



10-5-16

WinCo Foods

Ogden, UT

Drainage Report October 2016

PROJECT: WinCo Foods, Ogden, UT

PREPARED FOR: WinCo Foods
650 North Armstrong Place
Boise, ID 83704

REVIEWING AGENCY: Weber County
2380 Washington Blvd., Suite 240
Ogden, UT 84401

PREPARED BY: SCJ Alliance
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SITE PARCEL NUMBER: 19-182-0001

CONTACT: Brandon Johnson, PE
Civil Engineering Manager

PROJECT REFERENCE: SCJ# 1832.04



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DRAINAGE REPORT

The following report was prepared for the Ogden WinCo Foods Cross Dock. This report was prepared to comply with the minimum technical standards and requirements that are set forth in the Weber County Public Works Standards and Technical Specifications (August 1982).

SECTION 1: OVERVIEW

1.1 Introduction

The Oden WinCo Foods distribution center will be located at 2423 Rulon White Boulevard, Ogden, UT 84404. The project site is positioned on a 5.04 acre property that is zoned M-1 Manufacturing.

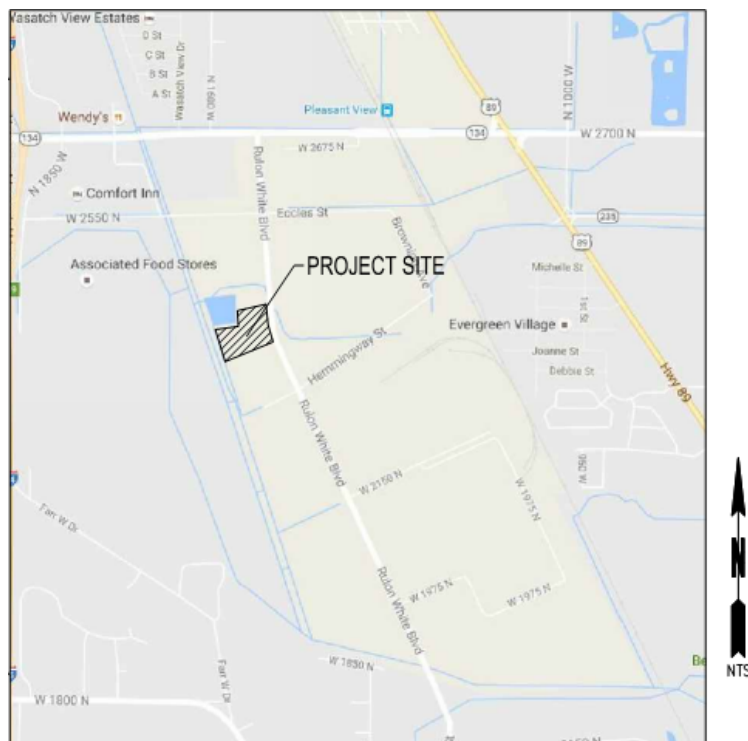




Figure 2



1.3 Stormwater Basins

The project has three drainage basins.

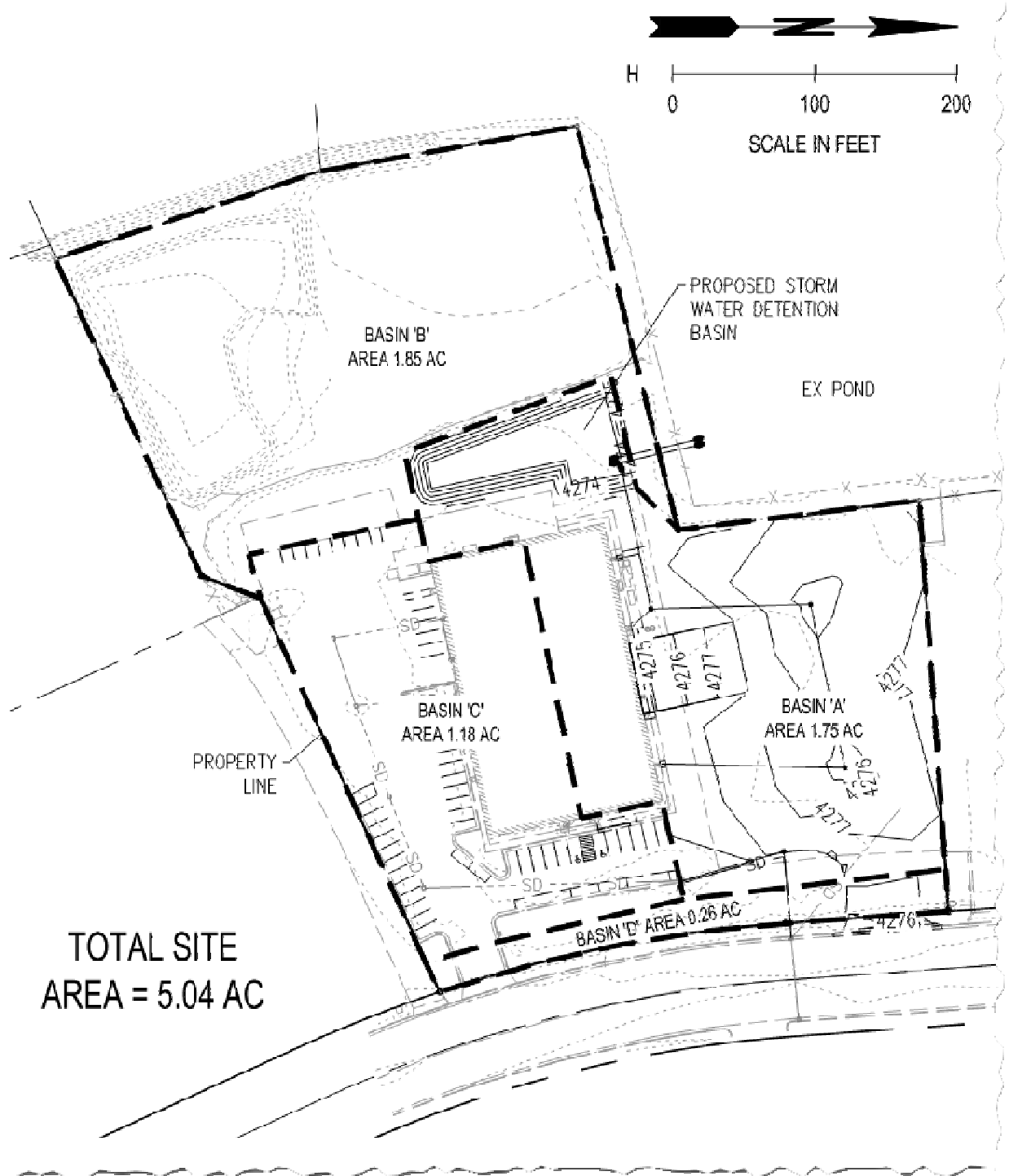


Figure 3



Basin A – Proposed parking

On-site generated stormwater runoff from the proposed parking lot will be directed towards on-site catch basins and routed to the project's on-site stormwater detention facility. The on-site storm water detention facility is an open pond per sheets SD-01 and SD-02 of the construction plans.

Basin B – Existing grass field

The stormwater from the existing grass field currently flows to an onsite grass lined ditch then to the existing county stormwater facility located northwest of the project site.

Basin C - Existing parking lot with catch basins a conveyance system.

Stormwater from the existing parking lot is currently collected in catch basin. The stormwater from the existing catch basin flows to the existing CB located in the north east corner of the parking lot. The catch basin located in the north east corner of the parking lot is currently filled with debris. From this catch basin the stormwater flows to a catch basin located within Rulon White Blvd. The stormwater flow path from basin C will continue to flow to the existing stormwater system in Rulon White Blvd. The existing structure will be cleaned and a section of the existing stormwater pipes will be replaced.

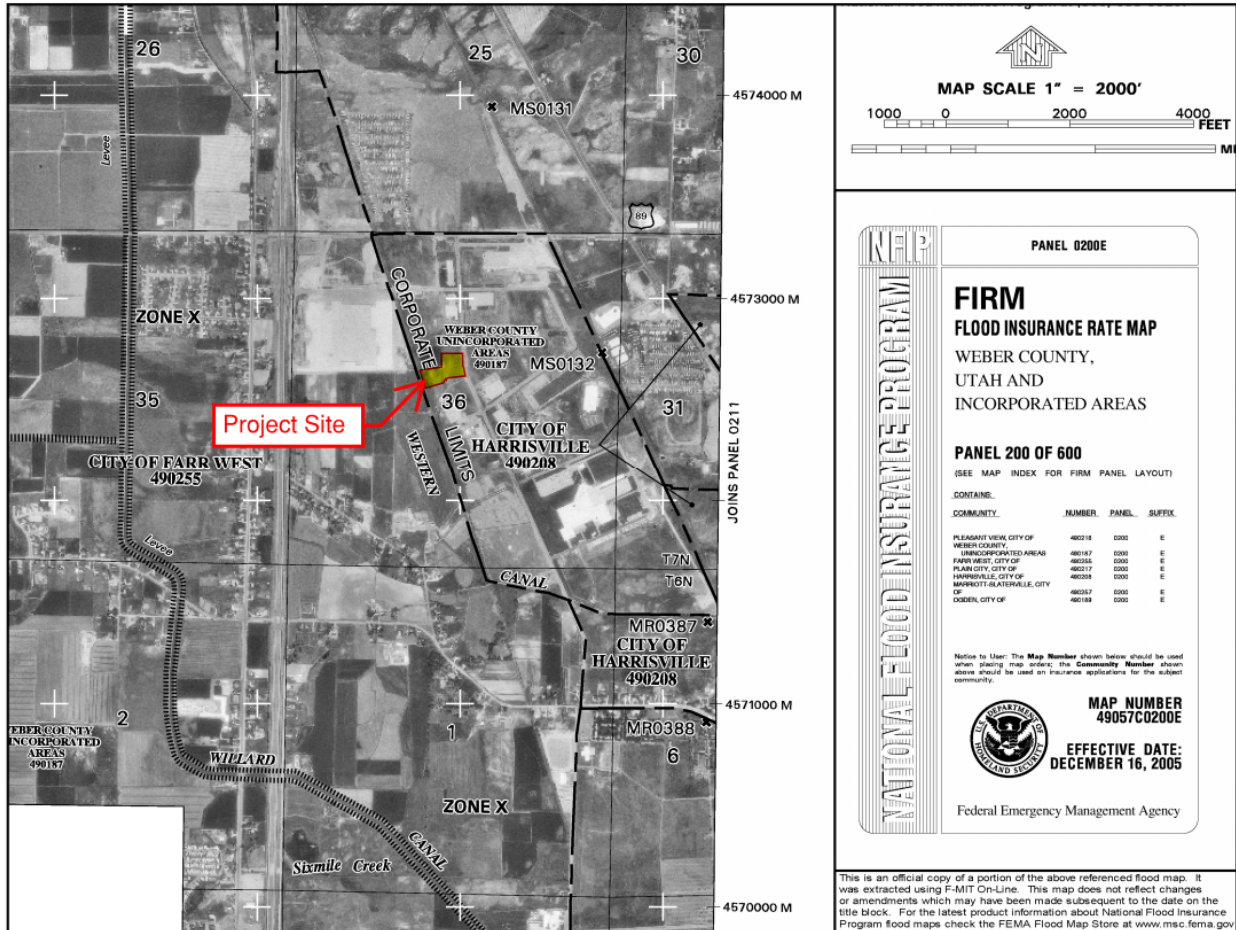
Basin D - Existing driveway and landscaping

Stormwater from Basin C sheet flows to Rulon White Blvd. This flow path will remain unchanged.



1.4 FEMA – Flood Plain Review

According to available FEMA mapping, the site is not located within a 100-year flood plain.





2.1 Precipitation Rates

The NOAA Point Precipitation Frequency Estimates for the project site is shown below.



NOAA Atlas 14, Volume 1, Version 5
 Location name: Ogden, Utah, US*
 Latitude: 41.3011°, Longitude: -112.0168°
 Elevation: 4269 ft*
 * source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Himer, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.58 (1.38-1.82)	1.98 (1.75-2.29)	2.71 (2.38-3.13)	3.40 (2.95-3.92)	4.50 (3.82-5.23)	5.52 (4.55-6.50)	6.76 (5.38-8.04)	8.21 (6.29-9.97)	10.6 (7.63-13.2)	12.8 (8.77-16.4)
10-min	1.20 (1.05-1.39)	1.51 (1.34-1.75)	2.06 (1.81-2.38)	2.58 (2.24-2.98)	3.42 (2.90-3.98)	4.20 (3.46-4.94)	5.14 (4.09-6.11)	6.24 (4.78-7.59)	8.04 (5.81-10.1)	9.71 (6.68-12.5)
15-min	0.992 (0.868-1.14)	1.25 (1.10-1.44)	1.70 (1.50-1.97)	2.14 (1.86-2.47)	2.83 (2.40-3.29)	3.47 (2.86-4.09)	4.24 (3.38-5.05)	5.16 (3.95-6.27)	6.64 (4.80-8.32)	8.02 (5.52-10.3)
30-min	0.670 (0.584-0.772)	0.840 (0.744-0.972)	1.15 (1.01-1.33)	1.44 (1.25-1.66)	1.90 (1.62-2.22)	2.34 (1.92-2.75)	2.86 (2.27-3.40)	3.47 (2.66-4.22)	4.47 (3.23-5.61)	5.40 (3.72-6.93)
60-min	0.414 (0.361-0.477)	0.520 (0.460-0.602)	0.710 (0.623-0.820)	0.889 (0.773-1.03)	1.18 (1.00-1.37)	1.45 (1.19-1.70)	1.77 (1.41-2.11)	2.15 (1.65-2.61)	2.77 (2.00-3.47)	3.34 (2.30-4.29)
2-hr	0.263 (0.234-0.300)	0.329 (0.292-0.376)	0.426 (0.376-0.484)	0.518 (0.452-0.590)	0.670 (0.572-0.772)	0.810 (0.676-0.944)	0.977 (0.788-1.16)	1.18 (0.914-1.42)	1.49 (1.09-1.86)	1.79 (1.25-2.29)
3-hr	0.204 (0.183-0.228)	0.251 (0.226-0.283)	0.314 (0.281-0.353)	0.373 (0.332-0.420)	0.467 (0.409-0.532)	0.557 (0.477-0.640)	0.667 (0.556-0.779)	0.797 (0.643-0.951)	1.01 (0.774-1.25)	1.21 (0.886-1.54)
6-hr	0.138 (0.127-0.152)	0.169 (0.154-0.186)	0.204 (0.186-0.225)	0.236 (0.213-0.262)	0.285 (0.254-0.318)	0.326 (0.286-0.366)	0.372 (0.321-0.424)	0.424 (0.358-0.491)	0.531 (0.433-0.634)	0.627 (0.497-0.779)
12-hr	0.088 (0.081-0.096)	0.107 (0.099-0.118)	0.129 (0.119-0.142)	0.149 (0.135-0.163)	0.176 (0.160-0.197)	0.202 (0.179-0.226)	0.228 (0.199-0.258)	0.256 (0.218-0.293)	0.298 (0.247-0.350)	0.333 (0.269-0.399)
24-hr	0.054 (0.049-0.059)	0.066 (0.060-0.072)	0.078 (0.072-0.086)	0.089 (0.082-0.097)	0.103 (0.094-0.113)	0.115 (0.104-0.125)	0.126 (0.114-0.138)	0.137 (0.124-0.150)	0.153 (0.137-0.178)	0.169 (0.146-0.203)
2-day	0.031 (0.029-0.034)	0.038 (0.035-0.042)	0.045 (0.042-0.050)	0.051 (0.047-0.056)	0.059 (0.054-0.064)	0.065 (0.060-0.071)	0.071 (0.065-0.077)	0.077 (0.070-0.084)	0.085 (0.077-0.092)	0.090 (0.081-0.102)
3-day	0.023 (0.021-0.025)	0.028 (0.026-0.030)	0.033 (0.031-0.036)	0.037 (0.034-0.041)	0.043 (0.040-0.047)	0.048 (0.044-0.052)	0.052 (0.048-0.057)	0.057 (0.051-0.062)	0.063 (0.056-0.069)	0.067 (0.060-0.075)
4-day	0.019 (0.017-0.020)	0.023 (0.021-0.025)	0.027 (0.025-0.029)	0.030 (0.028-0.033)	0.035 (0.032-0.038)	0.039 (0.036-0.042)	0.043 (0.039-0.047)	0.047 (0.042-0.051)	0.052 (0.046-0.057)	0.055 (0.049-0.061)
7-day	0.013 (0.012-0.014)	0.015 (0.014-0.017)	0.018 (0.017-0.020)	0.021 (0.019-0.023)	0.024 (0.022-0.026)	0.026 (0.024-0.029)	0.029 (0.026-0.031)	0.031 (0.028-0.034)	0.034 (0.031-0.037)	0.036 (0.033-0.040)
10-day	0.010 (0.009-0.011)	0.012 (0.011-0.013)	0.014 (0.013-0.016)	0.016 (0.015-0.018)	0.019 (0.017-0.020)	0.020 (0.019-0.022)	0.022 (0.020-0.024)	0.024 (0.021-0.026)	0.025 (0.023-0.028)	0.027 (0.024-0.029)
20-day	0.006 (0.006-0.007)	0.008 (0.007-0.009)	0.009 (0.009-0.010)	0.010 (0.010-0.011)	0.012 (0.011-0.013)	0.013 (0.012-0.014)	0.014 (0.013-0.015)	0.015 (0.013-0.016)	0.016 (0.014-0.017)	0.016 (0.015-0.018)
30-day	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.008-0.009)	0.009 (0.009-0.010)	0.010 (0.009-0.011)	0.011 (0.010-0.012)	0.011 (0.011-0.012)	0.012 (0.011-0.013)	0.013 (0.012-0.014)
45-day	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.007 (0.006-0.007)	0.008 (0.007-0.008)	0.008 (0.008-0.009)	0.009 (0.008-0.009)	0.009 (0.009-0.010)	0.010 (0.009-0.011)	0.010 (0.009-0.011)
60-day	0.004 (0.004-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.006-0.006)	0.007 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.007-0.008)	0.008 (0.008-0.009)	0.009 (0.008-0.009)	0.009 (0.008-0.010)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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2.2 Storm water System Design

