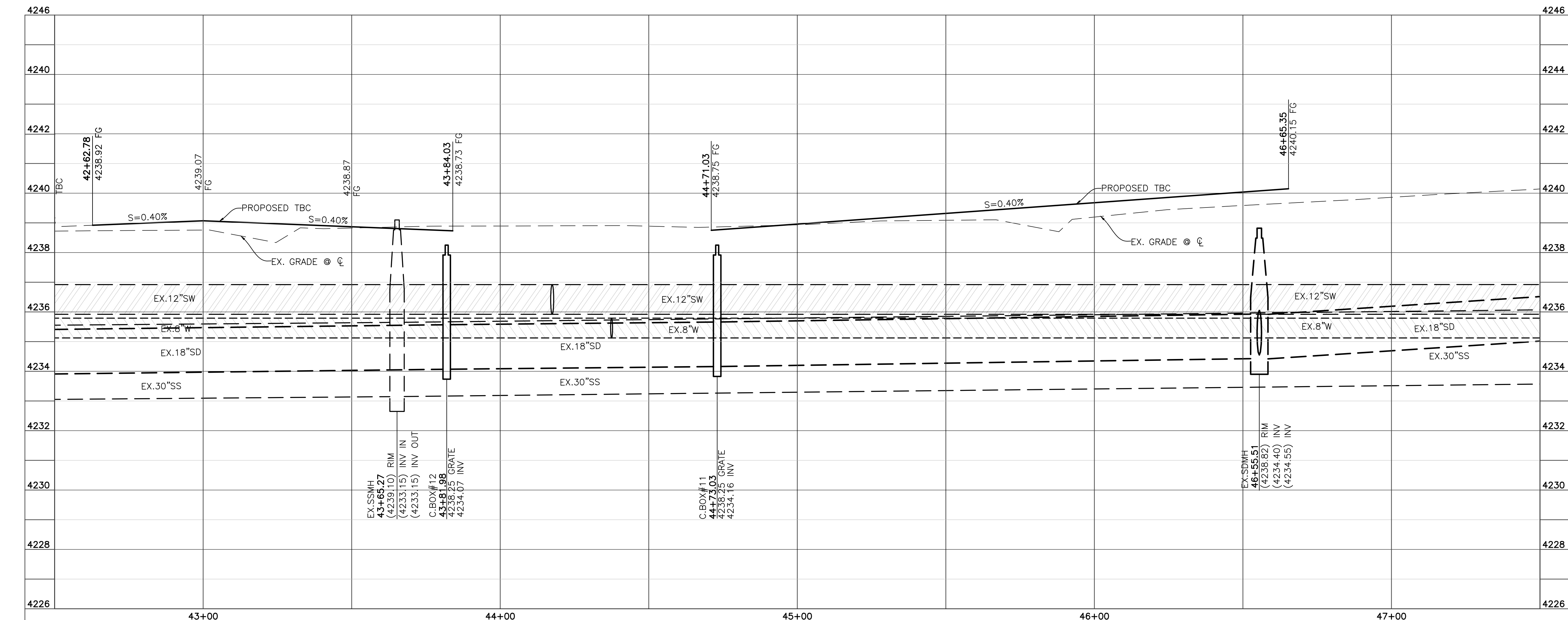
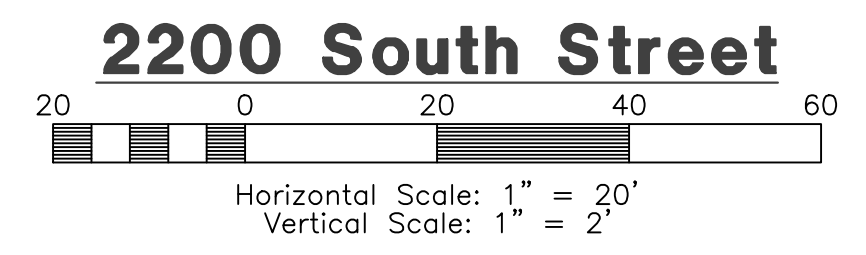




**TBC Curve Data**

#	Delta	Radius	Length	Tangent	Chord	CH Length
C1	89°57'26"	20.00'	31.40'	19.99'	N45°48'03"E	28.27'
C12	90°02'34"	20.00'	31.43'	20.01'	S44°11'57"E	28.29'

- NOTES:
- CROSS SLOPE IN 2200 SOUTH STREET TO MAINTAIN BETWEEN 2% - 5%.
  - CONTRACTOR TO POTHOLE LOCATIONS OF EXISTING 12" SECONDARY WATER LINE TO VERIFY DEPTH & IF LATERALS NEED TO BE LOOPED/LOWERED OR IF CLEANOUTS ARE REQUIRED.
  - SANITARY SEWER LATERALS MUST BE SLEEVED WHEN CLEARANCE IS LESS THAN 18" VERTICALLY & BUILT TO WEBER COUNTY STANDARDS.
  - ADD CLEANOUTS AND ELBOWS IN SEWER LATERALS PER DISTRICT STANDARDS



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  - TAYLOR-WEST WEBER WATER IMPROVEMENT DISTRICT SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO ANY PRECONSTRUCTION MEETINGS AND OR THE COMMENCEMENT OF ANY CONSTRUCTION. (801) 731-1668
  - ALL RCP INSTALLED TO BE BEDDED WITH GRAVEL & HAVE OPEN JOINTS.
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W - 1" HDPE 200 PSI CTS  
W/8 - 8" PVC C-900 WATER  
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- SANITARY SEWER**  
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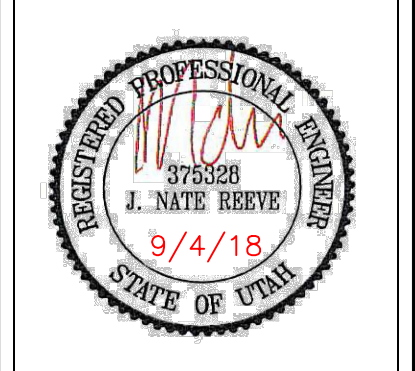
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REVISIONS	DESCRIPTION

DATE

**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
WEBER COUNTY, UTAH

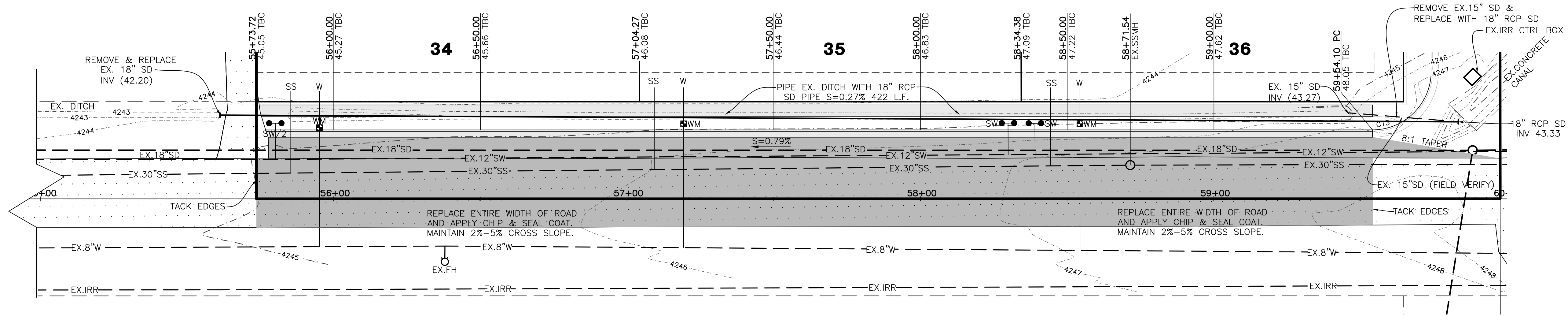
**2200 South Street**  
**42+50.00 - 47+50.00**



**Project Info.**  
Engineer: J. NATE REEVE, P.E.  
Draftsman: C. KINGSLEY  
Begin Date: APRIL 2018  
Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
Number: 5336-05

Blue Stakes Location Center  
**Call: Toll Free 1-800-662-4111**  
Two Working Days Before You Dig

Key Map



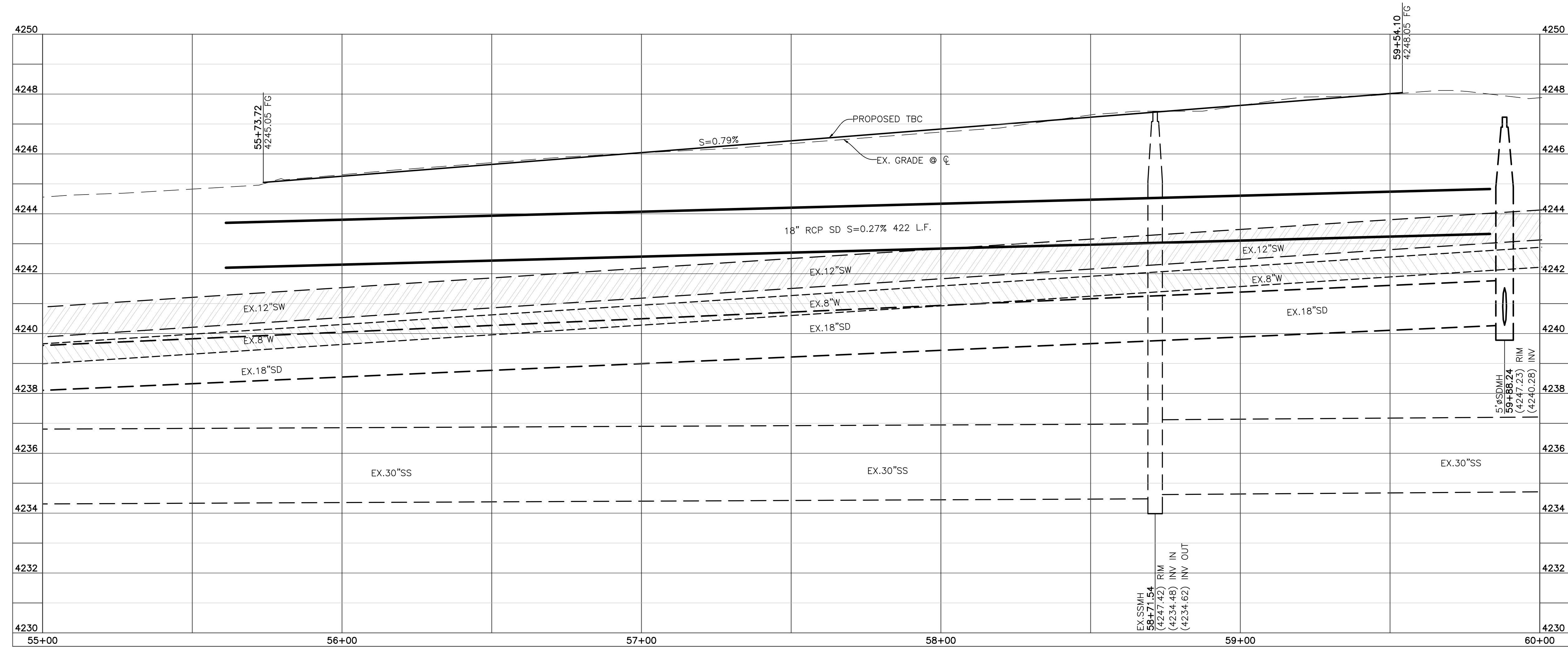
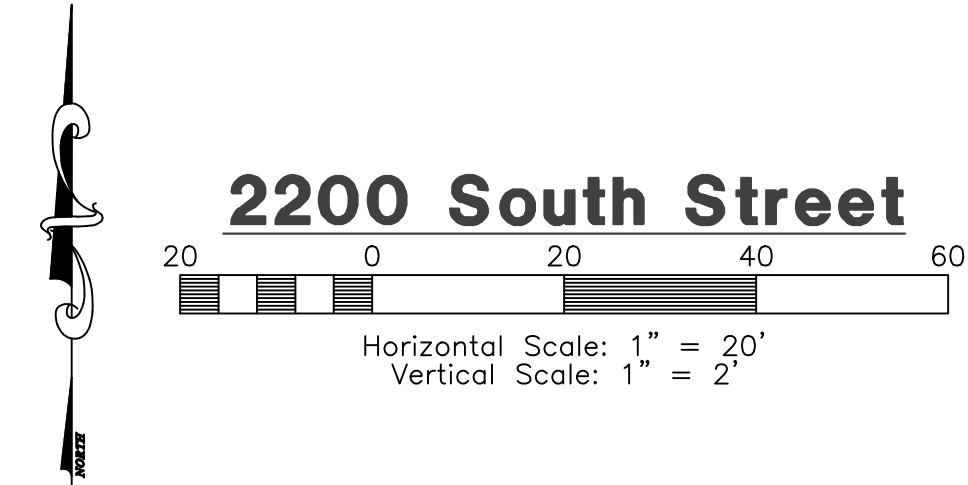
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 SS/8 - 8" PVC SDR-35 SEWER LINE
- STORM DRAIN**  
 SD/15 - 15" RCP STORM DRAIN  
 SD/18 - 18" RCP STORM DRAIN
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 SW/1 - 1" POLY CTS LATERAL  
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TBC Curve Data						
#	Delta	Radius	Length	Tangent	Chord	CH Length
C13	90°03'48"	20.00'	31.44'	20.02'	N45°44'51"E	28.30'

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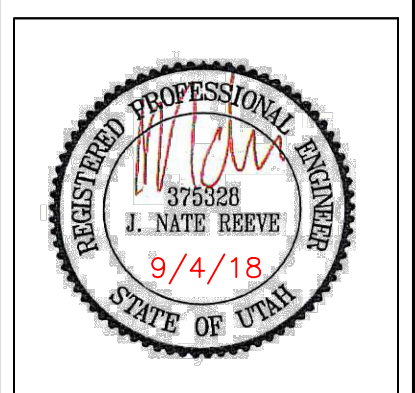
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 LAND SURVEYORS • CIVIL ENGINEERS • LAND SURVEYORS  
 TRAFFIC ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS	DESCRIPTION

**Sunset Equestrian Cluster Subdivision Phase 2**  
 WEBER COUNTY, UTAH

**4300 West Street**  
**15+50.00 - 21+00.00**



**Project Info.**  
 Engineer: J. NATE REEVE, P.E.  
 Drafter: C. KINGSLEY  
 Begin Date: APRIL 2018  
 Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
 Number: 5336-05

9/4/2018 | leaves | G:\3336\05 - Saddleback Village - Weber County\05\Improvements\P2\_Sunset\_Eq\_P2\_imp\_20180820.dwg

Key Map



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CULINARY WATER

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 W/8 - 8" PVC C-900 WATER  
 FH - 5" MUELLER OR EQUIVALENT FIRE HYDRANT

SANITARY SEWER

SS - 4" PVC SDR-35 SEWER LATERAL  
 SS/8 - 8" PVC SDR-35 SEWER LINE

STORM DRAIN

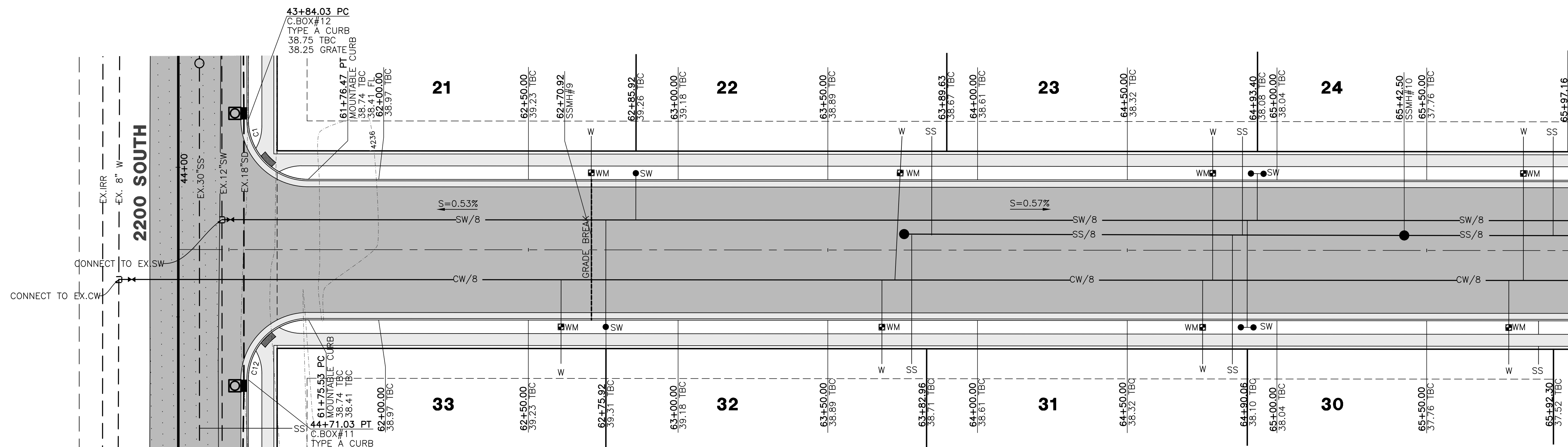
SD/15 - 15" RCP STORM DRAIN  
 SD/18 - 18" RCP STORM DRAIN

SECONDARY WATER

SW/1 - 1" POLY CTS LATERAL  
 SW/2 - 2" POLY CTS LATERAL  
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NOTE:

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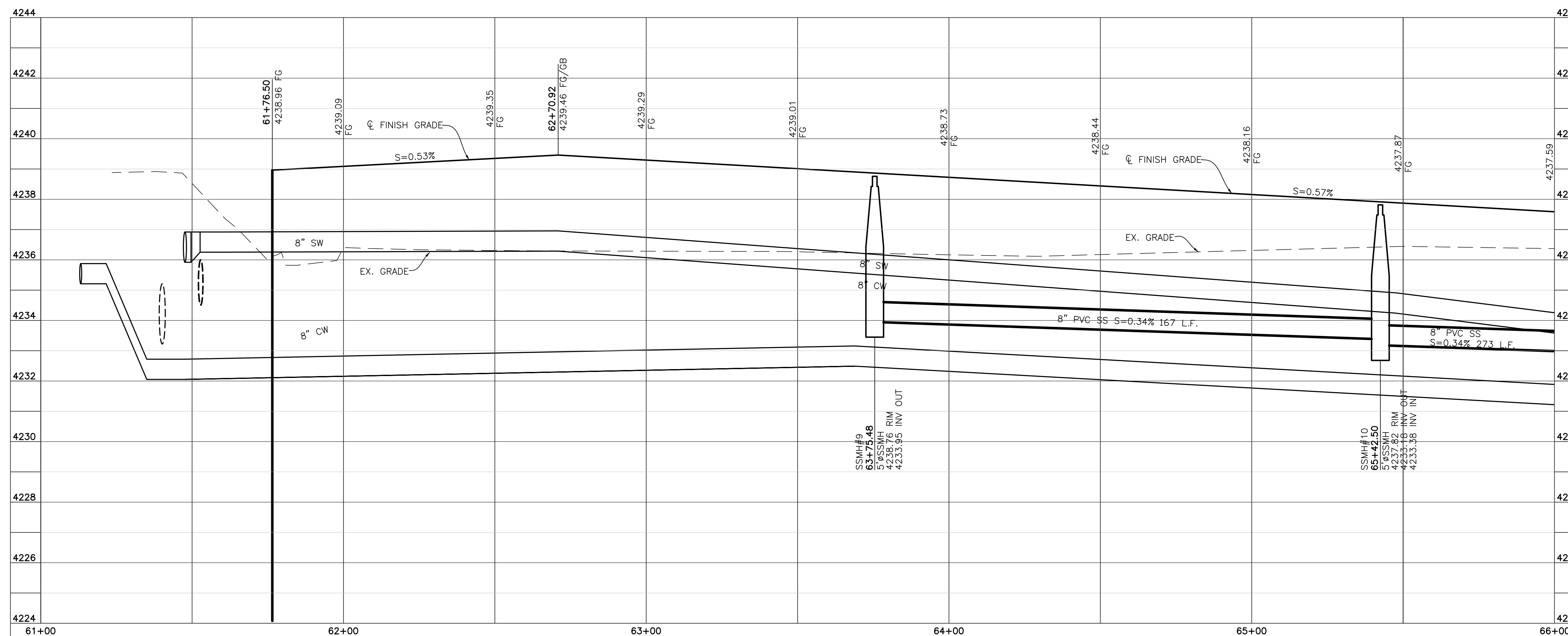


