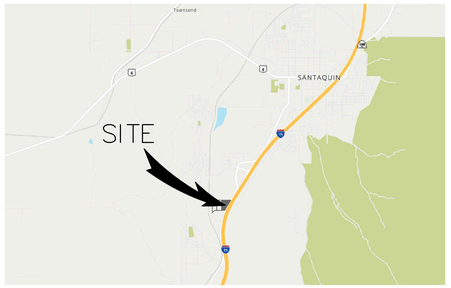
SANTAQUIN RESEARCH & TECH CENTER - PHASE 1

SOUTH RIDGE FARMS ROAD
SANTAQUIN CITY, UTAH 84655

DECEMBER 15, 2023

LEGEND

PROPERTY LINE		EXISTING FIRE HYDRANT	
EASEMENT LINE		PROPOSED FIRE HYDRANT	
4240.0 PROPOSED GRADE CONTOURS		EXISTING STREET LIGHT	
4240.0 EXISTING GRADE CONTOURS		PROPOSED STREET LIGHT	
EXISTING CURB		PROPOSED PARKING LOT LIGHT	
PROPOSED CURB AND GUTTER		EXISTING WATER METER	
PROPOSED CURB WALL		EXISTING WATER VALVE	
REVERSE PAN CURB & GUTTER		EXISTING GATE VALVE	
SS EXISTING SEWER		EXISTING OVERHEAD POWER POLE	
SS PROPOSED SEWER	TBC	TOP BACK CONCRETE	
W EXISTING WATER	FF	FINISHED FLOOR	
W PROPOSED WATER	HW	HIGH WATER	
F EXISTING FIRE LINE	TOG	TOP OF GRATE	
F PROPOSED FIRE LINE	TOL	TOP OF LID	
SD EXSITING STORM DRAIN	IE	INVERT ELEVATION	
SD PROPOSED STORM DRAIN	EX	EXISTING	
RD PROPOSED ROOF DRAIN	NG	NATURAL GROUND	
G EXISTING GAS	TA	TOP OF ASPHALT	
G PROPOSED GAS	TC	TOP OF CONCRETE	
OHP EXISTING OVERHEAD POWER	EC	EDGE OF CONCRETE	
UGP EXISTING UNDERGROUND POWER	EA	EDGE OF ASPHALT	
UGP PROPOSED UNDERGROUND POWER	TOW	TOP OF WALL	
T EXISTING TELEPHONE LINE	TG	TOP OF GRAVEL	
T PROPOSED TELEPHONE LINE	TL	TOP OF LANDSCAPING	
FO EXISTING FIBER OPTIC LINE	TS	TOP OF SIDEWALK	
FO PROPOSED FIBER OPTIC LINE	PROP	PROPOSED	
PROPOSED CONCRETE	39.0	TBC CALLOUT UNLESS OTHERWISE DESIGNATED	
PROPOSED ASPHALT			
PROPOSED LANDSCAPING			



VICINITY MAP
NOT TO SCALE

SHEET INDEX

CV	COVER SHEET
C1.0	SITE PLAN
C2.0	OVERALL GRADING PLAN
C2.1	GRADING PLAN
C2.2	GRADING PLAN
C2.3	GRADING PLAN
C2.4	DRAINAGE PLAN
C3.0	UTILITY PLAN
C4.1	ROAD WIDENING PLAN & PROFILE (STA: 20+00 TO 26+50)
C4.2	ROAD WIDENING PLAN & PROFILE (STA: 26+50 TO 33+00)
C5.1	UTILITY PLAN & PROFILE (STA: 20+00 TO 26+00)
C5.2	UTILITY PLAN & PROFILE (STA: 26+00 TO 32+00)
C5.3	UTILITY PLAN & PROFILE (STA: 32+00 TO 36+00)
C6.0	DETAIL SHEET
C6.1	SANTAQUIN CITY DETAIL SHEET
C7.0	EROSION CONTROL PLAN (SWPPP)
C7.1	EROSION CONTROL DETAIL SHEET

PROJECT CONSTRUCTION NOTES:

1. CONTRACTOR TO NOTIFY BLUE STAKES PRIOR TO CONSTRUCTION, 1-800-662-4111.
2. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. SEE SOILS REPORT FOR PAVEMENT SECTION DETAILS, INSTALLATION SPECIFICATIONS AND ALL SITE EARTHWORK REQUIRMENTS.
4. ALL CONSTRUCTION SHALL CONFORM TO CITY STANDARDS AND SPECIFICATIONS. IF A CONFLICT BETWEEN THESE PLANS AND THE CITY STANDARDS AND SPECIFICATIONS OCCURS, THE CITY STANDARDS AND SPECIFICATIONS SHALL GOVERN.
5. ALL HANDICAP PARKING STALLS TO BE INSTALLED PER ADA STANDARDS. SLOPE ON ANY ADA STALL IS TO BE LESS THAN 2% IN ALL DIRECTIONS.
6. CONTRACTOR TO VERIFY PRIOR TO ANY CONSTRUCTION THAT THE BUILDING AND BUILDING LOCATION SHOWN ON CIVIL DRAWINGS MATCHES THE ARCHITECTURAL PLANS.
7. CONTRACTOR TO VERIFY, WITH ARCHITECT, THAT F.F. ELEVATION SHOWN ON CIVIL PLANS EQUALS THE ARCHITECTS 100.0' ELEVATION.
8. CONTRACTOR TO REPLACE IN KIND ANY AREAS THAT ARE DAMAGED DURING CONSTRUCTION.
9. INSTALL ALL SIDEWALKS PER CITY STANDARDS.
10. INSTALL ALL CONCRETE PAVEMENT JOINTS PER CITY STANDARDS.
11. ALL SEWER, WATER AND STORM DRAIN PIPES SHALL BE BACKFILLED WITH SELECT GRANULAR FILL PER CITY STANDARDS AND SPECIFICATIONS.
12. ALL CATCH BASINS AND MANHOLES TO BE INSTALLED PER CITY STANDARDS.
13. ALL STORM DRAIN PIPING TO BE CUT OFF FLUSH WITH INSIDE WALL OF DRAINAGE BOX. INSIDE WALL TO BE GROUTED SMOOTH WITH A NON-SHRINK GROUT.
14. FOR STORM DRAIN INLET BOXES AND MANHOLES THE I.E. IN AND I.E. OUT ELEVATIONS ARE THE SAME UNLESS OTHERWISE CALLED OUT ON THE PLANS
15. ALL WATER LINES TO HAVE A MINIMUM 5' OF COVER WITH A MINIMUM VERTICAL CLEARANCE OF 1' OF COVER BETWEEN OTHER UTILITY LINES (1.5' VERTICAL SEPARATION WITH SEWER).
16. CONTRACTOR SHALL COORDINATE CONSTRUCTION AND INSTALLATION OF ELECTRICAL, TELEPHONE, NATURAL GAS AND CABLE TV SERVICES WITH THE RESPECTIVE UTILITY COMPANY.
17. THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITY PIPES, LINES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED AND SHOWN FROM SURVEYED INFORMATION AND EXISTING UTILITY LOCATIONS PROVIDED BY OTHERS. THERE IS NO GUARANTEE THAT ALL EXISTING UTILITY INFORMATION IS SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING BLUE STAKES AND FIELD VERIFYING THE LOCATION AND ELEVATION OF ALL EXISTING UTILITY PIPES, LINES AND STRUCTURES, PRIOR TO CONSTRUCTION.
18. ANY OFF SITE DAMAGE TO EXISTING ASPHALT, CURB & GUTTER, LANDSCAPING AND ALL UTILITIES TO BE REPLACED IN KIND.
19. ALL ACCESSIBLE ROUTES AND ACCESSIBLE MEANS OF EGRESS ROUTES, THE MAXIMUM SLOPE SHALL NOT EXCEED 5% AND THE CROSS SLOPE SHALL NOT EXCEED 2%. ALL EXTERIOR LANDINGS AT DOORS SHALL NOT EXCEED 2% SLOPE.

Include the following notes on the cover sheet.

-THE DEVELOPER AND THE GENERAL CONTRACTOR UNDERSTAND THAT IT IS HIS/HER RESPONSIBILITY TO ENSURE THAT ALL IMPROVEMENTS INSTALLED WITHIN THIS DEVELOPMENT ARE CONSTRUCTED IN FULL COMPLIANCE WITH ALL STATE AND SANTAQUIN CITY CODES, ORDINANCES AND STANDARDS. THESE PLANS ARE NOT ALL INCLUSIVE OF ALL MINIMUM CODES, ORDINANCES AND STANDARDS. THIS FACT DOES NOT RELIEVE THE DEVELOPER OR GENERAL CONTRACTOR FROM THE FULL COMPLIANCE WITH ALL MINIMUM STATE AND SANTAQUIN CITY CODES, ORDINANCES AND STANDARDS.

-ALL RECOMMENDATIONS MADE IN A PERTINENT GEOTECHNICAL REPORT/STUDY SHALL BE FOLLOWED EXPLICITLY DURING CONSTRUCTION OF BUILDINGS AND SITE IMPROVEMENTS.

Include the name, address and telephone number of the property owner. The Utah County Parcel map has the property owner as LG SQ1 LLC.

CIVIL ENGINEER:

CIR | CIVIL ENGINEERING +SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

OWNER:

TAMARAK
TAMARAK DESIGN BUILD, LLC
PO BOX 970271
OREM, UT 84097
385.201.7848

ARCHITECT:

AE URBIA
909 W SOUTH JORDAN PARKWAY
SOUTH JORDAN, UTAH 84095
CONTACT PERSON: ANDREW BOLLSCHWEILER
PH: (801) 746-0456

CONTRACTOR

CAMPBELL CONSTRUCTION, INC.
905 N MAIN ST,
NORTH SALT LAKE, UT 84054

NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

CIR | CIVIL ENGINEERING +SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

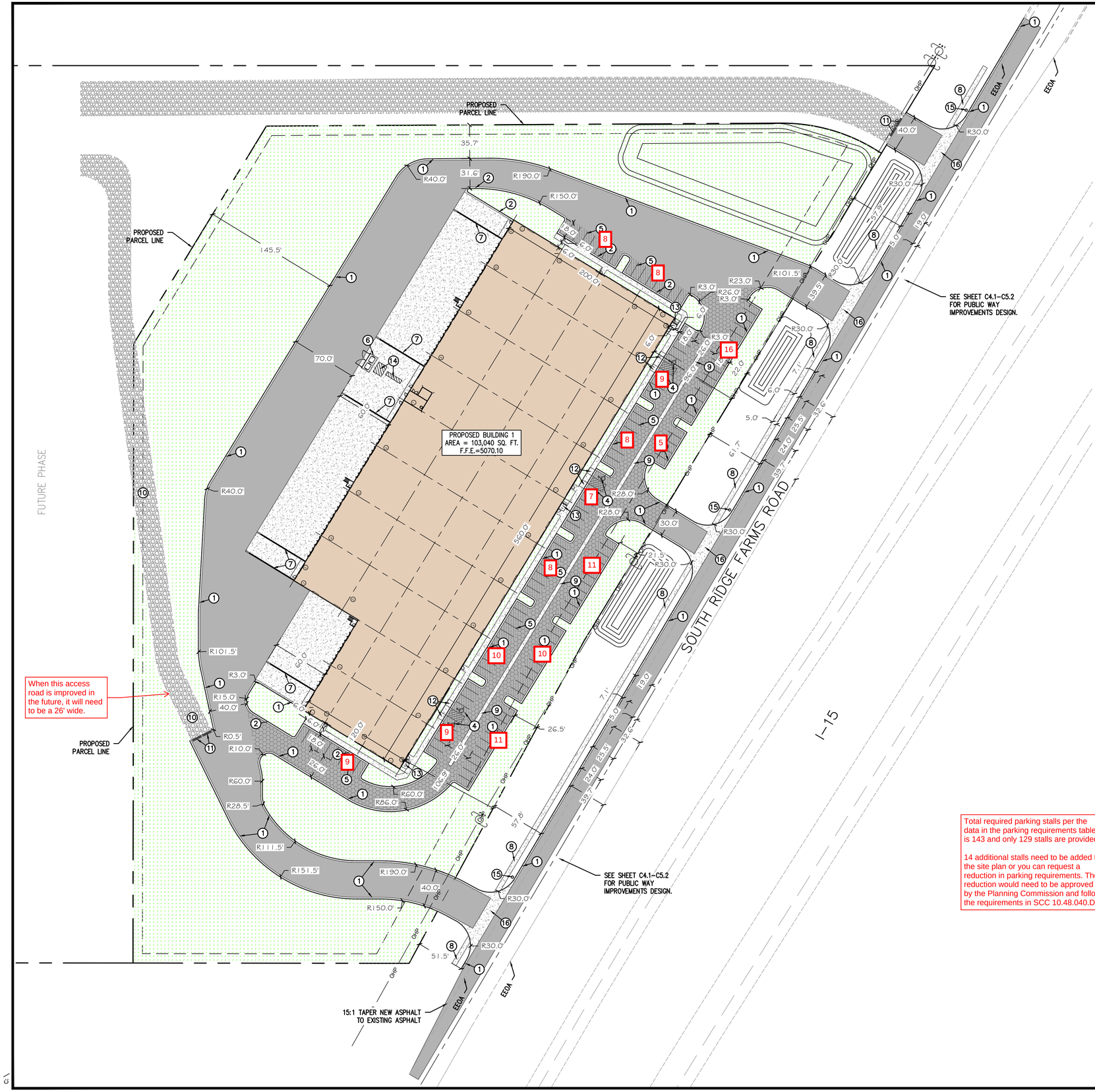
SANTAQUIN RESEARCH & TECH CENTER - PHASE 1
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655
COVER SHEET

Blue Stakes of UTAH 811 Bluestakes.org

SHEET NO.
CV

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE:

C:\



SHEET LEGEND

- PROPOSED LIGHT ASPHALT — SEE DETAIL C2.0
- PROPOSED MEDIUM ASPHALT — SEE DETAIL C2.0
- PROPOSED HEAVY ASPHALT — SEE DETAIL C2.0
- PROPOSED CONCRETE — SEE DETAIL C2.0
- PROPOSED ROUGH GRADE FUTURE ROADWAY

N

0 50 100 150

Scale in Feet

SEE COVER SHEET FOR PROJECT LEGEND

SITE PLAN NOTES:

1. PROPOSED 24" CURB & GUTTER. SEE DETAIL 1/C6.0.
2. PROPOSED 24" REVERSE PAN CURB AND GUTTER. SEE DETAIL 2/C6.0.
3. PROVIDE SMOOTH TRANSITION FROM CURB & GUTTER TO REV. PAN CURB & GUTTER.
4. ALL HANDICAP STALLS AND RAMPS TO BE INSTALLED PER SANTAQUIN CITY AND ADA STANDARDS AND SPECIFICATIONS. SEE DETAIL 9/C6.0.
5. ALL PARKING LOT STRIPING TO BE REFLECTIVE WHITE (TYP.) AND PER SANTAQUIN CITY STANDARDS.
6. PROPOSED TRASH ENCLOSURE TO BE LOCATED IN DOCK AREA. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
7. PROPOSED DOCK WALL. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
8. INSTALL 5' WIDE CONCRETE SIDEWALK PER CITY STANDARDS. SEE DETAIL CG5/C6.1.
9. PROPOSED 4' ROLL GUTTER. SEE DETAIL 3/C6.0.
10. FUTURE PHASE ACCESS ROAD. ROUGH GRADING ONLY AS PART OF PHASE 1.
11. PROPOSED JERSEY BARRIER OR APPROVED EQUAL.
12. ADA RAMPS ARE TO BE INSTALLED PER CITY AND ADA STANDARDS AND SPECIFICATIONS. SEE DETAIL 4/C6.0.
13. PROPOSED BIKE RACK. SEE DETAIL 6/C6.0.
14. ELECTRICAL EQUIPMENT (SEE MEP PLANS).
15. INSTALL STREET LIGHT POLE AS PER SANTAQUIN CITY STANDARD DETAIL L1 AND L2.
16. INSTALL DRIVE APPROACH AS PER SANTAQUIN CITY STANDARD CG3/C6.1

LOT 1 AREAS:

		SQ. FT.	/	ACRES.	
	LOT	466,432	/	10.708	
	BUILDING FOOTPRINT	103,025	/	2.365	22.1%
	ASPHALT	116,255	/	2.669	24.9%
	LANDSCAPING	187,207	/	4.298	40.1%
	CONCRETE	59,945	/	1.376	12.9%

NOTE:

1. ALL AREA CALCULATIONS ARE APPROXIMATE AND CAN CHANGE DUE TO CONSTRUCTION TOLERANCES.

Total required parking stalls per the data in the parking requirements table is 143 and only 129 stalls are provided.