Basin A

Basin A is considered to be 100% impervious and is 1.75 acres. Please see sheet SD-01 of the construction plans.

Conveyance

Stormwater runoff from Basin A will sheet flow to catch basins where the stormwater will be collected. From the catch basins the stormwater will enter 12-inch storm pipes where it will flow to the detention basin.

Stormwater runoff for Basin A was calculated for the 10-year design storm event per Weber County Design Standards.

Storm Water Runoff Design

Condition	Requirement
Small watersheds of 30 acres or less	Rational Method
Small or large watersheds	SCS Curve number method and SCS Unit Hydrograph method ^[1]
Precipitation return periods initial collection and conveyance	10 year ^[2] ←
Major collection of multiple initial systems	100 year ^[2]
Conveyance of rivers, streams, or any large drainage	100 year or maximum
Maximum post development runoff	0.1 cfs/acre ^[1] ←

1. ↑ ^{1.0 1.1} Or as approved by the county engineer

2. ↑ ^{2.0 2.1} Precipitation estimates may be found on the NOAA website [\[2\]](#). You may also want to visit the USGS Site [\[2\]](#) for a very useful tool.

Note: The rainfall intensity varies greatly within the county, so multiple durations will be required to be checked. Check the 1, 3, 6, 12, and 24 hour intensities and use the most restrictive result.

Autodesk Storm and Sanitary Analysis (2016) was used to size the storm water detention facility using the rational method for the new impervious areas proposed for the project site.

A detention basin located west of the existing building will be constructed with a bottom area of 4,579 sf (EL:4273.10) with side slopes of 3-ft horizontal to 1-ft vertical. A control structure will be constructed to meter the release of the storm water runoff from the site at the rate of 0.1¹ cfs/acre (1.75 ac x 0.1 cfs/ac = 0.175 cfs). The depth of the storm water in the detention basin during the 10-year design storm event is 0.54-ft and a release rate of 0.175 cfs to the Weber County storm water facility.

During the 100-yr design storm event storm water will be conveyed to the detention basin and will overtop the riser in the control structure at the rate of 6.49 cfs.

¹ Per Weber County Storm Water Runoff Design Criterial -

http://www.co.weber.ut.us/mediawiki/index.php?title=Design_Standards&redirect=no#Storm_Water_Runoff_Design



Appendix 1
Storm water Design Calculations

 Project Description

File Name 2016-0919 SSA.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... SCS TR-55
 Return Period..... 10 years
 Storm Duration..... 5 min
 Link Routing Method Kinematic Wave
 Storage Node Exfiltration.. Constant rate, free surface area
 Starting Date SEP-19-2016 00:00:00
 Ending Date SEP-20-2016 00:00:00
 Report Time Step 00:00:10

 Element Count


Number of subbasins 5
 Number of nodes 7
 Number of links 6

 Subbasin Summary

Subbasin ID	Total Area acres
Sub-01	0.76
Sub-02	0.46
Sub-03	0.21
Sub-04	0.34
Sub-05	0.09

 Node Summary

Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft ²	External Inflow
CB #3	JUNCTION	4273.30	4278.66	0.00	
Jun-02	JUNCTION	4273.10	4275.00	0.00	
Out-01	OUTFALL	4272.90	4274.40	0.00	
Out-02	OUTFALL	4272.90	4273.90	0.00	
Out-1Pipe - (1)	STORAGE	4273.10	4275.00	0.00	

 Bottom of pond = 4273.10

 Inlet Summary

Inlet ID	Ponded	Inlet Initial Manufacturer	Grate	Manufacturer	Part	Inlet Location	Number of	Catchbasin Invert
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Rim Elevation ft	Area ft ²	Water Elevation ft	Clogging Factor %	Number	Inlets	Elevation ft
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4275.69	1000.00	FHWA HEC-22 4273.76	GENERIC 0.00	N/A	On Sag 1	4273.76
4275.69	1000.00	FHWA HEC-22 4273.52	GENERIC 0.00	N/A	On Sag 1	4273.52

Roadway and Gutter Summary

Inlet ID	Roadway Longitudinal Slope ft/ft	Roadway Cross Slope ft/ft	Roadway Manning's Roughness	Gutter Cross Slope ft/ft	Gutter Width ft	Gutter Depression in
CB #1	-	0.0200	0.0160	0.0620	2.00	2.00
CB #2	-	0.0200	0.0160	0.0620	2.00	2.00

Link Summary

Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness
Pipe-1	CB #1	CB #2	CONDUIT	117.5	0.2043	0.0120
Pipe-2	CB #2	CB #3	CONDUIT	112.4	0.1957	0.0120
Pipe-3	CB #3	Out-1Pipe - (1)	CONDUIT	92.2	0.2169	0.0120
Pipe-4	Out-1Pipe - (1)	Out-02	CONDUIT	54.3	1.3638	0.0120
Pipe-5	Jun-02	Out-01	CONDUIT	54.5	0.3669	0.0120
Weir-01	Out-1Pipe - (1)	Jun-02	ORIFICE			

Cross Section Summary

Link Design ID Flow Capacity cfs	Shape	Depth/ Diameter ft	Width ft	No. of Barrels	Cross Sectional Area ft ²	Full Flow Hydraulic Radius ft
Pipe-1 1.74	CIRCULAR	1.00	1.00	1	0.79	0.25
Pipe-2 1.71	CIRCULAR	1.00	1.00	1	0.79	0.25
Pipe-3 5.30	CIRCULAR	1.50	1.50	1	1.77	0.38
Pipe-4 4.51	CIRCULAR	1.00	1.00	1	0.79	0.25
Pipe-5 6.89	CIRCULAR	1.50	1.50	1	1.77	0.38

Runoff Quantity	Continuity	Volume acre-ft	Depth inches
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*****
Total Precipitation .....          0.065          0.423
Continuity Error (%) .....          1.000

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*****
Flow Routing Continuity          Volume      Volume
                                acre-ft     Mgallons
*****
External Inflow .....           0.000       0.000
External Outflow .....          0.056       0.018
Initial Stored Volume ....       0.000       0.000
Final Stored Volume .....        0.002       0.001
Continuity Error (%) .....        0.043

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*****
Runoff Coefficient Computations Report
*****

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Subbasin Sub-01
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Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.76	-	0.95
Composite Area & Weighted Runoff Coeff.	0.76		0.95

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Subbasin Sub-02
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Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.46	-	0.95
Composite Area & Weighted Runoff Coeff.	0.46		0.95

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Subbasin Sub-03
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Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.21	-	0.95
Composite Area & Weighted Runoff Coeff.	0.21		0.95

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Subbasin Sub-04
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Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.34	-	0.95
Composite Area & Weighted Runoff Coeff.	0.34		0.95

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Subbasin Sub-05
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```