TBC Curve Data

#	Delta	Radius	Length	Tangent	Chord	CH Length
C2	90°02'34"	20.00'	31.43'	20.01'	N44°11'57"W	28.29'
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C8	15°51'01"	323.50'	89.49'	45.03'	S8°44'51"W	89.21'
C9	15°51'01"	276.50'	76.49'	38.49'	S8°44'51"W	76.25'
C10	90°02'34"	20.50'	32.22'	20.52'	S44°11'57"E	29.00'
C11	89°57'26"	20.50'	32.19'	20.48'	S45°48'03"W	28.98'

Centerline Curve Data

#	Delta	Radius	Length	Tangent	Chord	CH Length
C2	22°16'59"	300.00'	116.67'	59.08'	N11°57'50"E	115.94'

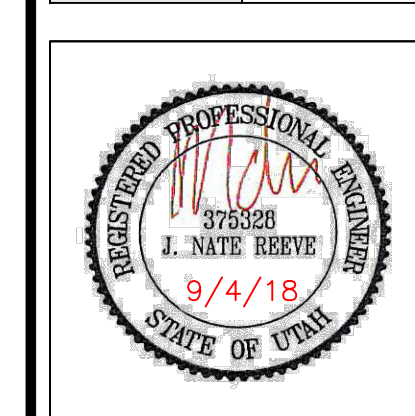


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REVISIONS	DESCRIPTION

**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
 WEBER COUNTY, UTAH  
**4150 West Street**  
**61+00.00 - 66+00.00**



**Project Info.**  
 Engineer: J. NATE REEVE, P.E.  
 Drafter: C. KINGSLEY  
 Begin Date: APRIL 2018  
 Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
 Number: 5336-05

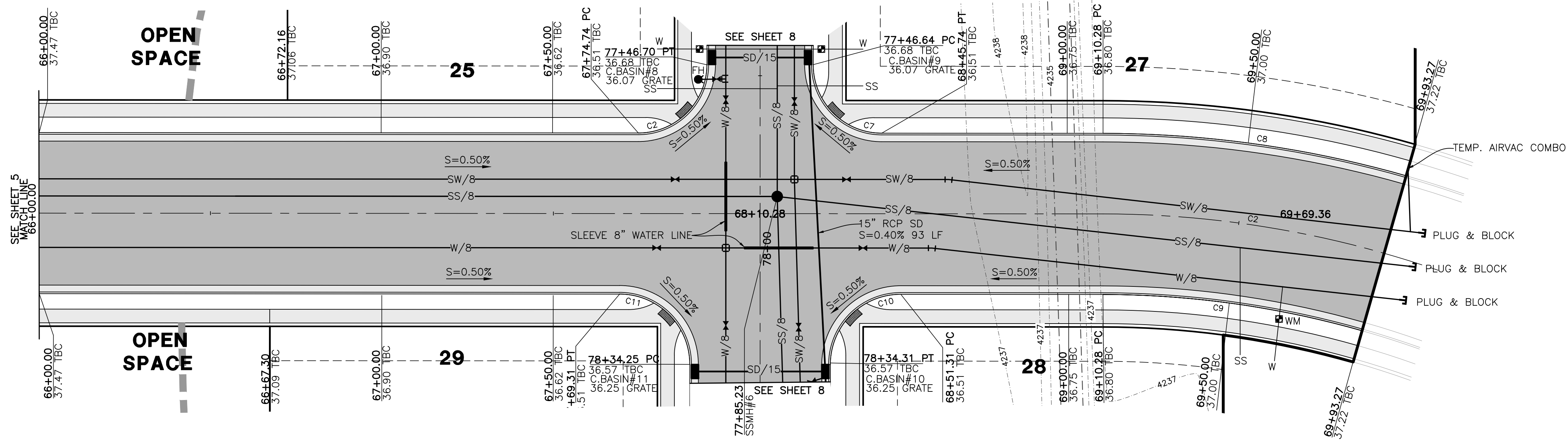
Sheet **5** of **16** Sheets

Key Map



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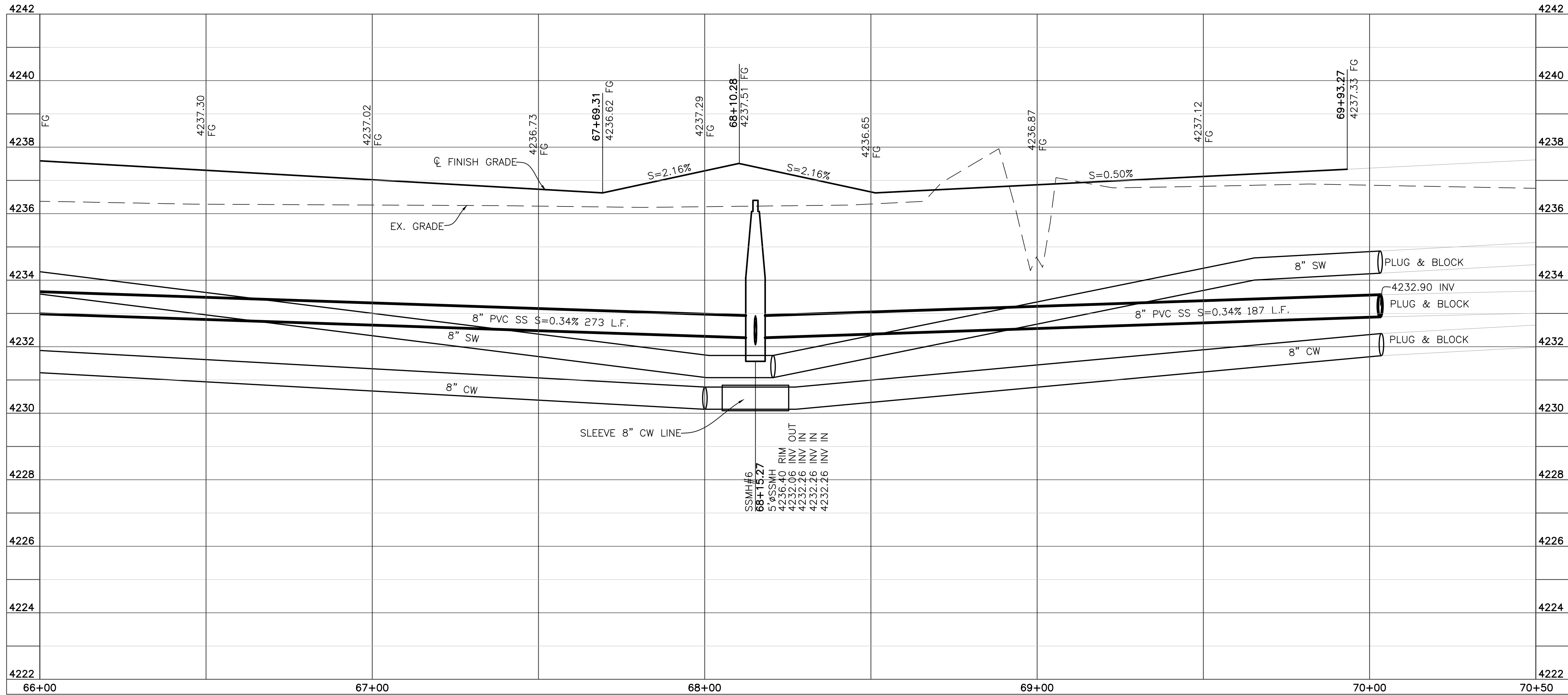
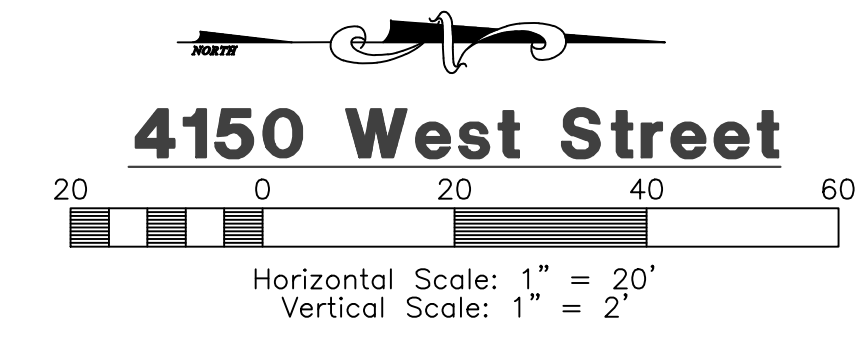


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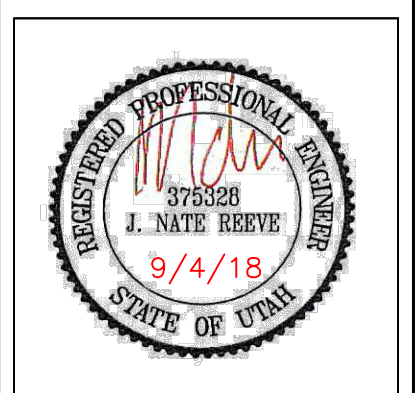


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REVISIONS	DESCRIPTION	DATE

**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
WEBER COUNTY, UTAH

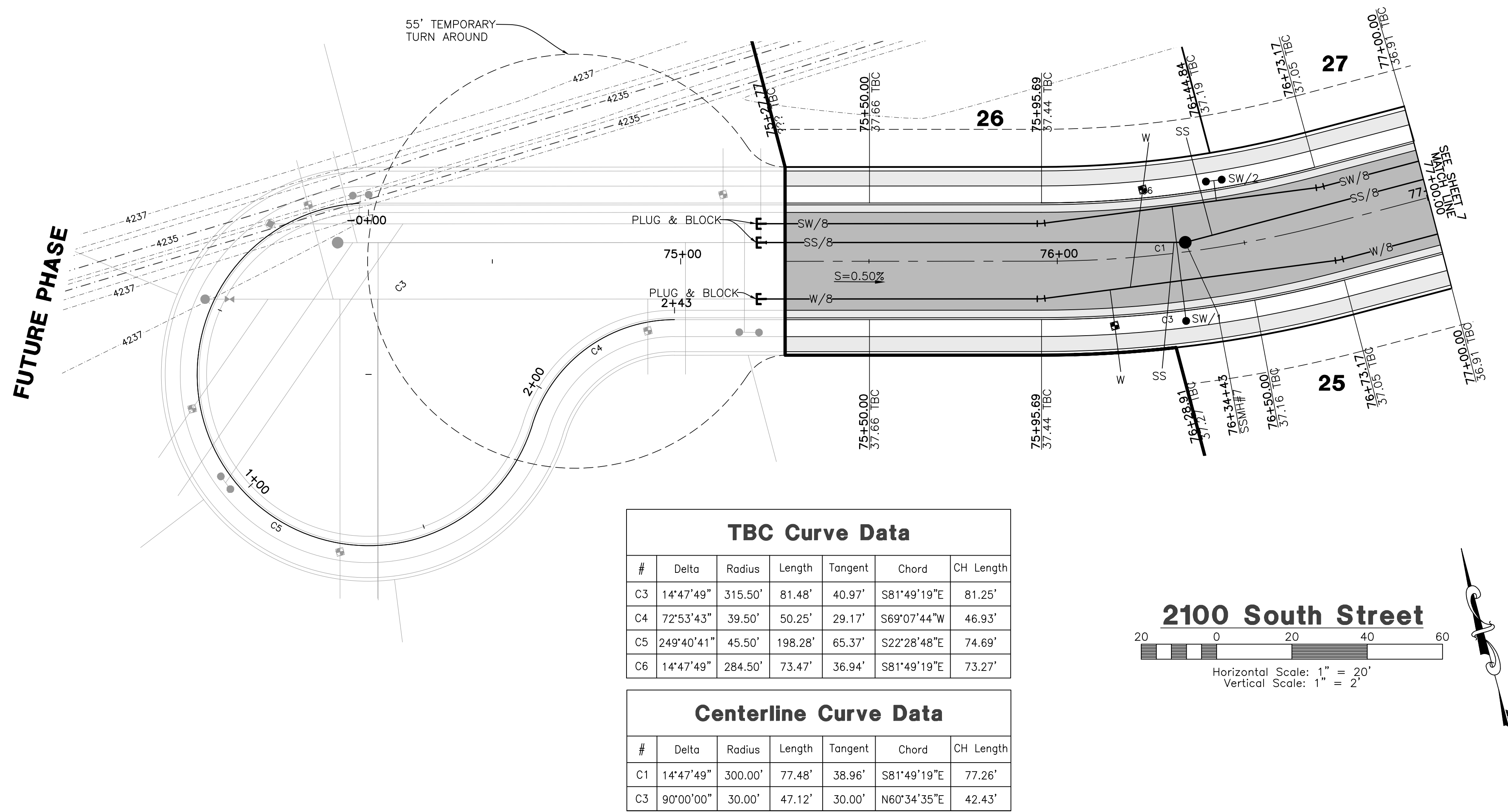
**4150 West Street**  
**66+00.00 - 69+93.27**



**Project Info.**

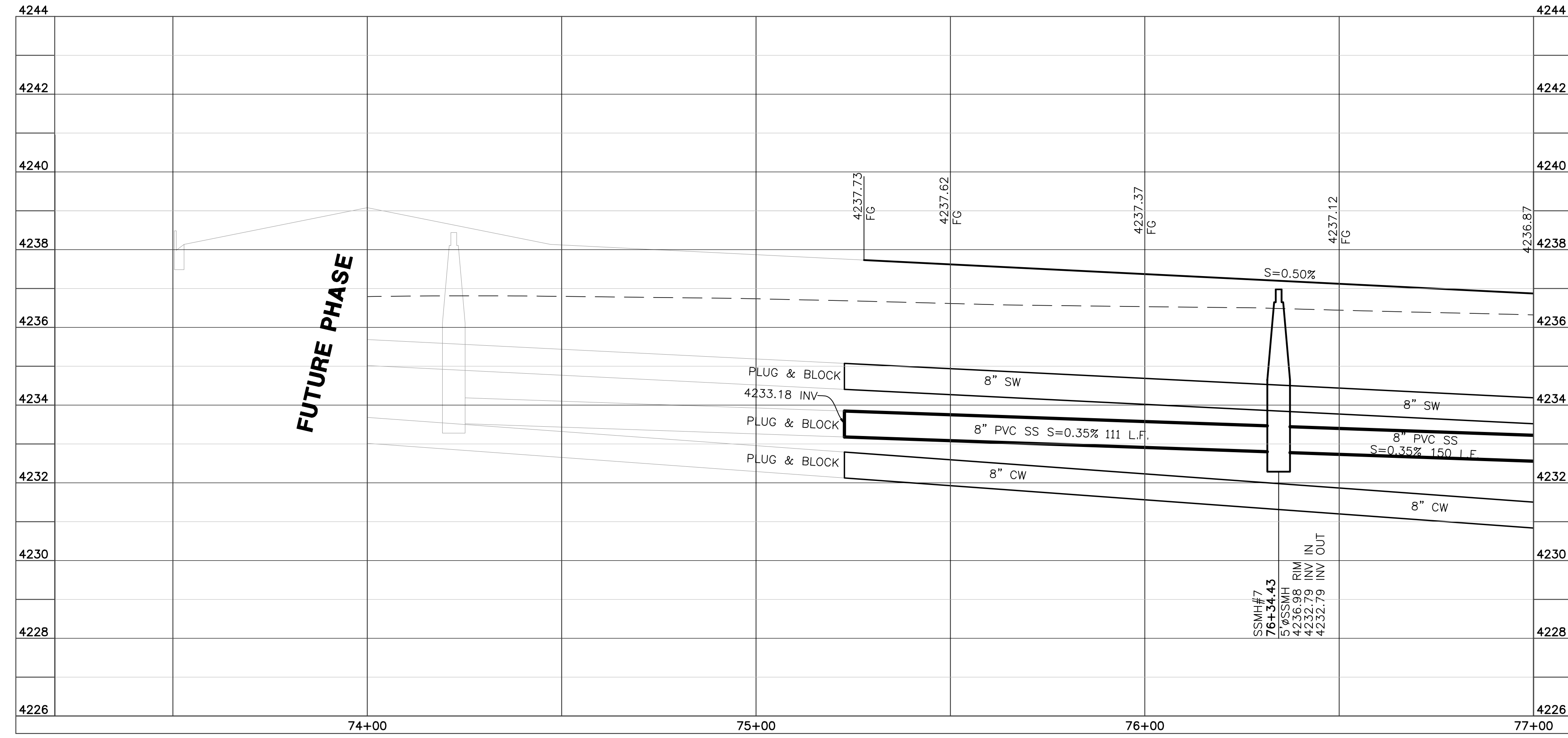
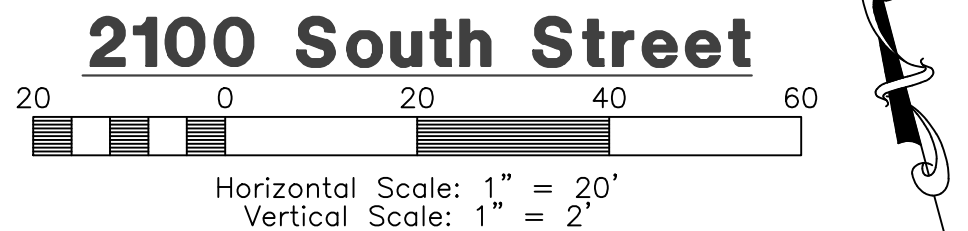
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Number: 5336-05

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C3	14°47'49"	315.50'	81.48'	40.97'	S81°49'19"E	81.25'
C4	72°53'43"	39.50'	50.25'	29.17'	S69°07'44"W	46.93'
C5	249°40'41"	45.50'	198.28'	65.37'	S22°28'48"E	74.69'
C6	14°47'49"	284.50'	73.47'	36.94'	S81°49'19"E	73.27'

#	Delta	Radius	Length	Tangent	Chord	CH Length
C1	14°47'49"	300.00'	77.48'	38.96'	S81°49'19"E	77.26'
C3	90°00'00"	30.00'	47.12'	30.00'	N60°34'35"E	42.43'



**Key Map**



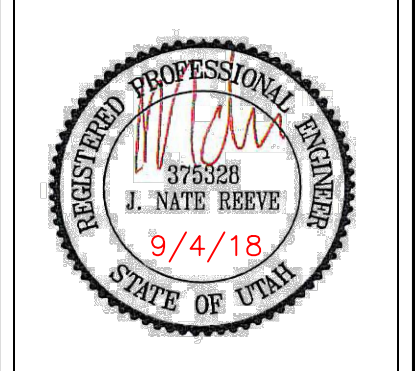
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- SECONDARY WATER**  
SW/1 - 1" POLY CTS LATERAL  
SW/2 - 2" POLY CTS LATERAL  
SW/8 - 8" PVC C-900 SW LINE
- NOTE:  
1. SANITARY SEWER LATERALS MUST BE SLEEVED AT CULINARY WATER CROSSINGS WHEN CLEARANCE IS LESS THAN 18" VERTICALLY & BUILT TO WEBER COUNTY STANDARDS.