14 additional stalls need to be added to the site plan or you can request a reduction in parking requirements. The reduction would need to be approved by the Planning Commission and follow the requirements in SCC 10.48.040.D

LOT 1 PARKING REQUIREMENTS:

	SQ. FT.	CITY REQ'T	
OFFICE	10,000	50	(1/200)
WAREHOUSE	93,025	~~85~~ 93	(1/1000)
TOTAL REQUIRED		~~135~~ 143	
TOTAL PROVIDED		0 129	
ACCESSIBLE SPACES	6	(5 REQ'D 101 TO 150)	
BICYCLE SPACES	18		

NOTE:

1. ALL AREA CALCULATIONS ARE APPROXIMATE AND CAN CHANGE DUE TO CONSTRUCTION TOLERANCES.

Blue Stakes of UTAH 811 — Bluestakes.org

NO.	REVISIONS	BY	DATE
DESIGNER: SDT		PROJECT ENGINEER: SDT	

CIVIL ENGINEERING + SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6298

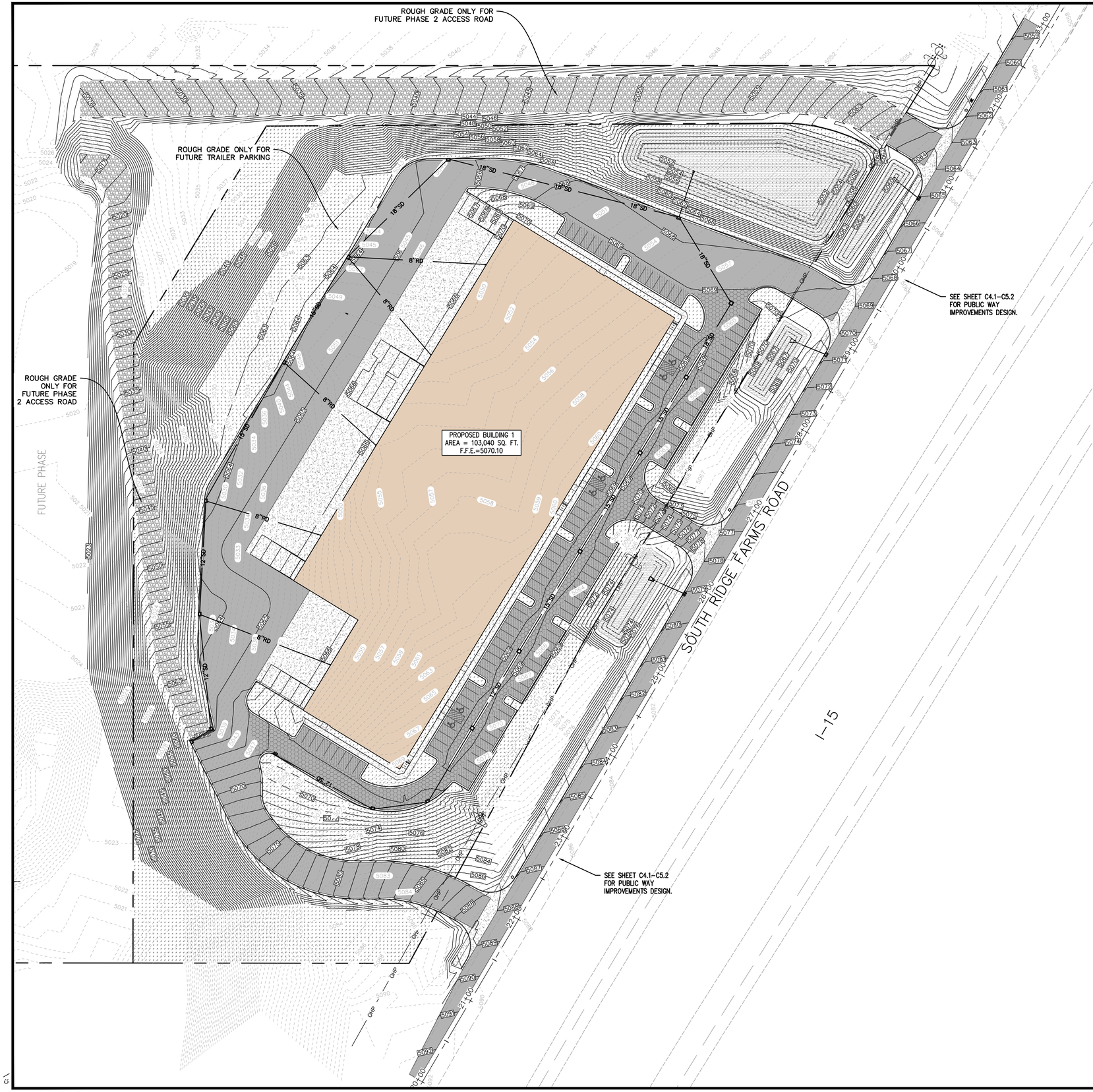
SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

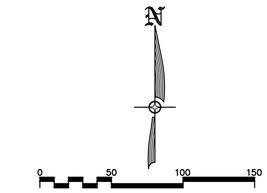
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

SITE PLAN

SHEET NO. C1.0

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=50'

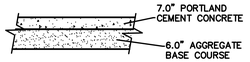




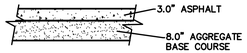
SEE COVER SHEET FOR PROJECT LEGEND

SHEET LEGEND

- PROPOSED LIGHT ASPHALT — SEE DETAIL BELOW
- PROPOSED MEDIUM ASPHALT — SEE DETAIL BELOW
- PROPOSED HEAVY ASPHALT — SEE DETAIL BELOW
- PROPOSED CONCRETE — SEE DETAIL BELOW
- PROPOSED ROUGH GRADE FUTURE ROADWAY



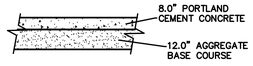
OVER PROPERLY PREPARED NATURAL SUBGRADE SOILS, AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO PROPERLY PREPARED NATURAL SUBGRADE SOILS.



OVER PROPERLY PREPARED FILLS, NATURAL SUBGRADE SOILS, AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO PROPERLY PREPARED FILLS AND/OR NATURAL SUBGRADE SOILS.

DOCK CONCRETE PAVEMENT

N.T.S.



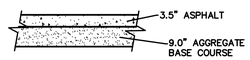
OVER PROPERLY PREPARED NATURAL SUBGRADE SOILS, AND/OR STRUCTURAL SITE GRADING FILL. DUMPSTER PADS SHOULD NOT BE CONSTRUCTED OVERLYING NON-ENGINEERED FILLS UNDER ANY CIRCUMSTANCES.

DUMPSTER PAD CONCRETE

N.T.S.

LIGHT ASPHALT PAVEMENT

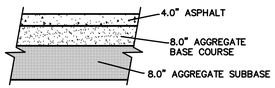
N.T.S.



OVER PROPERLY PREPARED FILLS, NATURAL SUBGRADE SOILS, AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO PROPERLY PREPARED FILLS AND/OR NATURAL SUBGRADE SOILS.

MEDIUM ASPHALT PAVEMENT

N.T.S.



OVER PROPERLY PREPARED FILLS, NATURAL SUBGRADE SOILS, AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO PROPERLY PREPARED FILLS AND/OR NATURAL SUBGRADE SOILS.

HEAVY ASPHALT PAVEMENT

N.T.S.

PAVEMENT SECTIONS ARE PER THE DECEMBER 29, 2022 GEOTECHNICAL STUDY BY GSH (JOB NO 3523-010-22). CONTRACTOR TO INSTALL ALL PAVEMENT PER THE GEOTECH REPORT.

Blue Stakes of UTAH 811 — Bluestakes.org

NO.	REVISIONS	BY	DATE

DESIGNER: SDT — PROJECT ENGINEER: SDT

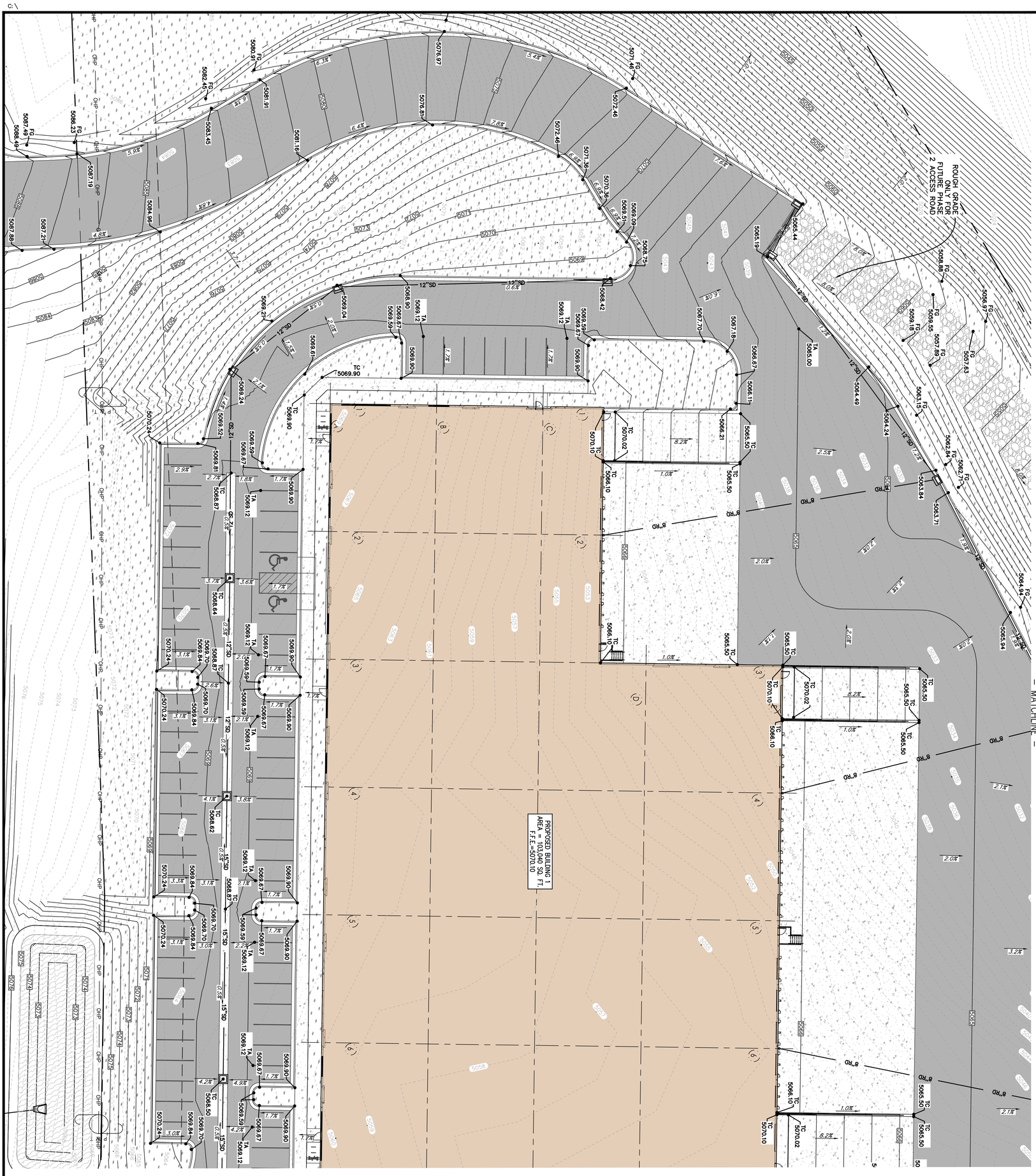
CIVIL ENGINEERING + SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

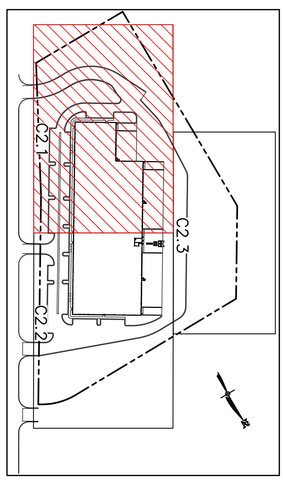
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

OVERALL GRADING PLAN

SHEET NO.	
C2.0	
PROJECT ID: E23-143	DATE: 12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=50'



KEYMAP



Scale in Feet
SEE COVER SHEET FOR PROJECT LEGEND

Blue Stakes of UTAH 811 Dial 811 or 800-662-4111 Bluestakes.org

SHEET NO. C2.1
PROJECT ID: E23-143
DATE: 12/15/23
FILE NAME: PRO-SUI
SCALE: 1"=20'

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

GRADING PLAN

CIR | CIVIL ENGINEERING + SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

NO.	REVISIONS	BY	DATE

DESIGNER: SDT PROJECT ENGINEER: SDT

SEE SHEET C2.3
– MATCHLINE –

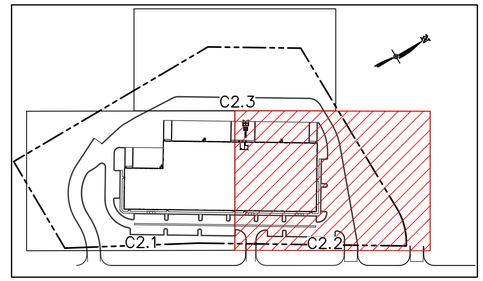
SEE SHEET C2.1
– MATCHLINE –

PROPOSED BUILDING 1
AREA = 103,040 SQ. FT.
F.F.E.=5070.10

ROUGH GRADE ONLY FOR FUTURE PHASE 2 ACCESS ROAD

0 20 40 60
Scale in Feet

SEE COVER SHEET FOR PROJECT LEGEND



KEYMAP

CIVIL ENGINEERING +SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

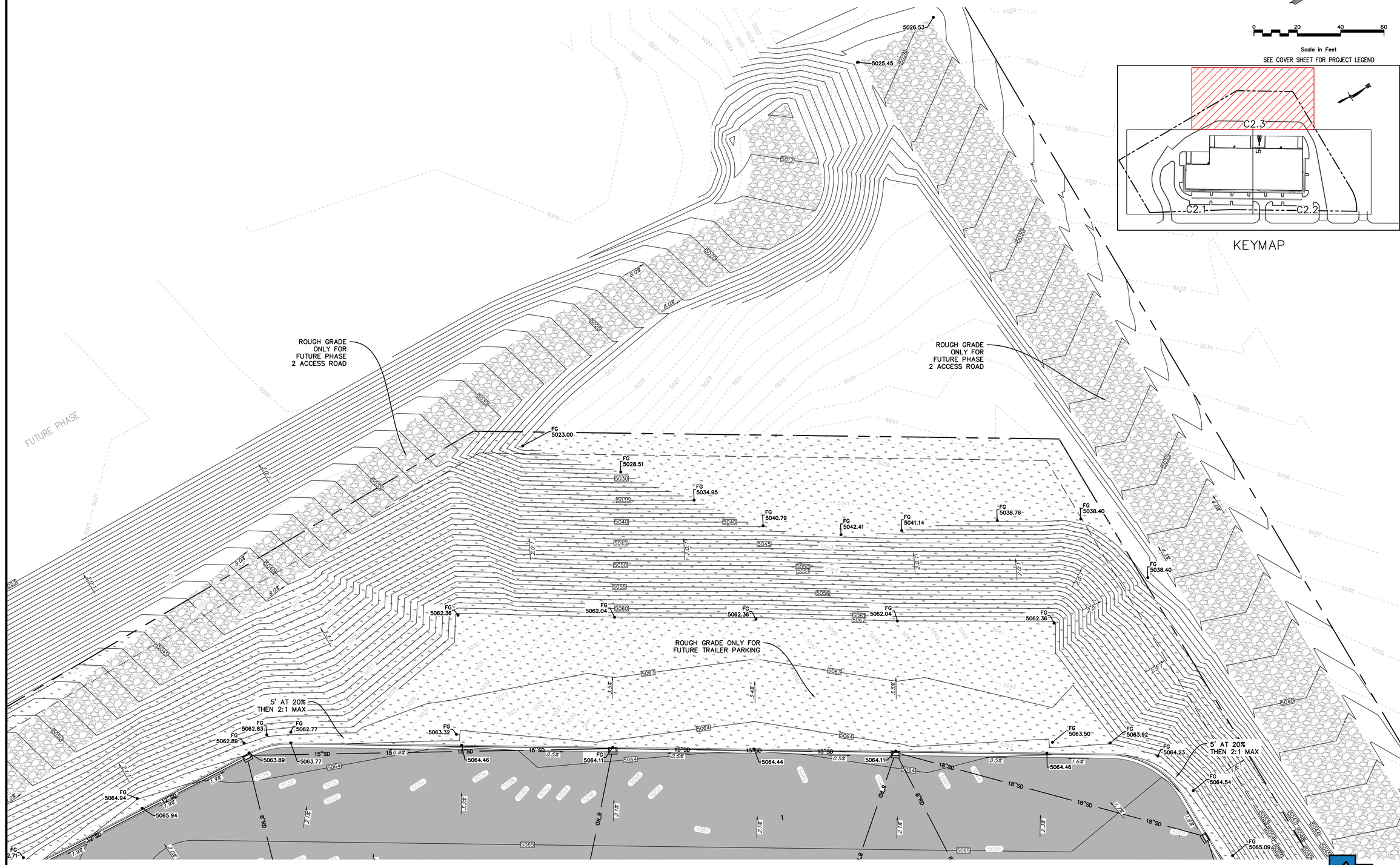
SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

GRADING PLAN

SHEET NO.	
C2.2	
PROJECT ID: E23-143	DATE: 12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=20'