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.04	-	0.72
Composite Area & Weighted Runoff Coeff.	0.04		0.72

```

*****
SCS TR-55 Time of Concentration Computations Report

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Sheet Flow Equation

$$Tc = (0.007 * ((n * Lf)^{0.8})) / ((P^{0.5}) * (Sf^{0.4}))$$

Where:

- Tc = Time of Concentration (hrs)
- n = Manning's Roughness
- Lf = Flow Length (ft)
- P = 2 yr, 24 hr Rainfall (inches)
- Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation

- V = 16.1345 * (Sf^{0.5}) (unpaved surface)
- V = 20.3282 * (Sf^{0.5}) (paved surface)
- V = 15.0 * (Sf^{0.5}) (grassed waterway surface)
- V = 10.0 * (Sf^{0.5}) (nearly bare & untilled surface)
- V = 9.0 * (Sf^{0.5}) (cultivated straight rows surface)
- V = 7.0 * (Sf^{0.5}) (short grass pasture surface)
- V = 5.0 * (Sf^{0.5}) (woodland surface)
- V = 2.5 * (Sf^{0.5}) (forest w/heavy litter surface)
- Tc = (Lf / V) / (3600 sec/hr)

Where:

- Tc = Time of Concentration (hrs)
- Lf = Flow Length (ft)
- V = Velocity (ft/sec)
- Sf = Slope (ft/ft)

Channel Flow Equation

- V = (1.49 * (R^(2/3)) * (Sf^{0.5})) / n
- R = Aq / Wp
- Tc = (Lf / V) / (3600 sec/hr)

Where:

- Tc = Time of Concentration (hrs)
- Lf = Flow Length (ft)
- R = Hydraulic Radius (ft)
- Aq = Flow Area (ft²)
- Wp = Wetted Perimeter (ft)
- V = Velocity (ft/sec)
- Sf = Slope (ft/ft)
- n = Manning's Roughness

Subbasin Sub-01

User-Defined TOC override (minutes): 10.00

Subbasin Sub-02

User-Defined TOC override (minutes): 10.00

Subbasin Sub-03

 User-Defined TOC override (minutes): 10.00

Subbasin Sub-04

User-Defined TOC override (minutes): 10.00

Subbasin Sub-05

=====
 Total TOC (minutes): 0.00
 =====

 Subbasin Runoff Summary

Subbasin ID	Accumulated Precip in	Rainfall Intensity in/hr	Total Runoff in	Peak Runoff cfs	Weighted Runoff Coeff	Time of Concentration days	hh:mm:ss
Sub-01	0.43	2.58	0.41	1.86	0.950	0	00:10:00
Sub-02	0.43	2.58	0.41	1.13	0.950	0	00:10:00
Sub-03	0.43	2.58	0.41	0.50	0.950	0	00:10:00
Sub-04	0.43	2.58	0.41	0.82	0.950	0	00:10:00
Sub-05	0.28	3.40	0.20	0.22	0.720	0	00:05:00

 Node Depth Summary

Node ID	Average Depth Attained ft	Maximum Depth Attained ft	Maximum HGL Attained ft	Time of Max Occurrence days	hh:mm	Total Flooded Volume acre-in	Total Time Flooded minutes	Retention Time hh:mm:ss
CB #3	0.01	1.00	4274.30	0	00:12	0	0	0:00:00
Jun-02	0.06	0.16	4273.26	0	00:32	0	0	0:00:00
Out-01	0.06	0.15	4273.05	0	00:33	0	0	0:00:00
Out-02	0.00	0.00	4272.90	0	00:00	0	0	0:00:00
Out-1Pipe - (1)	0.11	0.49	4273.59	0	00:32	0	0	0:00:00

Max depth of water in pond during 10-yr storm event

 Node Flow Summary

Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Inflow Occurrence days	hh:mm	Maximum Flooding Overflow cfs	Time of Peak Flooding Occurrence days	hh:mm
CB #3	JUNCTION	0.50	2.26	0	00:12	0.00		
Jun-02	JUNCTION	0.00	0.15	0	00:32	0.00		
Out-01	OUTFALL	0.00	0.15	0	00:33	0.00		
Out-02	OUTFALL	0.00	0.00	0	00:00	0.00		
Out-1Pipe - (1)	STORAGE	0.82	2.92	0	00:12	0.00		

 Inlet Depth Summary

Inlet ID	Max Gutter Spread during Peak Flow ft	Max Gutter Water Elev during Peak Flow ft	Max Gutter Water Depth during Peak Flow ft	Time of Maximum Depth Occurrence days hh:mm
CB #1	8.41	4276.06	0.37	0 00:12
CB #2	4.09	4275.93	0.24	0 00:10

 Inlet Flow Summary

Inlet ID	Peak Flow cfs	Peak Lateral Flow cfs	Peak Flow Intercepted by Inlet cfs	Peak Flow Bypassing Inlet cfs	Inlet Efficiency during Peak Flow %	Total Flooding acre-in	Total Time Flooded minutes
CB #1	1.86	1.86	-	-	-	0.000	0
CB #2	1.13	1.13	-	-	-	0.000	0

 Storage Node Summary

Storage Node ID	Maximum Time of Max.	Maximum Total Pounded Volume 1000 ft ³	Maximum Pounded Volume (%)	Time of Max Pounded Volume days hh:mm	Average Pounded Volume 1000 ft ³	Average Pounded Volume (%)	Maximum Storage Node Outflow cfs
Out-1Pipe - (1)	0.00	2.303	22	0 00:32	0.486	5	0.15
	0:00:00	0.000					

 Outfall Loading Summary

Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
Out-01	99.62	0.03	0.15
Out-02	0.00	0.00	0.00
System	49.81	0.03	0.15

 Link Flow Summary

Link ID Total Reported Time Condition Surcharged minutes	Element Type	Time of Peak Flow Occurrence days hh:mm	Maximum Velocity Attained ft/sec	Length Factor	Peak Flow during Analysis cfs	Design Flow Capacity cfs	Ratio of Maximum /Design Flow	Ratio of Maximum Flow Depth
Pipe-1 0 Calculated	CONDUIT	0 00:13	2.51	1.00	1.43	1.74	0.82	0.69
Pipe-2 5 SURCHARGED	CONDUIT	0 00:12	2.61	1.00	1.85	1.71	1.08	1.00
Pipe-3 0 Calculated	CONDUIT	0 00:12	2.97	1.00	2.27	5.30	0.43	0.45
Pipe-4 0 Calculated	CONDUIT	0 00:00	0.00	1.00	0.00	4.51	0.00	0.00
Pipe-5 0 Calculated	CONDUIT	0 00:33	1.54	1.00	0.15	6.89	0.02	0.10
Weir-01	ORIFICE	0 00:32			0.15			0.00

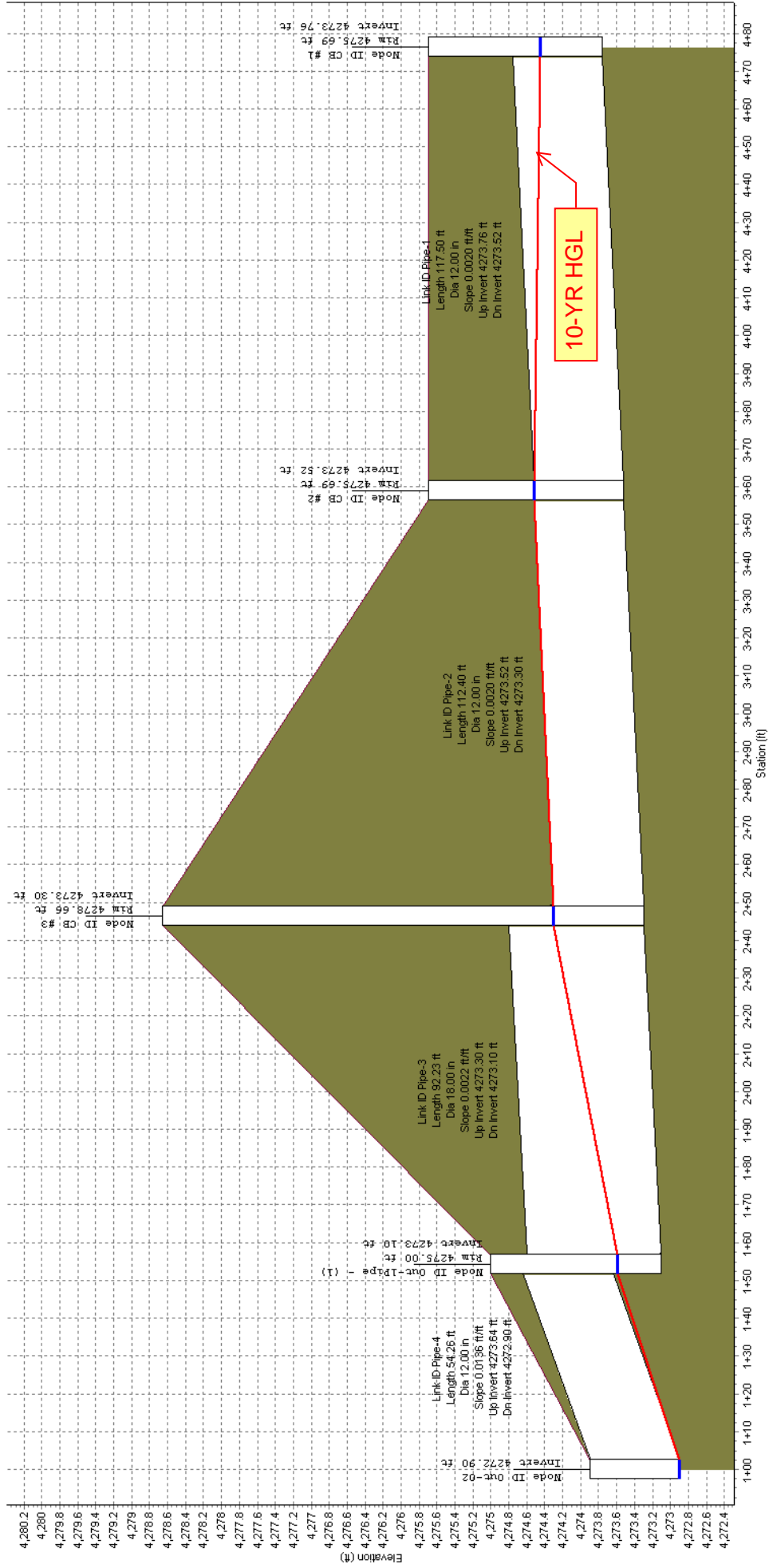
 Highest Flow Instability Indexes

 All links are stable.

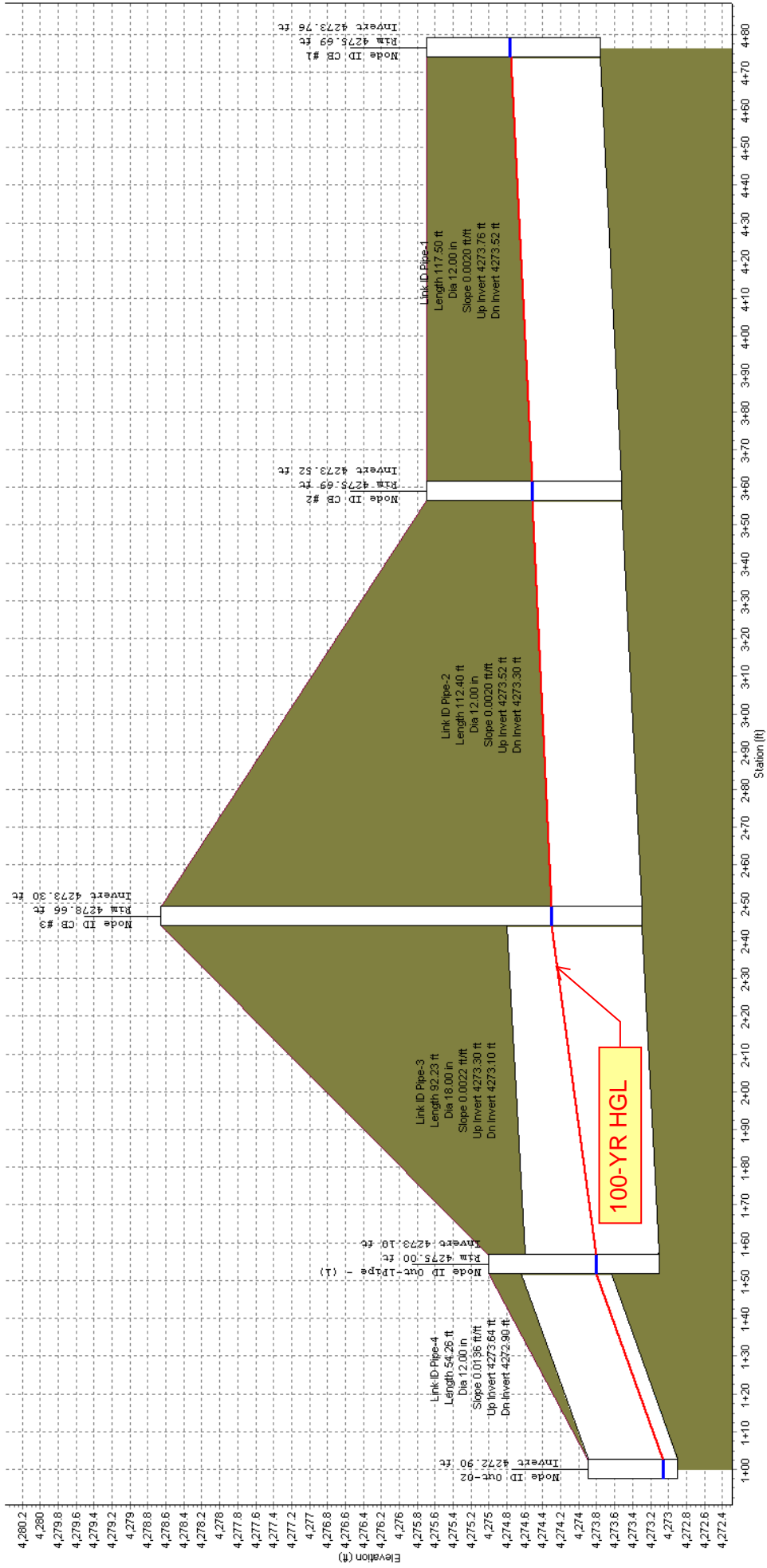
Release rate = 0.15 CF
 < 0.17 = OK

Analysis began on: Tue Oct 04 09:44:14 2016
 Analysis ended on: Tue Oct 04 09:44:15 2016
 Total elapsed time: 00:00:01

Profile Plot
Main Street Storm Sewer



Profile Plot
Main Street Storm Sewer



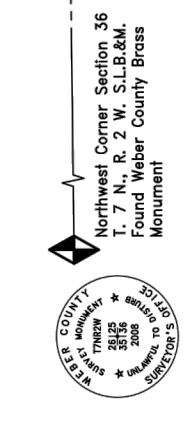
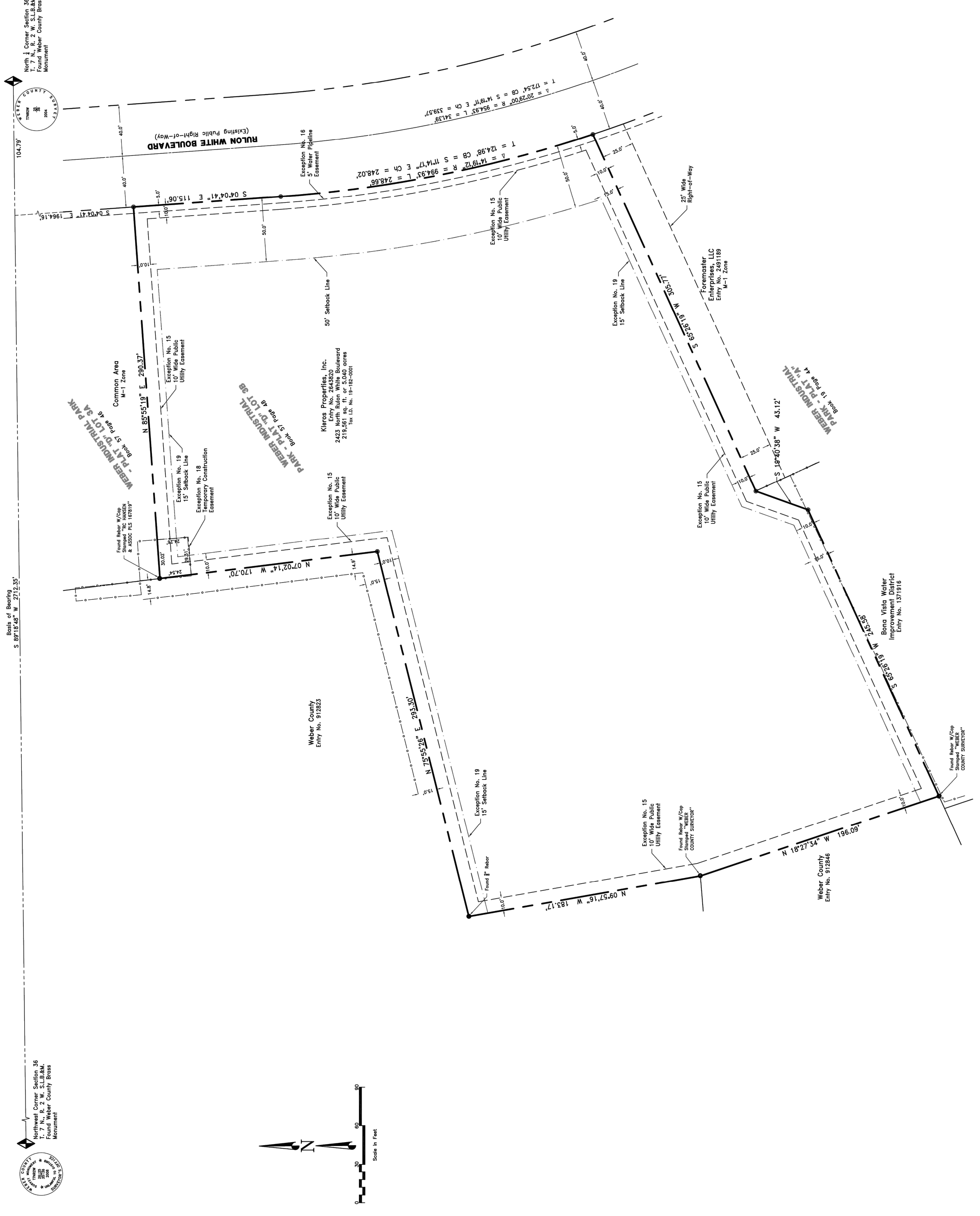


Appendix 2
Civil Construction Plan Set

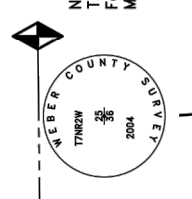
ALTA/NSPS Land Title Survey

For
WinCo Foods, LLC

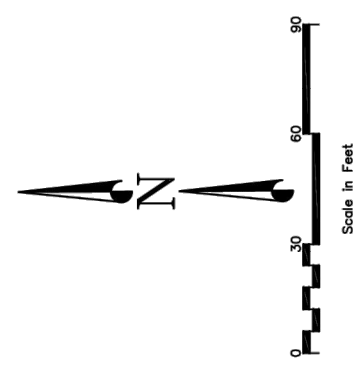
Weber Industrial Park - Plat "p" Situated in a Portion of the North Half of Section 36,
Township 7 North, Range 2 West, Salt Lake Base & Meridian
Weber County, Utah
2016



Bank of Bevington
S 89°18'58\"/>



North Corner Section 36
T: 7 N, R: 2 W, S: 18 N
Weber County Survey
Monument



BOUNDARY DESCRIPTION: - Plat "p" LOT 38, according to the official plat thereon, as recorded in the office of the Weber County Recorder.