**Reeve & Associates, Inc.**  
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TEL: (801) 621-1000 FAX: (801) 621-2666 WWW.REEVE-ASSOCIATES.COM  
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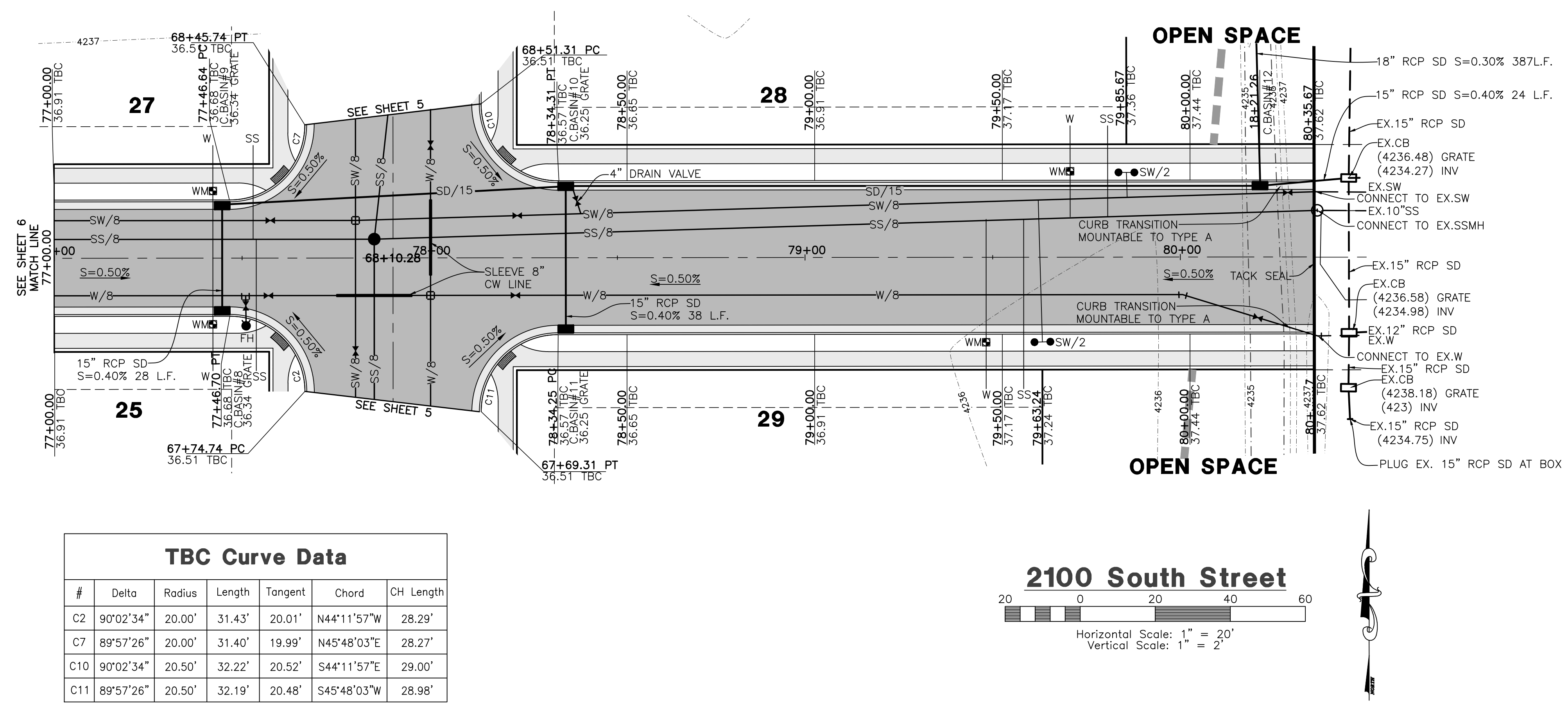
REVISIONS	DESCRIPTION	DATE

**Sunset Equestrian Cluster Subdivision  
Phase 2**  
WEBER COUNTY, UTAH  
**2100 South Street  
74+00.00 - 77+00.00**



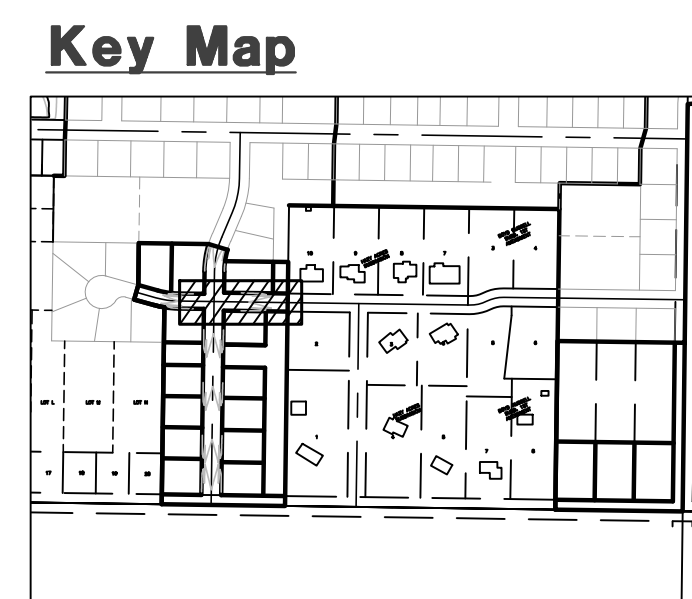
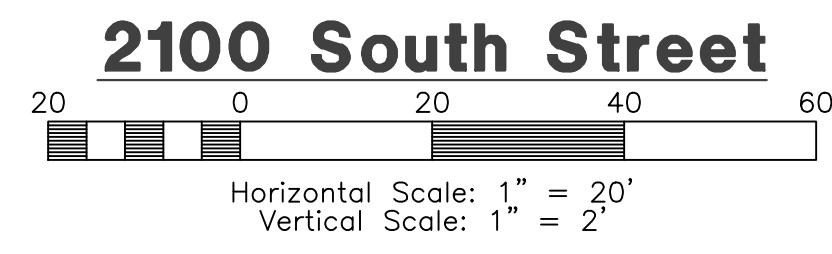
**Project Info.**  
Engineer: J. NATE REEVE, P.E.  
Drafter: C. KINGSLEY  
Begin Date: APRIL 2018  
Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
Number: 5336-05

Blue Stakes Location Center  
**Call: Toll Free  
1-800-662-4111**  
Two Working Days Before You Dig



**TBC Curve Data**

#	Delta	Radius	Length	Tangent	Chord	CH Length
C2	90°02'34"	20.00'	31.43'	20.01'	N44°11'57"W	28.29'
C7	89°57'26"	20.00'	31.40'	19.99'	N45°48'03"E	28.27'
C10	90°02'34"	20.50'	32.22'	20.52'	S44°11'57"E	29.00'
C11	89°57'26"	20.50'	32.19'	20.48'	S45°48'03"W	28.98'



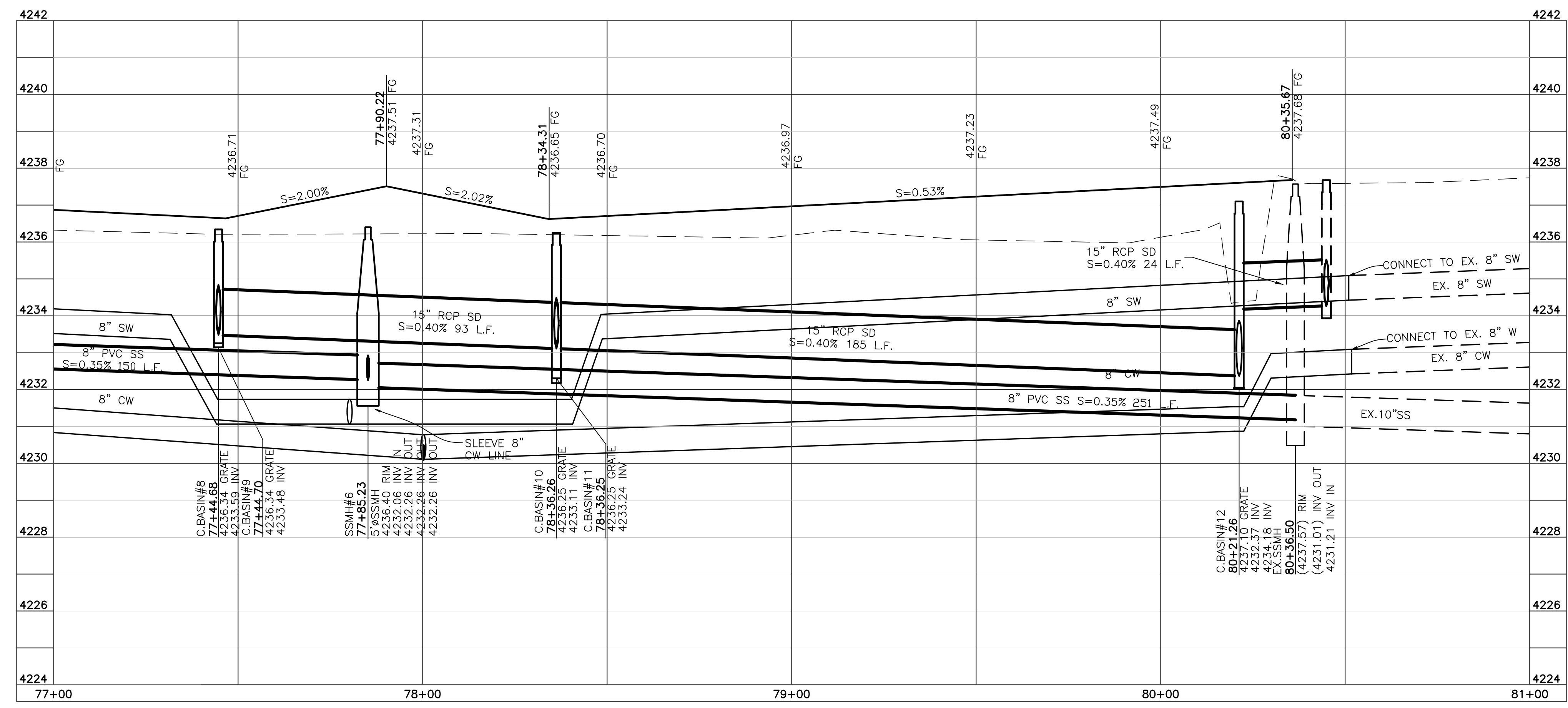
- Construction Notes:**
- ALL CONSTRUCTION IS TO CONFORM TO THE STANDARD DRAWINGS AND SPECIFICATIONS OF WEBER COUNTY.
  - CONSTRUCT HANDICAP RAMP PER ADA AND CITY REQUIREMENTS.
  - ALL CULINARY WATER LINE CONSTRUCTION SHALL MEET THE STANDARDS OF THE TAYLOR-WEST WEBER WATER IMPROVEMENT DISTRICT.
  - TAYLOR-WEST WEBER WATER IMPROVEMENT DISTRICT SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO ANY PRECONSTRUCTION MEETINGS AND OR THE COMMENCEMENT OF ANY CONSTRUCTION. (801) 731-1668
  - ALL RCP INSTALLED TO BE BEDDED WITH GRAVEL & HAVE OPEN JOINTS.
- CULINARY WATER**  
 W - 1" HDPE 200 PSI CTS  
 W/8 - 8" PVC C-900 WATER  
 FH - 5" MUELLER OR EQUIVALENT FIRE HYDRANT
- SANITARY SEWER**  
 SS - 4" PVC SDR-35 SEWER LATERAL  
 SS/8 - 8" PVC SDR-35 SEWER LINE
- STORM DRAIN**  
 SD/15 - 15" RCP STORM DRAIN  
 SD/18 - 18" RCP STORM DRAIN
- SECONDARY WATER**  
 SW/1 - 1" POLY CTS LATERAL  
 SW/2 - 2" POLY CTS LATERAL  
 SW/8 - 8" PVC C-900 SW LINE

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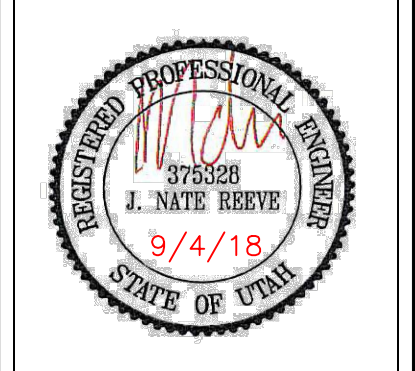
REVISIONS	DESCRIPTION

DATE



- NOTE:
- POTHOLE LOCATION FOR SW & CW LINES IN 2100 SOUTH FOR EXACT CONNECTION LOCATION & DEPTH. LOOPING OF SW MAY BE REQUIRED PER HOOPER CITY STANDARDS.
  - ASPHALT TRANSITION TO EXISTING ROADWAY MAY REQUIRE ASPHALT CUT OF 10"± INTO EXISTING ROADWAY.

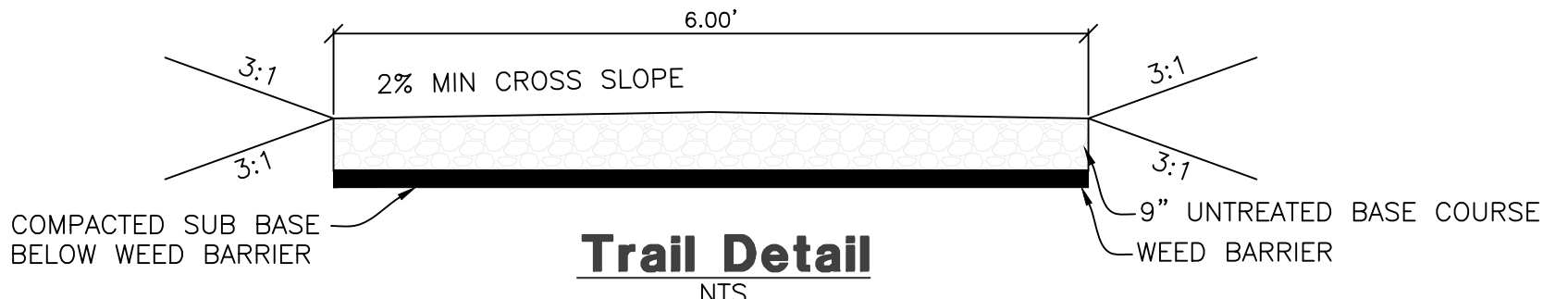
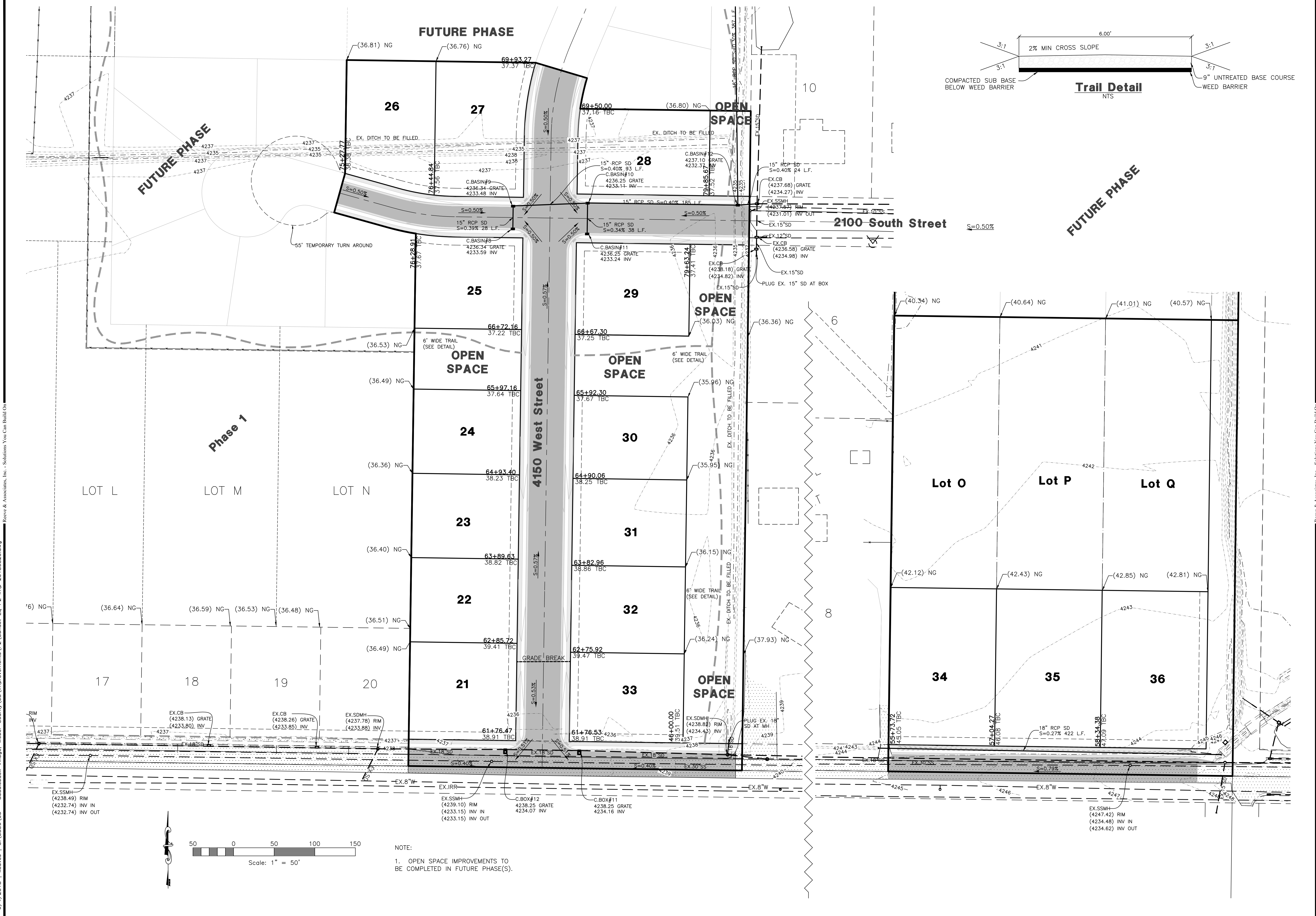
**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
 WEBER COUNTY, UTAH  
**2100 South Street**  
**77+00.00 - 80+50.00**



**Project Info.**  
 Engineer: J. NATE REEVE, P.E.  
 Drafter: C. KINGSLEY  
 Begin Date: APRIL 2018  
 Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
 Number: 5336-05

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REVISIONS	DESCRIPTION

**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
 WEBER COUNTY, UTAH  
**Grading & Drainage Plan**



**Project Info.**

Engineer:	J. NATE REEVE, P.E.
Drafter:	C. KINGSLEY
Begin Date:	APRIL 2018
Name:	SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2
Number:	5336-05



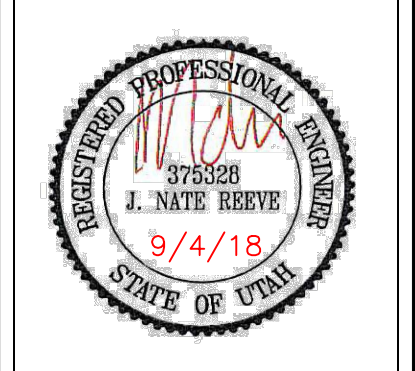
9/4/2018 | keaves | G:\3336\05 - Saddleback Village - Weber County\05\Improvements\P2\Sunset Eq P2 Imp 20180820.dwg