Blue Stakes of UTAH 811 Bluestakes.org



NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

CIR | CIVIL ENGINEERING + SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

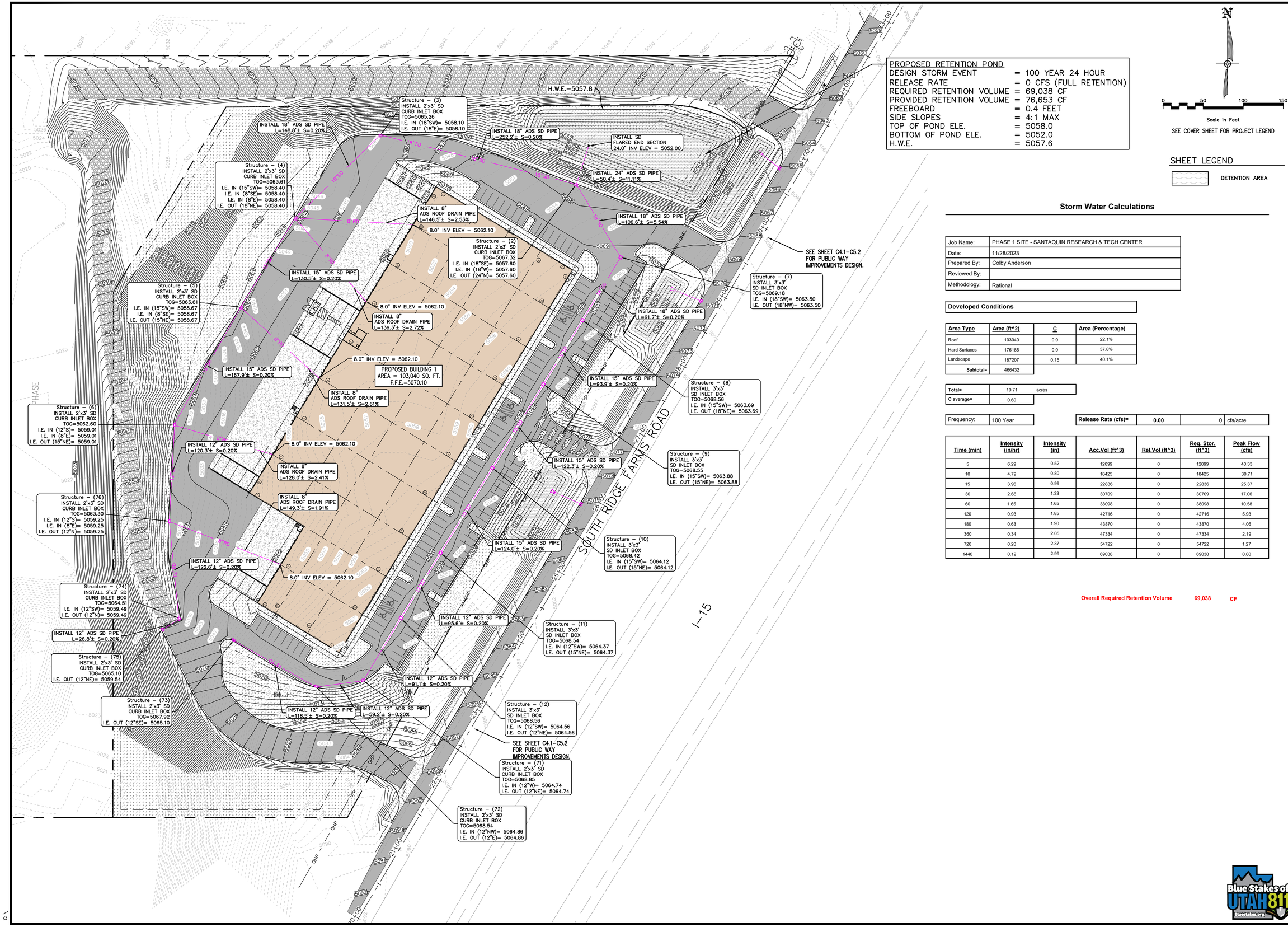
GRADING PLAN

SHEET NO.
C2.3

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=20'

Blue Stakes of UTAH 811 Bluestakes.org

1 of 1



PROPOSED RETENTION POND

DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 69,038 CF
PROVIDED RETENTION VOLUME	= 76,653 CF
FREEBOARD	= 0.4 FEET
SIDE SLOPES	= 4:1 MAX
TOP OF POND ELE.	= 5058.0
BOTTOM OF POND ELE.	= 5052.0
H.W.E.	= 5057.6

N

0 50 100 150

Scale in Feet

SEE COVER SHEET FOR PROJECT LEGEND

SHEET LEGEND

DETENTION AREA

Storm Water Calculations

Job Name:	PHASE 1 SITE - SANTAQUIN RESEARCH & TECH CENTER
Date:	11/28/2023
Prepared By:	Colby Anderson
Reviewed By:	
Methodology:	Rational

Developed Conditions

Area Type	Area (ft^2)	C	Area (Percentage)
Roof	103040	0.9	22.1%
Hard Surfaces	176185	0.9	37.8%
Landscape	187207	0.15	40.1%
Subtotal=	466432		

Total=	10.71	acres
C average=	0.60	

Frequency:	100 Year	Release Rate (cfs)=	0.00	0 cfs/acre

Time (min)	Intensity (in/hr)	Intensity (in)	Acc.Vol (ft^3)	Rel.Vol (ft^3)	Req. Stor. (ft^3)	Peak Flow (cfs)
5	6.29	0.52	12099	0	12099	40.33
10	4.79	0.80	18425	0	18425	30.71
15	3.96	0.99	22836	0	22836	25.37
30	2.66	1.33	30709	0	30709	17.06
60	1.65	1.65	38098	0	38098	10.58
120	0.93	1.85	42716	0	42716	5.93
180	0.63	1.90	43870	0	43870	4.06
360	0.34	2.05	47334	0	47334	2.19
720	0.20	2.37	54722	0	54722	1.27
1440	0.12	2.99	69038	0	69038	0.80

Overall Required Retention Volume 69,038 CF

CIVIL ENGINEERING +SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

NO.	REVISIONS	BY	DATE

DESIGNER: SDT PROJECT ENGINEER: SDT

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

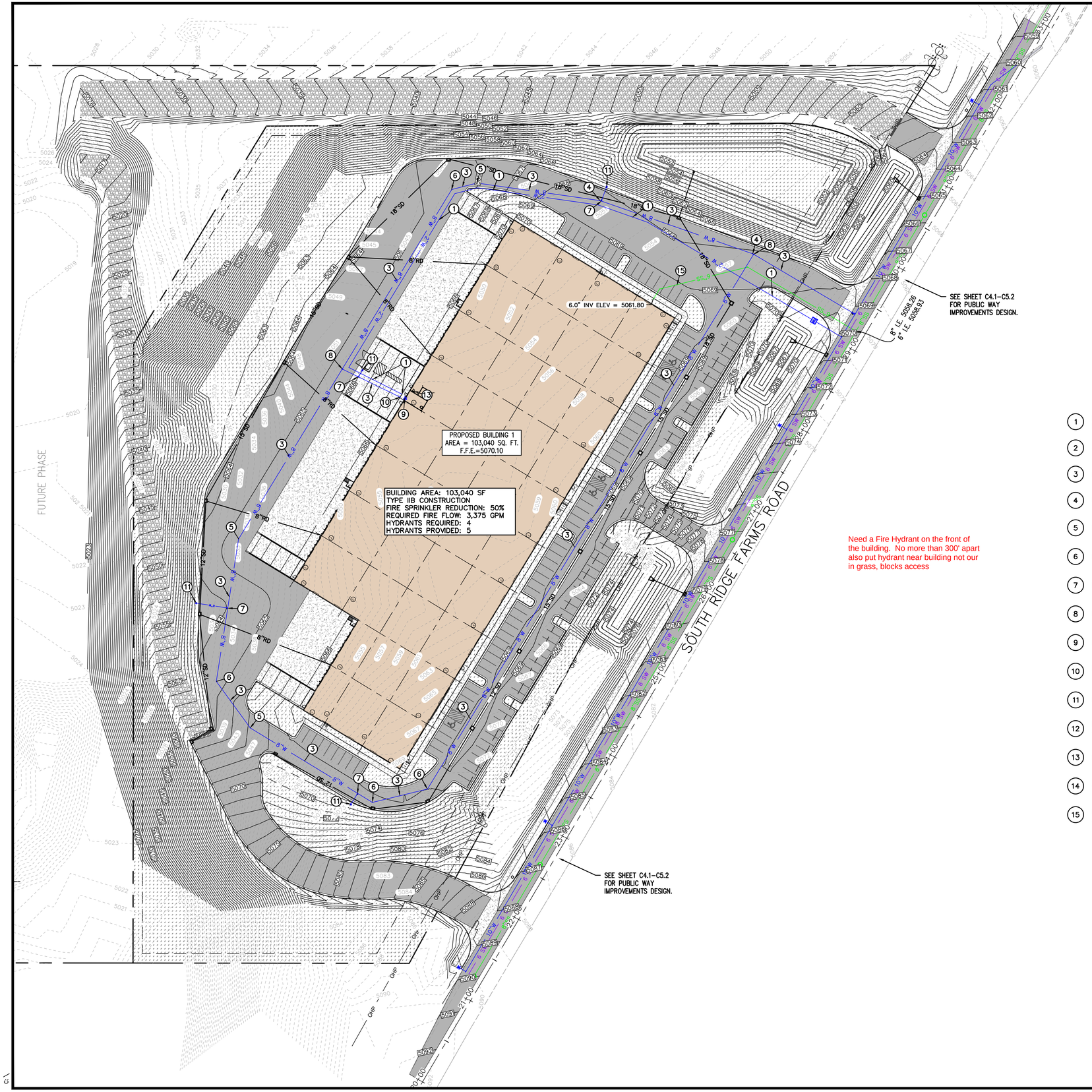
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

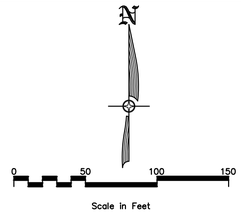
DRAINAGE PLAN

Blue Stakes of UTAH 811 Bluestakes.org

SHEET NO. C2.4

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=50'





SEE COVER SHEET FOR PROJECT LEGEND

UTILITY PLAN NOTES:

1. INSTALL 2" POLY PIPE WITH BENDS. END WATER LINE 5' FROM BUILDING AND SEE MECHANICAL PLANS FOR CONTINUATION INTO BUILDING.
2. CONNECT PROPOSED 8" PVC C–900 FIRE LINE TO PROPOSED 8" PVC C–900 FIRE LINE LATERAL.
3. PROPOSED 8" PVC C–900 FIRE LINE.
4. INSTALL 8" 11.25° BEND W/THRUST BLOCK.
5. INSTALL 8" 22.5° BEND W/THRUST BLOCK.
6. INSTALL 8" 45° BEND W/THRUST BLOCK.
7. INSTALL 8"X8"x6" TEE W/6" GATE VALVE W/THRUST BLOCKS
8. INSTALL 8"X8"x8" TEE W/8" GATE VALVE W/THRUST BLOCKS
9. INSTALL WALL MOUNTED FDC PER SANTAQUIN STANDARDS.
10. END 8" PVC C–900 FIRE LINE 5' FROM BUILDING AND SEE FIRE SPRINKLER PLANS FOR CONTINUATION TO FIRE RISER.
11. INSTALL FIRE HYDRANT WITH VALVE PER SANTAQUIN SEE DETAIL C6.0.
12. FIRE HYDRANT INSTALLED AS PART OF ROAD IMPROVEMENT PLANS (SEE SHEETS C4.0–4.2 AND C5.1–C5.2 FOR DETAILS).
13. INSTALL KNOX BOX 3500 SERIES KEY BOX FOR FIRE DEPARTMENT ACCESS TO FIRE RISER ROOM.
14. CONNECT TO 6" SEWER STUB AND INSTALL 6" SEWER CLEANOUT WYE. TOL=5095.00, I.E.=5067.95.
15. INSTALL 84'± OF 6" PVC SDR–35 SEWER PIPE, S=27.3%. END PIPE 5' FROM BUILDING (I.E.=5090.90) AND SEE PLUMBING PLANS FOR CONTINUATION INTO BUILDING.

NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

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South Jordan, Utah - 801-949-6296

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

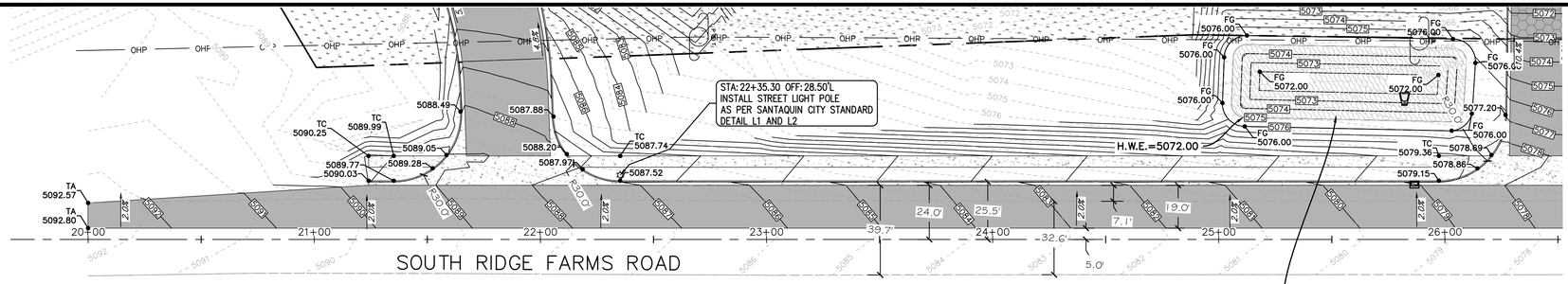
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

UTILITY PLAN

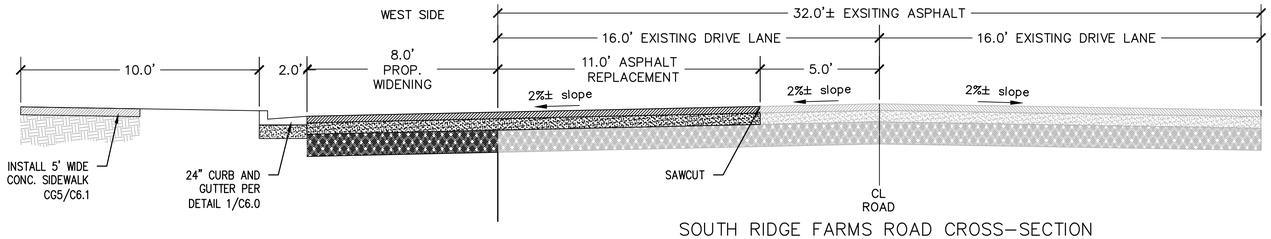
SHEET NO.
C3.0

PROJECT ID	DATE
E23–143	12/15/23
FILE NAME: PRJ–SJ1	SCALE: 1"=50'

Blue Stakes of UTAH 811 Bluestakes.org



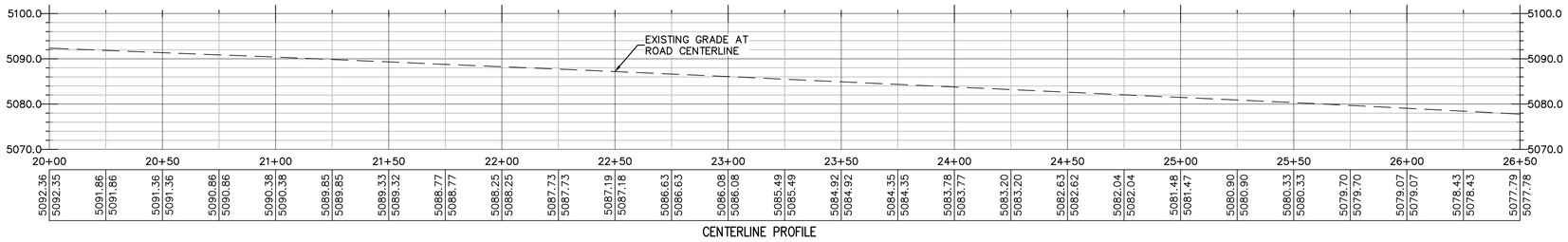
MATCHLINE – STA 26+50
SEE SHEET C4.2



SOUTH RIDGE FARMS ROAD CROSS-SECTION

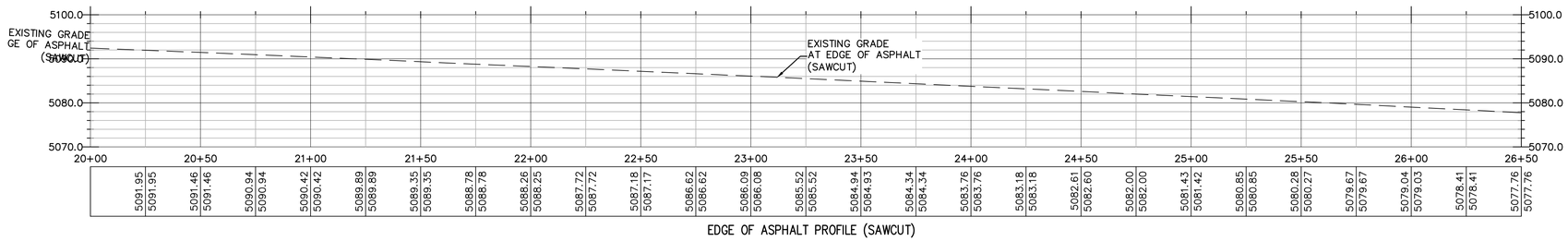
STA: 20+00 TO 33+00

PROPOSED RETENTION POND 1 OF 3	
DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 5,635 CF
PROVIDED RETENTION VOLUME	= 9,120 CF
FREEBOARD	= 1.0 FEET
SIDE SLOPES	= 4:1 MAX
TOP OF POND ELE.	= 5076.0
BOTTOM OF POND ELE.	= 5072.0
H.W.E.	= 5075.0