ZONING: - The subject property is located in an M-1, Manufacturing Zone. M-1 Zones have the following requirements:

Minimum yard setbacks
 a. Front: 50 feet
 b. Side: 10 feet
 c. Rear: 10 feet
 Main building height
 a. Maximum: 20 feet
 b. Maximum: none

Lot coverage not over 80% of lot area by buildings.

The Prothonotary Records recorded April 15, 1973 as Entry No. 581240 in Book 1021 of Page 675 of the Weber County records require the following restrictions:

1. Front Yards. Buildings shall not be nearer than 50 feet to the street property line.
2. Side Yards. Buildings shall not be nearer than 15 feet from the side property line.
3. Rear Yards. No rear yard restrictions.
4. No building shall be closer than 40' to any other building on an adjacent site.
5. No more than 50% of the site area shall be covered by building.

At least one-half of the surface of the required setback area from the streets shall be maintained in lawn and landscaping.

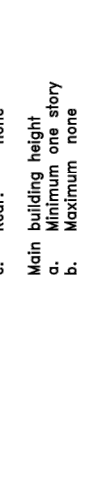
Parking restrictions are as follows:

1. One parking space every vehicle used in conducting the business, plus one space for every 100 employees working on the premises shall exist.
2. One square foot of parking area for each square foot of building area. If the building is used for storage, the parking area shall be in the rear of the area used to store the goods.
3. Spaces for visitor parking may be provided in the front of buildings provided the area parking area is not less than 100 square feet. The area shall be landscaped and the parking area is restricted for visitor parking only.

FLOOD ZONE: - Located in Zone Designation of "X" areas delineated by the outside of the 0.2% annual chance of flood by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map No. 48055C, a State of Utah, which is the current Flood Insurance Rate Map for the community in which the subject property is located. (UTR005).

LEGEND:

- Section Corner Monument (As Noted)
- Boundary Line
- Right-of-Way Line
- Easement Line
- Setback Line
- Setback of Cop Striped Substation
- Setback of Cop Striped Substation
- Found Property Monument (As Noted)
- Existing Chain Link Fence
- Existing Barbed Wire Fence



PROCESSED BY: DOM 5/16
CHECKED BY: DOM 5/16
DESIGNED BY: DOM 5/16
APPROVED BY: DOM 5/16

PROJECT NO: 2644-01
SHEET NO: 1 of 3
FILE NAME: LOT 38 ALTA
SCALE: 1"=50'

DATE:
BY:
REVISED:

NO.

IN THE NORTH 1/2 SECTION 36, T7N, R2W, S18N&M

ALTA/NSPS LAND TITLE SURVEY

WINCO FOODS, LLC

WEBER COUNTY, UTAH

DOMINION
 Engineering Associates, L.C.
 3884 South Green Street
 Murray, Utah 84115 801-715-0300

DRAWN DOM 5/16
DESIGNED DOM 5/16
APPROVED DOM 5/16

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DATE DOM 5/16
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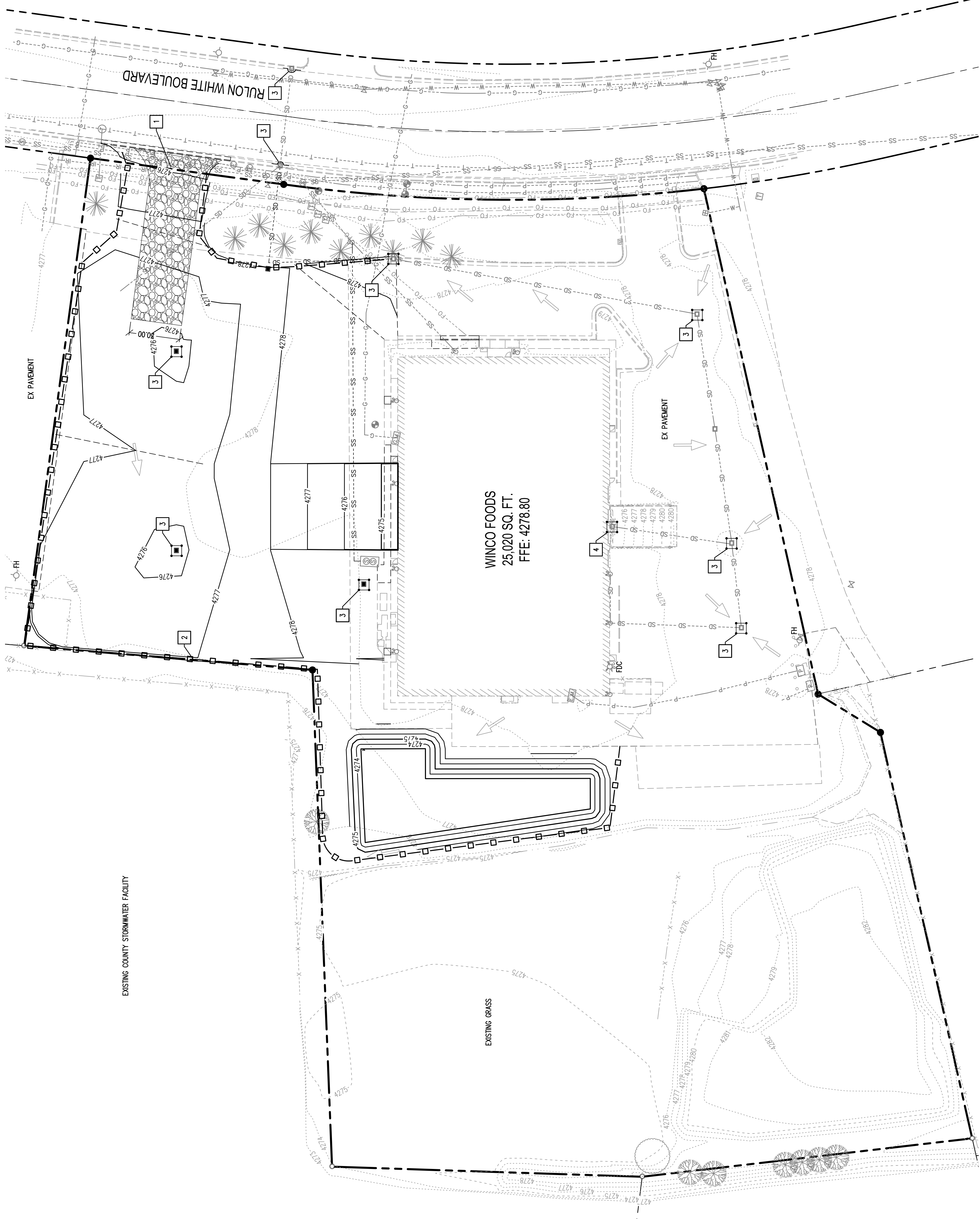
WINCO FOODS, LLC

WEBER COUNTY, UTAH

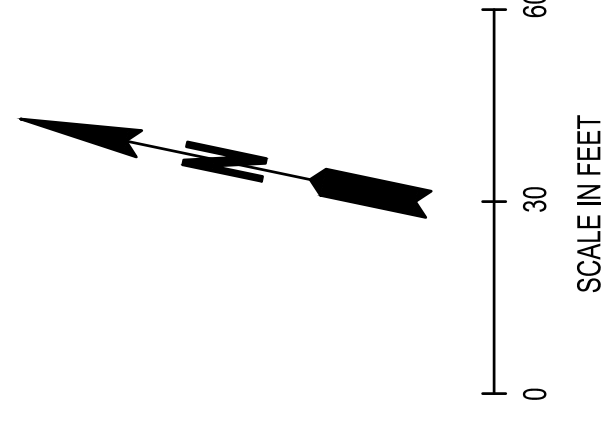
DOMINION
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 3884 South Green Street
 Murray, Utah 84115 801-715-0300

DRAWN DOM 5/16
DESIGNED DOM 5/16
APPROVED DOM 5/16

SEC. 36, T. 7 N., R. 2 W.



WINCO FOODS
25,020 SQ. FT.
FFE: 4278.80



LEGEND

- PROPERTY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING DRAINAGE PATTERN
- SILT FENCE PER SHEET EC-03, CLEARING AND GRUBBING LIMIT
- INLET PROTECTION DEVICE PER SHEET EC-03

EROSION CONTROL NOTES:

1. STABILIZED CONSTRUCTION ENTRANCE (100 LF) PER WEBER COUNTY BMP. SEE SHEET EC-02
2. SILT FENCE PER BMP-SF. SEE SHEET EC-03
3. INLET PROTECTION PER BMP, SEE SHEET EC-03

GENERAL NOTES:

1. BMP'S SHOWN ON THIS PLAN ARE THE MINIMUM BMP'S REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE SITE IS COMPLIANT AT ALL TIMES AND INSTALL ADDITIONAL BMP'S AS NECESSARY.
2. CONTRACTOR SHALL SECURE ALL STORAGE AREAS.
3. CONTRACTOR SHALL PROVIDE ALL EROSION CONTROL MEASURES REQUIRED FOR STORAGE AND STOCKPILE AREAS.
4. ALL MATERIAL STORED ON SITE SHALL HAVE PROPER ENCLOSURES AND/OR COVERINGS.
5. CONTRACTOR SHALL PROVIDE DESIGNATED, PAINT AND WASTE DISPOSAL LOCATION AS NECESSARY.
6. CONTRACTOR SHALL PROVIDE CONCRETE WASTE MANAGEMENT PER BMP SEE SHEET EC-02.
7. SEE LANDSCAPE PLANS FOR SEEDING AND PLANTINGS
8. CONTRACTOR SHALL INSTALL SILT FENCE, CONSTRUCTION ENTRANCE AND INLET PROTECTION IN EXISTING INLETS PRIOR TO COMMENCING ANY SITE DISTURBING ACTIVITIES.
9. CONTRACTOR SHALL PROVIDE EROSION CONTROL BLANKET MEASURES FOR ALL SLOPES DURING AND AFTER CONSTRUCTION PER THE TABLE BELOW (SEE EC-02):

SLOPE	TENSAR ROLLMAX	SI50BN
0-4:1 (0%-25%)	TENSAR ROLLMAX	SI50BN
4:1-2:1 (25%-50%)	TENSAR ROLLMAX	SI50BN
2:1-1:1 (50%-100%)	TENSAR ROLLMAX	CI25BN

10. CONTRACTOR SHALL PROVIDE DUST CONTROL PER BMP, SEE EC-02.
11. PRESERVATION OF EXISTING VEGETATION PER BMP, SEE EC-02.
12. CONTRACTOR SHALL PROVIDE SPILL CLEAN-UP PER BMP, SEE EC-02.

BASIS OF BEARING:

THE BASIS OF BEARING FOR THIS SURVEY IS SOUTH 89°18'48" WEST ALONG THE NORTH LINE OF S&D SECTION 36.

BENCHMARK:

WEBER COUNTY BM WC-115 M,
ELEVATION: 4265.07 (MAD 86)

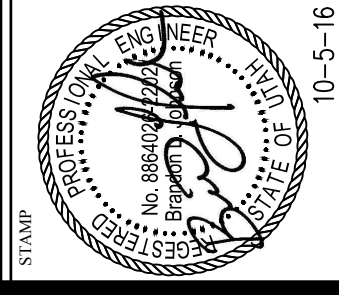
CALL BEFORE YOU DIG

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING BLUE STAKES OF UTAH 811 OR 1-800-662-4111 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

REVISIONS

NO.	DATE	DESCRIPTION

SCJ ALLIANCE CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCALLIANCE.COM



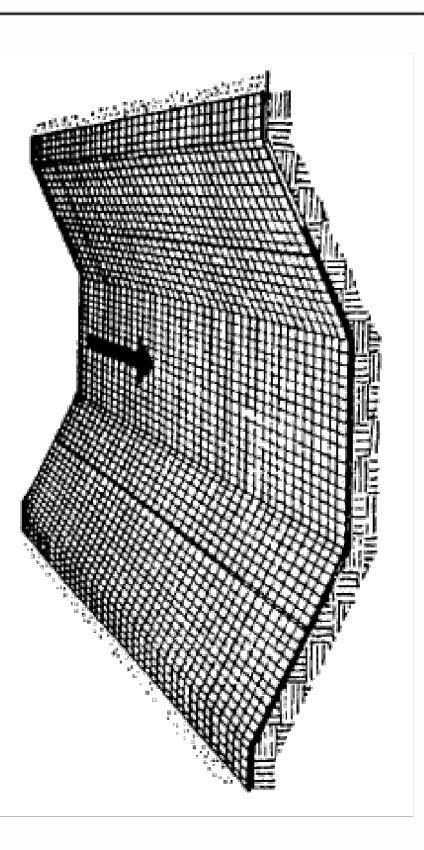
WINCO #80 CROSS DOCK
2423 N. RULON WHITE BLVD
OGDEN, UTAH

Winco FOODS

SHEET TITLE
TEMPORARY EROSION CONTROL PLAN

SHEET
EC-01

BMP: Erosion Control Blankets **ECB**



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Internal Erosion

DESCRIPTION:

- Erosion control blankets are used in place of mulch on areas of high velocity wind and in combating erosion on critical areas by protecting young vegetation.

APPLICATIONS:

- Where vegetation is likely to grow too slowly to provide adequate cover.
- In areas subject to high winds where mulch would not be effective.

INSTALLATION/APPLICATION CRITERIA:

- Install erosion control blankets parallel to the direction of the slope.
- In ditches, apply in direction of the flow.
- Edges of blankets should be secured by soil, do not stretch.
- Edges of blankets should be secured by soil, do not stretch.
- Staple the edges of the blanket at least every three feet.

LIMITATIONS:

- Not recommended in areas which are still under construction.

MAINTENANCE:

- Check for erosion and undermining periodically, particularly after rainstorms.
- Repair dislocations or failures immediately.
- If washouts occur, reinstall after repairing slope damage.
- Monitor until permanently stabilized.

TARGETED POLLUTANTS

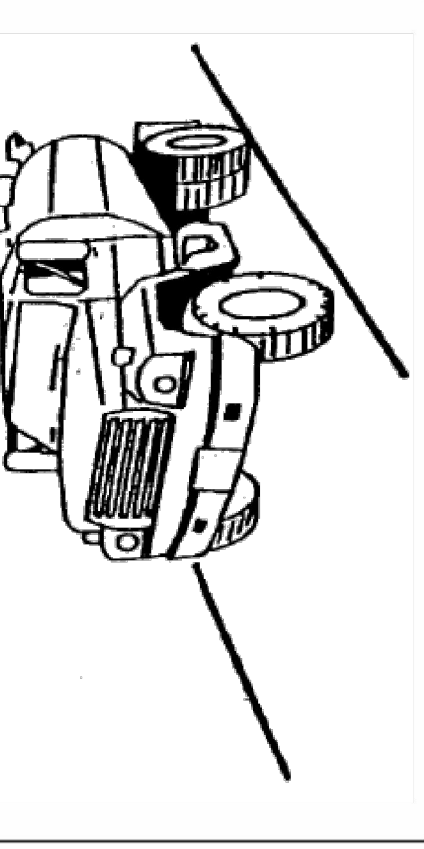
- Sediment
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste
- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training
- High Impact
- Medium Impact
- Low

WEBER COUNTY
ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

BMP: Dust Control **DC**



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Internal Erosion

DESCRIPTION:

- Dust control measures are used to stabilize soil from wind erosion, and reduce dust by construction activities.

APPLICATIONS:

- Dust control is useful in any process area, loading and unloading area, material handling areas, and transfer areas where dust is generated. Street sweeping is limited to areas that are paved.

INSTALLATION/APPLICATION CRITERIA:

- Mechanical dust collection systems are designed according to the size of dust particles and the amount of air to be processed. Manufacturers' recommendations should be followed for installation (do not use the design of the equipment).
- Two kinds of street sweepers are common: brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- Recommendations should be followed for installation (do not use the design of the equipment).
- Two kinds of street sweepers are common: brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- Recommendations should be followed for installation (do not use the design of the equipment).

LIMITATIONS:

- Is generally more expensive than manual systems.
- Is generally possible to maintain by plant personnel (the more elaborate equipment).
- Is labor and equipment intensive and may not be effective for all pollutants (street sweepers).

MAINTENANCE:

- If water sprayers are used, dust-contaminated waters should be collected and taken for treatment. Areas will probably need to be resprayed to keep dust from spreading.

TARGETED POLLUTANTS

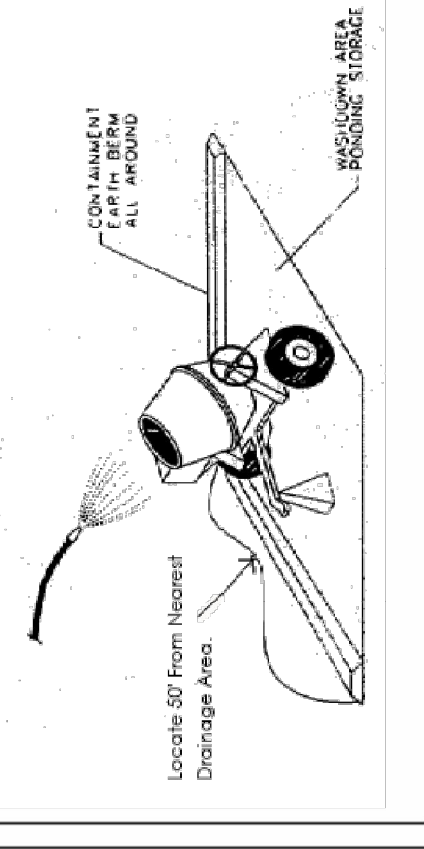
- Sediment
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- Other Waste
- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training
- High Impact
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- Low

WEBER COUNTY
ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

BMP: Concrete Waste Management **CWM**



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Internal Erosion

DESCRIPTION:

- Prevent or reduce the discharge of pollutants to storm water from concrete waste by collecting washout water, and disposing of it in a designated area.

APPLICATIONS:

- This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:

- 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 off-site or in designated areas only.
- Wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, use a high-pressure water hose with a nozzle.
- Train employees and subcontractors in proper concrete waste management.

LIMITATIONS:

- Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:

- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

TARGETED POLLUTANTS

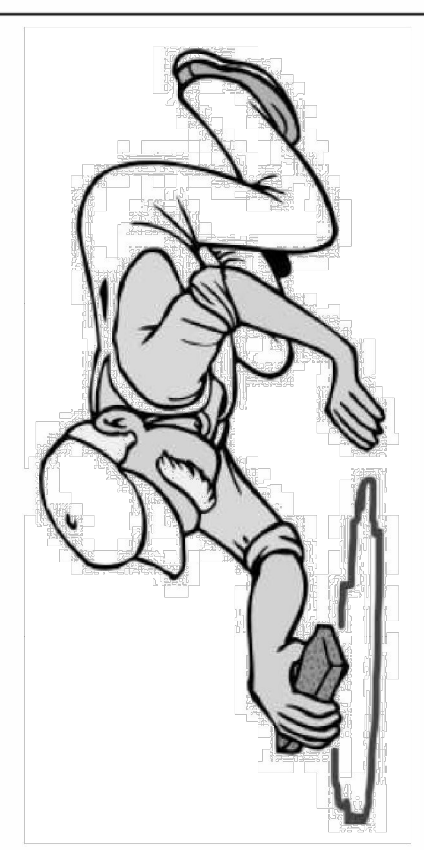
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- Floatable Materials
- Other Construction Waste
- High Impact
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- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

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- O&M Costs
- Maintenance
- Training
- High Impact
- Medium Impact
- Low

WEBER COUNTY
ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

BMP: Spill Clean-Up **SCU**



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

- Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

APPLICATIONS:

- All sites

GENERAL:

- Store controlled materials within a storage area.
- Use spill containment techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

METHODS:

- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL.
- Use CONTAMINATED MATERIALS for clean-up. Escavate contaminated soils.
- Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Report spill to the Department and State Division of Environmental Response and Remediation (Phone #536-4100) for any spill of reportable quantity.

TARGETED POLLUTANTS

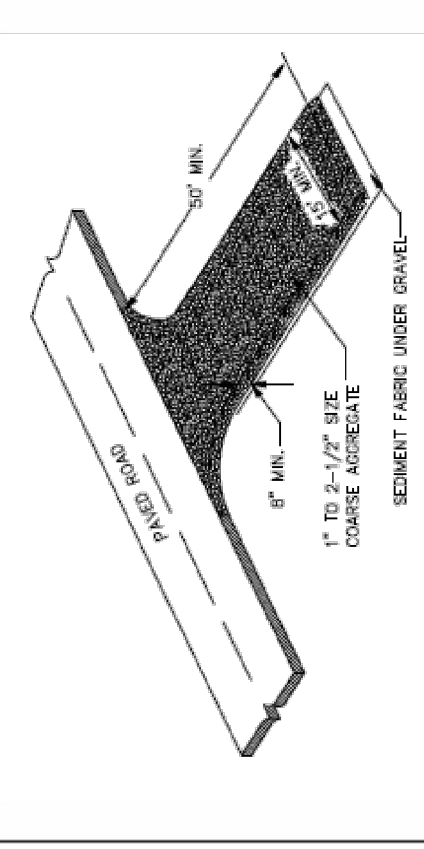
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Waste
- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training
- High Impact
- Medium Impact
- Low

WEBER COUNTY
ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

BMP: Stabilized Construction Entrance **SCE**



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

- A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface.

APPLICATIONS:

- At any point of ingress or egress at a construction site where adjacent travelled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

INSTALLATION/APPLICATION CRITERIA:

- Clear and grub area and grade to provide maximum slope of 2%.
- Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- Use coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 6 inches.

LIMITATIONS:

- Requires periodic top dressing with additional stones.
- Should be used in conjunction with street sweeping on adjacent public right-of-way.

MAINTENANCE:

- Inspect daily for loss of gravel or sediment buildup.
- Inspect adjacent roadway for sediment deposit and clean by sweeping or blowing.
- Repair entrance and replace gravel as required to maintain control in good working condition.
- Expand stabilized area as required to accommodate traffic and prevent erosion at driveway.

TARGETED POLLUTANTS

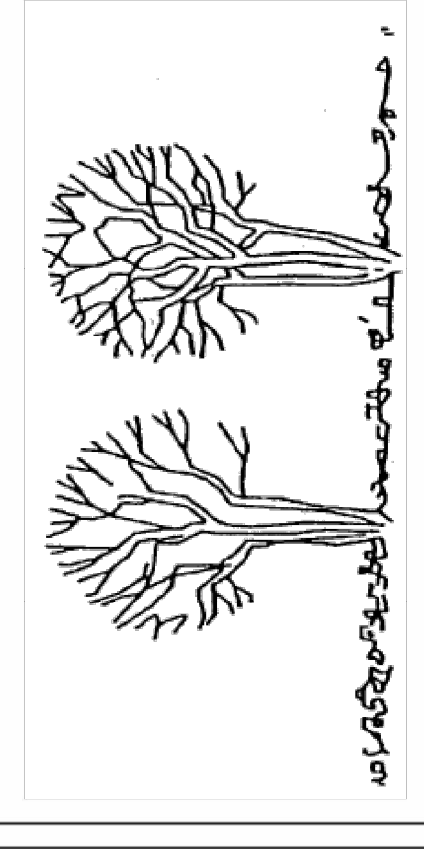
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste
- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training
- High Impact
- Medium Impact
- Low

WEBER COUNTY
ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

BMP: Preservation of Existing Vegetation **PEV**



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

- Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs and/or grasses that serve as erosion controls.

APPLICATIONS:

- This technique is applicable to all types of sites. Areas where preserving vegetation can be particularly beneficial are floodplains, wetlands, stream banks, and areas where erosion controls would be difficult to establish, install, or maintain.

INSTALLATION/APPLICATION CRITERIA:

- Clearly mark, flag or fence vegetation or areas where vegetation should be preserved.
- Prepare landscaping plans which include as much existing vegetation as possible and state proper care during and after construction.
- Define and protect with berms, fencing, signs, etc. a setback area from the existing vegetation, which do not include plant species that compete with the existing vegetation.
- Do not locate construction traffic routes, spoil piles, etc. where significant adverse impact on existing vegetation may occur.

LIMITATIONS:

- Requires forward planning by the owner/developer, contractor and design staff.
- For sites with diverse topography, it is often difficult and expensive to save vegetation, while granting the site accessibility for the planned development.
- May not be cost effective with high land costs.

MAINTENANCE:

- Inspection and maintenance requirements for protection of vegetation are low.
- Maintenance of native trees or vegetation should conform to landscape plan specifications.

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste
- High Impact
- Medium Impact
- Low or Unknown Impact

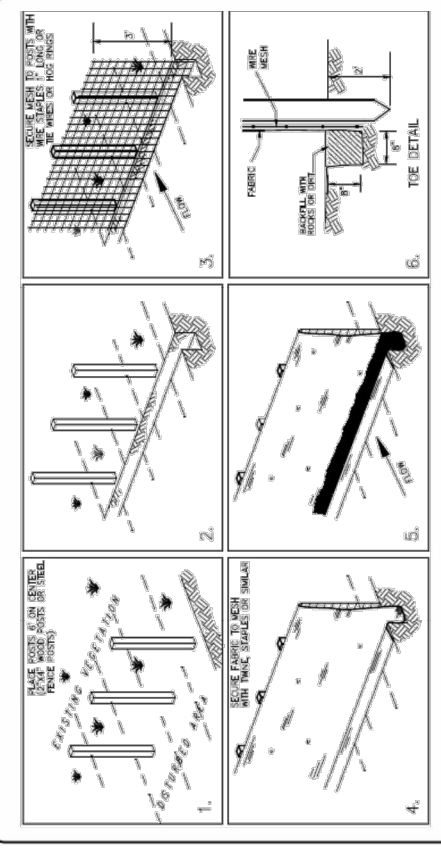
IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training
- High Impact
- Medium Impact
- Low

WEBER COUNTY
ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

BMP: Silt Fence

SF



- OBJECTIVES**
- Housekeeping Practices
 - Control Erosion
 - Minimize Disturbed Areas
 - Stabilize Disturbed Areas
 - Protect Slopes/Channels
 - Control Sedimentation
 - Control Internal Erosion



ENGINEERING DEPARTMENT
2380 Washington Blvd., Suite 240
Ogden, UT 84401
(801) 399-8374

DESCRIPTION:

- ▶ A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

APPLICATION:

- ▶ Perimeter control: place barrier at downgradient limits of disturbance
- ▶ Sediment barrier: place barrier at toe of slope or soil stockpile
- ▶ Stream bank stabilization: place barrier at toe of stream bank
- ▶ Inlet protection: place fence surrounding catchbasins

INSTALLATION/APPLICATION CRITERIA:

- ▶ Place posts 6 feet apart on center along contour (or use preassembled unit)
- ▶ Excavate trench 6 inches deep in level ground. Excavate an anchor trench immediately upgradient of posts.
- ▶ Secure wire mesh (14 gauge min. With 6 inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- ▶ Cut fabric to required width, unroll along length of barrier and drape over trench. Attach fabric to trench with wire, staples, or similar, with training edge extending into anchor trench.
- ▶ Backfill trench over filter fabric to anchor.

LIMITATIONS:

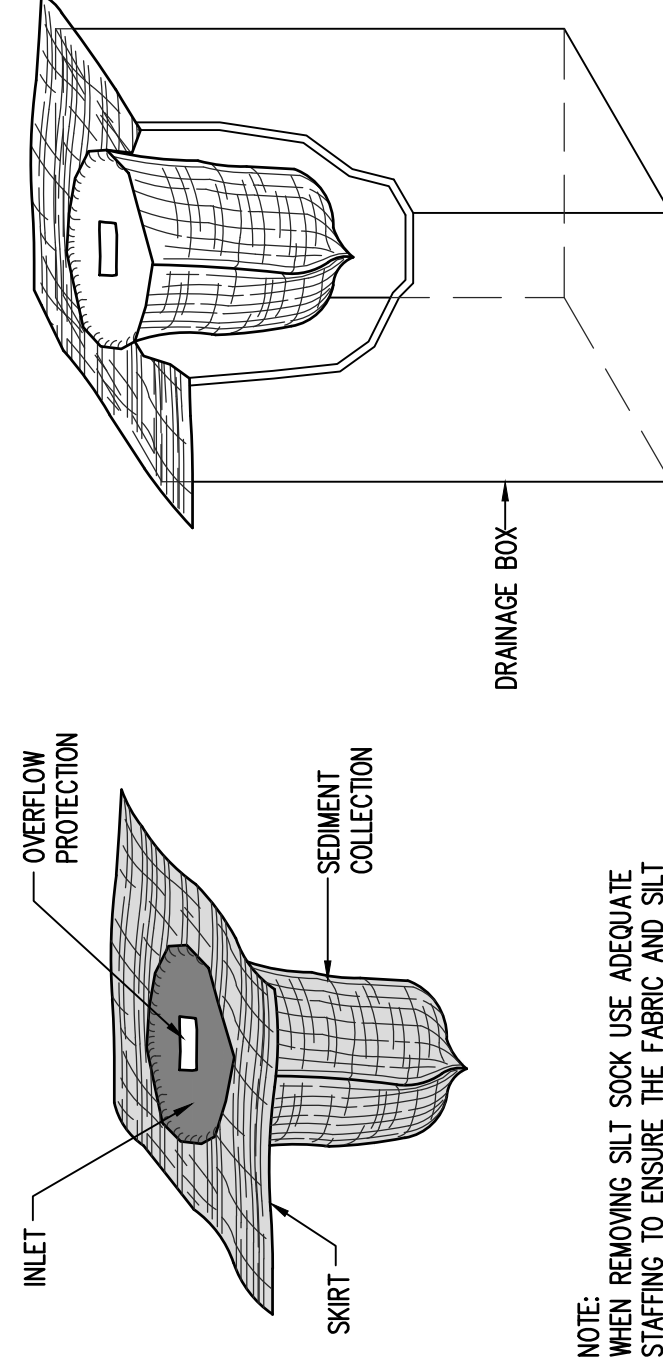
- ▶ Recommended maximum drainage area of 0.5 acres per 100 feet of fence
- ▶ Recommended maximum upgradient slope length of 150 feet
- ▶ Recommended uphill grade of 2:1 (50%)
- ▶ Recommended maximum flow rate of 0.5 cfs
- ▶ Ponding should not be allowed behind fence

MAINTENANCE:

- ▶ Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- ▶ Look for runoff bypassing ends of barriers or undercutting barriers.
- ▶ Remove debris and replace damaged areas of the barrier and remove accumulated sediment.
- ▶ Reseal fence as necessary to prevent shortcutting.
- ▶ Remove accumulated sediment when it reaches 1/2 the height of the fence.

- TARGETED POLLUTANTS**
- Sediment
 - Toxic Materials
 - Oil & Grease
 - Floatable Materials
 - Other Waste
 - High Impact
 - Low or Unknown Impact

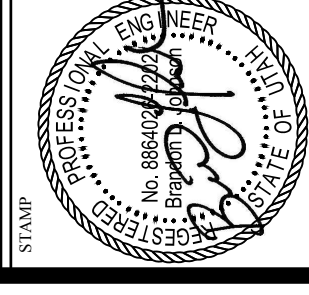
- IMPLEMENTATION REQUIREMENTS**
- Capital Costs
 - O&M Costs
 - Maintenance
 - Training
 - High
 - Medium
 - Low



NOTE:
WHEN REMOVING SILT SOCK, USE ADEQUATE STAPLES TO ENSURE THE FABRIC AND SILT DOES NOT FALL INTO THE CATCH BASIN.

INLET PROTECTION DETAIL

NIS



SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE N.E. SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

CHECKED	B. JOHNSON
SUBMITTED DATES	
DATE	
OTB DATE	
DRAWN	
SCALE	
PROJECT NO.	1832.04

REVISIONS

WINCO #80 CROSS DOCK
2423 N. RULON WHITE BLVD
OGDEN, UTAH

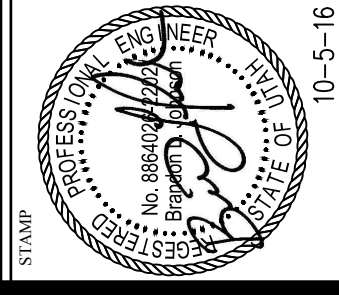
Winco
FOODS

SHEET TITLE
EROSION
CONTROL
DETAILS

SHEET
EC-03

REVISIONS	
DATE	
BY	
DESCRIPTION	
OTHER	
DATE	
BY	
DESCRIPTION	
DATE	
BY	