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REVISIONS	DESCRIPTION

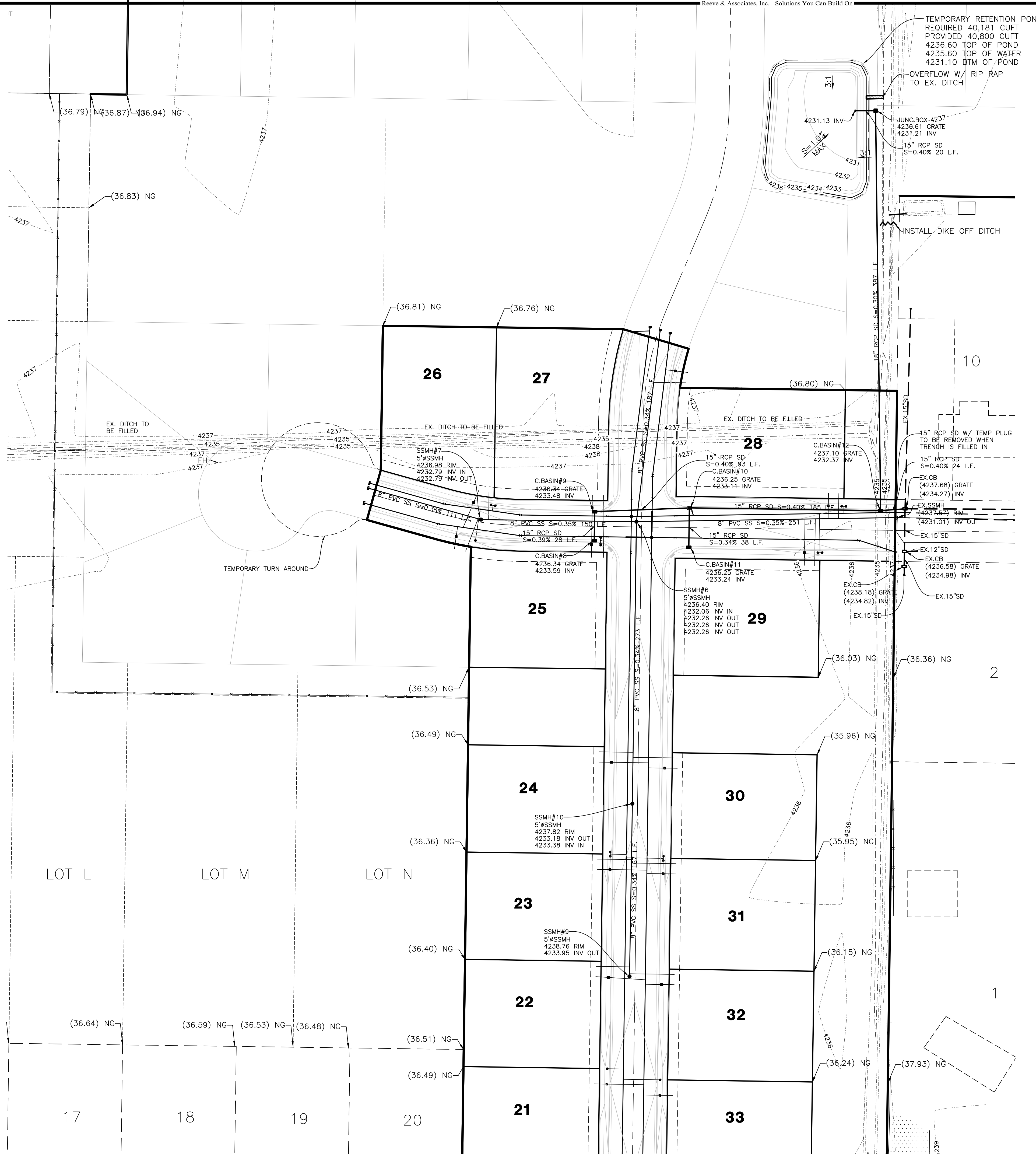
**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
 WEBER COUNTY, UTAH

**Utility Plan**



**Project Info.**

Engineer:	J. NATE REEVE, P.E.
Drafter:	C. KINGSLEY
Begin Date:	APRIL 2018
Name:	SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2
Number:	5336-05



### Storm Runoff Calculations

Sunset Equestrian Phase 2 - Taylor, UT  
8/28/2018 *er* 5336-05

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for Pleasant View, UT area taken from the NOAA Atlas 14 database, using a 100 year storm 24 hour storm for retention. Storm water runoff has been calculated for **completed site conditions**.

The calculations are as follows:

**1. Drainage Area:**

Total Area =	8.32 acre or	362,519 ft <sup>2</sup>
--------------	--------------	-------------------------

**Runoff Coefficients**

Paved Area (ft <sup>2</sup> )	77,095	C = 0.90
Landscaped Area (ft <sup>2</sup> )	226,924	C = 0.20
Roof/Hardscape Area (ft <sup>2</sup> )	58,500	C = 0.90
<b>Weighted Runoff Coefficient</b>		<b>C = 0.46</b>

**2. Volume of Run-off for 100-year 24-Hour Storm Event:**

C =	0.46	Post-Development Allowed Flow:	0 cfs/acre
I =	See Below in/hr	Retention Basin =	0 cfs/acre
A =	362519 ft <sup>2</sup>		
Q(out) =	0.00 ft <sup>3</sup> /s	(based on allowed cfs/acre rate)	

time (min)	time (sec)	i (in.)	i (in./hr.)	Q (cfs)	Vol. in (cf)	Vol. out (cf)	Difference (cf)
0	0	0.00	0.00	0.00	0.00	0.00	0.00
5	300	0.54	6.52	25.25	7575.77	0.00	7575.77
10	600	0.83	4.96	19.21	11524.10	0.00	11524.10
15	900	1.02	4.08	15.81	14230.73	0.00	14230.73
30	1800	1.38	2.76	10.70	19253.33	0.00	19253.33
60	3600	1.71	1.71	6.63	23857.39	0.00	23857.39
120	7200	1.86	0.93	3.60	25950.15	0.00	25950.15
180	10800	1.90	0.63	2.45	26508.21	0.00	26508.21
360	21600	2.12	0.35	1.37	29577.59	0.00	29577.59
720	43200	2.60	0.22	0.84	36274.40	0.00	36274.40
1440	86400	2.68	0.12	0.47	40180.87	0.00	40180.87

**Total Required Retention Volume 40,181 ft<sup>3</sup>**

**3. Orifice Sizing**

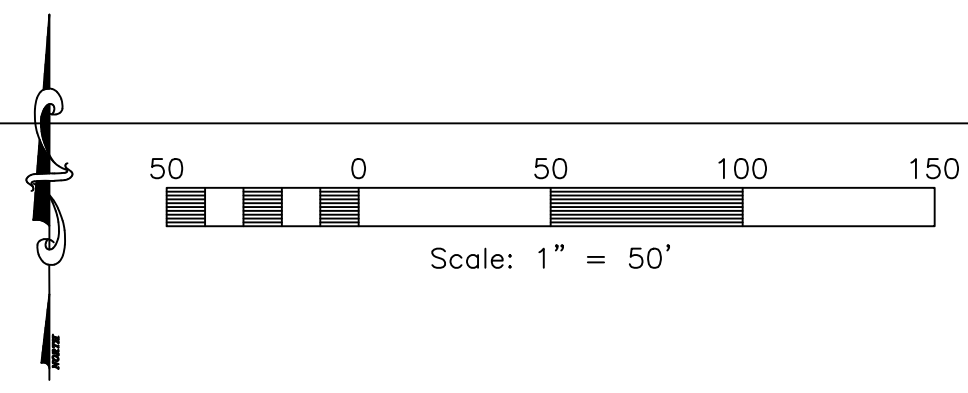
Given:

- Q = 0.00 cfs
- 2g = 64.4 ft/s<sup>2</sup>
- H = 3.75 ft
- Cd = 0.62 for circular openings
- R = SQRT(Q/pi/(0.7\*(64.4\*H)\*0.5))

Summary:

- R = 0.00 feet
- D = 0.00 inches
- A = 0.00 inches<sup>2</sup>

**The required storage volume is 40,181 cubic feet**  
**Orifice size is 0.00 inches**

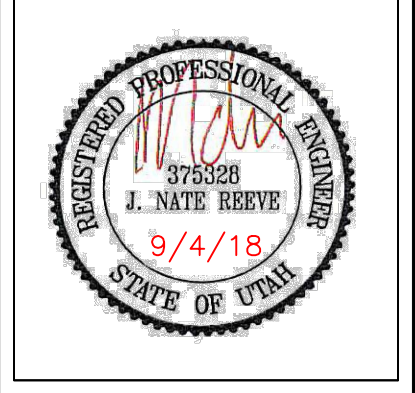


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REVISIONS	DESCRIPTION
DATE	

Sunset Equestrian Cluster Subdivision  
Phase 2  
WEBER COUNTY, UTAH

## TEMPORARY RETENTION PLAN

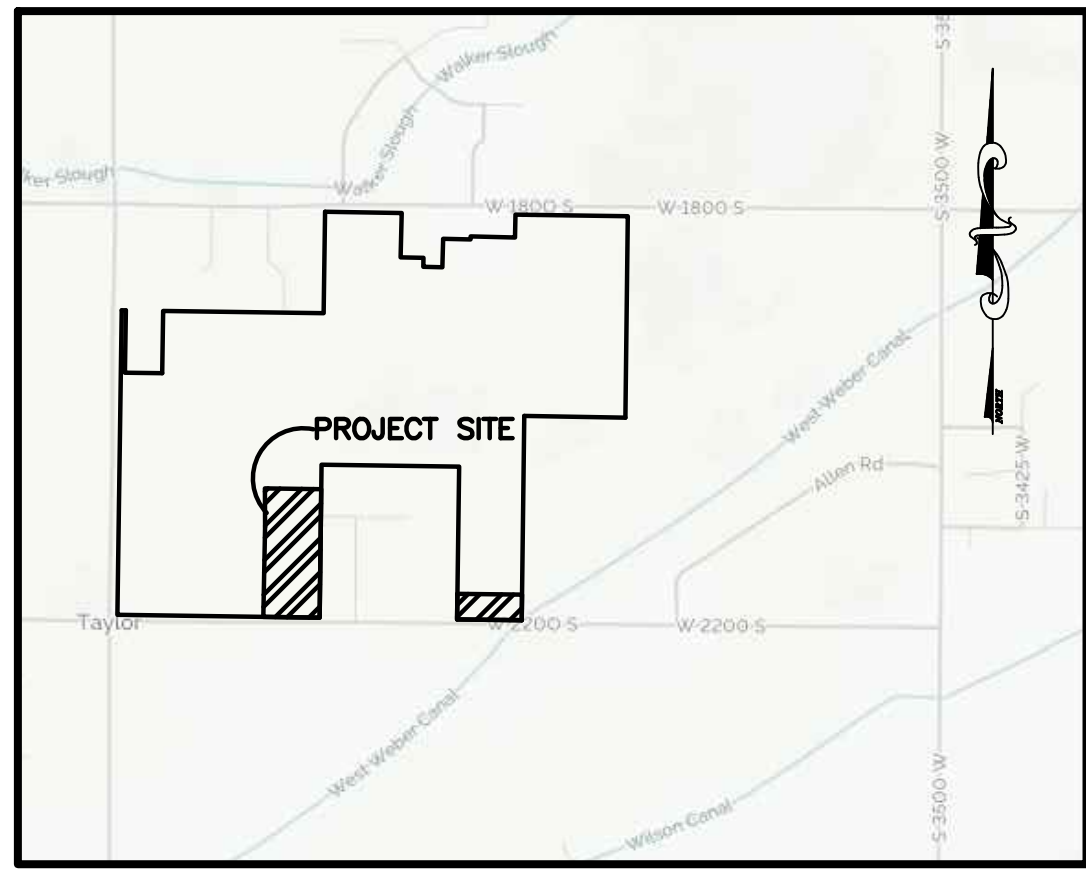
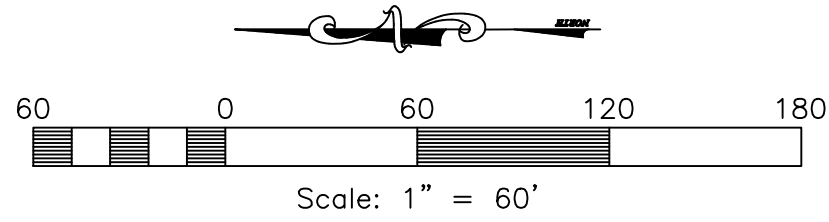


**Project Info.**  
Engineer: J. NATE REEVE, P.E.  
Drafted: C. KINGSLEY  
Begin Date: APRIL 2018  
Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
Number: 5336-05

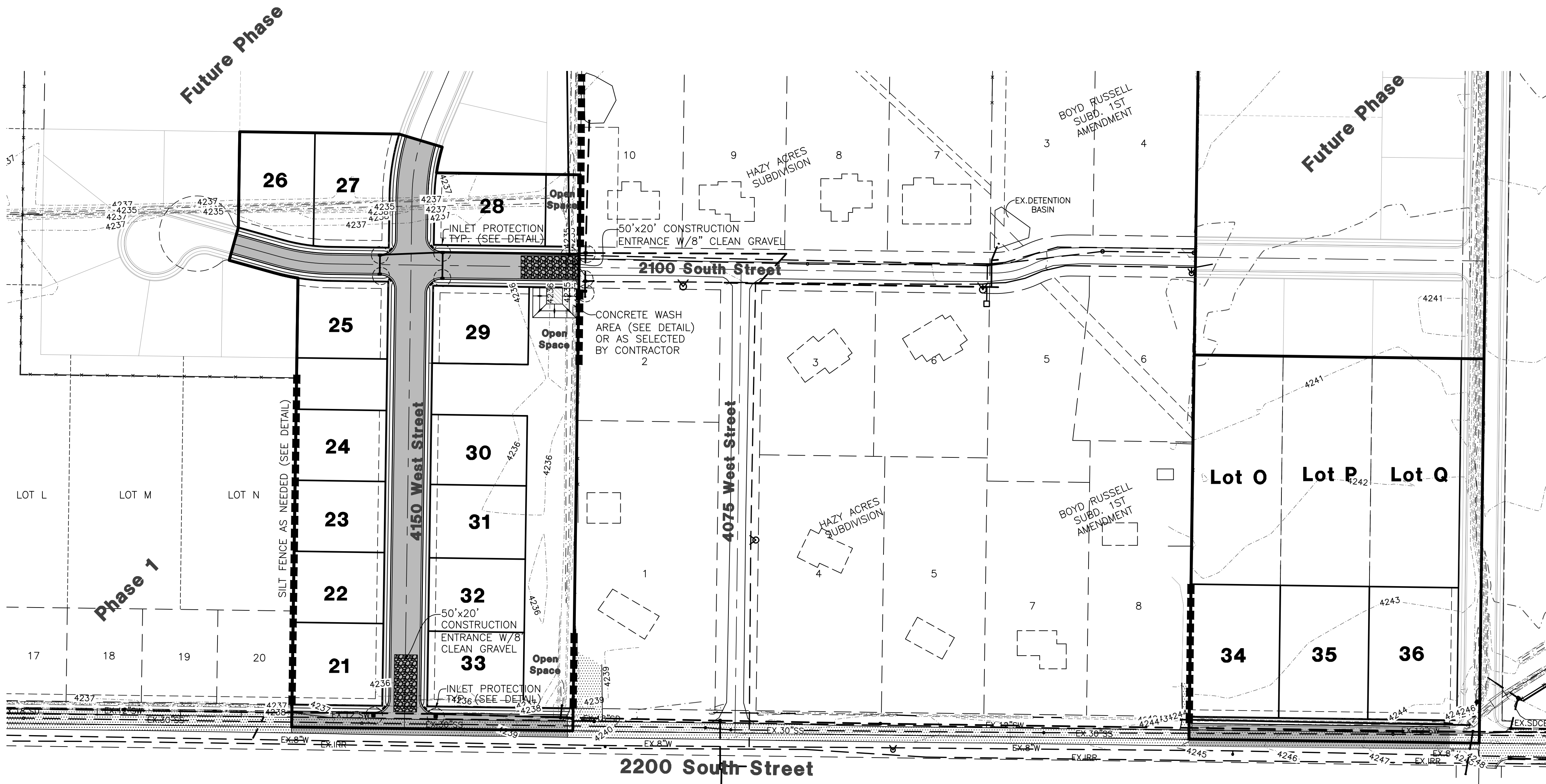
# Sunset Equestrian Cluster Subdivision Phase 2

## Storm Water Pollution Prevention Plan Exhibit


WEBER COUNTY, UTAH  
JULY 2018



**Vicinity Map**  
NOT TO SCALE



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REVISIONS	DESCRIPTION

**Sunset Equestrian Cluster Subdivision  
Phase 2**  
WEBER COUNTY, UTAH

**Storm Water Pollution  
Prevention Plan Exhibit**



**Project Info.**

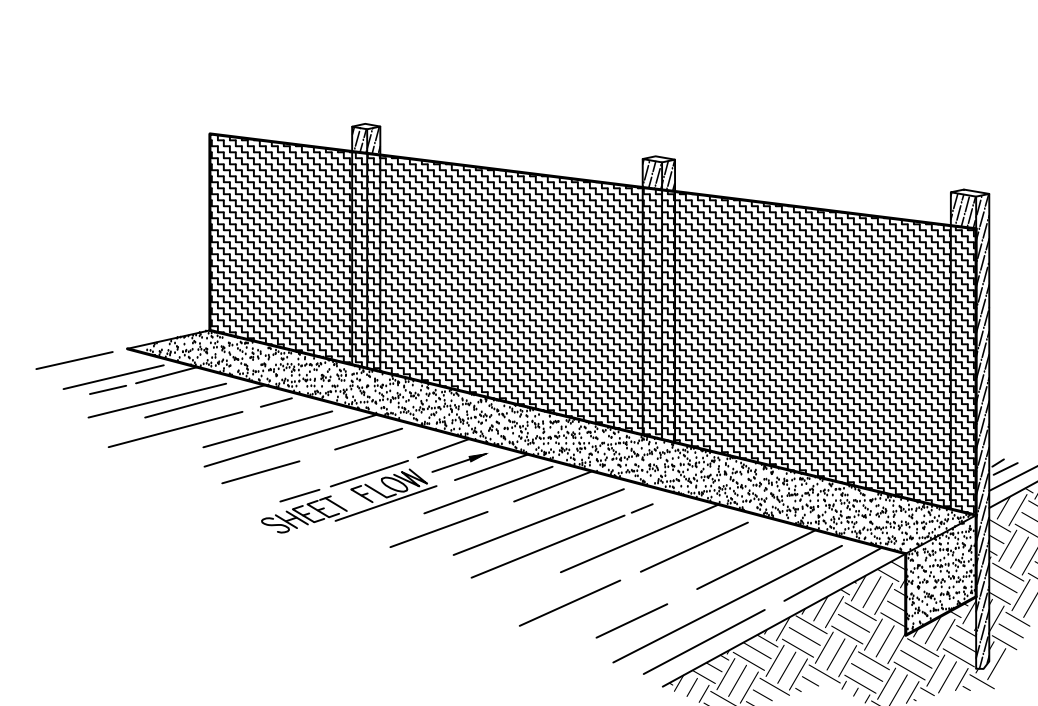
Engineer:	J. NATE REEVE, P.E.
Drafter:	C. KINGSLEY
Begin Date:	APRIL 2018
Name:	SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2
Number:	5336-05

**Construction Activity Schedule**

- PROJECT LOCATION.....	WEBER COUNTY, UTAH
- PROJECT BEGINNING DATE.....	JULY 2018
- BMP'S DEPLOYMENT DATE.....	JULY 2018
- STORM WATER MANAGEMENT CONTACT / INSPECTOR.....	CHRIS HAERTAL/DOUG NOSLER (949) 453-9279
- SPECIFIC CONSTRUCTION SCHEDULE INCLUDING BMP CONSTRUCTION SCHEDULE TO BE INCLUDED WITH SWPPP BY OWNER/DEVELOPER	