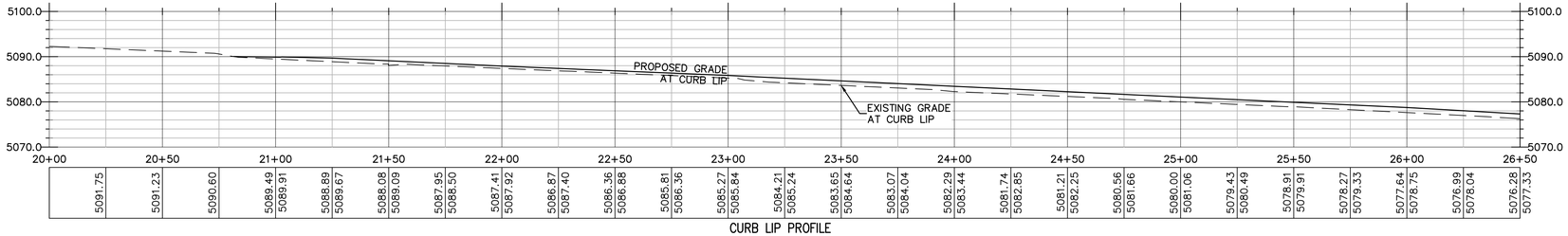
CENTERLINE PROFILE

MATCHLINE – STA 26+50
SEE SHEET C4.2



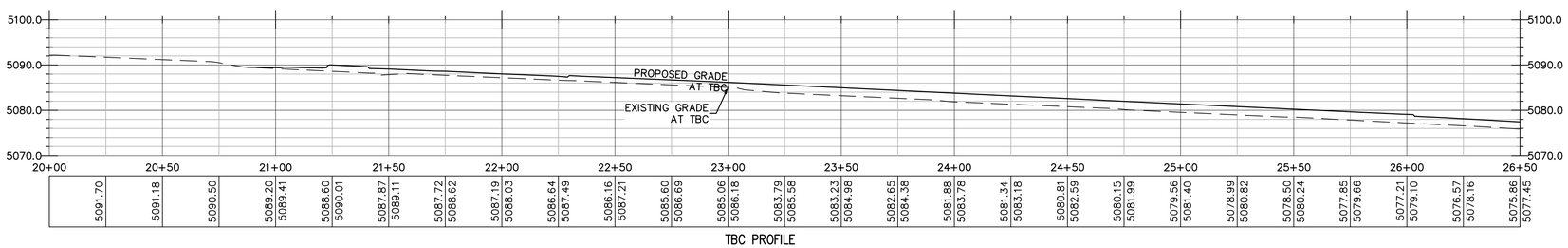
EDGE OF ASPHALT PROFILE (SAWCUT)

MATCHLINE – STA 26+50
SEE SHEET C4.2



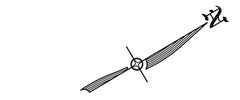
CURB LIP PROFILE

MATCHLINE – STA 26+50
SEE SHEET C4.2



TBC PROFILE

MATCHLINE – STA 26+50
SEE SHEET C4.2



SEE COVER SHEET FOR PROJECT LEGEND

SHEET LEGEND

- DETENTION AREA
- PROP. ASPHALT

NO	REVISIONS	BY	DATE

DESIGNER: SDT
PROJECT ENGINEER: SDT

CIVIL ENGINEERING
+SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6298

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

ROAD WIDENING PLAN AND PROFILE

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

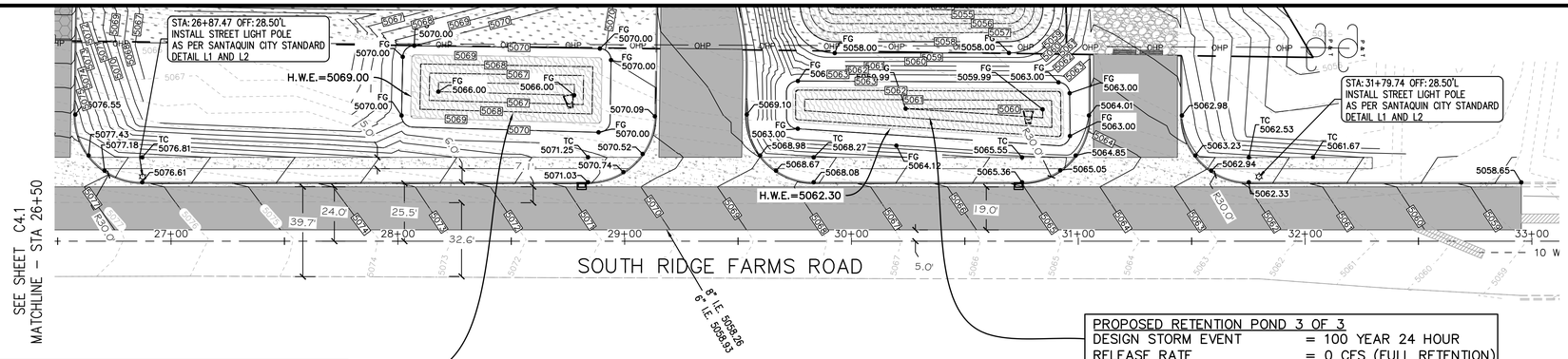
STA: 20+00 STA: 20+00 TO 26+50

SHEET NO.
C4.1

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=30'

Blue Stakes of UTAH 811 Bluestakes.org

C:\

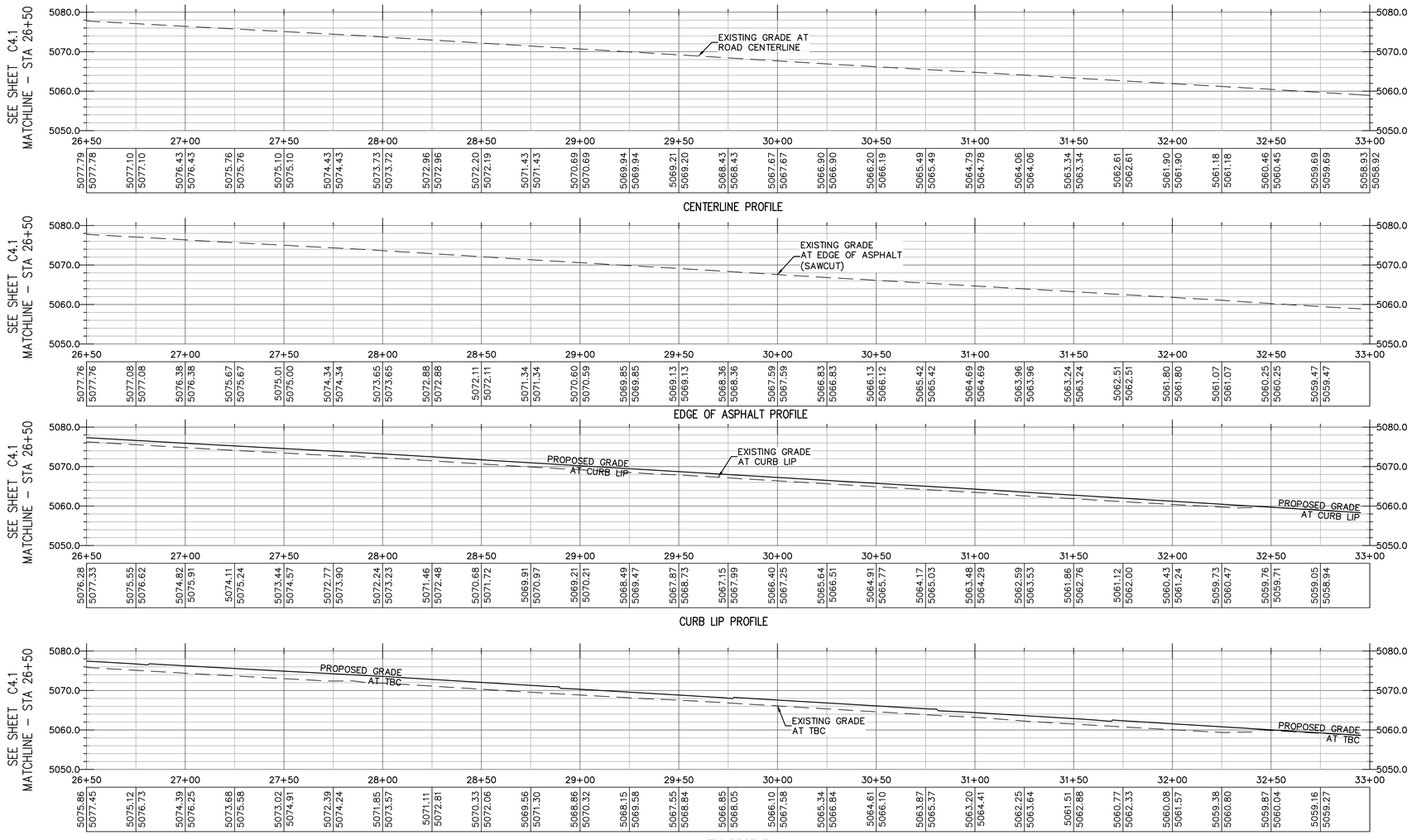


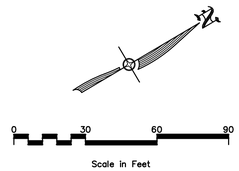
PROPOSED RETENTION POND 2 OF 3

DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 3,675 CF
PROVIDED RETENTION VOLUME	= 6,204 CF
FREEBOARD	= 1.0 FEET
SIDE SLOPES	= 4:1 MAX
TOP OF POND ELE.	= 5070.0
BOTTOM OF POND ELE.	= 5066.0
H.W.E.	= 5069.0

PROPOSED RETENTION POND 3 OF 3

DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 2,450 CF
PROVIDED RETENTION VOLUME	= 4,069 CF
FREEBOARD	= 0.7 FEET
SIDE SLOPES	= 4:1 MAX
TOP OF POND ELE.	= 5063.0
BOTTOM OF POND ELE.	= 5060.0
H.W.E.	= 5062.3





SEE COVER SHEET FOR PROJECT LEGEND

SHEET LEGEND

- DETENTION AREA
- ASPHALT REPLACEMENT
- PROP. ASPHALT

NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

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SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

ROAD WIDENING PLAN AND PROFILE

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

STA: 26+50 TO 33+00

Blue Stakes of UTAH 811 Bluestakes.org

SHEET NO.	
C4.2	
PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=30'

SEE COVER SHEET FOR PROJECT LEGEND

MATCHLINE - STA 26+00
SEE SHEET C5.2

PROPOSED RETENTION POND 1 OF 3	
DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 5,635 CF
PROVIDED RETENTION VOLUME	= 9,120 CF
FREEBOARD	= 1.0 FEET
SIDE SLOPES	= 4:1 MAX
TOP OF POND ELE.	= 5076.0
BOTTOM OF POND ELE.	= 5072.0
H.W.E.	= 5075.0

MATCHLINE - STA 26+00
SEE SHEET C5.2

NO.	REVISIONS	BY	DATE

DESIGNER: SDT PROJECT ENGINEER: SDT

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South Jordan, Utah - 801-949-6296

SANTAQUIN RESEARCH & TECH CENTER - PHASE 1
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655
UTILITY PLAN AND PROFILE
STA: 20+00 TO 26+00

SHEET NO. C5.1

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=30'

PROPOSED RETENTION POND 2 OF 3

DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 3,675 CF
PROVIDED RETENTION VOLUME	= 6,204 CF
FREEBOARD	= 1.0 FEET
SIDE SLOPES	= 4:1 MAX
TOP OF POND ELE.	= 5070.0
BOTTOM OF POND ELE.	= 5066.0
H.W.E.	= 5069.0

PROPOSED RETENTION POND 3 OF 3

DESIGN STORM EVENT	= 100 YEAR 24 HOUR
RELEASE RATE	= 0 CFS (FULL RETENTION)
REQUIRED RETENTION VOLUME	= 2,450 CF
PROVIDED RETENTION VOLUME	= 4,069 CF
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SIDE SLOPES	= 4:1 MAX
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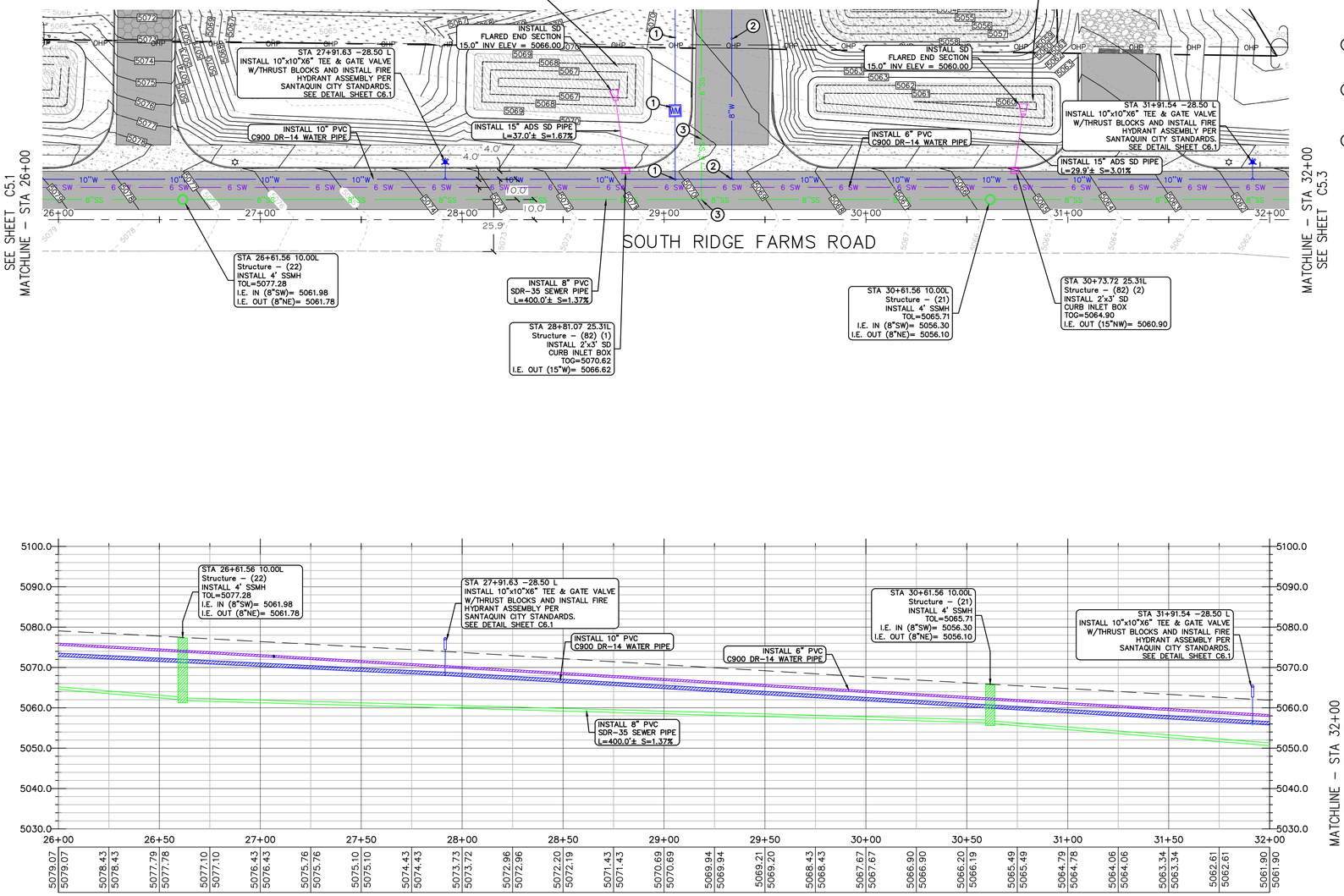
BOTTOM OF POND ELE.	= 5060.0
H.W.E.	= 5062.3



UTILITY PLAN NOTES:

1. CONNECT TO PROPOSED 10" WATER MAIN AND INSTALL 2" WATER LATERAL AND 2" WATER METER FOR CULINARY PURPOSES. CAP AND MARK LATERAL 5' PAST PROPERTY LINE FOR FUTURE CONNECTION. ALL WORK TO BE DONE PER SANTAQUIN STANDARDS.
2. CONNECT TO PROPOSED 10" WATER MAIN VIA TEE (W/8" GATE VALVE AND THRUST BLOCKS) AND INSTALL 8" FIRE LINE LATERAL. CAP AND MARK LATERAL 5' PAST PROPERTY LINE FOR FUTURE CONNECTION.
3. CONNECT TO PROPOSED 8" SEWER MAIN (I.E.(8"MAIN)=5058.26, I.E.(6"LAT)=5068.93) AND INSTALL 84.9' OF 6" PVC SDR-35 SEWER LATERAL, S=1.48%. CAP AND MARK LATERAL 5' PAST PROPERTY LINE FOR FUTURE CONNECTION (I.E.(CAP)=5060.19)). ALL WORK TO BE DONE PER SANTAQUIN STANDARDS.