DESCRIPTION	

SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCALLIANCE.COM



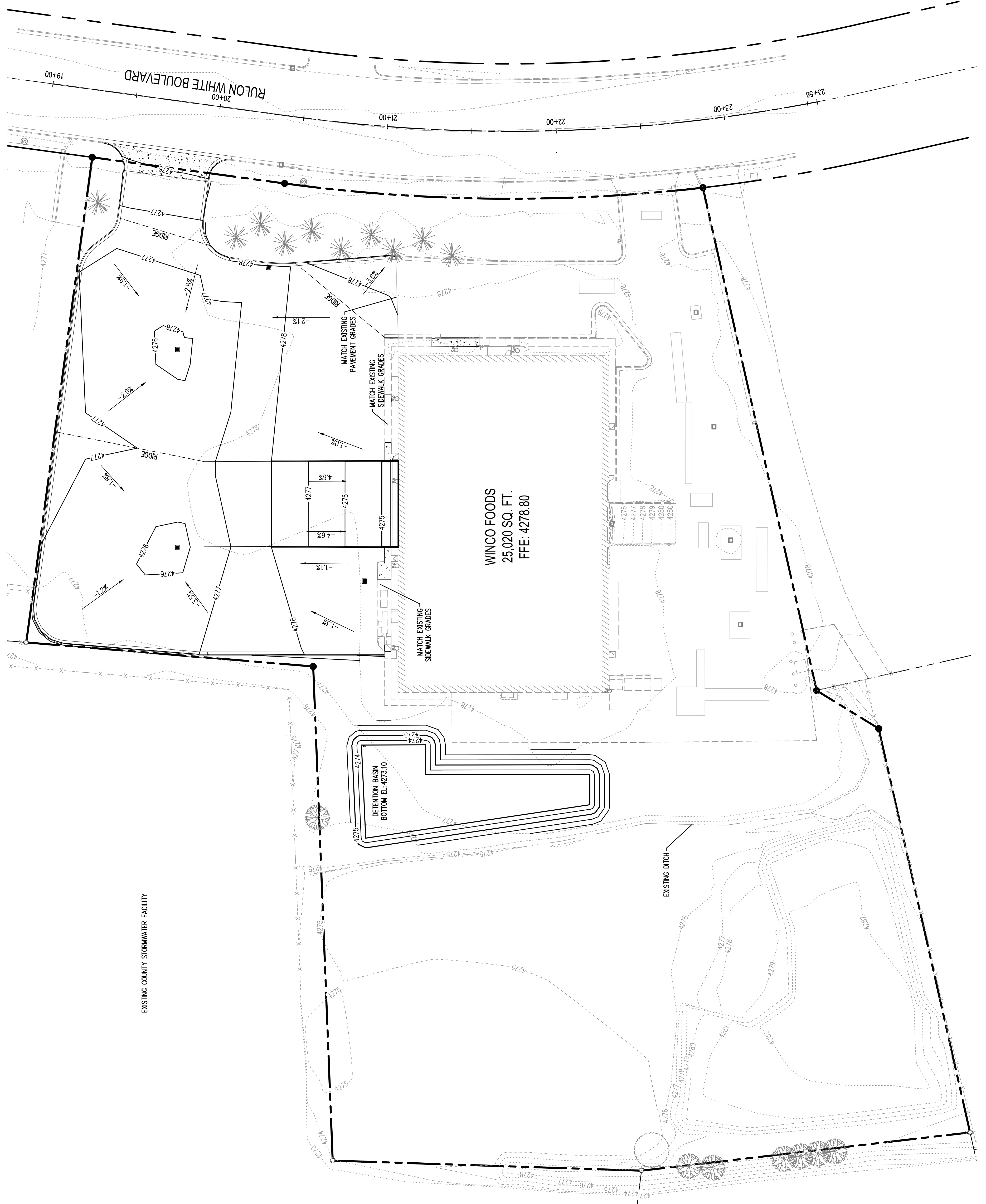
WINCO #80 CROSS DOCK
2423 N. RULON WHITE BLVD
OGDEN, UTAH
10-5-16

Winco
FOODS

SHEET
CG-01

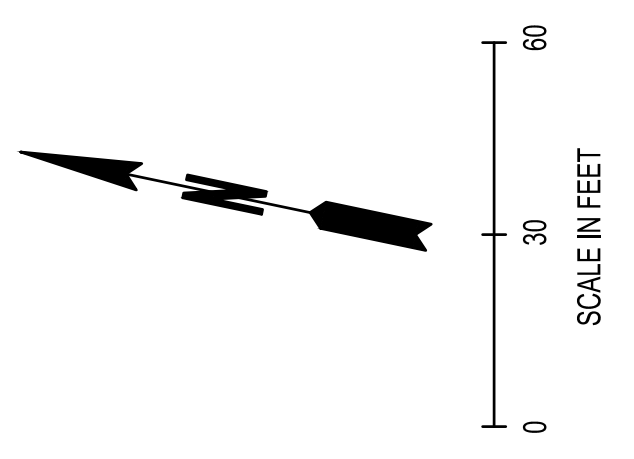
OVERALL
GRADING PLAN

SEC. 36, T. 7 N., R. 2 W.



WINCO FOODS
25,020 SQ. FT.
FFE: 4278.80

EXISTING COUNTY STORMWATER FACILITY



LEGEND

- - - - - EXISTING MAJOR CONTOUR
- - - - - EXISTING MINOR CONTOUR
- - - - - PROPOSED MAJOR CONTOUR
- - - - - PROPOSED MINOR CONTOUR
- - - - - GRADE BREAK
- XXX.XX SPOT ELEVATION
- LP LOW POINT
- HP HIGH POINT
- TBC TOP BACK OF CURB
- TW TOP OF WALL
- 0.00% SLOPE LABEL
- EDGE OF PAVEMENT

GRADING NOTES:

1. SEE "SD" SHEETS FOR STORM WATER INLET, AND PIPING.
2. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE AWAY FROM BUILDING AT ALL TIMES.
3. EXISTING CONTOURS ARE BASED ON SURVEY BY DOMINION ENGINEERING ASSOCIATES, L.L.C.
4. SPOT ELEVATIONS REPRESENT FINISHED GRADE AT FLOW LINE UNLESS OTHERWISE NOTED.
5. ALL LANDSCAPE AREAS SHALL BE STABILIZED.
6. ALL SITE PREPARATION SHALL BE PER SECTION 4.2 OF THE GEOTECHNICAL REPORT BY TERRACON CONSULTANTS DATED JUNE 21, 2016

BASIS OF BEARING:

THE BASIS OF BEARING FOR THIS SURVEY IS SOUTH 89°18'48" WEST ALONG THE NORTH LINE OF S&D SECTION 36.

BENCHMARK:

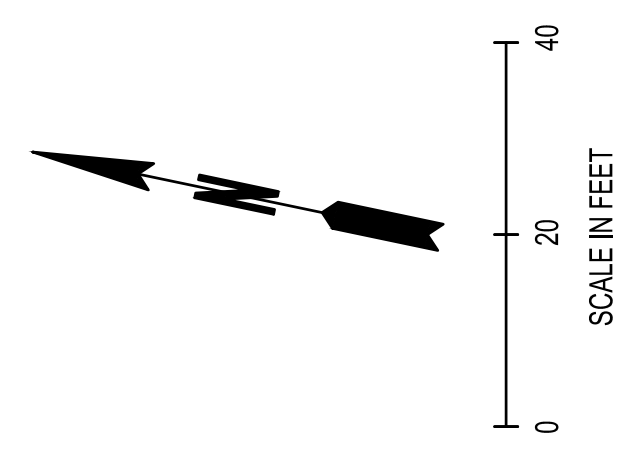
WEBER COUNTY BM WC-115 M,
ELEVATION: 4265.07 (M&D 88)

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING BLUE STAKES OF UTAH 811 OR 1-800-662-4111 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

SEC. 36, T. 7 N., R. 2 W.

REVISIONS NO. DATE 1 12/12/04 2 12/12/04 3 12/12/04 4 12/12/04 5 12/12/04 6 12/12/04 7 12/12/04 8 12/12/04 9 12/12/04 10 12/12/04	SCHEMATIC NO. 1832.04 DRAWN B. JOHNSON CHECKED B. JOHNSON SUBMITTAL DATES OTH DATE	 SCJ ALLIANCE CONSULTING SERVICES 8730 TALLON LANE, SUITE 200, LACEY, WASHINGTON 98516 P: 360-952-1465 F: 360-952-1509 SCALLIANCE.COM	 B. JOHNSON PROFESSIONAL ENGINEER No. 8888 State of Washington 10-5-16	WINCO #80 CROSS DOCK 2423 N. RULON WHITE BLVD OGDEN, UTAH	 Winco Foods	SHEET TITLE GRADING PLAN	SHEET CG-02
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LEGEND

- XX --- EXISTING MAJOR CONTOUR
- XX --- EXISTING MINOR CONTOUR
- XX --- PROPOSED MAJOR CONTOUR
- XX --- PROPOSED MINOR CONTOUR
- --- GRADE BREAK
- --- SPOT ELEVATION
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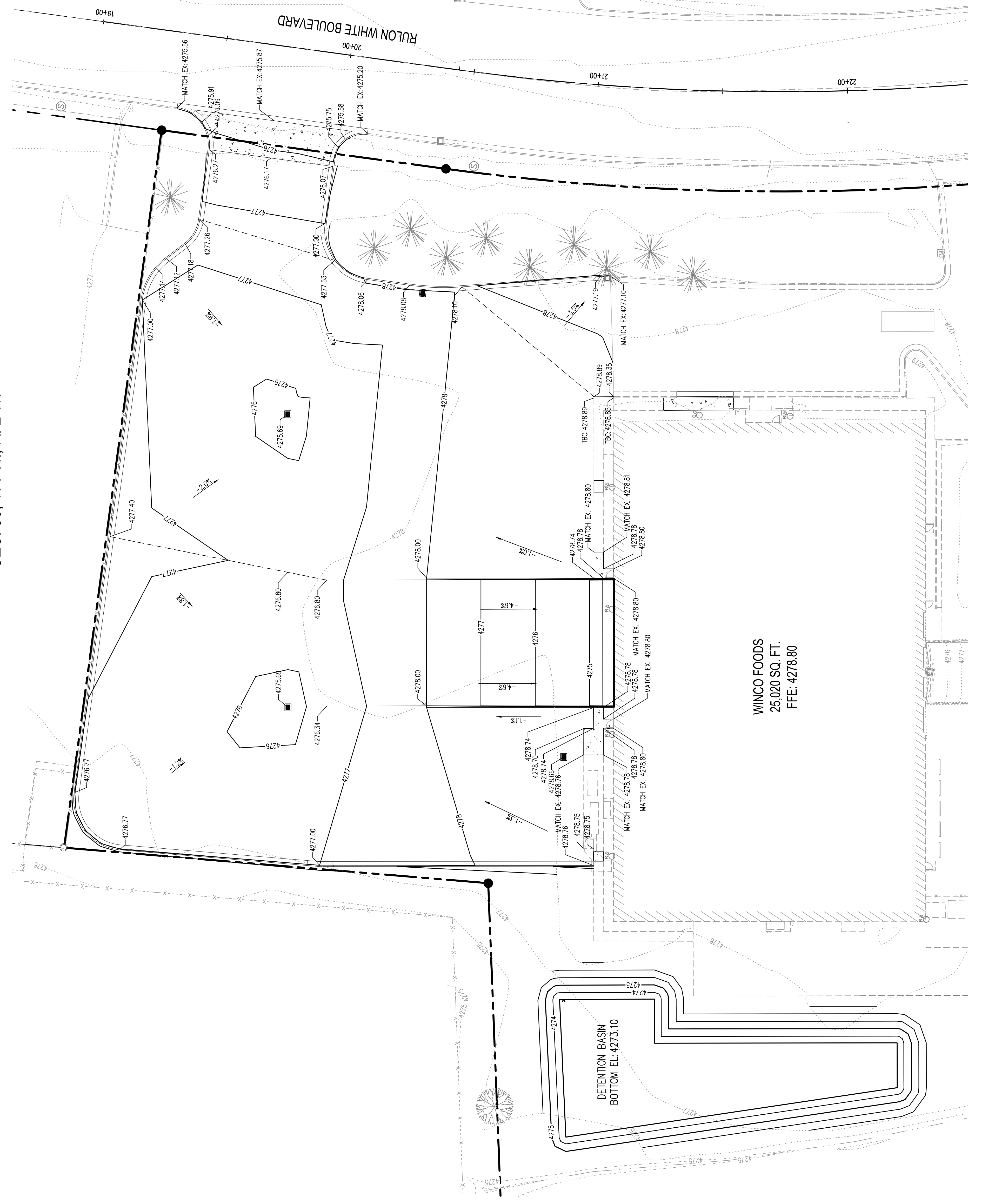
THE BASIS OF BEARING FOR THIS SURVEY IS SOUTH 89°18'48" WEST ALONG THE NORTH LINE OF SAID SECTION 36.

BENCHMARK:

WEBER COUNTY BM WC-115 M, ELEVATION: 4265.07 (MAD 86)

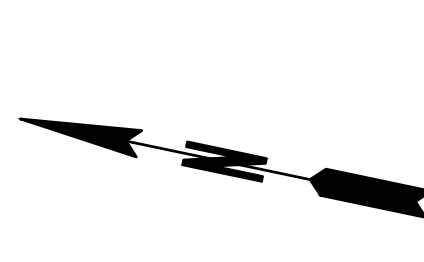
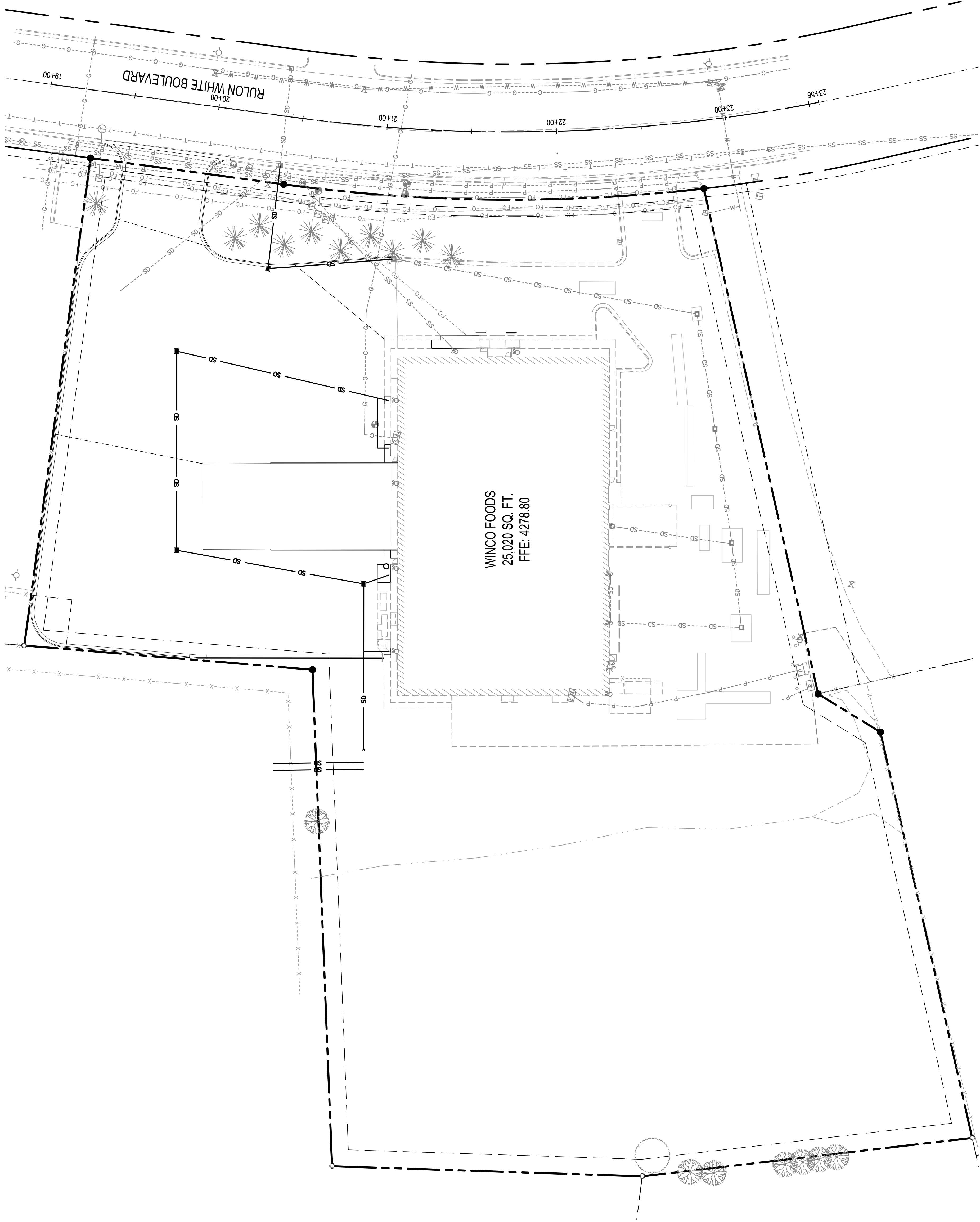
CALL BEFORE YOU DIG

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING BLUE STAKES OF UTAH 811 OR 1-800-662-4111 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.



WINCO FOODS
 25,020 SQ. FT.
 FFE: 4278.80

SEC. 36, T. 7 N., R. 2 W.



LEGEND

SD	PROPOSED STORM LINE
SD	EXISTING STORM DRAIN LINE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
FO	EXISTING FIBER OPTICS LINE
G	EXISTING GAS LINE

GENERAL NOTES:

- UTILITIES SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDERS (POWER, PHONE, GAS, AND COMM.) ON LOCATION. CONTRACTOR SHALL REVIEW LOCATION WITH UTILITY PROVIDER AND ADJUST UTILITY LOCATION TO AVOID CONFLICTS W/ON-SITE UTILITIES.
- SEE SD3 FOR DRY UTILITIES.
- SEE ALTA FOR EASMENTS.

LINE TYPE SCHEDULE

POWER	---
PHONE	---
GAS	---
CABLE	---
COMM.	---

BASIS OF BEARING:

THE BASIS OF BEARING FOR THIS SURVEY IS SOUTH 89°18'48" WEST ALONG THE NORTH LINE OF S&D SECTION 36.

BENCHMARK:

WEBER COUNTY BM WC-115 M, ELEVATION: 4265.07 (MAD 86)

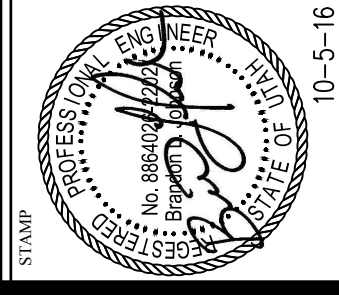
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REVISIONS

NO.	DATE	DESCRIPTION

SCJ ALLIANCE CONSULTING SERVICES
 8730 TALLON LANE, SUITE 200, LACEY, WASHINGTON 98516
 P: 360-952-1465 F: 360-952-1509
 SCALLIANCE.COM



WINCO #88 CROSS DOCK
 2423 N. RULON WHITE BLVD
 OGDEN, UTAH

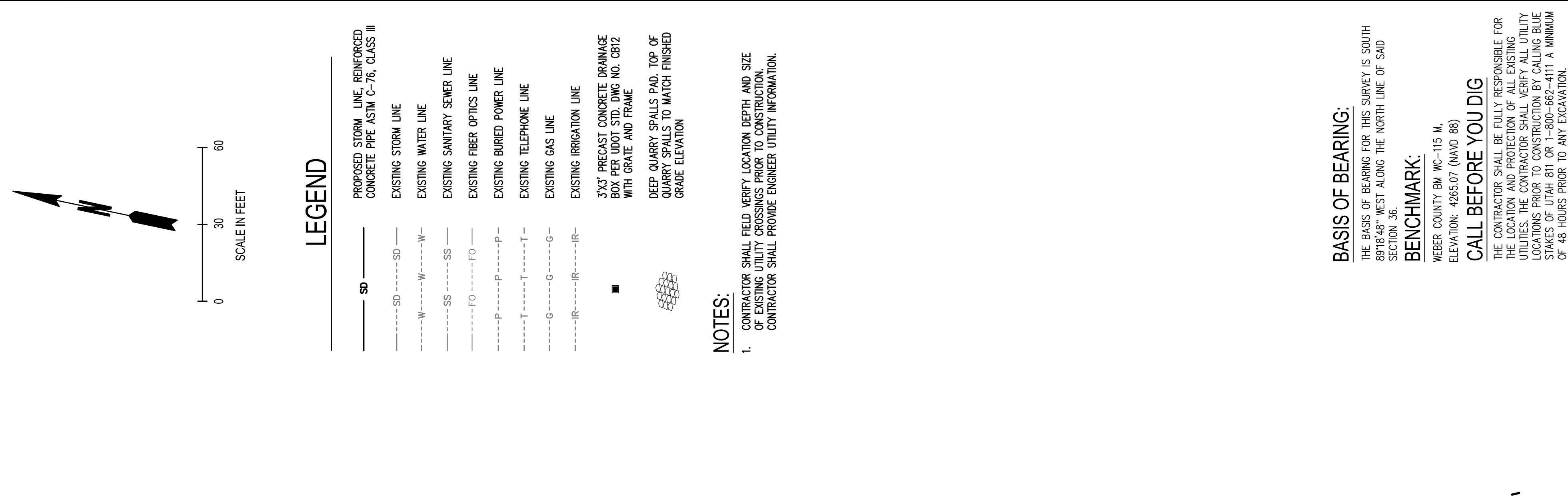


SHEET TITLE
 MASTER
 UTILITY PLAN

SHEET
 MU-01

SEC. 36, T. 7 N., R. 2 W.

REVISIONS NO. DATE BY 1 11/15/16 JH 2 11/15/16 JH 3 11/15/16 JH 4 11/15/16 JH 5 11/15/16 JH 6 11/15/16 JH 7 11/15/16 JH 8 11/15/16 JH 9 11/15/16 JH 10 11/15/16 JH	SC PROJECT NO. 1832.04 DRAWN B. JOHNSON SUBMITTAL DATES OTHER DATE	8730 TALLON LANE, SUITE 200, LACEY, WASHINGTON 98516 P: 360-252-1455 F: 360-252-1509 SC ALLIANCE.COM SCJ ALLIANCE CONSULTING SERVICES		WINCO #80 CROSS DOCK 2423 N. RULON WHITE BLVD OGDEN, UTAH		SHEET TITLE STORM DRAINAGE PLAN SHEET SD-01
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LEGEND

- SD PROPOSED STORM LINE, REINFORCED CONCRETE PIPE ASTM C-76, CLASS III
- SD EXISTING STORM LINE
- W EXISTING WATER LINE
- SS EXISTING SANITARY SEWER LINE
- FO EXISTING FIBER OPTICS LINE
- P EXISTING BURIED POWER LINE
- T EXISTING TELEPHONE LINE
- G EXISTING GAS LINE
- IR EXISTING IRRIGATION LINE
- 3X3 PRECAST CONCRETE DRAINAGE BOX PER UDOT STD. DING NO. 6912 WITH GRATE AND FRAME
- DEEP QUARRY SPALLS PAD, TOP OF QUARRY SPALLS TO MATCH FINISHED GRADE ELEVATION

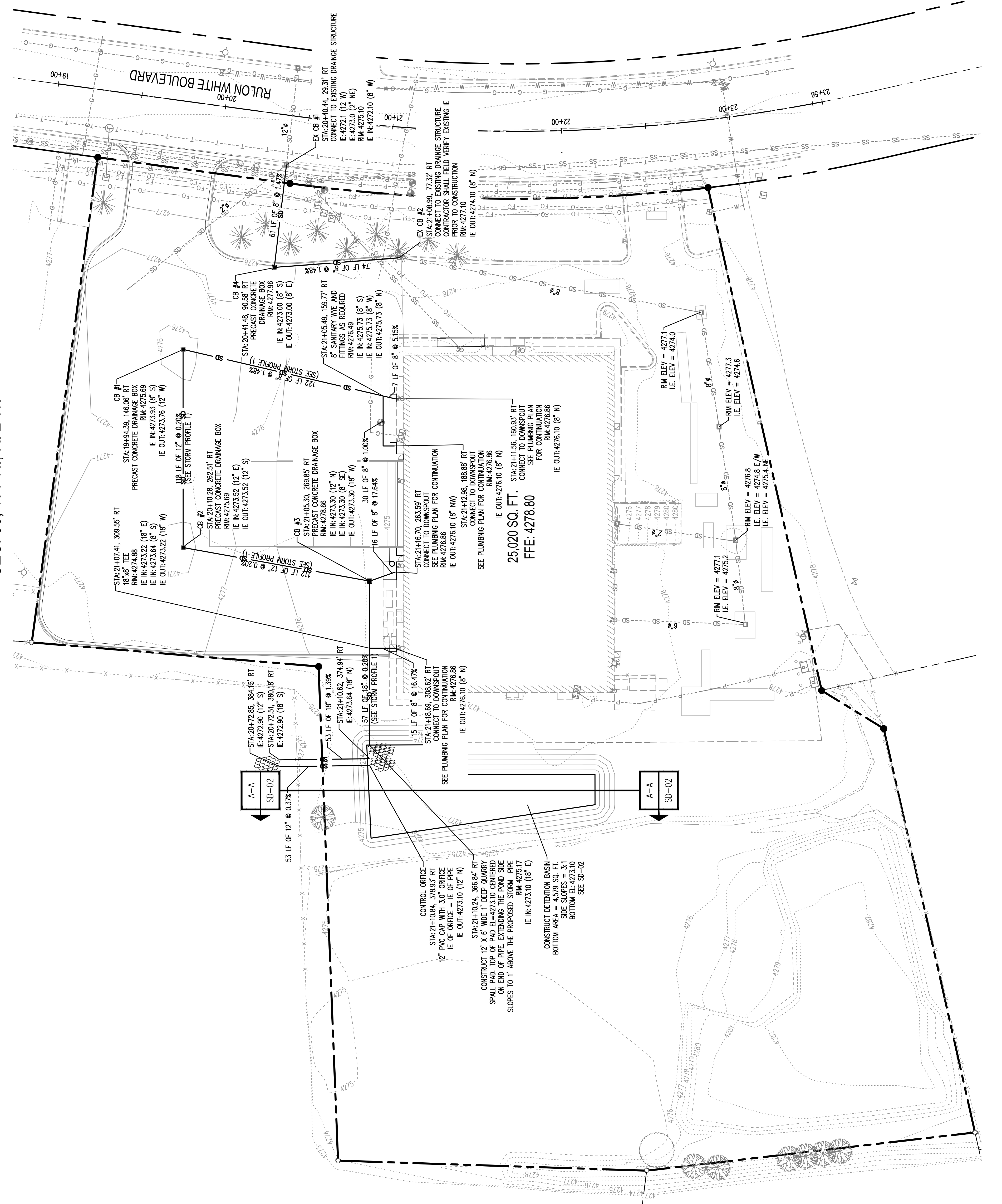
NOTES:

1. CONTRACTOR SHALL FIELD VERIFY LOCATION, DEPTH AND SIZE OF EXISTING UTILITY CROSSINGS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL PROVIDE ENGINEER UTILITY INFORMATION.

BASIS OF BEARING:
 THE BASIS OF BEARING FOR THIS SURVEY IS SOUTH 89°18'48" WEST ALONG THE NORTH LINE OF S&D SECTION 36.

BENCHMARK:
 WEBER COUNTY BM WC-115 M, ELEVATION: 4265.07 (M&D 88)

CALL BEFORE YOU DIG
 THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING BLUE STAKES OF UTAH 811 OR 1-800-662-4111 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.