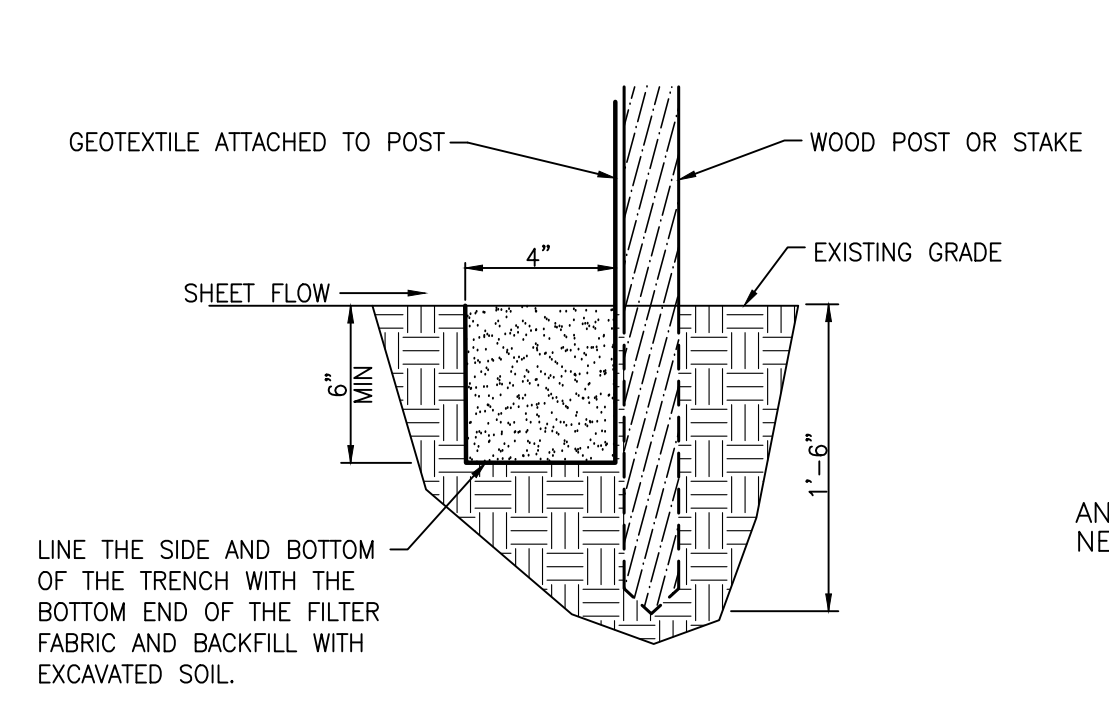
**Notes:**

- Describe all BMP's to protect storm water inlets:  
All storm water inlets to be protected by straw wattle barriers, or gravel bags (see detail).
- Describe BMP's to eliminate/reduce contamination of storm water from:
  - Equipment / building / concrete wash areas:  
To be performed in designated areas only and surrounded with silt fence barriers.
  - Soil contaminated by soil amendments:  
If any contaminants are found or generated, contact environmental engineer and contacts listed.
  - Areas of contaminated soil:  
If any contaminants are found or generated, contact environmental engineer and contacts listed.
  - Fueling area:  
To be performed in designated areas only and surrounded with silt fence.
  - Vehicle maintenance areas:  
To be performed in designated areas only and surrounded with silt fence.
  - Vehicle parking areas:  
To be performed in designated areas only and surrounded with silt fence.
  - Equipment storage areas:  
To be performed in designated areas only and surrounded with silt fence.
  - Materials storage areas:  
To be performed in designated areas only and surrounded with silt fence.
  - Waste containment areas:  
To be performed in designated areas only and surrounded with silt fence.
  - Service areas:  
To be performed in designated areas only and surrounded with silt fence.
- BMP's for wind erosion:  
Stockpiles and site as needed to be watered regularly to eliminate / control wind erosion
- Construction Vehicles and Equipment:
  - Maintenance
    - Keep vehicles and equipment clean, prevent excessive build-up of oil and grease.
    - Regularly inspect on-site vehicles and equipment for leaks, and repair immediately.
    - Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.
    - Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.
  - Fueling
    - If fueling must occur on-site, use designated areas away from drainage.
    - Locate on-site fuel storage tanks within a bermed area designed to hold the tank volume.
    - Cover retention area with an impervious material and install in a manner to ensure that any spills will be contained in the retention area. To catch spills or leaks when removing or changing fluids.
    - Use drip pans for any oil or fluid changes.
  - Washing
    - Use as little water as possible to avoid installing erosion and sediment controls for the wash area.
    - If washing must occur on-site, use designated, bermed wash areas to prevent waste water discharge into storm water, creeks, rivers, and other water bodies.
    - Use phosphate-free, biodegradable soaps.
    - Do not permit steam cleaning on-site.
- Spill Prevention and Control
  - Minor Spills:  
Minor spills are those which are likely to be controlled by on-site personnel. After contacting local emergency response agencies, the following actions should occur upon discovery of a minor spill:
    - Contain the spread of the spill.
    - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (i.e. absorbent materials, cat litter, and / or rags).
    - If the spill occurs in dirt areas, immediately contain the spill by constructing an earth dike. Dig up and properly dispose of contaminated soil.
    - If the spill occurs during rain, cover the impacted area to avoid runoff.
    - Record all steps taken to report and contain spill.
  - Major Spills:  
On-site personnel should not attempt to control major spills until the appropriate and qualified emergency response staff have arrived at the site. For spills of federal reportable quantities, also notify the National Response Center at (800) 424-8802. A written report should be sent to all notified authorities. Failure to report major spills can result in significant fines and penalties.
- Post Roadway / Utility Construction
  - Maintain good housekeeping practices.
  - Enclose or cover building material storage areas.
  - Properly store materials such as paints and solvents.
  - Store dry and wet materials under cover, away from drainage areas.
  - Avoid mixing excess amounts of fresh concrete or cement on-site.
  - Perform washout of concrete trucks offsite or in designated areas only.
  - Do not wash out concrete trucks into storm drains, open ditches, streets or streams.
  - Do not place material or debris into streams, gutters or catch basins that stop or reduce the flow of runoff water.
  - All public streets and storm drain facilities shall be maintained free of building materials, mud and debris caused by grading or construction operations. Roads will be swept within 1000' of construction entrance daily, if necessary.
  - Install straw wattle around all inlets contained within the development and all others that receive runoff from the development.
- Erosion Control Plan Notes
  - The contractor will designate an emergency contact that can be reached 24 hours a day 7 days a week.
  - A stand-by crew for emergency work shall be available at all times during potential rain or snow runoff events. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate rapid construction of emergency devices when rain or runoff is eminent.
  - Erosion control devices shown on the plans and approved for the project may not be removed without approval of the engineer of record. If devices are removed, no work may continue that have the potential of erosion without consulting the engineer of record. If deemed necessary erosion control should be reestablished before this work begins.
  - Graded areas adjacent to fill slopes located at the site perimeter must drain away from the top of the slope at the conclusion of each working day. This should be confirmed by survey or other means acceptable to the engineer of record.
  - All silt and debris shall be removed from all devices within 24 hours after each rain or runoff event.
  - Except as otherwise approved by the inspector, all removable protective devices shown shall be in place at the end of each working day and through weekends until removal of the system is approved.
  - All loose soil and debris, which may create a potential hazard to offsite property, shall be removed from the site as directed by the engineer of record of the governing agency.
  - The placement of additional devices to reduce erosion damage within the site is left to the discretion of the engineer of record.
  - Desilting basins may not be removed or made inoperable without the approval of the engineer of record and the governing agency.
  - Erosion control devices will be modified as need as the project progresses and plans of these changes submitted for approval by the engineer of record and the governing agency.
- Conduct a minimum of one inspection of the erosion and sediment controls every two weeks. Maintain documentation on site.
  - Part III.D.4 of general permit UTR300000 identifies the minimum inspection requirements.
  - Part II.D.4.C identifies the minimum inspection report requirements.
  - Failure to complete and/or document storm water inspections is a violation of part III.D.4 of Utah General Permit UTR 300000.



**Perspective View**

Figure 2



**Section**

**INSTALLATION**

The silt fence should be installed prior to major soil disturbances in the drainage area. The fence should be placed across the slope along a line of uniform elevation wherever flow of sediment is anticipated. Table 1 shows generally-recommended maximum slope lengths (slope spacing between fences) at various site grades for most silt fence applications.

Slope Steepness (%)	Max. Slope Length (m)	Max. Slope Length (ft)
<2%	30.5m	(100ft)
2-5%	22.9m	(75ft)
5-10%	15.2m	(50ft)
10-20%	7.6m	(25ft)
>20%	4.5m	(15ft)

**PREFABRICATED SILT FENCE ROLLS**  
 \*Excavate a minimum 15.2cm x 15.2cm (6"x6") trench at the desired location.  
 \*Unroll the silt fence, positioning the post against the downstream wall of the trench.  
 \*Adjacent rolls of silt fence should be joined by nesting the end post of one fence into the other. Before nesting the end posts, rotate each post until the geotextile is wrapped completely around the post, then about the end posts to create a tight seal as shown in Figure 1.  
 \*Drive posts into the ground until the required fence height and/or anchorage depth is obtained.  
 \*Bury the loose geotextile at the bottom of the fence in the upstream trench and backfill with natural soil, tamping the backfill to provide good compaction and anchorage. Figure 2 illustrates a typical silt fence installation and anchor trench placement.

should generally be less than three (3) times the height of the fence.  
 \*If a steel or plastic mesh is required to reinforce the geotextile, it shall have a minimum mesh opening of 15.2cm (6").  
 \*Fasten the mesh to the upslope side of the posts using heavy duty wire staples, tie wires or hog strings. Extend the mesh into the bottom of the trench.  
 \*The geotextile shall then be stapled or wired to the posts. An extra 20-50cm (8-20") of geotextile shall extend into the trench.

**INSPECTION**  
 \*Inspect the silt fence daily during periods of rainfall, immediately after significant rainfall event and weekly during periods of no rainfall. Make any repairs immediately.  
 \*When sediment deposits behind the silt fence are one-third of the fence height, remove and properly dispose of the silt accumulations. Avoid damage to the fabric during cleanout.

**REMOVAL**  
 \*Silt fence should not be removed until construction ceases and the upslope area has been properly stabilized and/or revegetated.

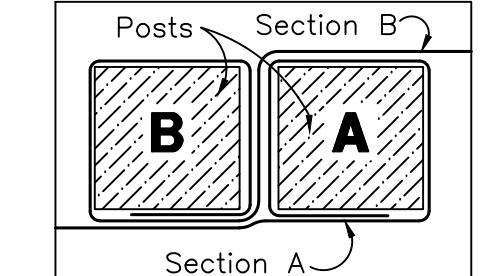
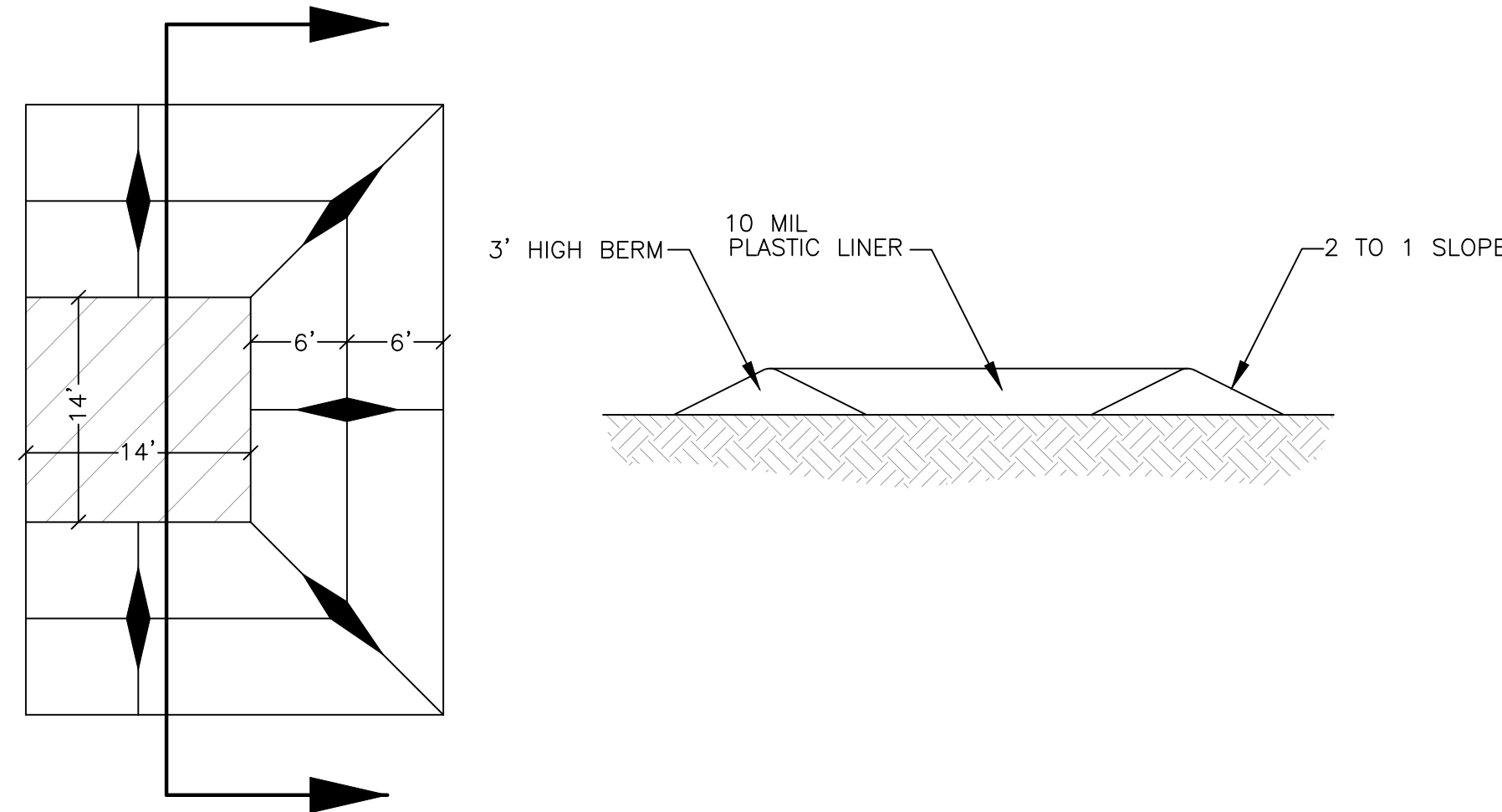


Figure 1: Top View of Roll-to-Roll Connection

**FIELD ASSEMBLY:**  
 \*Excavate a minimum 15.2cm x 15.2cm (6"x6") trench at the desired location.  
 \*Drive wooden posts, or steel posts with fastening projections, against the downstream wall of the trench. Maximum post spacing should be 2.4-3.0m (8-10ft). Post spacing