0 30 60 90
Scale in Feet

SEE COVER SHEET FOR PROJECT LEGEND

NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

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South Jordan, Utah - 801-949-6298

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

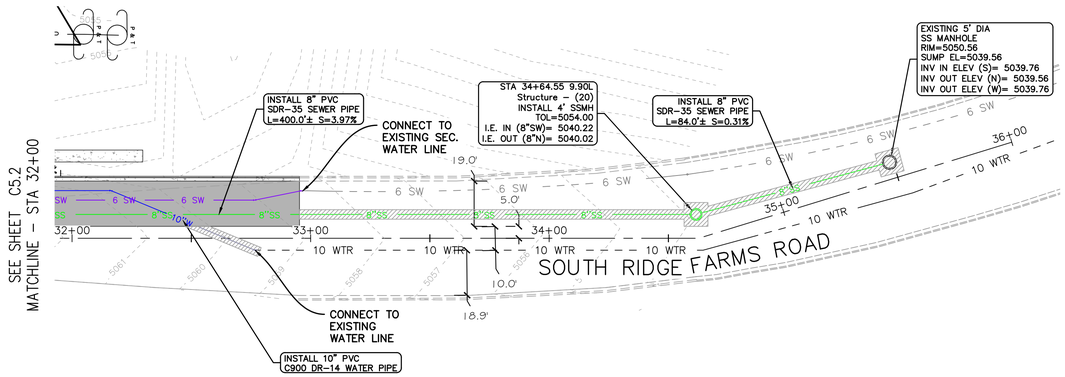
UTILITY PLAN AND PROFILE

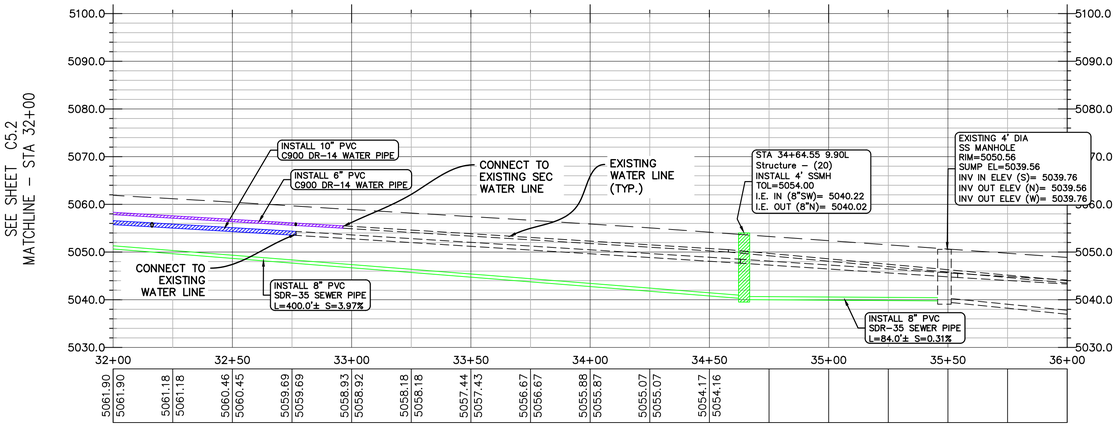
STA: 26+00 TO 32+00

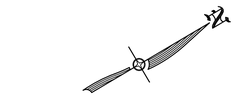
Blue Stakes of UTAH 811 Bluestakes.org

SHEET NO.	
C5.2	
PROJECT ID: E23-143	DATE: 12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=30'

C:\







0 30 60 90

Scale in Feet

SEE COVER SHEET FOR PROJECT LEGEND

SHEET LEGEND

PROPOSED ASPHALT

ASPHALT REPLACEMENT

NO.	REVISIONS	BY	DATE
DESIGNER: SDT	PROJECT ENGINEER: SDT		

CIVIL ENGINEERING +SURVEYING

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South Jordan, Utah - 801-949-6296

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

UTILITY PLAN AND PROFILE

STA: 32+00 TO 36+00

SHEET NO.
C5.3

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SU1	SCALE: 1"=30'

Blue Stakes of UTAH 811 — Bluestakesutah.org

C:\

1 24" CURB & GUTTER
N.T.S.

2 24" REVERSE PAN CURB & GUTTER
N.T.S.

3 4'-0" ROLL GUTTER
N.T.S.

4 ADA RAMP
N.T.S.

5 ADA RAMP
N.T.S.

6 INVERTED "U" BIKE RACK

6 STANDARD STORM DRAIN CURB INLET BOX
N.T.S.

7 STANDARD STORM DRAIN INLET BOX
N.T.S.

8 ORIFICE PLATE
N.T.S.

9 ACCESSIBLE PARKING STALL
N.T.S.

10 HANDICAPPED PARKING SIGN
N.T.S.

Specifications

POST DESCRIPTION
The lighting post shall be all aluminum, one-piece construction, with a classic tapered and fluted base design. The shaft shall be Ø5" smooth.

MATERIALS
The base shall be heavy wall, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95a or ASTM B26-95. The straight shafts shall be extruded from aluminum, ASTM 6061 alloy. All hardware shall be tamper resistant stainless steel. Anchor bolts to be completely hot dip galvanized.

CONSTRUCTION
The shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity. The shaft shall be circumferentially welded inside the base casting at the top of the access door, and externally where the shaft exits the base. All exposed welds below 8' shall be ground smooth. All welding shall be per ANSI/AWS D1.2-90. All welders shall be certified per Section 5 of ANSI/AWS D1.2-90.

DIMENSIONS
The post shall be 14'-0" in height with a 17" diameter base. The shaft diameter shall be 5". At the top of the post, a Ø3" x 3" tall tenon with a transitional donut shall be provided for luminaire mounting.

INSTALLATION
The post shall install with four, stainless steel L-type anchor bolts to be installed on a 12" diameter bolt circle. A door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

FINISH
The entire assembly shall have a standard Holophane 'black' finish.

LUMINAIRE DESCRIPTION
- Granville Premier II LED
- 40W 215mA Driver, 4k CCT
- Auto-Sensing 120-277V
- Symmetric Type V, No Trim, Spike Finial, Full Cover
- NEMA Twistlock Photocontrol Receptacle
- DTL Twistlock Photocontrol For Solid-State Lighting 120-277V
- 25ft Prewired Leads

For complete specifications see LUM_GPD.

Catalog #'s:
GPD404KASMB5NSBFCVRBHPCSL25 - NYA14S5J17P07ABGBK

STATEMENT OF USE:
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REVISION

Santaquin

LOCAL AND COLLECTOR STREET LIGHTING DETAILS
SANTAQUIN CITY
275 WEST MAIN STREET

L1
ADOPTED DATE: 19 - OCT - 16

PHILLIPS LEDgine SPECIFICATIONS:
- 80, 4000K PHILLIP LUMILEDS REBEL LEDs 70 COLOR RENDERING INDEX (CRI) NOMINAL W/INJECTION MOLDED ACRYLIC OPTICAL PLATES.
- TYPE III LIGHT DISTRIBUTION.
- PHILLIPS ADVANCED Xitanium LED DRIVER, CLASS 1, OUTDOOR RATED (IP66).
- DRIVER OPERATES 120-277 VAC, 50-60 Hz, 530mA, <3kV SUGER SUPRESSION BUILT IN, >90 POWER FACTOR, <20 % THD.
- OPERATING TEMPURATURE RANGE IS -40° C to +40° C.
- L70 @ 80,000 hrs. @ 25C (DRIVER 100,000 hrs.).
- MANUFACTURED TO ISO 9001:2000 STANDARDS, RoHS, VIBRATION TESTED TO ANSI C136.31 FOR BRIDGE APPLICATIONS, ETL/CETL LISTED TO UL 1598 & UL8750 STANDARDS.

NOTES:
LIGHTS ARE TO BE PLACED ON MAIN STREET AT INTERSECTIONS AND BETWEEN INTERSECTIONS AS NEEDED SO SPACING DOES NOT EXCEED 200 FEET.
WIRE IS #6 RHH WITH BARE GROUND
FOR MORE INFORMATION ON CONNECTION TO THE POWER SOURCE SEE ROCKY MOUNTAIN POWER STREET LIGHT POINT-OF-CONNECTION DIAGRAM.
ALL STREET LIGHTS SHALL BE BONDED TO GROUND ROD IN JUNCTION BOX AND UFER GROUND IN CONCRETE BASE.
SEE SHEET L4 FOR IRRIGATION TO HANGING PLANTER.

MAIN STREET LIGHTING DETAILS
NOT TO SCALE

J-U-B

PART# 20TFS-8/4-SA/USA/5'/24R/SGL SCROLL-22"MAD(LOGO)-(2)BA/(1)FH/(1)PH/(1)PH GROMMET-RECEPT-BK

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REVISION

Santaquin

MAIN STREET LIGHTING DETAILS
SANTAQUIN CITY
275 WEST MAIN STREET

STANDARD DRAWING NUMBER: L2
ADOPTED DATE: 20 JUN 12

NO.	REVISIONS	BY	DATE

DESIGNER: SDT PROJECT ENGINEER: SDT

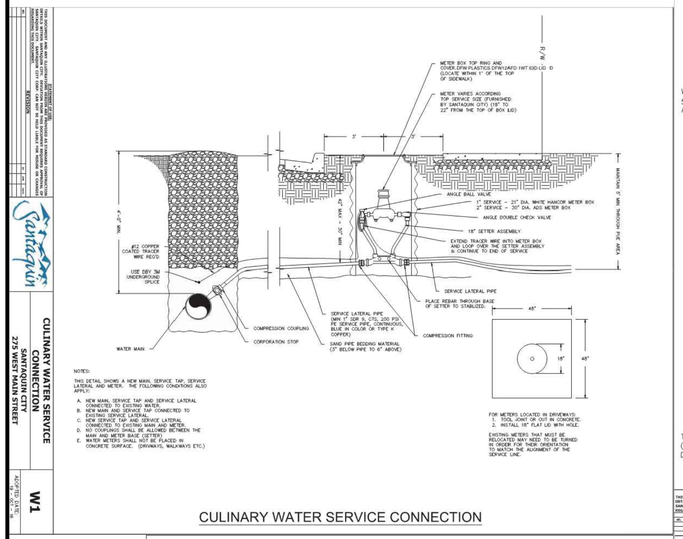
CIR | CIVIL ENGINEERING +SURVEYING
10718 S BECKSTEAD LANE, SUITE 102
South Jordan, Utah - 801-949-6296

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

DETAIL SHEET

SHEET NO.
C6.0

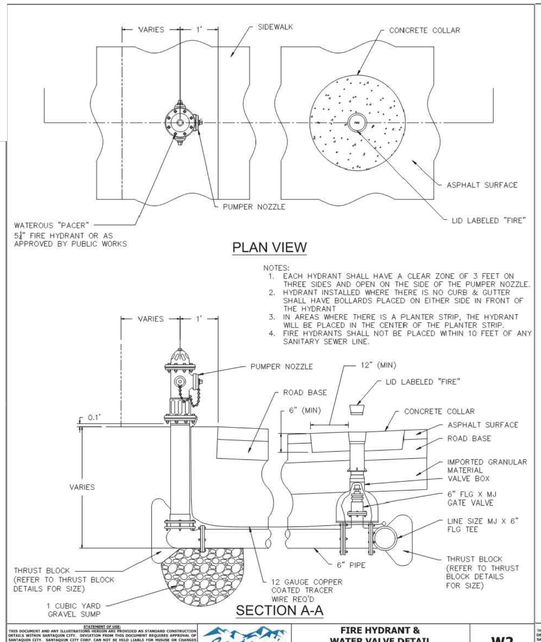
PROJECT ID: E23-143
DATE: 12/15/23
FILE NAME: PRJ-SJ1
SCALE:



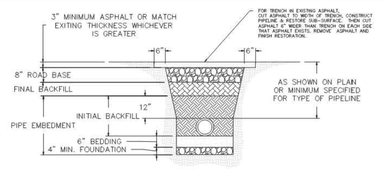
NOTES:
THIS DETAIL SHOWS A NEW MAIN, SERVICE TAP, SERVICE LATERAL AND METER. THE FOLLOWING CONDITIONS ALSO APPLY:
A. NEW MAIN, SERVICE TAP AND SERVICE LATERAL CONNECTED TO EXISTING WATER MAIN.
B. NEW SERVICE TAP AND SERVICE LATERAL CONNECTED TO EXISTING SERVICE LATERAL.
C. NEW SERVICE TAP AND SERVICE LATERAL CONNECTED TO NEW SERVICE LATERAL.
D. NO COUPLINGS SHALL BE ALLOWED BETWEEN THE MAIN AND METER BASE (SETTER).
E. WATER METERS SHALL NOT BE PLACED IN CONCRETE SURFACE. (DRIVEWAYS, WALKWAYS ETC.)

FOR METERS LOCATED IN DRIVEWAYS:
1. TOOL JOINT OR CUT IN CONCRETE.
2. INSTALL 18" FLAT LID WITH HOLE.

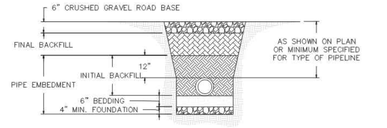
CULINARY WATER SERVICE CONNECTION



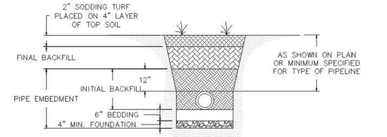
NOTES:
1. EACH HYDRANT SHALL HAVE A CLEAR ZONE OF 3 FEET ON THREE SIDES AND OPEN ON THE SIDE OF THE PUMPER NOZZLE.
2. HYDRANT INSTALLED WHERE THERE IS NO CURB & GUTTER SHALL HAVE BOLLARDS PLACED ON EITHER SIDE IN FRONT OF THE HYDRANT
3. IN AREAS WHERE THERE IS A PLANTER STRIP, THE HYDRANT WILL BE PLACED IN THE CENTER OF THE PLANTER STRIP.
4. FIRE HYDRANTS SHALL NOT BE PLACED WITHIN 10 FEET OF ANY SANITARY SEWER LINE.



ASPHALT SURFACE

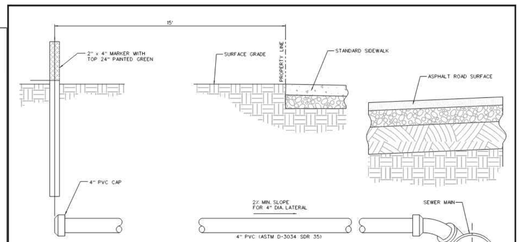


GRAVEL SURFACE



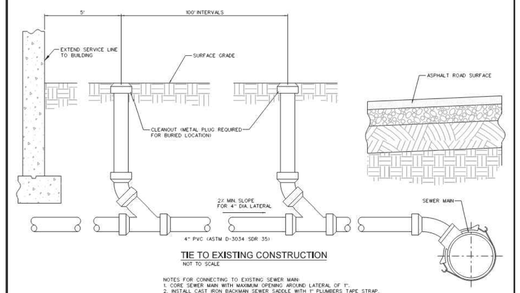
TURF SURFACE

1. SLOPE TRENCH SIDES TO MEET OSHA REQUIREMENTS (LATTEST EDITION) OR USE TRENCH BOX.
2. FOUNDATION AND BEDDING MATERIAL AS REQUIRED INSTALL PIPELINES ON STABLE FOUNDATION WITH UNIFORM BEARING FOR FULL LENGTH OF BARREL. EXCAVATE IN BEDDING FOR ALL PIPE JOINTS.



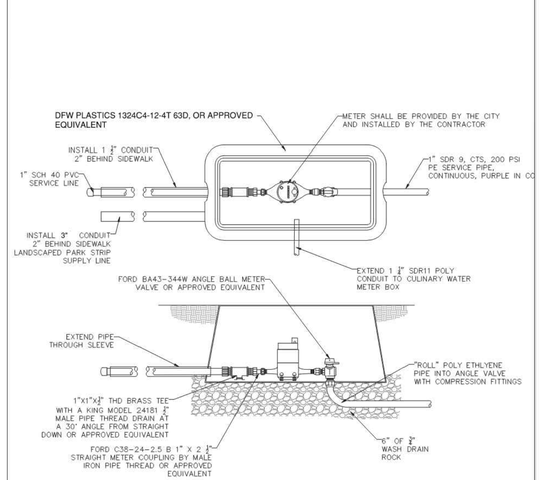
STUB FOR NEW CONSTRUCTION
NOT TO SCALE

NOTES FOR CONNECTING TO NEW SEWER MAIN:
1. ALL STUBS SHALL BE WYE BRANCHES OR TEE'S INSTALLED AS PART OF THE SEWER MAIN CONSTRUCTION.
2. LOCATION OF STUB TO BE 10'UPHILL OF LOWEST FRONT LOT CORNER.
3. SHOW CENTERLINE STATION OF THE LATERAL FROM THE NEAREST DOWNSTREAM MANHOLE. USE SAME STATIONING USED FOR SEWER MAIN.