STANDARD DRAWING TITLE: DRAINAGE BOX
STANDARD DRAWING NO.: CB 12

UTAH DEPARTMENT OF TRANSPORTATION
 STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
 RECOMMENDED FOR ADOPTION
 DATE: JAN 01 2012
 APPROVED: [Signature]
 DATE: JAN 01 2012
 AUTHORITY: [Signature]
 DATE: JAN 01 2012

DESIGN DATA

STRUCTURAL CONCRETE: 1" x 4" 4000 PSI (f_c = 60,000 psi)
 SOIL DENSITY: 150 PCF
 EQUIVALENT SOIL FLUID PRESSURE: 50 PCF
 DEPTH TO WATER TABLE: 5 FEET
 DEPTH TO BOTTOM OF BASE: 8 FEET

NOTES

1. THIS DRAWING IS PREPARED ALTERNATE TO THE 0401 FOR THE BRIDGE AND STRUCTURAL. SET PALS IN ALL DRAWINGS USE FORMED REINFORCING STEEL BARS TO COORDINATE COATED STEEL IS NOT REQUIRED FOR SMALL DRAINAGE STRUCTURES ON THIS DRAWING.
2. USE CLASS A (H) CONCRETE.
3. USE TYPE I CEMENT (LOW ALKALI).
4. PROVIDE 2 INCH CONCRETE COVER TO REINFORCING STEEL.
5. SEE FORMWORK PLAN FOR NUMBER, LOCATION, AND SIZE OF PIPE.
6. PROVIDE 2 INCH CONCRETE COVER TO REINFORCING STEEL ON THE 6" RISERS.
7. PROVIDE SUFFICIENT LIFTING POINTS FOR EASY INSTALLATION. LOCATE LIFTING DEVICES TO AVOID INTERFERENCE WITH THE REINFORCING DESIGN. SUPPLY A MINIMUM OF AT LEAST TWO LIFTING POINTS TO EACH SIDE OF THE BOX. PROVIDE LIFTING POINTS TO ALL PROVIDED LIFTING POINTS. LIFT ONLY FROM REINFORCING POINTS.
8. DO NOT USE DRAINAGE BOXES AND RISER COMBINATIONS THAT EXCEED EIGHT FT.
9. PROVIDE 2 INCH CONCRETE COVER TO REINFORCING STEEL.
10. PROVIDE 2 INCH CONCRETE COVER TO REINFORCING STEEL ON THE 6" RISERS.
11. PROVIDE 2 INCH CONCRETE COVER TO REINFORCING STEEL ON THE 6" RISERS.
12. DESIGN PRECAST FOR ALL LIVE LOADS IN ACCORDANCE WITH AASHTO LEAD BRIDGE DESIGN CRITERIA. PROVIDE FOR ALL LIVE LOADS IN ACCORDANCE WITH AASHTO LEAD BRIDGE DESIGN CRITERIA. PROVIDE FOR ALL LIVE LOADS IN ACCORDANCE WITH AASHTO LEAD BRIDGE DESIGN CRITERIA. PROVIDE FOR ALL LIVE LOADS IN ACCORDANCE WITH AASHTO LEAD BRIDGE DESIGN CRITERIA.
13. DO NOT USE THIS DRAWING WHEN THE WATER TABLE IS WITHIN 5 FT. OF FINISHED GRADE.

REINFORCING STEEL LAYOUT

BOX SIZE	A	B	C	D
1'-0" x 4'-0"	18"	48"	6"	6"
2'-0" x 4'-0"	24"	54"	6"	6"
3'-0" x 4'-0"	30"	60"	6"	6"
4'-0" x 4'-0"	36"	66"	6"	6"
5'-0" x 4'-0"	42"	72"	6"	6"
6'-0" x 4'-0"	48"	78"	6"	6"

ISOMETRIC VIEW

4" MAX RISER HEIGHT
 CONNECT RISER TO BASE WITH 4" MAX RISER HEIGHT

SECTION A-A

SECTION B-B

VARIES 6" MAX
 VARIES 6" MAX

PLAN

A
 B
 C
 D
 E

REINFORCING STEEL LAYOUT

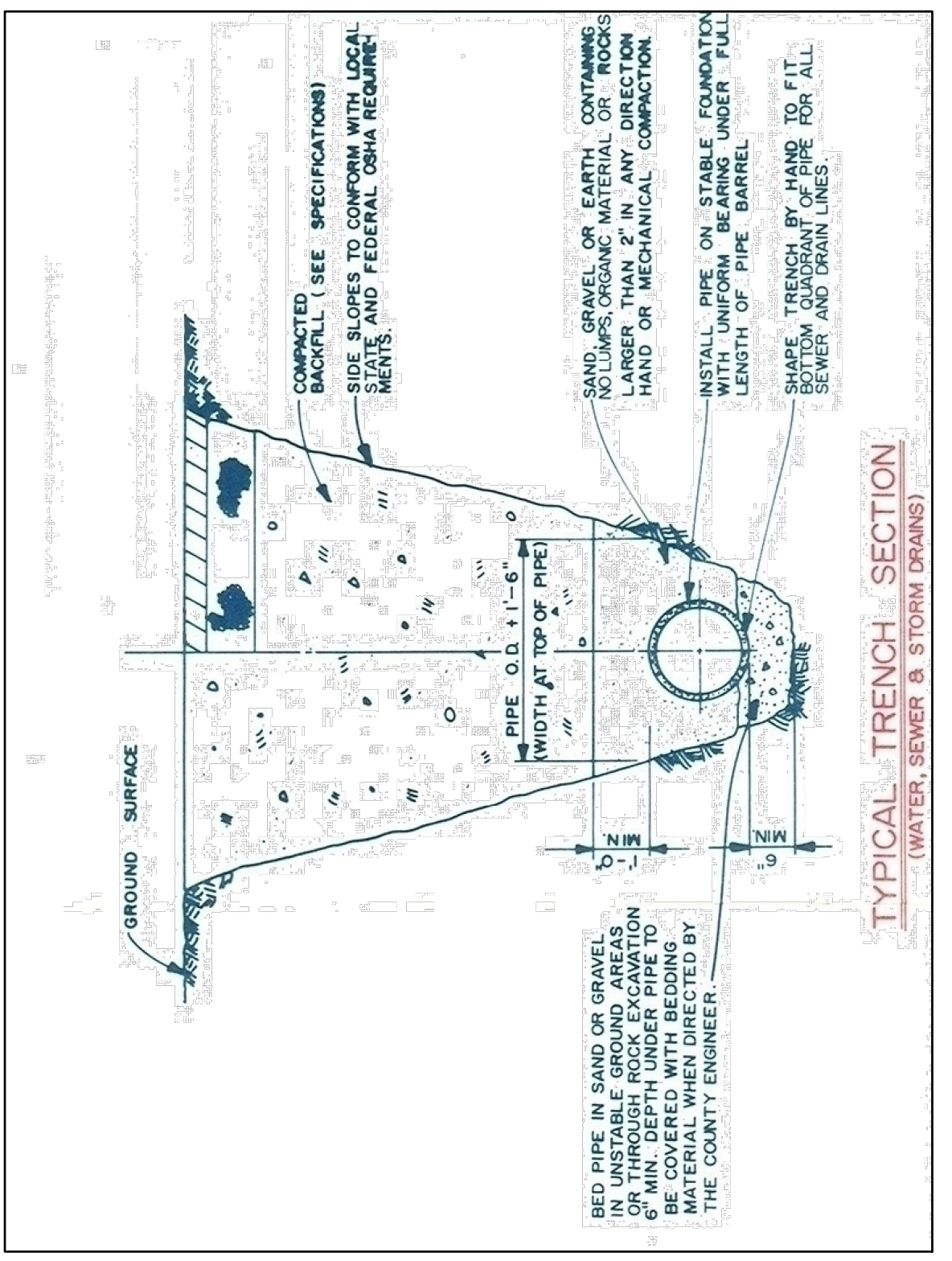
BARS
 BARS

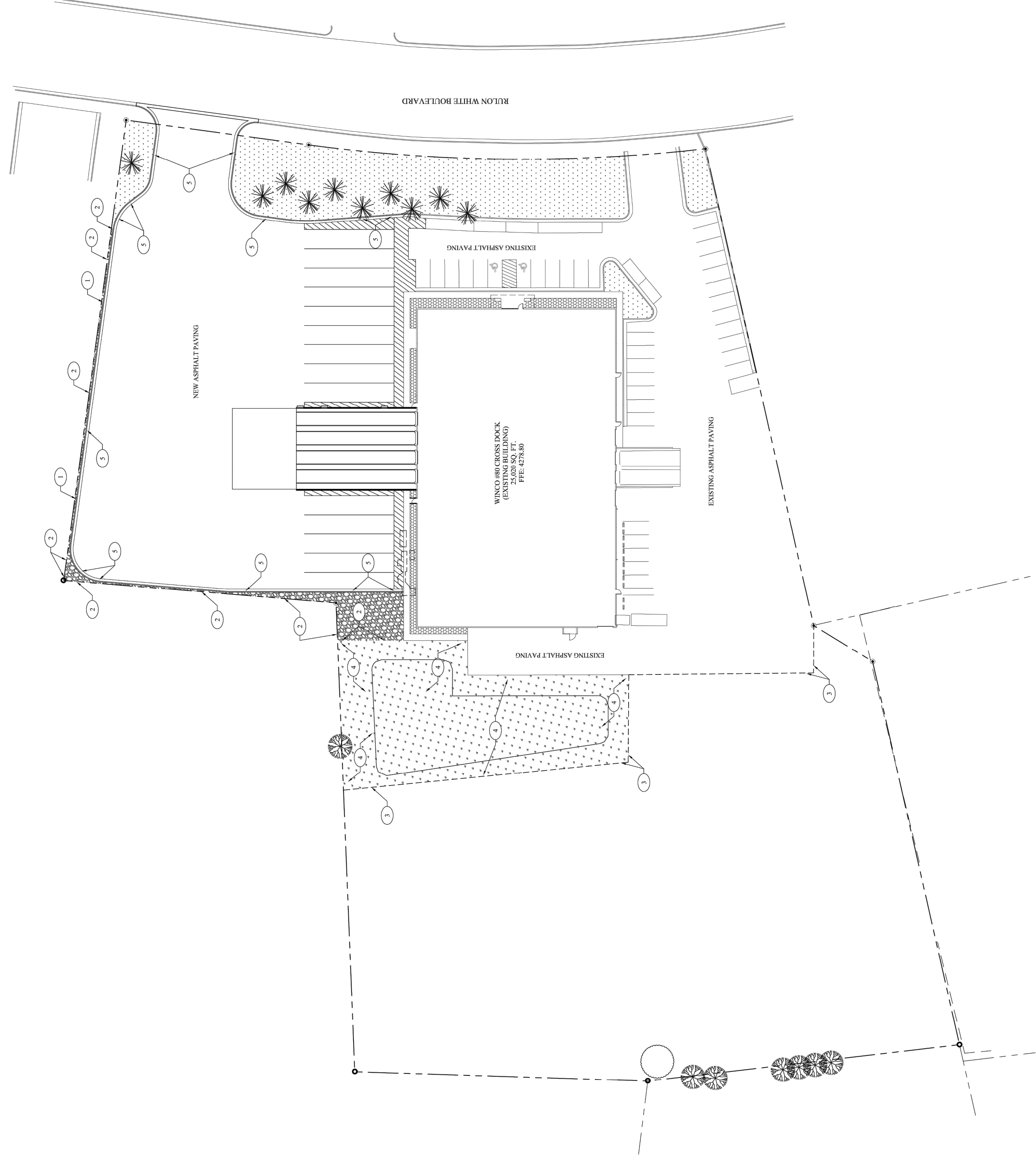
DESIGN DATA

STRUCTURAL CONCRETE: 1" x 4" 4000 PSI (f_c = 60,000 psi)
 SOIL DENSITY: 150 PCF
 EQUIVALENT SOIL FLUID PRESSURE: 50 PCF
 DEPTH TO WATER TABLE: 5 FEET
 DEPTH TO BOTTOM OF BASE: 8 FEET

NOTES

1. THIS DRAWING IS PREPARED ALTERNATE TO THE 0401 FOR THE BRIDGE AND STRUCTURAL. SET PALS IN ALL DRAWINGS USE FORMED REINFORCING STEEL BARS TO COORDINATE COATED STEEL IS NOT REQUIRED FOR SMALL DRAINAGE STRUCTURES ON THIS DRAWING.
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13. DO NOT USE THIS DRAWING WHEN THE WATER TABLE IS WITHIN 5 FT. OF FINISHED GRADE.





LANDSCAPE PLAN
SCALE: 1" = 30'-0"

Winco
FOODS

WINCO #80 CROSS DOCK
2423 RULON WHITE
BLVD, OGDEN
UTAH 84404

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SHEET TITLE

LANDSCAPE
PLAN

SHEET
SD2.1

REVISIONS

NO.	DATE	DESCRIPTION
1	10/04	ACEL PROJECT NO.
2		DRAWN
3		HV
4		CHECKED
5		MAD
6		SUBMITTAL DATES
7	XX/XX/2016	
8		OTH DATE

GENERAL NOTES

1. GC SHALL PROTECT ALL EXISTING LANDSCAPING AND IRRIGATION TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
2. ALL EXISTING LANDSCAPING SHALL BE REMOVED PRIOR TO BRUSHING. BRUSHING SHALL BE DONE FAMILIAR WITH ALL SITE CONDITIONS THAT AFFECT THE EXISTING LANDSCAPING AND IRRIGATION SYSTEM AND ASSOCIATED CONTROLS.
3. THE EXISTING IRRIGATION SYSTEM SHALL BE MAINTAINED TO THE MAXIMUM EXTENT POSSIBLE. ALL MODIFICATIONS AND ASSOCIATED CONTROLS TO EFFICIENTLY SERVE THE EXISTING IRRIGATION SYSTEM SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION.
4. COMPONENTS TO MATCH EXISTING SYSTEM TO MAINTAIN IRRIGATION SYSTEM SHALL BE USED TO MINIMIZE WATER USE, AND TO INTRODUCE NATIVE SPECIES TO THE EXISTING IRRIGATION SYSTEM. IRRIGATION BEYOND TEMPORARY IRRIGATION NEEDED TO ESTABLISH VEGETATION SHALL BE EXISTING TO THE EXTENT POSSIBLE. NEW AREAS OF IRRIGATION SHALL BE INSTALLED WITH MECHANICALLY ANCHORED METAL LANDSCAPE MECHANICALS. ALL IRRIGATION ELEMENTS SHALL HAVE AREAS OF GRAVEL GROUND COVER TO BE PLACED SO THAT ALL AREAS OF EXISTING IRRIGATION REMAIN THAT HAS BEEN INTERRUPTED BY THE IRRIGATION SYSTEM. NEW SOD SHALL BE LAID WITHIN 24 HOURS FROM TIME OF HARVEST.

GENERAL NOTES

1. 6 FT TALL GALVANNEZ FENCING.
2. 5/8" THICK 4" TALL STEEL EDGING (BLACK).
3. EXPOSED CORNERS SHALL BE CHAMFERED 1/4" NEW.
4. FINISH GRADE SHALL BE MAINTAINED TO THE EXISTING FINISH GRADE TO THE MAXIMUM EXTENT POSSIBLE. ALL MODIFICATIONS THAT WILL NOT REQUIRE PERMANENT IRRIGATION SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. PERMANENT DETENTION STRUCTURES, WITH NEW CONCRETE CURB & GUTTER, RE SITE MANHOLES.

LANDSCAPE LEGEND

FOR PURPOSES OF LANDSCAPE CALCULATIONS THE SITE PROJECT AREA IS A COMBINATION OF THE EXISTING AND NEW SITE PROJECT AREAS.

TOTAL SITE AREA	= 24,946.69 SQ FT (5.64 ACRES)
TOTAL SITE PROJECT AREA	= 14,742.00 SQ FT (3.35 ACRES)
TOTAL LANDSCAPED AREA	= 24,770.14 SQ FT
% OF TOTAL PROJECT SITE TO BE LANDSCAPED	= 20.1% OF PROJECT AREA
NON-IRRIGATED NATIVE GRASS	= 13,095.00 SQ FT LANDSCAPE AREA
EXISTING GRAVEL GROUND COVER	= 1,332.16 SQ FT LANDSCAPE AREA
NEW GRAVEL GROUND COVER	= 1,950.00 SQ FT LANDSCAPE AREA
EXISTING IRRIGATED GRASS TURF	= 1,800.00 SQ FT (% OF TOTAL LANDSCAPE AREA)
EXISTING DECIDUOUS, CONIFER TREES	