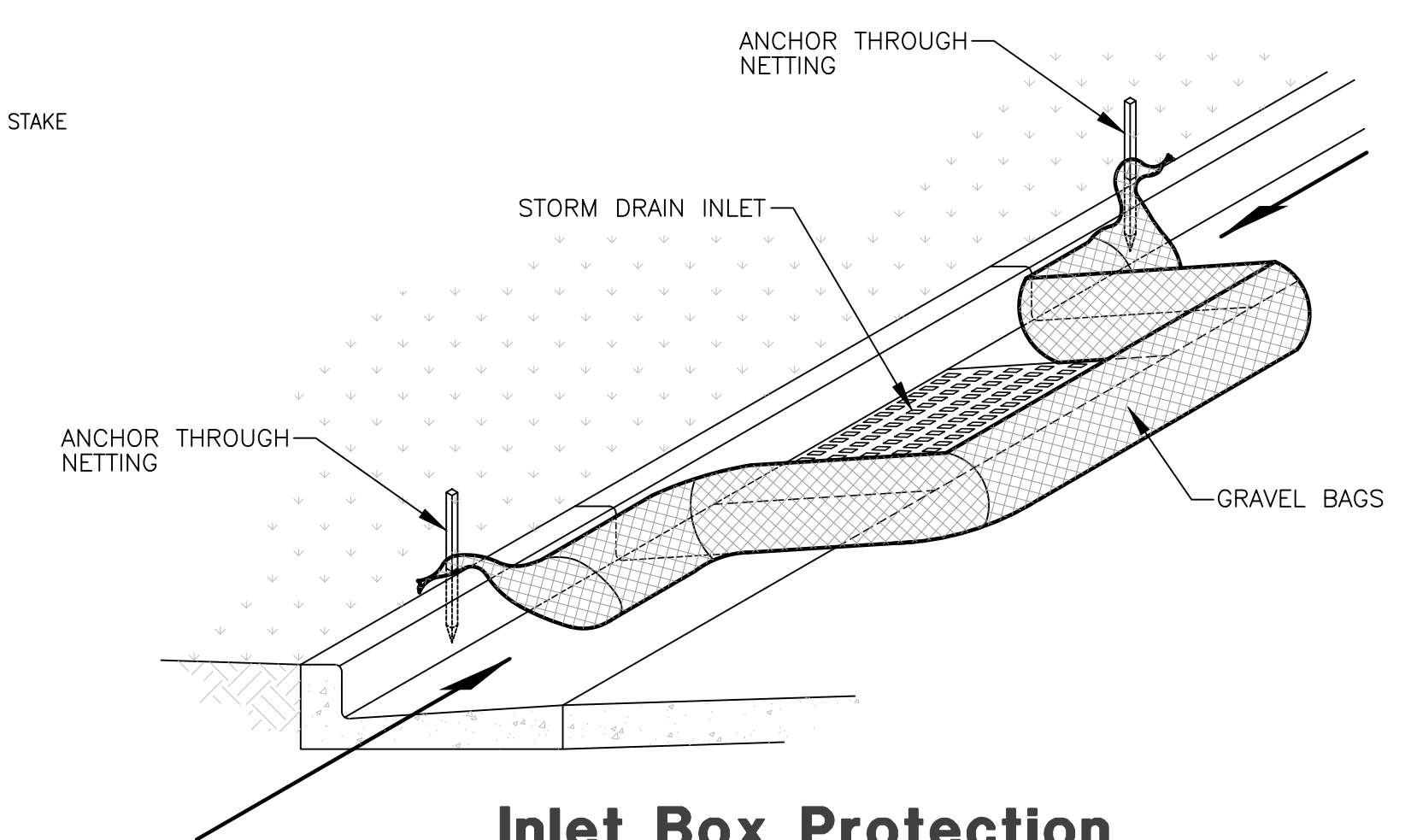
**Silt Fence Detail**

SCALE: NONE

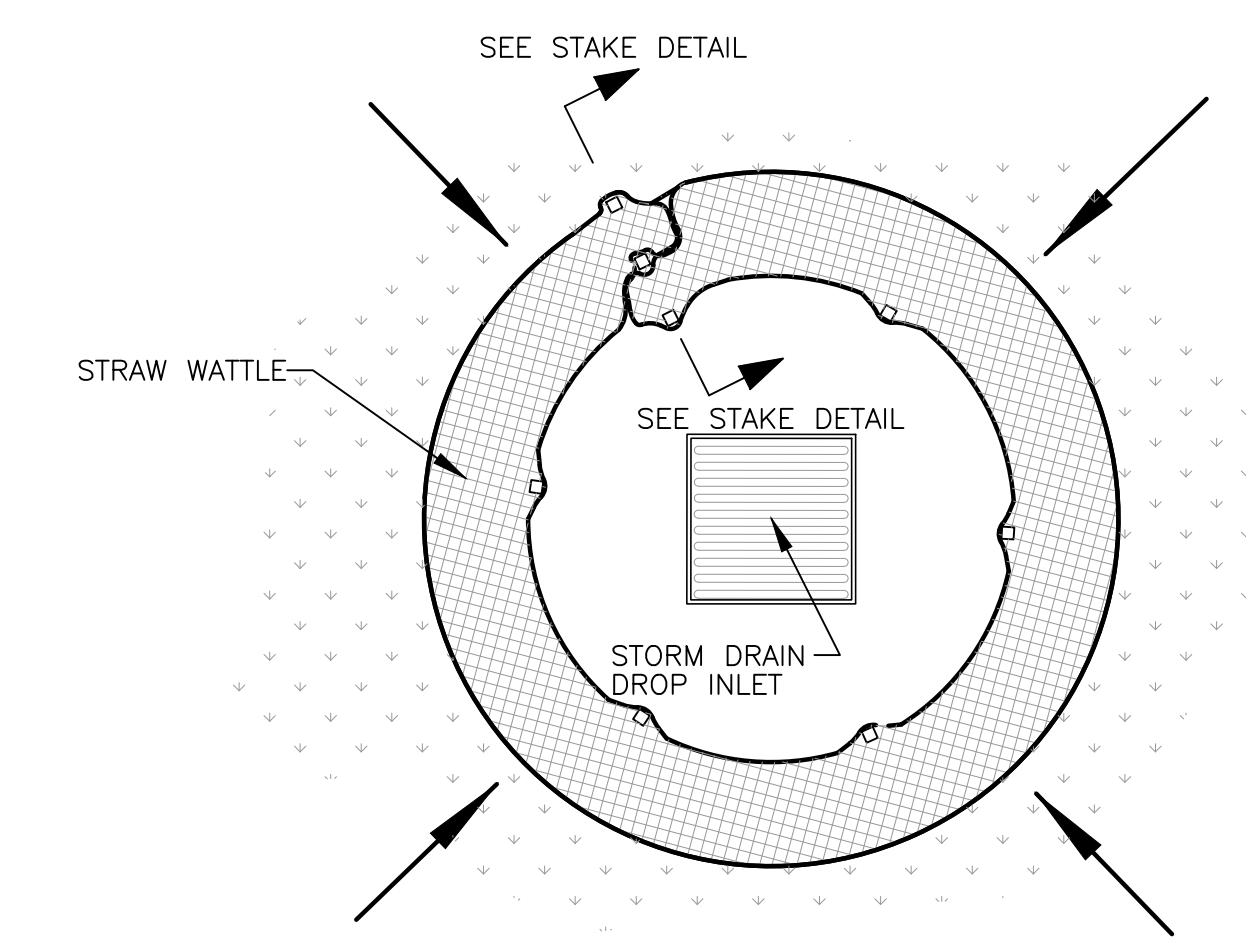


**Concrete Washout Area w/ 10 mil Plastic Liner**

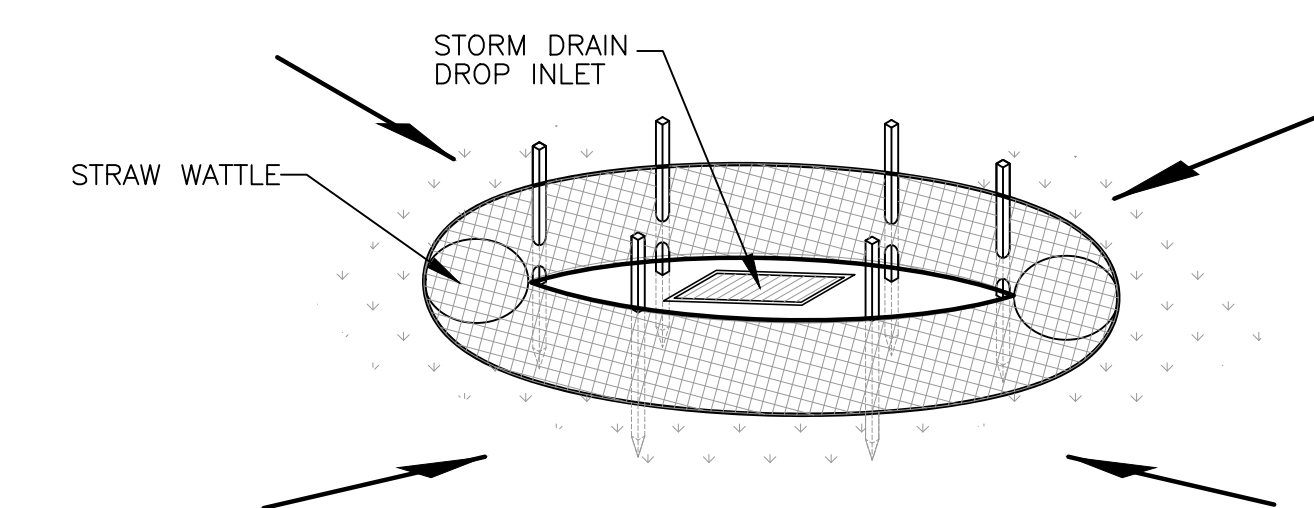
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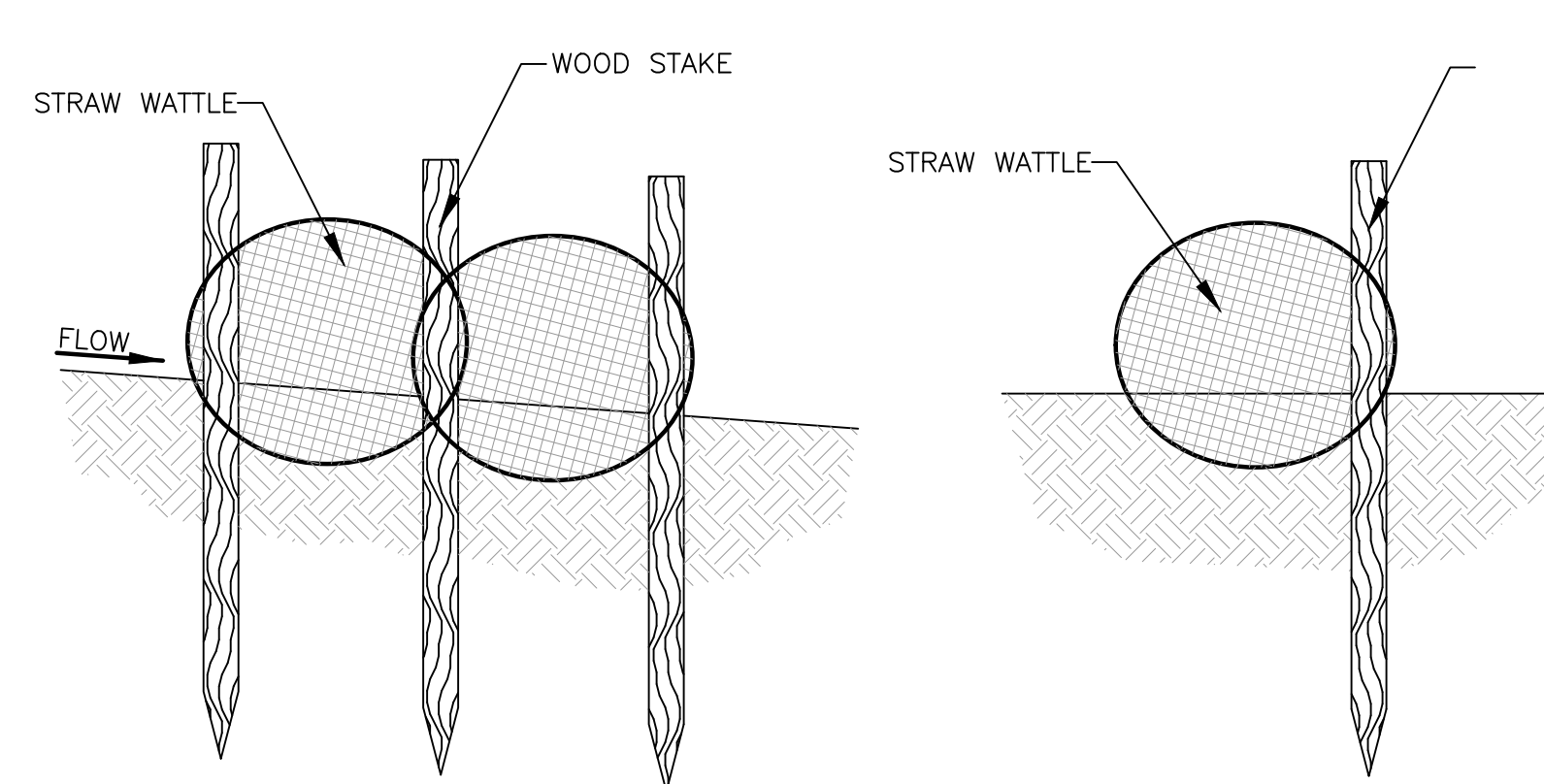
**Inlet Box Protection**



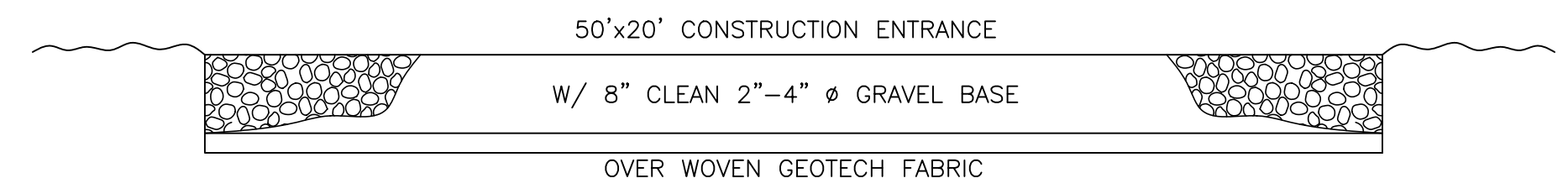
**Plan View**



**Drop Inlet Protection**



**Stake Detail**



**Cross Section 50' x 20' Construction Entrance**

**Reeve & Associates, Inc.**  
 5160 SOUTH 1500 WEST RIVERDALE, UTAH 84405  
 TEL: (801) 621-1000 FAX: (801) 621-8666 www.reeve-assoc.com  
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REVISIONS	DESCRIPTION
DATE	

**Sunset Equestrian Cluster Subdivision Phase 2**  
 WEBER COUNTY, UTAH  
**Storm Water Pollution Prevention Plan Details**

REGISTERED PROFESSIONAL ENGINEER  
 J. NATE REEVE  
 9/4/18  
 STATE OF UTAH

**Project Info.**  
 Engineer: J. NATE REEVE, P.E.  
 Drafter: C. KINGSLEY  
 Begin Date: APRIL 2018  
 Name: SUNSET EQUESTRIAN CLUSTER SUBDIVISION PHASE 2  
 Number: 5336-05

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NOTE:  
 1. CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.  
 2. IN THE ABSENCE OF A SOIL REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE OF 800 P.S.F. AND A THRUST RESULTING FROM 150% OF THE WATER LINE STATIC PRESSURE.

SIZE	BENDS			TEES			GATE VALVES			CROSS/ THROUGH FLUGES			CROSS/ THROUGH FLUGES		
	90°	45°	22 1/2°	11 1/4°											
3	1.0	0.0	0.5	0	0.7	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
4	1.8	1.0	0.5	0	1.3	0.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
6	4.0	2.2	1.1	0	2.8	0.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
8	7.1	3.8	2.0	1.0	5.0	2.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
10	11.1	6.0	3.0	1.5	7.8	4.5	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
12	16.0	8.6	4.4	2.2	11.3	7.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
14	21.7	11.8	6.0	3.0	15.4	11.0	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
15	25.0	13.5	7.0	3.5	17.8		17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
16	28.4	15.3	8.0	4.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
18	36.0	19.4	10.0	5.0	25.4		25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
20	44.2	24.0	12.2	6.1	31.4		31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4
21	49.0	26.5	13.5	6.8	34.6		34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6
22	54.0	29.0	14.8	7.4	38.0		38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
24	64.0	34.5	17.2	8.5	45.0		45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
30	100.0	54.0	27.8	13.8	71.0		71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
36	144.0	78.0	40.0	20.0	102.0		102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0

ALL VALVES, TEES, CROSSES AND BENDS GREATER THAN 22.5° SHALL ALSO BE FITTED WITH MECHANICAL RESTRAINTS, SUCH AS MEGA LUGS OR APPROVED EQUAL.

AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I. AND A SOIL BEARING CAPACITY OF 1000 LBS PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

F = ACTUAL SPREAD TEST PRESSURE IN HUNDREDS OF LBS/SQ. IN. / 1000  
 F = ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS. / 1000

EXAMPLE: TO FIND BEARING AREA FOR 8" - 90° BEND WITH A STATIC INTERNAL PRESSURE OF 1500 P.S.I. AND WITH A SOIL BEARING CAPACITY OF 3000 LBS. PER SQ. FT.  
 F = 1.5 / 3 = 0.5  
 TABULATED VALUE = 7.1 SQ. FT.  
 0.5 X 7.1 = 3.58 ~ 4 SQ. FT. (-OR 2FT. DIA.)

\*SIZE IS BRANCH SIZE.  
 FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS. PER SQ. FT. SOIL BEARING CAPACITY.

1 THRUST BLOCKING DETAIL  
(NOT TO SCALE)

**REGISTERED PROFESSIONAL ENGINEER**  
 No. 354312  
**Daniel Leon White**  
 STATE OF UTAH

**Gardner Engineering**  
 CIVIL ENGINEERING  
 LAND SURVEYING  
 WATER RESOURCES  
 TAYLOR - WEST WEBER WATER IMPROVEMENT DISTRICT STANDARD WATER DETAILS - Page 1 of 9

2 TYPICAL VALVE DETAIL  
(NOT TO SCALE)

**REGISTERED PROFESSIONAL ENGINEER**  
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 CIVIL ENGINEERING  
 LAND SURVEYING  
 WATER RESOURCES  
 TAYLOR - WEST WEBER WATER IMPROVEMENT DISTRICT STANDARD WATER DETAILS - Page 2 of 9

3 TYPICAL TRENCH SECTION  
(NOT TO SCALE)

**REGISTERED PROFESSIONAL ENGINEER**  
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 STATE OF UTAH

**Gardner Engineering**  
 CIVIL ENGINEERING  
 LAND SURVEYING  
 WATER RESOURCES  
 TAYLOR - WEST WEBER WATER IMPROVEMENT DISTRICT STANDARD WATER DETAILS - Page 3 of 9

5 TYPICAL SERVICE CONNECTION  
(NOT TO SCALE)

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**Gardner Engineering**  
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 LAND SURVEYING  
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 TAYLOR - WEST WEBER WATER IMPROVEMENT DISTRICT STANDARD WATER DETAILS - Page 5 of 9

6 FIRE HYDRANT DETAIL  
(NOT TO SCALE)

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 CIVIL ENGINEERING  
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 WATER RESOURCES  
 TAYLOR - WEST WEBER WATER IMPROVEMENT DISTRICT STANDARD WATER DETAILS - Page 6 of 9

7 STANDPIPE DETAIL  
(NOT TO SCALE)

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 STATE OF UTAH

7 AIR/VAC VALVE DETAIL  
(NOT TO SCALE)

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 STATE OF UTAH

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9 TYPICAL BLOW OFF VALVE DETAIL  
(NOT TO SCALE)

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**IRA**

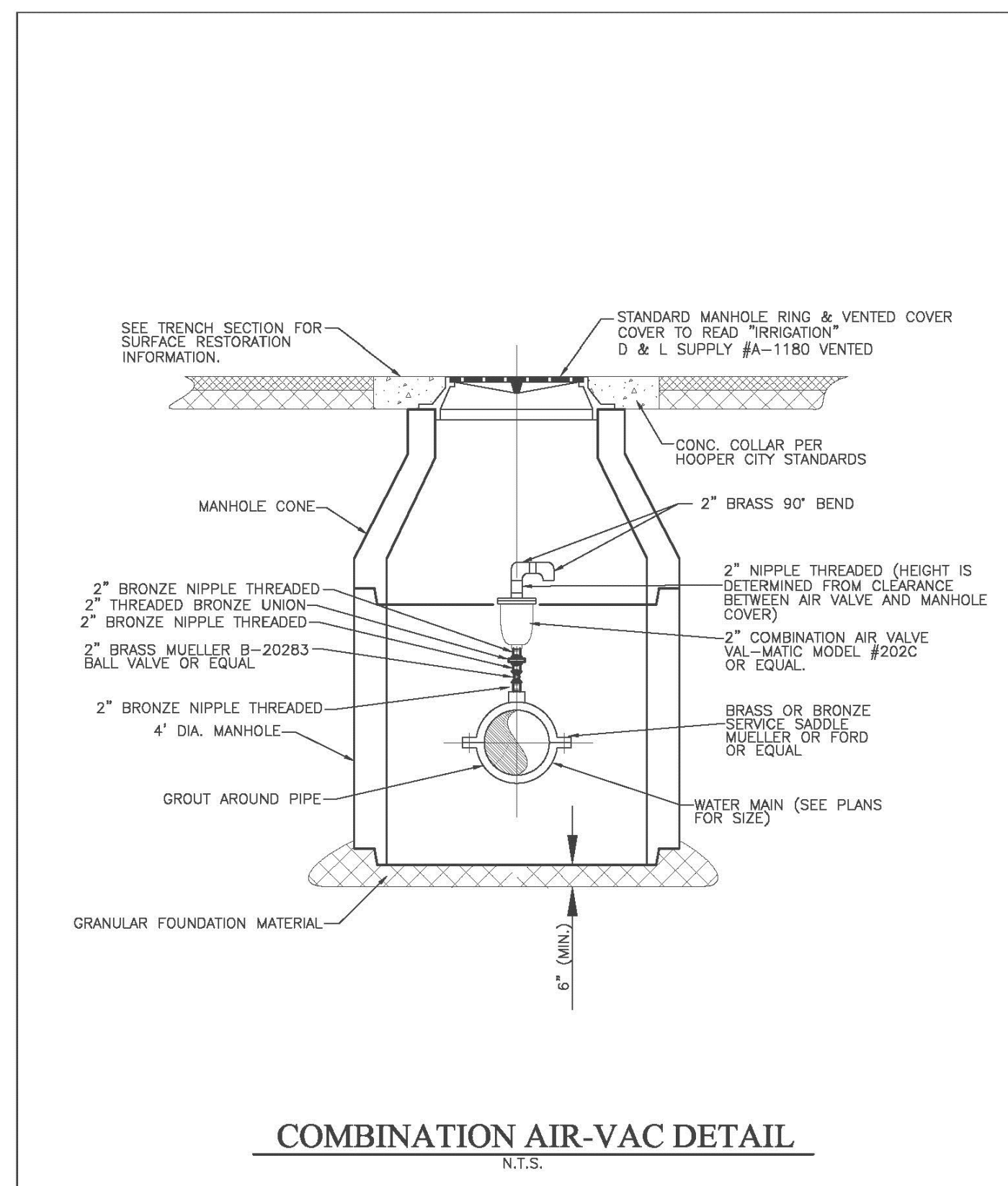
**Sunset Equestrian Cluster Subdivision Phase 2**  
 WEBER COUNTY, UTAH