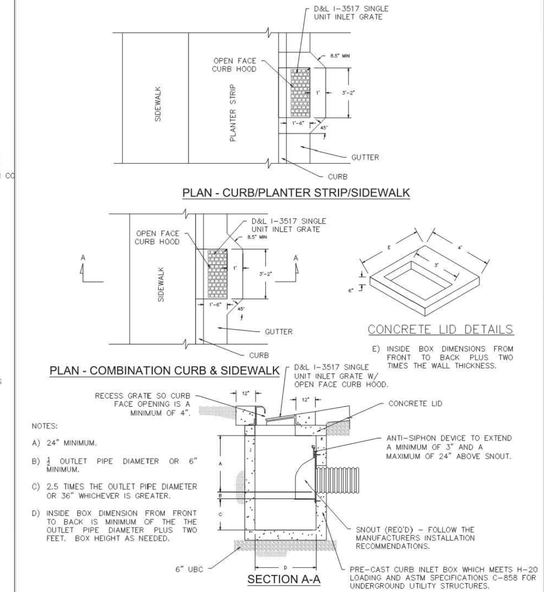


TIE TO EXISTING CONSTRUCTION
NOT TO SCALE

NOTES FOR CONNECTING TO EXISTING SEWER MAIN:
1. CORE SEWER MAIN WITH MAXIMUM OPENING AROUND LATERAL OF 7".
2. INSTALL CAST IRON BACKMAN SEWER SADDLE WITH 1" PLUMBERS TAPE STRAP.
3. GROUT AROUND CONNECTION TO SEWER MAIN.
4. ENCASE SEWER MAIN AND LATERAL CONNECTION IN CONCRETE.
5. CONNECTION TO BE MADE IN PRESENCE OF PUBLIC WORKS INSPECTOR.

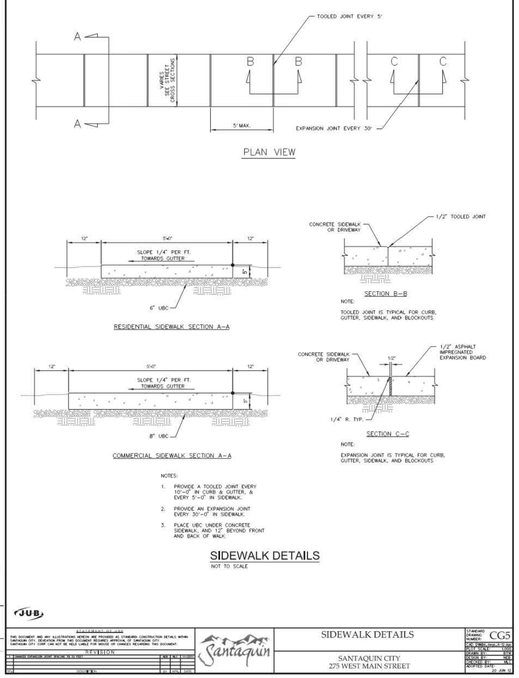


PRESSURIZED IRRIGATION METER BOX
NOT TO SCALE



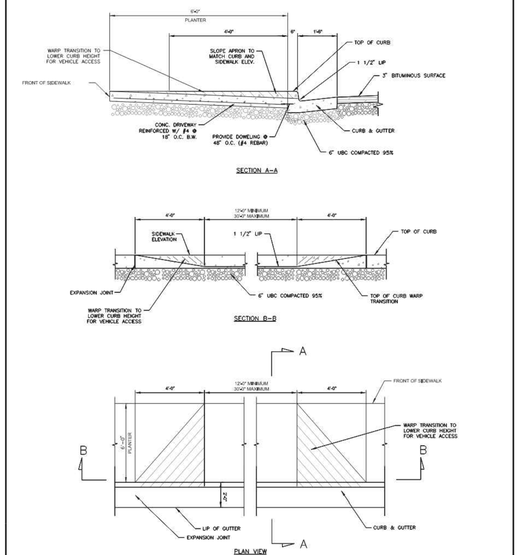
NOTES:
A) 24" MINIMUM.
B) ½ OUTLET PIPE DIAMETER OR 6" MINIMUM.
C) 2.5 TIMES THE OUTLET PIPE DIAMETER OR 36" WHICHEVER IS GREATER.
D) INSIDE BOX DIMENSION FROM FRONT TO BACK IS MINIMUM OF THE THE OUTLET PIPE DIAMETER PLUS TWO FEET. BOX HEIGHT AS NEEDED.
E) INSIDE BOX DIMENSIONS FROM FRONT TO BACK PLUS TWO TIMES THE WALL THICKNESS.

CONCRETE LID DETAILS



NOTES:
1. PROVIDE A TOOLED JOINT EVERY 10'-0" IN CURB & GUTTER, & EVERY 5'-0" IN SIDEWALK.
2. PROVIDE AN EXPANSION JOINT EVERY 30'-0" IN SIDEWALK.
3. PLACE UBC UNDER CONCRETE SIDEWALK AND 12" BEYOND FRONT AND BACK OF WALK.

SIDEWALK DETAILS
NOT TO SCALE



DRIVEWAY APPROACH WITH PARK STRIP
NOT TO SCALE

CULINARY WATER SERVICE CONNECTION SANTAQUIN CITY 275 WEST MAIN STREET	W1	FIRE HYDRANT & WATER VALVE DETAIL SANTAQUIN CITY 275 WEST MAIN STREET	W2	TYPICAL TRENCH SECTION SANTAQUIN CITY 275 WEST MAIN STREET	UT3	TYPICAL SEWER LATERAL SANTAQUIN CITY 275 WEST MAIN STREET	S2
PRESSURE IRRIGATION METER BOX SANTAQUIN CITY 275 WEST MAIN STREET	PI2	CURB INLET BOX ASSEMBLY SANTAQUIN CITY 275 WEST MAIN STREET	SD1	SIDEWALK DETAILS SANTAQUIN CITY 275 WEST MAIN STREET	CG5	DRIVEWAY APPROACH WITH PARK STRIP SANTAQUIN CITY 275 WEST MAIN STREET	CG3

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CIR
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South Jordan, Utah - 801-949-6296

NO.	REVISIONS	BY	DATE

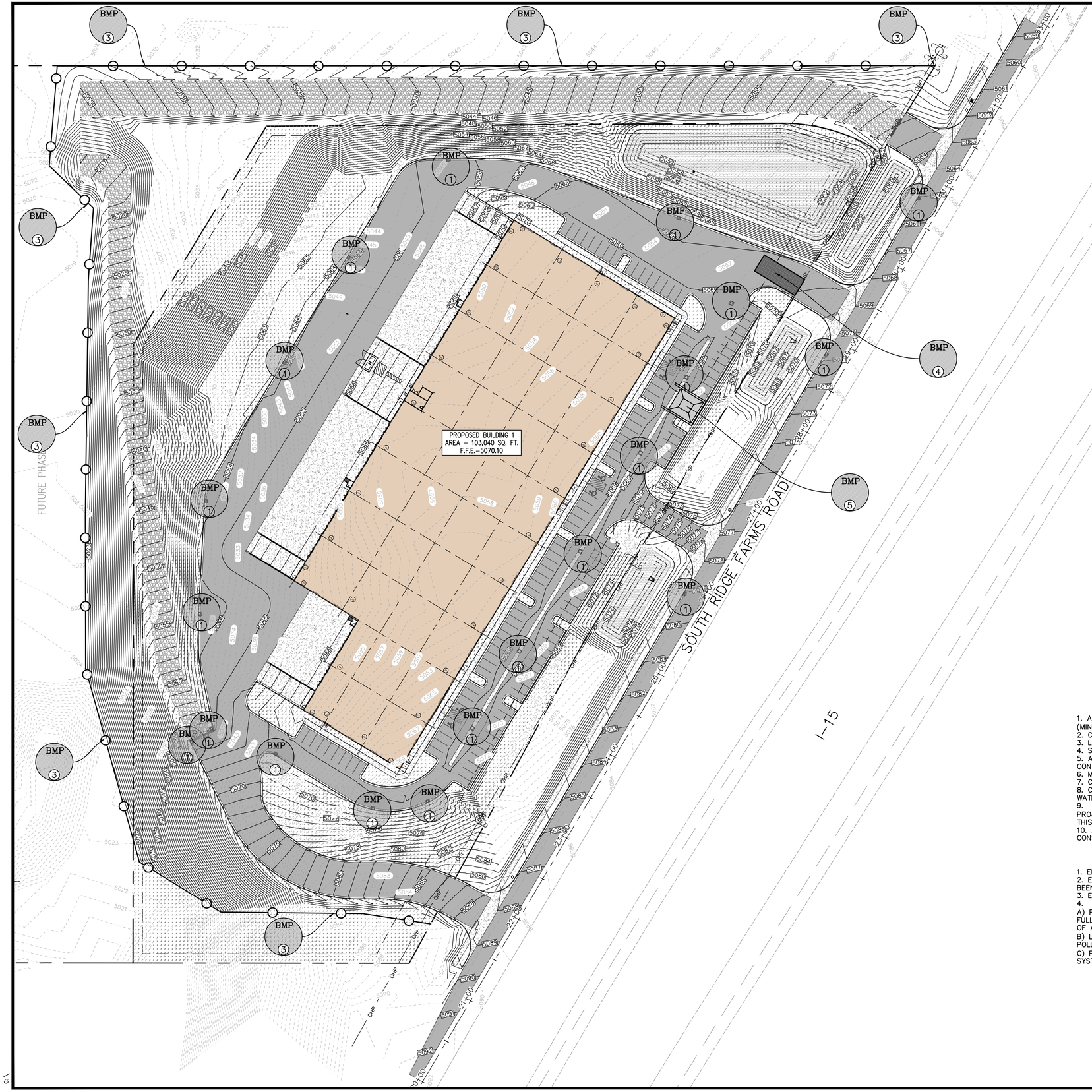
DESIGNER: SDT PROJECT ENGINEER: SDT

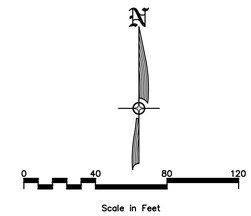
SANTAQUIN RESEARCH & TECH CENTER – PHASE 1
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655
SANTAQUIN CITY DETAIL SHEET

Blue Stakes of UTAH 811 — Bluestakes.org

SHEET NO.
C6.1

PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE:





SHEET LEGEND

SILT FENCE

WHEEL WASH AREA

BMP AREA (BMP X)

CONCRETE WASHOUT

BMP CALLOUTS

1. PLACE A SILT FENCE AROUND THE PERIMETER OF THE INLET, ONCE PAVEMENT AND/OR CURB HAS BEEN INSTALLED PLACE GRAVEL BAGS AROUND THE INLET. GRAVEL BAGS TO BE USED ON PAVED OR CONCRETE SURFACES AND SILT FENCE TO BE USED ON UNIMPROVED SURFACES.
   NOTE: IN HIGH TRAFFIC AREAS CONTRACTOR TO USE INSERT FILTER FABRIC. IF INLET HAS CURB OPENING, THE FILTER FABRIC IS TO BE EXTENDED UP TO COVER THE CURB OPENING AND GRAVEL BAGS PLACED IN GUTTER AT EACH SIDE OF OPENING TO KEEP FILTER FABRIC SNUG AGAINST CURB WALL.
2. PLACE GRAVEL BAGS AS NECESSARY TO PREVENT SEDIMENT FROM DRAINING INTO EXISTING CATCH BASINS. ***SEE NOTE IN CALLOUT 1.***
3. INSTALL TYPICAL SILT FENCE, SILT FENCE TO BE INSTALLED PERPENDICULAR TO STORM WATER FLOW. INSTALLATION TO BE DONE SO AS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
   NOTE: CONTRACTOR TO USE VEGETATIVE BUFFER AND OR CUT BACK INSTEAD OF SILT FENCE WHERE POSSIBLE.
4. CONTRACTOR TO INSTALL A MIMIMUM OF 6" DEEP GRAVEL (3" TO 6") OF SUFFICIENT SIZE (MINIMUM OF 50' IN LENGTH AND 20' WIDE) AS TO PROVIDE A WHEEL WASH AREA TO PREVENT THE TRACKING OF MUD OFFISTE. THE LOCATION OF WHEEL WASH MAY VARY FROM LOCATION SHOWN ON PLANS SO AS TO PROVIDE THE BEST PROTECTION AGAINST TRACKING MUD OFFSITE. CONTRACTOR TO MAINTAIN AND CLEAN WHEEL WASH AREA AS NEEDED TO PREVENT THE TRACKING OF MUD OFFSITE.
5. CONTRACTOR TO INSTALL CONCRETE WASHOUT AREA. THE LOCATION MAY VARY FROM LOCATION SHOWN ON PLANS.

DURING CONSTRUCTION

1. ALL EROSION CONTROL BEST MANAGEMENT PRACTICES SHALL BE INSPECTED AND MAINTAINED REGULARLY (MINIMUM ONCE A WEEK) AND AFTER EVERY STORM EVENT
2. CONTRACTOR TO KEEP LAND DISTURBANCE TO MINIMUM TO CONTROL RUNOFF FROM THE SITE
3. LIMIT LAND CLEARING AND RESTORE ALL GRADING AS SOON AS POSSIBLE
4. STAGED SEEDING TO RE-VEGETATE CUT AND FILL SLOPES AS THE WORK IS IN PROGRESS
5. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DUE TO WIND AND OTHER EROSION
6. MAINTENANCE OF STREET: STREETS TO BE KEPT CLEAN AND FREE FROM DEBRIS
7. CONTRACTOR SHALL PROVIDE DUST CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION.
8. CONTRACTOR TO HAVE WATER TRUCK AVAILABLE AS WATER SOURCE FOR WHEEL WASH AREA, OR ALTERNATE WATER SOURCE MAY BE USED IF APPROVED BY CITY.
9. IF GROUND WATER IS ENCOUNTERED DURING THE CONSTRUCTION ACTIVITIES AND REQUIRES PUMPING OFF THE PROJECT, THE CONTRACTOR IS TO FILTER THE WATER THROUGH THE USE OF SAND BAGS AND/OR GEO FABRIC. THIS IS TO BE DONE PRIOR TO IT BEING INTRODUCED INTO THE PUBLIC STORM DRAIN SYSTEM.
10. A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE KEPT ON THE SITE DURING ALL CONSTRUCTION ACTIVITY

POST CONSTRUCTION

1. EROSION CONTROL STRUCTURES MAY BE REMOVED ONCE FINAL LANDSCAPING IS IN PLACE
2. EROSION CONTROL STRUCTURES BELOW SEEDED AREAS MUST REMAIN IN PLACE UNTIL THE ENTIRE AREA HAS BEEN ESTABLISHED
3. EROSION CONTROL IN PROPOSED PAVEMENT AREAS SHALL REMAIN IN PLACE UNTIL PAVEMENT IS COMPLETE
4. THE FOLLOWING PRECAUTIONS SHALL BE PERFORMED:

A) PERIODIC INSPECTION OF CATCH BASIN SEDIMENT TRAPS AND CLEANING WHEN THE BASIN IS MORE THAN 1/4 FULL. INSPECTION SHALL BE DONE AFTER EVERY MAJOR RAINFALL AND EVERY 6 MONTHS AS A MINIMUM. DISPOSAL OF ANY GREASE OR OIL MUST BE DONE IN ACCORDANCE WITH CURRENT ENVIRONMENTAL REGULATIONS
B) LITTER, DEBRIS AND CHEMICALS MUST BE PICKED UP AND KEPT IN A CONTAINED LOCATION TO PREVENT POLLUTION OF STORM WATER DISCHARGE
C) PARKING AREAS SHALL BE KEPT FREE FROM AUTOMOBILE FLUIDS THAT COULD WASH INTO THE STORM DRAIN SYSTEM

NO.	REVISIONS	BY	DATE

DESIGNER: SDT PROJECT ENGINEER: SDT

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South Jordan, Utah - 801-949-6298

SANTAQUIN RESEARCH & TECH CENTER – PHASE 1

SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655

EROSION CONTROL PLAN (SWPPP)

Blue Stakes of UTAH 811 Bluestakes.org

SHEET NO.	
C6.0	
PROJECT ID	DATE:
E23-143	12/15/23
FILE NAME: PRJ-SJ1	SCALE: 1"=50'

Silt fence

1. GENERAL

A. Description. A temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts and entrenched.
B. Application. To intercept sediment from disturbed areas of limited extent.
C. Perimeter Control: Place barrier at down gradient limits of disturbance.
D. Sediment Barrier: Place barrier at toe of slope or soil stockpile.
E. Protection of Existing Waterways: Place barrier at top of stream bank.
F. Inlet Protection.

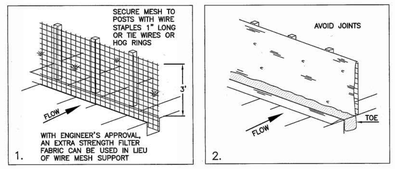
2. PRODUCTS

A. Fabric. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester, or polyethylene yarn. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 deg F to 120 deg F.
B. Burlap. 10 ounces per square yard of fabric.
C. Posts. Either 2" x 4" diameter wood, or 1.33 pounds per linear foot steel with a minimum length of 5 feet, or steel posts with projections for fastening wire to them.

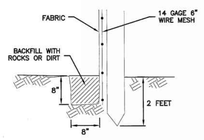
3. EXECUTION

A. Cut the fabric on site to desired width, unroll, and drape over the barrier. Secure the fabric toe with rocks or dirt and secure the fabric to the mesh with twin, staples or similar devices.
B. When attaching two silt fences together, place the end post of the second fence inside the end post of the first fence. Rotate both posts at least 180 degrees on a clockwise direction to create a tight seal with the filter fabric. Drive both posts into the ground and bury the flap.
C. When used to control sediments from a steep slope, place silt fences away from the toe of the slope for increased holding capacity.
D. Maintenance.
1) Inspect immediately after each rainfall and at least daily during prolonged rainfall.
2) Should the fabric on a silt fence or filter barrier decompose or become ineffective before the end of the expected usable life and the barrier still be necessary, replace the fabric promptly.
3) Remove sediment deposits after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.
4) Re-anchor fence as necessary to prevent shortcutting.
5) Inspect for runoff bypassing ends of barriers or undercutting barriers.