**Taylor - West Weber Water Improvement District Standard Water Details**

**REGISTERED PROFESSIONAL ENGINEER**  
 No. 378308  
**J. NATE REEVE**  
 9/4/18  
 STATE OF UTAH

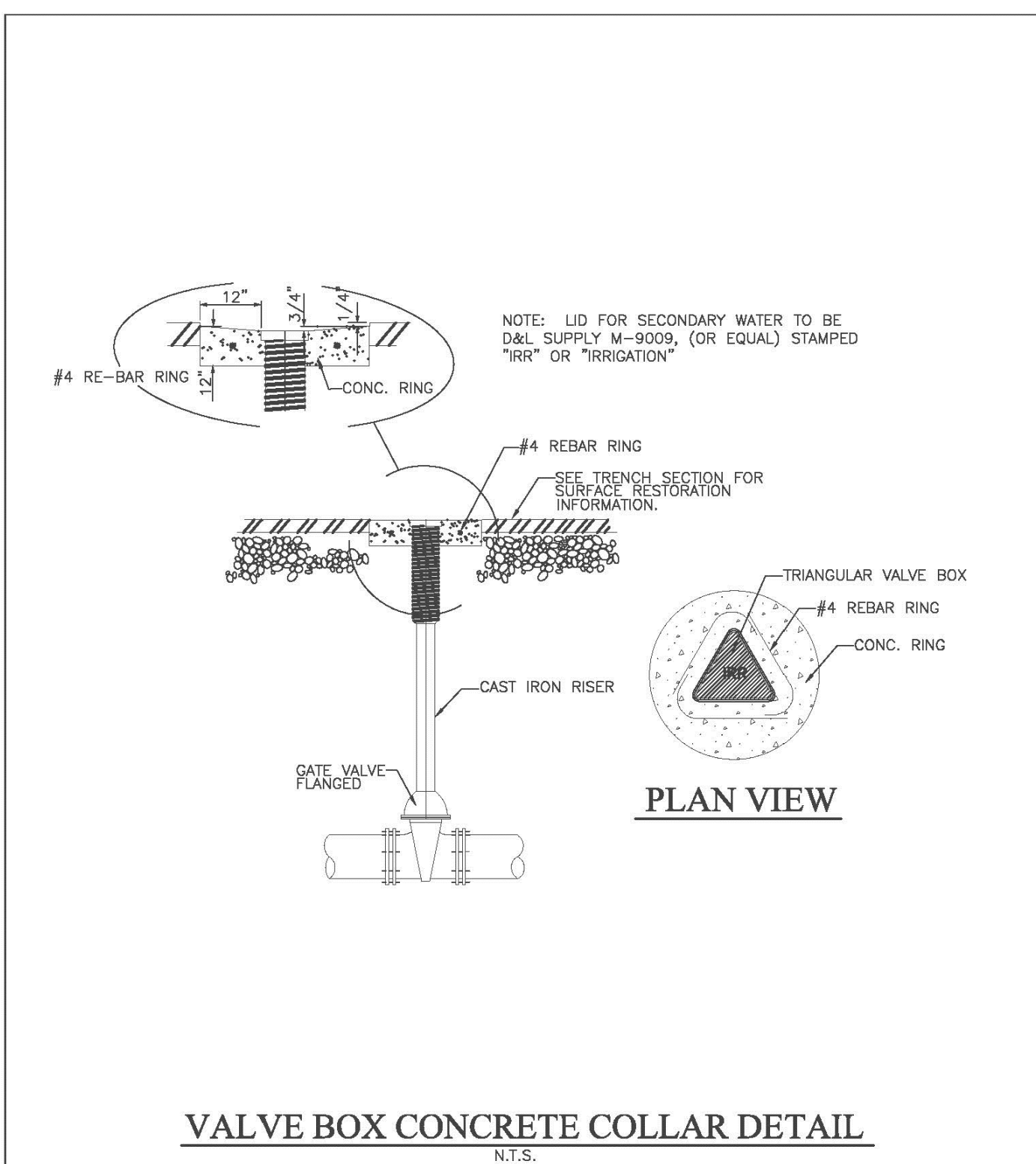
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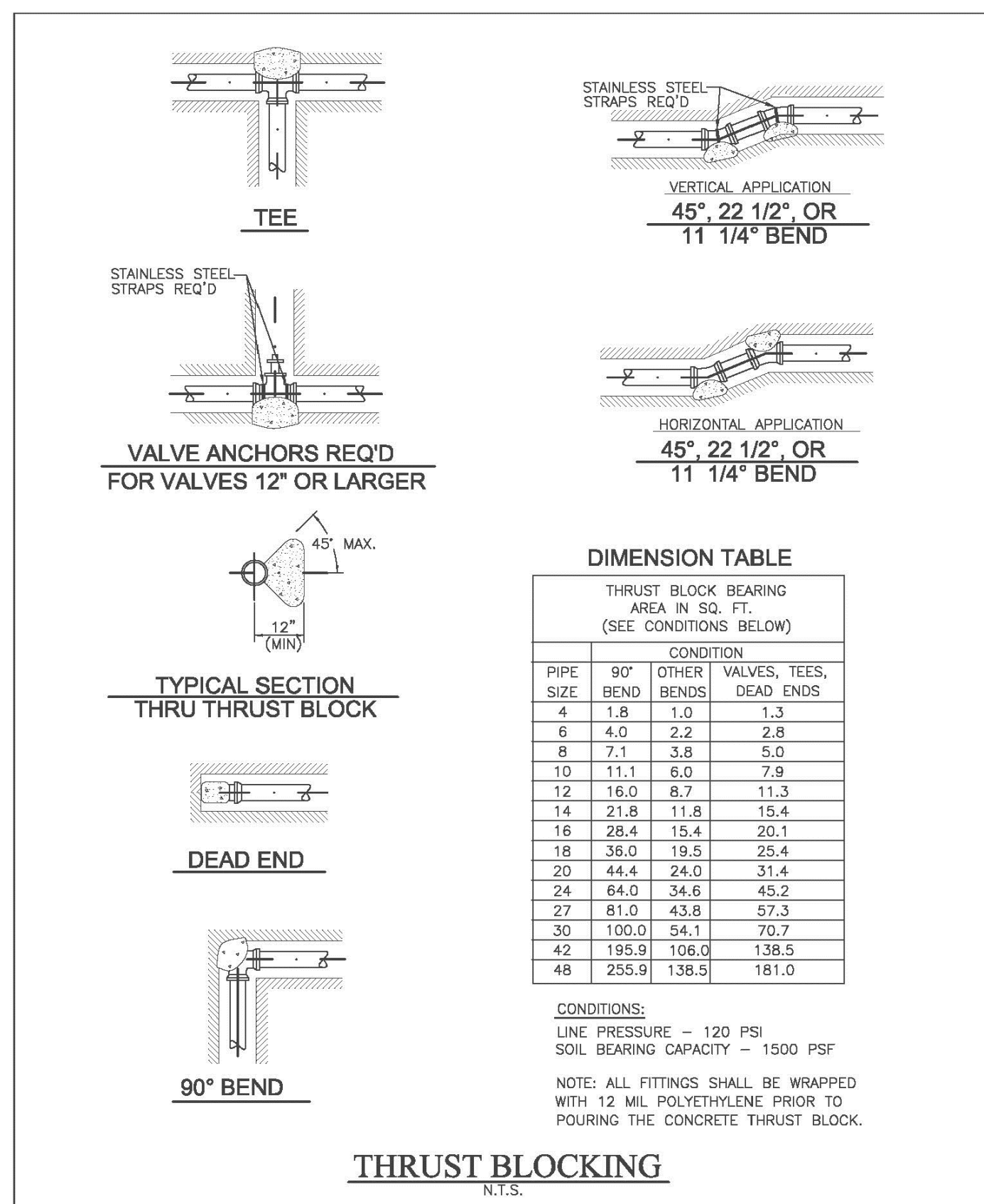
COMBINATION AIR-VAC DETAIL  
N.T.S.

<p><b>REVISION</b></p> <p>NO. DESCRIPTION BY DATE</p>		<p><b>JUB</b> Hooper Irrigation Company Pressure Irrigation Standards</p>	<p><b>PI-1</b> COMBINATION AIR-VAC DETAIL</p>
<p>DESCRIPTION BY DATE</p>			



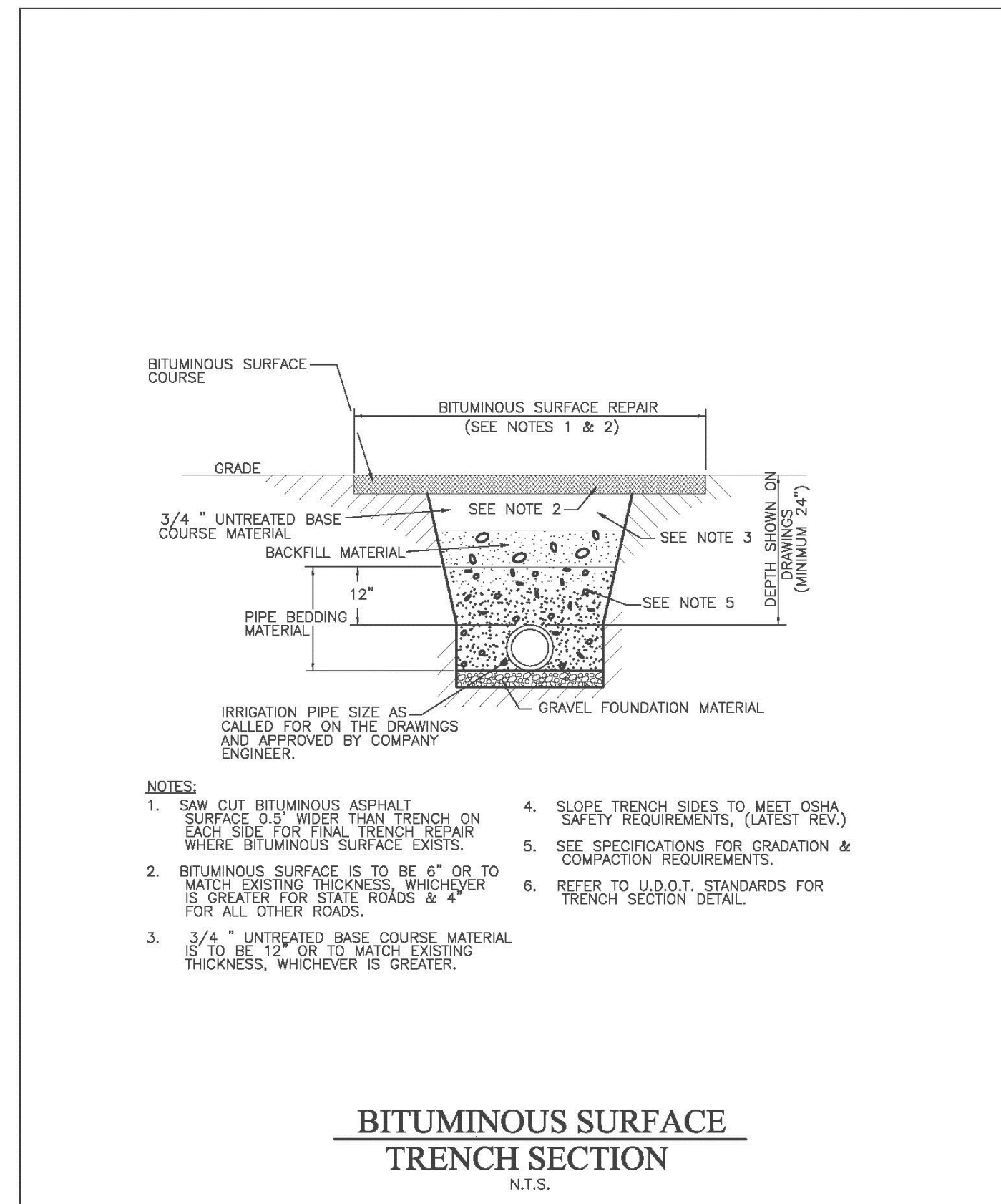
VALVE BOX CONCRETE COLLAR DETAIL  
N.T.S.

<p><b>REVISION</b></p> <p>NO. DESCRIPTION BY DATE</p>		<p><b>JUB</b> Hooper Irrigation Company Pressure Irrigation Standards</p>	<p><b>PI-2</b> VALVE BOX CONCRETE COLLAR</p>
<p>DESCRIPTION BY DATE</p>			



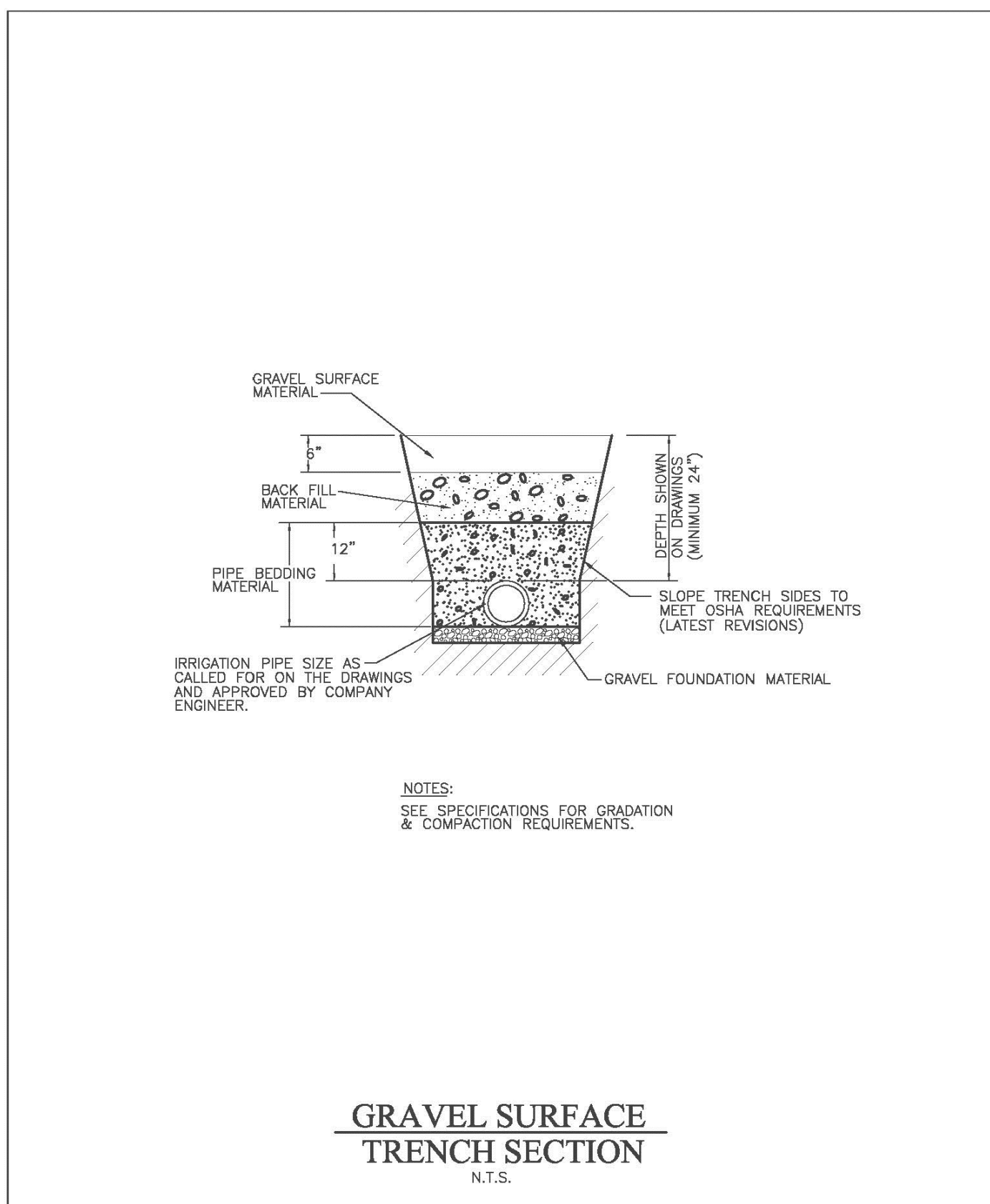
THRUST BLOCKING  
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<p><b>REVISION</b></p> <p>NO. DESCRIPTION BY DATE</p>		<p><b>JUB</b> Hooper Irrigation Company Pressure Irrigation Standards</p>	<p><b>PI-3</b> THRUST BLOCKING DETAILS</p>
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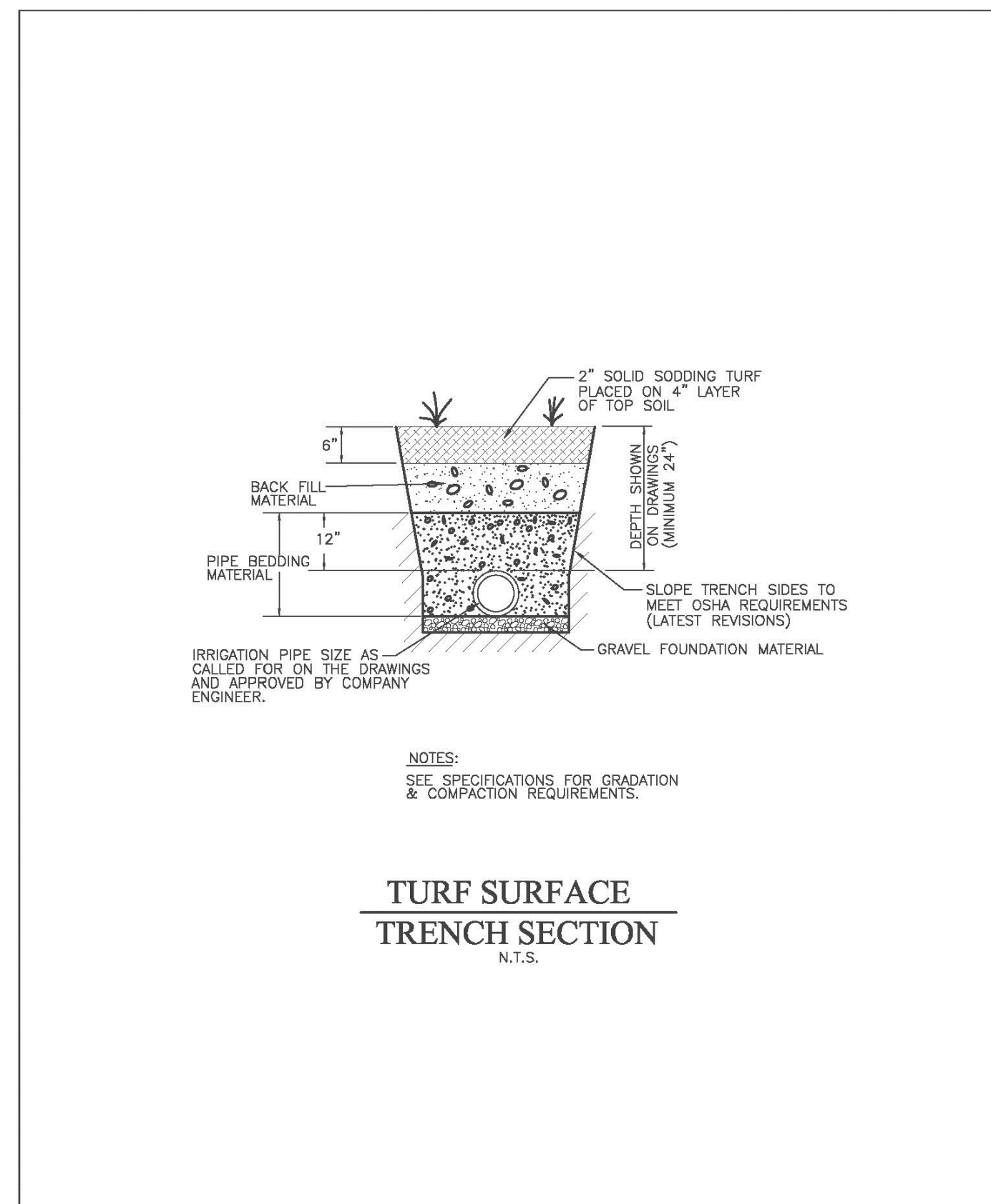
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<p>DESCRIPTION BY DATE</p>			



GRAVEL SURFACE TRENCH SECTION  
N.T.S.

<p><b>REVISION</b></p> <p>NO. DESCRIPTION BY DATE</p>		<p><b>JUB</b> Hooper Irrigation Company Pressure Irrigation Standards</p>	<p><b>PI-8</b> GRAVEL SURFACE TRENCH SECTION</p>
<p>DESCRIPTION BY DATE</p>			



TURF SURFACE TRENCH SECTION  
N.T.S.

<p><b>REVISION</b></p> <p>NO. DESCRIPTION BY DATE</p>		<p><b>JUB</b> Hooper Irrigation Company Pressure Irrigation Standards</p>	<p><b>PI-9</b> TURF SURFACE TRENCH SECTION</p>
<p>DESCRIPTION BY DATE</p>			

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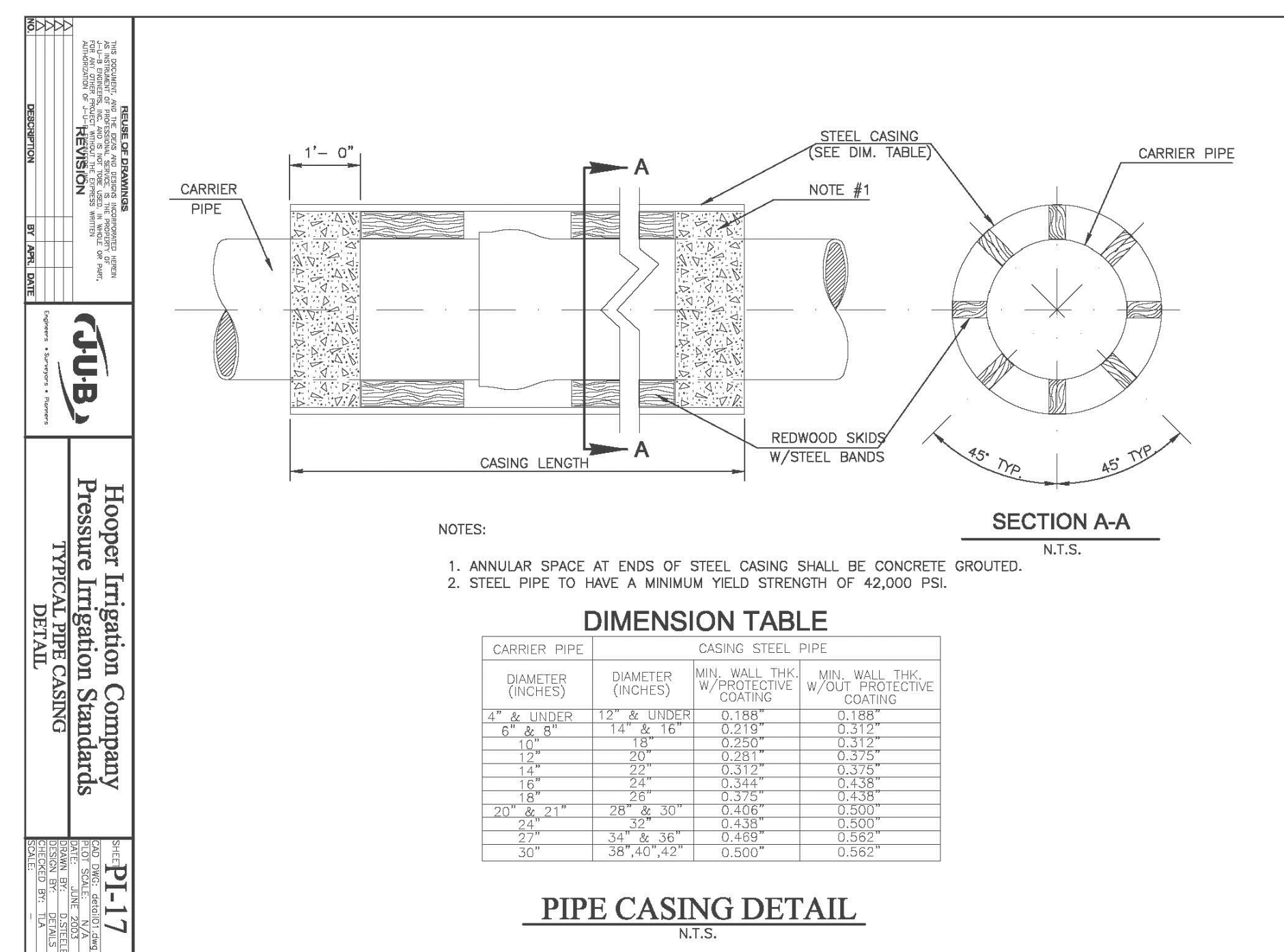
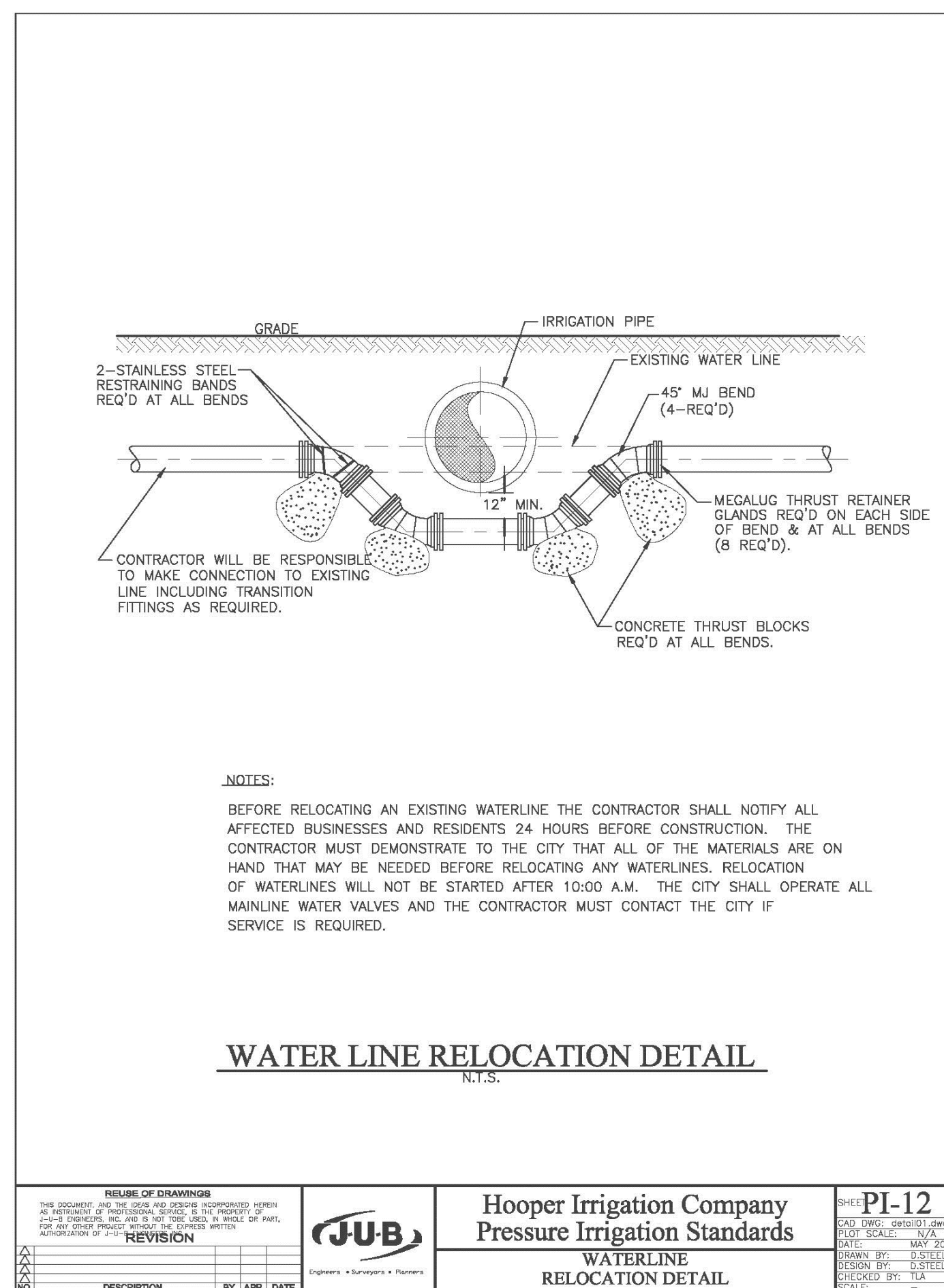
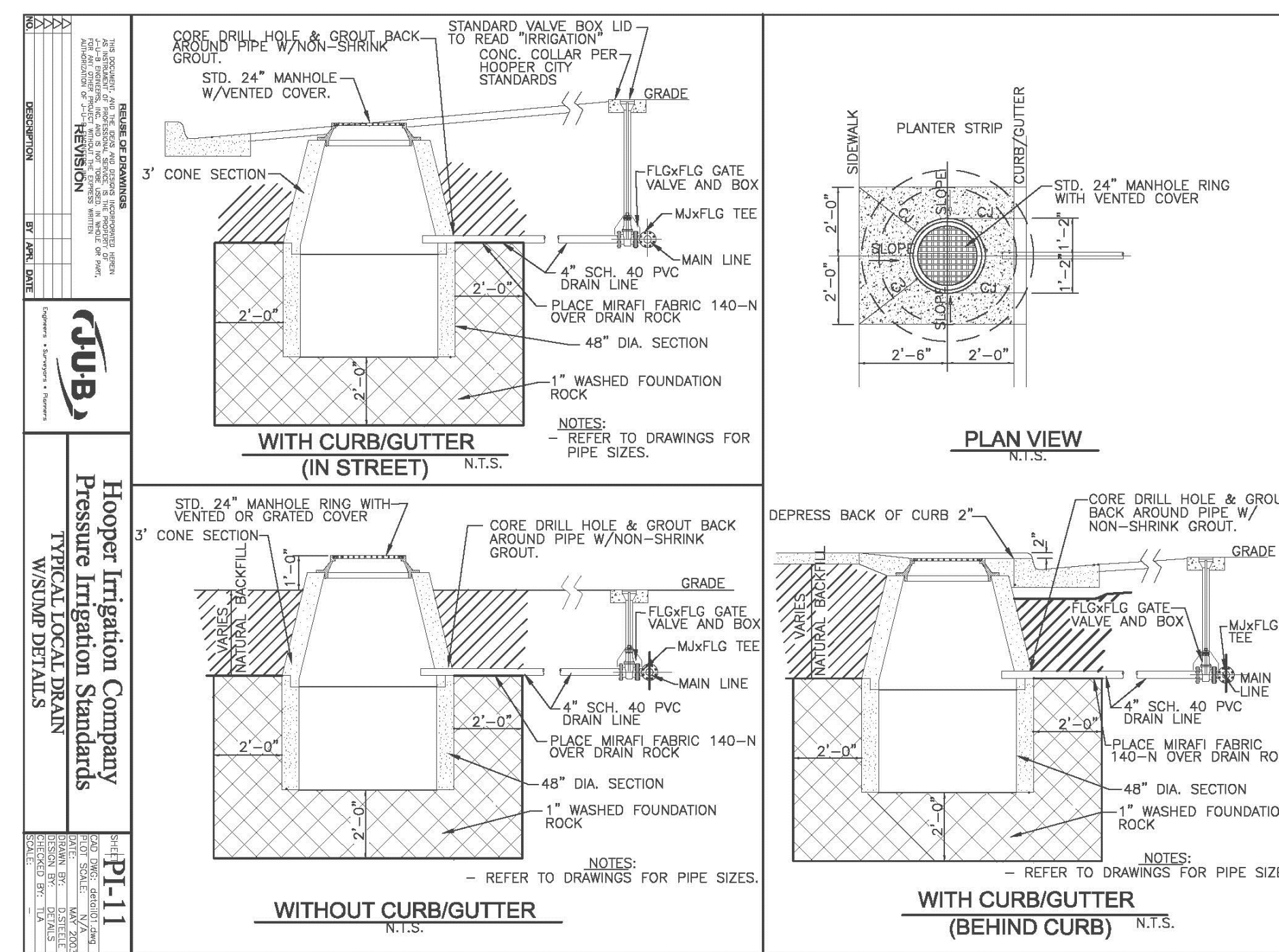
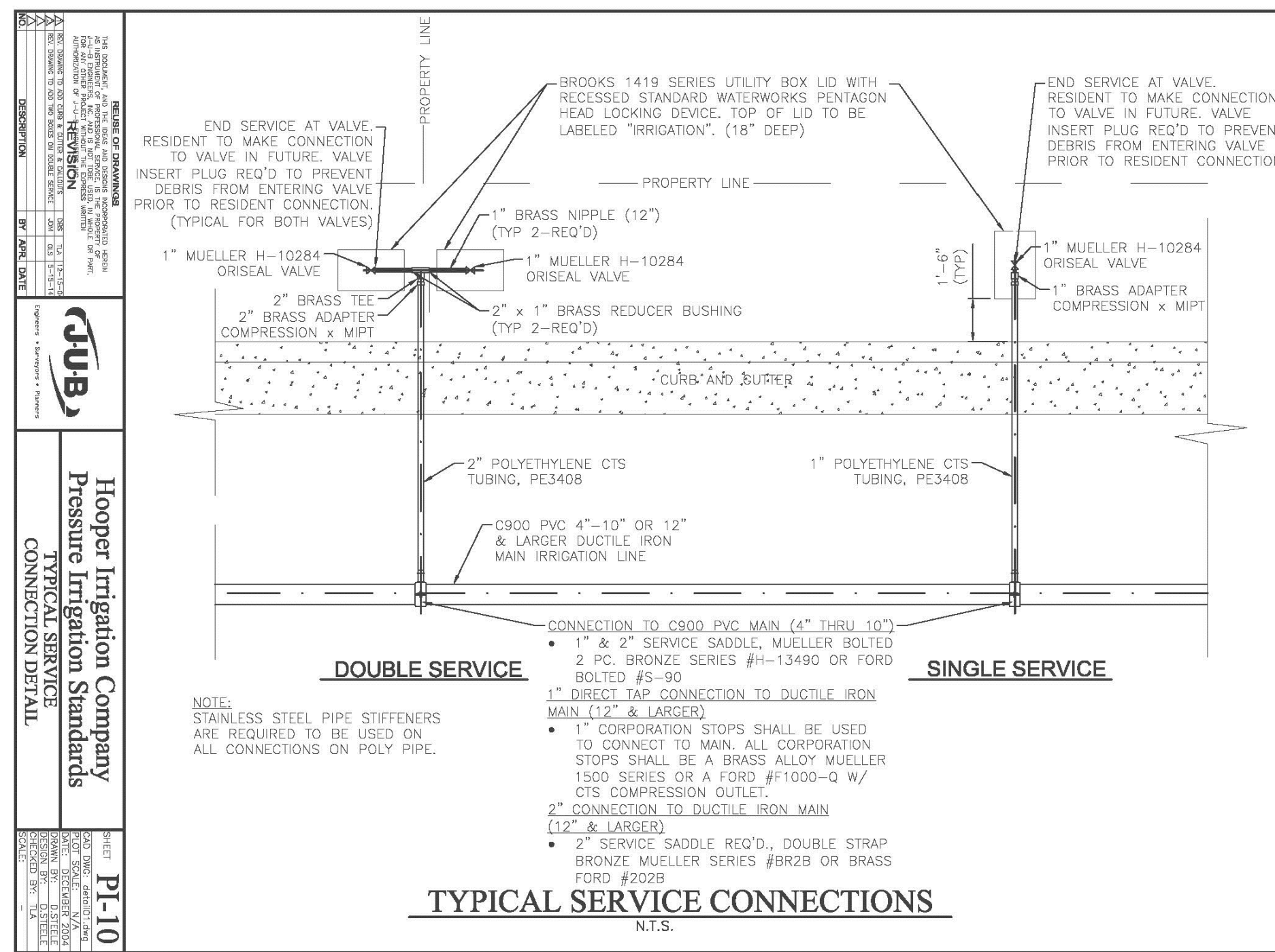
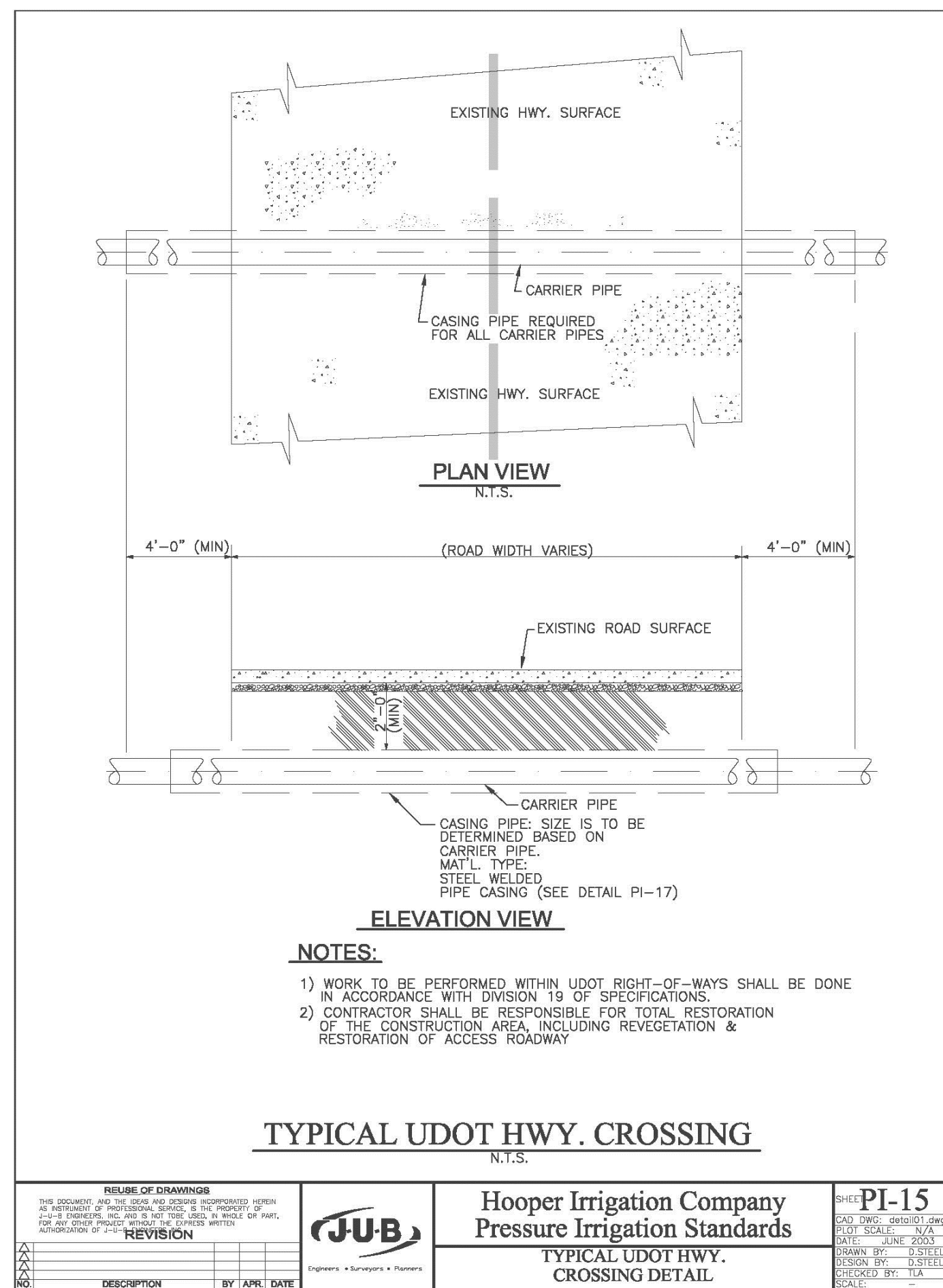
**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
WEBER COUNTY, UTAH

**Hooper Irrigation Company**  
**Pressure Irrigation Standards**



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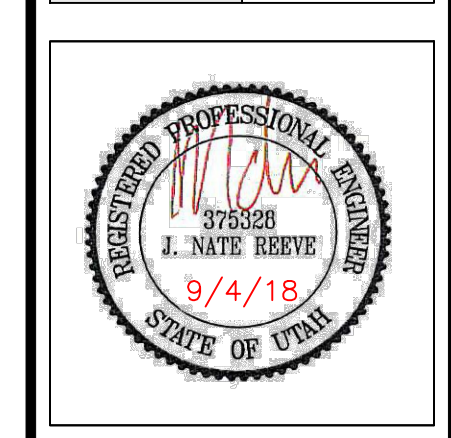


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**Sunset Equestrian Cluster Subdivision**  
**Phase 2**  
 WEBER COUNTY, UTAH

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