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



INSTALLATION SEQUENCE



TOE DETAIL

Silt fence
February 2006
7
Plan **122**

Inlet protection – fence or straw bale

1. GENERAL

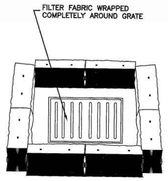
A. Description. A temporary sediment barrier around storm drain inlet.
B. Application. At inlets in paved or unpaved areas where up gradient area is to be disturbed by construction activities.

2. PRODUCT (Not used)

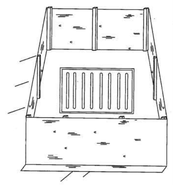
3. EXECUTION

A. Installation and application criteria.
1) Provide up gradient sediment controls, such as silt fence during construction of inlet.
2) When construction of inlet is complete erect straw bale barrier, silt fence or other approved sediment barrier surrounding perimeter of inlet.
3) Install filter fabric completely around grate.
B. Maintenance.
1) Inspect inlet protection after every large storm event and at a minimum of once monthly.
2) Remove sediment accumulated when it reaches 4-inches in depth.
3) Repair or re-align barrier or fence as needed.
4) Look for bypassing or undercutting and re-compact soil around barrier or fence as required.

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



STRAW BALE BARRIER
(PLAN No. 121)



SILT FENCE
(PLAN No. 122)

Inlet protection - fence or straw bale
February 2006
15
Plan **124**
Sheet 3 of 3

Stabilized roadway entrance

1. GENERAL

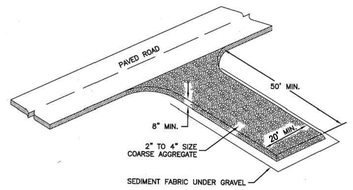
A. Description. A temporary stabilized pad of gravel for controlling equipment and construction vehicle access to the site.
B. Application. At any site where vehicles and equipment enter the public right of way.

2. PRODUCT (Not used)

3 EXECUTION

A. Clear and grub area and grade to provide maximum slope of 1 percent away from paved roadway.
B. Compact subgrade.
C. Place filter fabric under stone if desired (recommended for entrance area that remains more than 3 months).
D. Maintenance.
1) Prevent tracking or flow of mud into the public right-of-way.
2) Periodic top dressing with 2-inch stone may be required, as conditions demand, and repair any structures used to trap sediments.
3) Inspect daily for loss of gravel or sediment buildup.
4) Inspect adjacent area for sediment deposit and install additional controls as necessary.
5) Expand stabilized area as required to accommodate activities.

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



Stabilized roadway entrance
February 2006
19
Plan **126**

NO.	REVISIONS	BY	DATE

DESIGNER: SDT PROJECT ENGINEER: SDT

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South Jordan, Utah - 801-949-6296

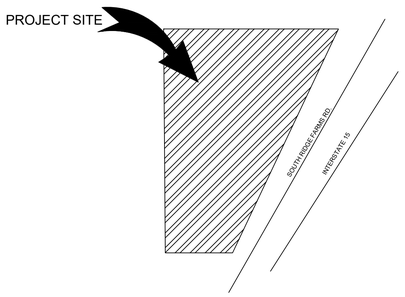
SANTAQUIN RESEARCH & TECH CENTER – PHASE 1
SOUTH RIDGE FARMS ROAD, SANTAQUIN UT, 84655
EROSION CONTROL DETAIL SHEET

Blue Stakes of UTAH 811 Bluestakes.org

SHEET NO. C7.1
PROJECT ID E23-143 | DATE: 12/15/23
FILE NAME: PRJ-SJ1 | SCALE:

C:\

VICINITY MAP



SHEET INDEX

SHEET LP 102

SHEET LP 103

SHEET LP 104

ISSUE DATE	PROJECT NUMBER
1/26/2024	UT24015

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
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5		
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www.bluestakes.org

0' 25' 50' 100' 300'
GRAPHIC SCALE: 1" = 50'

RESEARCH AND TECH CENTER PH. 1

1940 S. RIDGE FARMS RD.
SANTAQUIN, UTAH

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LICENSED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
8128121-5301
1/26/2024
ELECTRONIC SEAL
STATE OF UTAH

DRAWING INFO	
PM:	JTA
DRAWN:	ACP
CHECKED:	JMA
PLOT DATE:	1/26/2024

LANDSCAPE OVERALL PLAN

CITY PERMIT SET

LP-100

LANDSCAPE PLAN SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes landscape procedures for the Project including all labor, materials, and installation necessary, but not limited to, the following:

1. Site Conditions
2. Guarantees
3. Maintenance
4. Soil Amendments
5. Fine Grading
6. Landscape Edging
7. Furnish and Installing Plant
8. Turf Planting
9. Weed Barrier

1.2 SITE CONDITIONS

A. Examination: Before submitting a Bid, each Contractor shall carefully examine the Contract Documents; shall visit the site of the Work; shall fully inform themselves as to all existing conditions and limitations; and shall include in the Bid the cost of all items required by the Contract Documents are at a variance with the applicable laws, building codes, rules, regulations, or contain obvious erroneous or uncoordinated information, the Contractor shall promptly notify the Project Representative and the necessary changes shall be accomplished by Addendum.

B. Protection: Contractor to conduct the Work in such a manner to protect all existing underground utilities or structures. Contractor to repair or replace any damaged utility or structure using identical materials to match existing at no expense to the Owner.

C. Irrigation System: Do not begin planting until the irrigation system is completely installed, is adjusted for full coverage and is completely operational.

1.3 PERMITS

A. Blue Stake/ Dig Line: When digging is required, “Blue Stake” or “Dig Line” the work site and identify the approximate location of all known underground utilities or structures.

1.4 PLANT DELIVERY, QUALITY, AND AVAILABILITY

A. Unauthorized substitutions will not be accepted. If proof is submitted that specific plants or plant sizes are unobtainable, written substitution requests will be considered for the nearest equivalent plant or size. All substitution requests must be made in writing and preferably before the bid due date.

1.5 FINAL INSPECTION

A. All plants will be inspected at the time of Final Inspection prior to receiving a Landscape Substantial Completion for conformance to specified planting procedures, and for general appearance and vitality. Any plant not approved by the Project Representative will be rejected and replaced immediately.

1.6 LANDSCAPE SUBSTANTIAL COMPLETION

A. A Substantial Completion Certificate will only be issued by the Project Representative for “landscape and irrigation” in their entirety. Substantial Completion will not be proportioned to be designated areas of a project.

1.7 MAINTENANCE

A. Plant Material: The Contractor is responsible to maintain all planted materials in a healthy and growing condition for 30 days after receiving a Landscape Substantial Completion at which time the Guarantee period commences. This maintenance is to include mowing, weeding, cultivating, fertilizing, monitoring water schedules, controlling insects and diseases, re-guying and staking, and all other operations of care necessary for the promotion of root growth and plant life so that all plants are in a condition satisfactory at the end of the guarantee period. The Contractor shall be held responsible for failure to monitor watering operations and shall replace any and all plant material that is lost due to improper application of water.

1.8 GUARANTEE

A. Guarantee: A guarantee period of one year shall begin from end of maintenance period and final acceptance for trees, shrubs, and ground covers. All plants shall grow and be healthy for the guarantee period and trees shall live and grow in acceptable upright position. Any plant not alive, in poor health, or in poor condition at the end of the guarantee period will be replaced immediately. Any plant will only need to be replaced once during the guarantee period. Contractor to provide documentation showing where each plant to be replaced is located. Any outside factors, such as vandalism or lack of maintenance on the part of the Owner, shall not be part of the guarantee

PART II - PRODUCTS

2.1 LANDSCAPE MATERIALS

A. Tree Staking: All trees shall be staked for one year warranty period. All trees not plumb shall be replaced. Staked trees shall use vinyl tree ties and tree stakes two (2) inch by two (2) by eight (8) foot common pine stakes used as shown on the details.

B. Tree Wrap: Tree wrap is not to be used.

C. Mulch/Rock: See Plans. All planter beds to receive a minimum 3” layer for trees, shrubs, and perennials and 1” for groundcovers.

D. Weed Barrier: DeWitt 5 oz. weed barrier fabric. Manufactured by DeWitt Company, dewittcompany.com or approved equal.

E. Tree, Shrub, and Grass Backfill Mixture; Backfill mixture to be 75% native soil and 25% topsoil, thoroughly mixed together prior to placement.

F. Topsoil: Required for turf areas, planter beds and Backfill Mixture. Acceptable topsoil shall meet the following standards:

a. PH: 5.5-7.5
b. EC (electrical conductivity): < 2.0 mmhos per centimeter
c. SAR (sodium absorption ration): < 3.0
d. % OM (percent organic matter): >1%
e. Texture (particle size per USDA soil classification): Sand <70%; Clay < 30%; Silt < 70%, Stone fragments (gravel or any soil particle greater than two (2) mm in size) < 5% by volume.

G. Turf Sod: All sod shall be 18 month old as specified on plans (or approved equal) that has been cut fresh the morning of installation. Only sod that has been grown on a commercial sod farm shall be used. Only use sod from a single source.

H. Landscape Curb Edging: six (6) inches by four (4) inches extruded concrete curb made up of the following materials:

a. Washed mortar sand free of organic material.
b. Portland Cement (see concrete spec. below for type)
c. Reinforced fiber - Specifically produced for compatibility with aggressive alkaline environment of Portland cement-based composites.
d. Only potable water for mixing.

I. Landscape Metal Edging: 5.5" steel edging with 18" dowels into the ground for stabilization.

PART III - EXECUTION

3.1 GRADING

A. Topsoil Preparation: Grade planting areas according to the grading plan. Eliminate uneven areas and low spots. Provide for proper grading and drainage.

B. Topsoil Placement: Slope surfaced away from building at two (2) percent slope with no pockets of standing water. Establish finish grades of one (1) inches for planters below grade of adjacent paved surfaced. Provide neat, smooth, and uniform finish grades. Remove surplus sub-soil and topsoil from the site.

C. Compaction: compaction under hard surface areas (asphalt paths and concrete surfaces) shall be ninety-five (95) percent. Compaction under planting areas shall be between eighty-five (85) and ninety (90) percent.

3.2 TURF GRADING

A. The surface on which the sod is to be laid shall be firm and free from footprints, depressions, or undulations of any kind. The surface shall be free of all materials larger than 1/2” in diameter.

B. The finish grade of the topsoil adjacent to all sidewalks, mow-strips, etc. prior to the laying of sod, shall be set such that the crown of the grass shall be at the same level as the adjacent concrete or hard surface. No exceptions.

3.3 PLANTING OPERATIONS

A. Review the exact locations of all trees and shrubs with the Project Representative for approval prior to the digging of any holes. Prepare all holes according to the details on the drawings.

B. Water plants immediately upon arrival at the site. Maintain in moist condition until planted.

C. Before planting, locate all underground utilities prior to digging. Do not place plants on or near utility lines.

D. The tree planting hole should be the same depth as the root ball, and two times the diameter of the root ball.

E. Trees must be placed on undisturbed soil at the bottom of the planting hole.

F. The tree hole depth shall be determined so that the tree may be set slightly high of finish grade, 1” to 2” above the base of the trunk flare, using the top of the root ball as a guide.

G. Plant immediately after removal of container for container plants.

H. Set tree on soil and remove all burlap, wire baskets, twine, wrappings, etc. before beginning and backfilling operations. Do not use planting stock if the ball is cracked or broken before or during planting operation.

I. Apply vitamin B-1 root stimulator at the rate of one (1) tablespoon per gallon.

J. Upon completion of backfilling operation, thoroughly water tree to completely settle the soil and fill any voids that may have occurred. Use a watering hose, not the area irrigation system. If additional prepared topsoil mixture needs to be added. It should be a courser mix as required to establish finish grade as indicated on the drawings.

K. The amount of pruning shall be limited to the minimum necessary to remove dead or injured twigs and branches. All cuts, scars, and bruises shall be properly treated according to the direction of the Project Representative. Proper pruning techniques shall be used. Do not leave stubs and do not cut the leader branch. Improper pruning shall be cause for rejection of the plant material.

L. Prepare a watering circle of 2' diameter around the trunk. For conifers, extend the watering well to the drip line of the tree canopy. Place mulch around the planted trees.

4. TURF - SOD LAYING

A. Top Soil Amendments: Prior to laying sod, commercial fertilizer shall be applied and incorporated into the upper four (4) inches of the topsoil at a rate of four pounds of nitrogen per one thousand (1,000) square feet. Adjust fertilization mixture and rate of application as needed to meet recommendations given by topsoil analysis. Include other amendments as required.

B. Fertilization: Three weeks after sod placement fertilize the turf at a rate of ½ pound of nitrogen per 1000 square feet. Use fertilizer specified above. Adjust fertilization mixture and rates to meet recommendations given by topsoil analysis.

C. Sod Availability and Condition: Sod is to be delivered to the site in good condition. It is to be inspected upon arrival and installed within 24 hours. Sod is to be moist and cool to ensure that decomposition has not begun and is to be free of pests, diseases, or blemishes. The Contractor shall satisfy himself as to the existing conditions prior to any construction. The Contractor shall be fully responsible for furnishing and laying all sod required on the plans. He shall furnish new sod as specified above and lay it so as too completely satisfy the intent and meaning of the plans and specification at no extra cost to the owner. In the case of any discrepancy in the amount of sod to be removed or amount to be used, it shall be the Contractor's responsibility to report such to the Project Representative prior to commencing the work.

D. Sod Laying: The surface upon which the new sod to be laid will be prepared as specified in the detail and be lightly watered before laying. Areas where sod is to be laid shall be cut trimmed, or shaped to receive full width sod (minimum twelve (12) inches). No partial strip or pieces will be accepted.

E. Sod shall be tamped lightly as each piece is set to ensure that good contact is made between edges and also the ground. If voids or holes are discovered, the sod piece(s) is (are) to be raised and topsoil is to be used to fill in the areas until level. Sod laid on any sloped areas shall be anchored with wooden dowels or other materials which are accepted by the grass sod industry.

F. Sod shall be rolled with a roller that is at least 50% full immediately after installation to ensure the full contact with soil is made.

G. Apply water directly after laying sod. Rainfall is not acceptable.

H. Watering of the sod shall be the complete responsibility of the Contractor by whatever means necessary to establish the sod in an acceptable manner to the end of the Maintenance period. If an irrigation system is in place on the site, but for whatever reason, water is not available in the system. It is the responsibility of the Contractor to water the sod by whatever means, until the sod is accepted by the Project Representative.

I. Protection of the newly laid sod shall be the complete responsibility of the Contractor. The Contractor shall provide acceptable visual barriers, to include barricades set appropriate distances with strings or tapes between barriers, as an indication of new work. The Contractor is to restore any damaged areas caused by others (including vehicular traffic), erosion, etc, until such time as the lawn is accepted by the Owner.

J. All sod that has not been laid within 24 hours shall be deemed unacceptable and will be removed from the site.

3.5 WEED BARRIER

A. For the health of the soil and the microorganisms, weed barrier is not recommended. If use is required or requested, do not place in annual or grass areas.

B. Cut weed barrier back to the edge of the plant rootball.

C. Overlap rows of fabric min. 6”

D. Stable fabric edges and overlaps to ground.

END OF SECTION

SITE MATERIALS LEGEND

(NOTE: SITE MATERIALS QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-10	NON-IRRIGATED REVEGETATION SEED MIX HYDROSEED WITH PLS (PURE LIVE SEED) AT 35LBS/ACRE 1.75 LBS SANDBERG BLUEGRASS 5% 3.50 LBS ANNUAL RYEGRASS 10% 3.50 LBS SHEEP FESCUE10% 3.50 LBS STANDARD CRESTED WHEATGRASS 10% 3.50 LBS SLENDER WHEATGRASS 10% 3.50 LBS PERENNIAL RYEGRASS 10% 5.25 LBS CRESTED WHEATGRASS 15% 5.25 LBS SMOOTH BROME 15% 5.25 LBS INTERMEDIATE WHEATGRASS 15% SEE SUMMIT SEED. DARRELL@SUMMITSEEDING.COM 435-709-8003. REFER TO SEED LANDSCAPE NOTES FOR FURTHER INFORMATION. SHEET LP-101.	159,516 sf
1-16	1" MINUS BROWN CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. SEE INORGANIC MULCH LANDSCAPE NOTES FOR ADDITIONAL INFORMATION. SHEET LP-101.	30,444 sf
1-19	2-4” GREY CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. PROVIDE 4" DEPTH OF ROCK MULCH TOP DRESSING. SEE INORGANIC MULCH LANDSCAPE NOTES FOR ADDITIONAL INFORMATION. SHEET LP-101.	9,700 sf
1-22	4-6” TAN CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. PROVIDE 6" DEPTH OF ROCK MULCH TOP DRESSING. SEE INORGANIC MULCH LANDSCAPE NOTES FOR ADDITIONAL INFORMATION. SHEET LP-101.	26,632 sf

SYMBOL	2 HARDSCAPE DESCRIPTION	QTY
2-01	BOULDERS- DECORATIVE 24-48 INCHES. SUBMIT COLOR SAMPLES FOR ARCHITECT AND OWNER APPROVAL. SEE PLACEMENT INSTRUCTIONS ON DETAIL SHEET LP-501..	19
2-02	BOULDERS- DECORATIVE 42-72 INCH. SUBMIT COLOR SAMPLES FOR ARCHITECT AND OWNER APPROVAL. SEE PLACEMENT INSTRUCTIONS ON DETAIL.SHEET LP-501.	99
2-05	5" DEEP STEEL EDGING - INSTALL PER MANUFACTURER SPECIFICATION.	1,405 lf

GENERAL LANDSCAPE NOTES

GRADING AND DRAINAGE REQUIREMENTS

- AS PER CODE, ALL GRADING IS TO SLOPE AWAY FROM ANY STRUCTURE. SURFACE OF THE GROUND WITHIN 10' FEET OF THE FOUNDATION SHOULD DRAIN AWAY FROM THE STRUCTURE WITH A MINIMUM FALL OF 6”
- AS PER CODE, FINISHED GRADE WILL NOT DRAIN ON NEIGHBORING PROPERTIES
- A MINIMUM OF 6” OF FOUNDATION WILL BE LEFT EXPOSED AT ALL CONDITIONS
- LANDSCAPE CONTRACTOR TO MAINTAIN OR IMPROVE FINAL GRADE AND PROPER DRAINAGE ESTABLISHED BY EXCAVATOR, INCLUDING BUT NOT LIMITED TO ANY MAINTENANCE, PRESERVATION, OR EXAGGERATION OF SLOPES, BERMS, AND SWALES.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY DAMAGED OR IMPROPER WATERFLOW OF ALL SWALES, BERMS, OR GRADE
- DEVICES FOR CHANNELING ROOF RUN-OFF SHOULD BE INSTALLED FOR COLLECTION AND DISCHARGE OF RAINWATER AT A MINIMUM OF 10' FROM THE FOUNDATION, OR BEYOND THE LIMITS OF FOUNDATION WALL BACKFILL; WHICHEVER DISTANCE IS GREATER

GENERAL LANDSCAPE NOTES

- LANDSCAPE CONTRACTOR SHALL HAVE ALL UTILITIES BLUE STAKED PRIOR TO DIGGING. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
- DURING THE BIDDING AND INSTALLATION PROCESS, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES OF ALL MATERIALS. IF DISCREPANCIES EXIST, THE PLAN SHALL DICTATE QUANTITIES TO BE USED.
- ALL PLANT MATERIAL SHALL BE PLANTED ACCORDING TO ANSI STANDARDS WITH CONSIDERATION TO INDIVIDUAL SOIL AND SITE CONDITIONS, AND NURSERY CARE AND INSTALLATION INSTRUCTIONS.
- SELECTED PLANTS WILL BE ACCORDING TO THE PLANT LEGEND. IF SUBSTITUTIONS ARE NECESSARY, PROPOSED LANDSCAPE CHANGES MUST BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO LAYING SOD.
- SHOULD THE SITE REQUIRE ADDITIONAL TOPSOIL, REFER TO SOIL TEST WHEN MATCHING EXISTING SOIL. IF A MATCHING SOIL IS NOT LOCATABLE, A 6” DEPTH OF SANDY LOAM TOPSOIL (MIXED PRIOR TO SPREADING WITH 1% ORGANIC MATTER) CAN BE INCORPORATED INTO THE EXISTING SOIL USING THE FOLLOWING DIRECTIONS: SCARIFY TOP 6” OF EXISTING SUBSOIL AND INCORPORATE 3” OF NEW COMPOST ENRICHED TOPSOIL. SPREAD REMAINING TOPSOIL TO REACH FINISHED GRADE.
- EDGING, AS INDICATED ON PLAN, IS TO BE INSTALLED BETWEEN ALL LAWN AND PLANTER AREAS. ANY TREES LOCATED IN LAWN MUST HAVE A 4-6' TREE RING OF THE SAME EDGING.

LAWN/GRASS AREA

- SOD
  - ALL LAWN AREAS TO RECEIVE MIN. 6" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED HYDROSEEDING. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD ALL. LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4`) DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION.
- SEED
  - **SOIL:** TEST SOIL FOR ADEQUATE FERTILITY. ANY WEEDS CURRENTLY ON THE SITE SHALL BE REMOVED BY EITHER MECHANICAL MEANS SUCH AS HAND PULLING OR SPRAYING WITH AN HERBICIDE SUCH AS GLYPHOSATE MIXED WITH A SURFACTANT. HERBICIDES SHOULD BE APPLIED BY A CERTIFIED PESTICIDE APPLICATOR . COMPACTED SOIL SHALL BE SCARIFIED TO A DEPTH OF 18 INCHES BEFORE ADDING 6” OF WEED FREE TOPSOIL WITH HIGH ORGANIC MATTER. FINE LEVEL ALL AREAS PRIOR TO HYDROSEEDING AND SET THE GRADE FOR POSITIVE DRAINAGE. TOPSOIL SHOULD BE SOFT AT TIME OF APPLICATION. FERTILIZER IS TO BE ADDED WHEN HYDROSEEDING. REFER TO SOIL TEST RESULTS AND HYDROSEEDING CONTRACTOR FOR APPLICATION RATES.
  - **SEED**: USE SEED MIXES AS SPECIFIED BY LANDSCAPE ARCHITECT OF PURE LIVE SEED (PLS) ON A BASIS/ACRE. THE OPTIMUM TIME TO PANT IS IN NOVEMBER BEFORE THE FIRST SNOW. DO NOT SOW OVER HEAVY SNOWPACK. SEED WILL LAY DORMANT AND BE READY TO GERMINATE ONCE THE GROUND THAWS AND WARMS IN LATE WINTER. IF SEEDING IN LATE FALL IS NOT POSSIBLE, SEED BEFORE APRIL 1. CONTACT SUMMIT SEED. DARRELL@SUMMITSEEDING.COM 435-709-8003.
  - **APPLICATION**: HYDROSEEDING SHALL CONSIST OF SEED, TACKIFIER, WOOD FIBER MULCH AND FERTILIZER IN A WATER BASED SLURRY. TANK MOUNTED TRUCK SHALL HAVE CONTINUOUS AGITATION. THE PUMP ON THE TRUCK WILL FORCE THE SLURRY THROUGH A TOP-MOUNTED DISCHARGE NOZZLE (TOWER). USE 2000 POUNDS WOOD FIBER MULCH AND 50-100 POUNDS OF TACKIFIER PER ACRE.
  - **IRRIGATION**: ALL AREAS MUST BE KEPT MOIST WITHOUT PUDDLES OR RUNOFF USING FREQUENT DAYTIME WATER CYCLES. ADJUST AND MONITOR SPRINKLERS AND CLOCK TO ACHIEVE PROPER IRRIGATION.
- IF PERMANENT IRRIGATION IS NOT PLANNED, TEMPORARY IRRIGATION IS REQUIRED AT THE FOLLOWING SCHEDULE: FOR 8 WEEKS SOIL SHALL REMAIN DAMP DURING ESTABLISHMENT PERIOD WITHOUT PUDDLING ON SOIL SURFACE. APPLY WATER APPROXIMATELY THREE TIMES A DAY FOR 5-7 MINUTES FOR EACH IRRIGATION EVENT DEPENDING ON TEMPERATURE AND TIME OF YEAR. A SPARSE DENSITY IS EXPECTED. CONTINUE TEMPORARY IRRIGATION FOR ONE YEAR EVENTUALLY REDUCING WATER APPLICATION TO ONCE A WEEK, THEN ONCE EVERY TWO WEEKS TO FINALLY ONCE A MONTH. MONITOR PROGRESS OF ESTABLISHMENT AND ADJUST SPRINKLERS ACCORDINGLY. THE GOAL IS TO CREATE A HEALTHY STAND OF GRASSES WITH LITTLE TO NO IRRIGATION.
  - **WEED CONTROL AND MAINTENANCE:** MANDATORY WEED CONTROL IS REQUIRED TO REDUCE COMPETITION AND WEED SEED PRODUCTION. WEEDS MUST BE KEPT UNDER CONTROL BY MECHANICALLY PULLING OR CHEMICALLY SPRAYING AS DIRECTED BY THE APPLICATOR. APPLY A BROADLEAF HERBICIDE BIANNUALLY AND ESTABLISH A CONSISTENT REGIMEN OF MOWING AND FERTILIZING TO PREVENT WEEDS FROM PRODUCING SEED. MOW ONCE IN THE SPRING AND ONCE IN THE FALL BEFORE FERTILIZATION. FERTILIZER OPTION IS SUSTAIN 4-6-4 DEPENDING ON SOIL FERTILITY. DO NOT MOW SHORTER THAN 4 INCHES. BAG ALL CUTTINGS TO REMOVE WEED SEED FROM PROPERTY. KEEP WEEDS CUT DOWN AND DO NOT LET THEM GO TO SEED. WEED SEED PRODUCTION IS THE GAUGE FOR WHEN TO MOW, WHICH GENERALLY OCCURS IN APRIL OR MAY AS WELL AS EARLY FALL DEPENDING ON TEMPERATURE AND MOISTURE. THIS PROCEDURE WILL BE REQUIRED UNTIL A HEALTHY STAND OF GRASSES IS EVIDENT AND COMPETING WELL WITH WEEDS. EXPECT FROM 1 TO 3 YEARS.
  - **PROGANICS BIOTIC SOIL MEDIA**: WHERE CONDITIONS MAY PROHIBIT ADDING TOPSOIL, PROGANICS BIOTIC SOIL MEDIA SHOULD BE APPLIED BY HYDROSEEDER AT 3500LBS/ACRE WITH SEED AND FERTILIZER PRIOR TO THE APPLICATION OF WOOD MULCH(2000LBS/ACRE) COMBINED WITH TACKIFIER (50-100 LBS/ACRE.)
  - **ADDING FORBS**: SHRUBS AND PERENNIALS, BY SEED OR CONTAINER, CAN BE ADDED ONCE WEEDS ARE UNDER CONTROL AND HERBICIDE IS NO LONGER NEEDED. USUALLY 1-2 YEARS AFTER HYDROSEEDING.

MULCH

- ORGANIC
  - PLANTING AREAS TO BE FREE OF WEEDS AND RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ORGANIC MULCH TOP DRESSING. KEEP MULCH AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL.
  - IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL MULCH AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER`S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS BY CERTIFIED PESTICIDE APPLICATOR AFTER PLANTING AND AFTER APPLYING MULCH.
  - IF USING TREFLAN 10 WITHOUT WEED BARRIER, THIS AREA WILL ALSO NEED AN YEARLY MANAGEMENT PROGRAM. SUBMIT PROGRAM TO OWNER.
  - ANNUAL PLANTING AREAS AS SHOWN ON PLAN TO RECEIVE 4” OF SOIL AID MATERIAL (ORGANIC MULCH). NO MULCH SHALL BE PLACED WITHIN 12” OF TREE TRUNK AND 6” WITHIN BASE OF SHRUBS AND PERENNIALS. DO NOT COVER LOW BRANCHES OF SHRUBS WITH ROCK.
- INORGANIC
  - ROCK MULCH PLANTING AREAS TO BE FREE OF WEEDS AND RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. WHERE PLANTING IS SPARSE (GREATER THAN 4' DISTANCE BETWEEN PLANTS OR 20' BETWEEN GROUPINGS), ADDITIONAL TOPSOIL IS NOT NECESSARY EXCEPT FOR BACKFILLING PLANTING HOLE. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 4:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. KEEP ROCK 12” AWAY FROM TRUNK OF TREES AND 6” AWAY FROM BASE OF SHRUBS AND PERENNIALS. DO NOT COVER LOW BRANCHES OF SHRUBS WITH ROCK.
  - IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER`S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS BY CERTIFIED PESTICIDE APPLICATOR AFTER PLANTING AND AFTER APPLYING MULCH.
  - IF USING TREFLAN 10 WITHOUT WEED BARRIER, THIS AREA WILL ALSO NEED AN YEARLY MANAGEMENT PROGRAM. SUBMIT PROGRAM TO OWNER. UPON REQUEST, A PLANT GUIDE IS AVAILABLE WITH OUR RECOMMENDATIONS REGARDING WEED BARRIER, PLANT CARE AND MAINTENANCE.

GENERAL IRRIGATION NOTES

- A NEW UNDERGROUND, AUTOMATIC IRRIGATION SYSTEM IS TO BE INSTALLED BY CONTRACTOR IN ALL LANDSCAPED AREAS. LAWN AREAS TO RECEIVE AT LEAST 100% HEAD TO HEAD COVERAGE AND PLANTER AREAS TO RECEIVE A FULL DRIP SYSTEM TO EACH TREE AND SHRUB. POINT SOURCE DRIP OR IN-LINE DRIP TUBING TO BE SECURED AT CENTER OF ROOT BALL, NOT AGAINST TRUNK. SEE IRRIGATION PLAN.

INSTALLER RESPONSIBILITIES AND LIABILITIES

- THESE PLANS ARE FOR BASIC DESIGN LAYOUT AND INFORMATION. LANDSCAPE CONTRACTOR IS REQUIRED TO USE TRADE KNOWLEDGE FOR IMPLEMENTATION. OWNER ASSUMES NO LIABILITIES FOR INADEQUATE ENGINEERING CALCULATIONS, MANUFACTURER PRODUCT DEFECTS, INSTALLATION OF ANY LANDSCAPING AND COMPONENTS, OR TIME EXECUTION.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE AND LIABLE FOR INSTALLATION OF ALL LANDSCAPING AND IRRIGATION SYSTEMS INCLUDING CODE REQUIREMENTS, TIME EXECUTIONS, INSTALLED PRODUCTS AND MATERIALS.

PLANT LEGEND

(NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

CONIFERS

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
JS'W	18	Juniperus scopulorum 'Woodward' Woodward Columnar Juniper	B & B		6`

DECIDUOUS TREES

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
A'CR	7	Acer griseum 'JFS KW22AGRI' Copper Rocket Copper Rocket™ Paperbark Maple	B & B	2"Cal
M'PF	19	Malus x `Prairifire` Prairifire Crabapple	B & B	2"Cal
Q'UP	4	Quercus macrocarpa `Urban Pinnacle` Urban Pinnacle Oak	B & B	2"Cal
SR'B	5	Syringa reticulata `Bailnce` Snowdance Tree Lilac	B & B	2"Cal
TT'S	2	Tilia tomentosa `Sterling` Sterling Silver Linden	B & B	2"Cal
UX'F	2	Ulmus x `Frontier` Frontier Elm	B & B	2"Cal
ZS'W	2	Zelkova serrata `Wireless` Wireless Zelkova	B & B	2"Cal

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT
DECIDUOUS SHRUBS				
	AA'O	11	Amelanchier alnifolia `Obelisk` TM Standing Ovation Serviceberry	5 gal
	AM'S	21	Aronia melanocarpa 'SMNAMPEM' Low Scape Snowfire™ Black Chokeberry	5 gal
	C'BS	6	Caryopteris x clandonensis 'Blauer Splatz' Sapphire Surf™ Bluebeard	5 gal
	CM'F	3	Chamaebatiaria millefolium Fernbush	5 gal
	CN'R	97	Chrysothamnus nauseosus Rubber Rabbitbrush	5 gal
	GL'S	48	Genista lydia 'Select' TM Genista lydia Bangle	1 gal
	PB'P	56	Prunus besseyi `P011S` 'Pawnee Buttes' Pawnee Buttes Sand Cherry	5 gal
	PF'F	37	Potentilla fruticosa 'Fargo' Dakota Sunspot TM Fargo Yellow Shrubby Cinquefoil	5 gal
	RT'T	6	Rhus typhina `Tiger Eyes` Tiger Eyes Sumac	5 gal
EVERGREEN SHRUBS				
	CL'C	17	Cercocarpus ledifolius Curl-Leaf Mountain Mahogany	5 gal
	JH'I	28	Juniperus horizontalis `Monber` TM Icee Blue Juniper	5 gal
	JS'M	18	Juniperus scopulorum `Moonglow` Moonglow Juniper	15 gal
GRASSES				
	BG'B	148	Bouteloua gracilis `Blonde Ambition` Blonde Ambition Blue Grama	1 gal
	FM'A	591	Festuca mairei Atlas Fescue	1 gal
	M'GB	156	Miscanthus sinensis `Gold Bar` Gold Bar Maiden Grass	1 gal
	M'ML	152	Miscanthus sinensis `Morning Light` Morning Light Maiden Grass	2 gal
	NT'M	485	Nassella tenuissima Mexican Feather Grass	1 gal
PERENNIALS				
	AT'B	40	Asclepias tuberosa Butterfly Milkweed	1 gal
	GL'R	64	Gaura lindheimeri 'Rosy Jane' Rosy Jane Gaura	1 gal
	L'SK	66	Liatris spicata `Kobold` Gayfeather	1 gal
	PS'R	82	Penstemon strictus Rocky Mountain Penstemon	1 gal
	RC'M	174	Ratibida columnifera `Mexican Hat` Praire Coneflower	1 gal
ROSES				
	R'RD	65	Rosa x `Meigalpio` TM Red Drift Groundcover Rose	5 gal

ISSUE DATE: 1/26/2024

PROJECT NUMBER: UT24015

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		
5		
6		
7		

PLAN INFORMATION

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

PROJECT INFORMATION

RESEARCH AND TECH CENTER PH. 1

1940 S. RIDGE FARMS RD.
SANTAQUIN, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

JON JENSEN
JJENSENCM @GMAIL.COM

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LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 753-5644
www.pkjdesigngroup.com

LICENSE STAMP

LICENSED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
8128121-5301
1/26/2024
ELECTRONIC SEAL
STATE OF UTAH

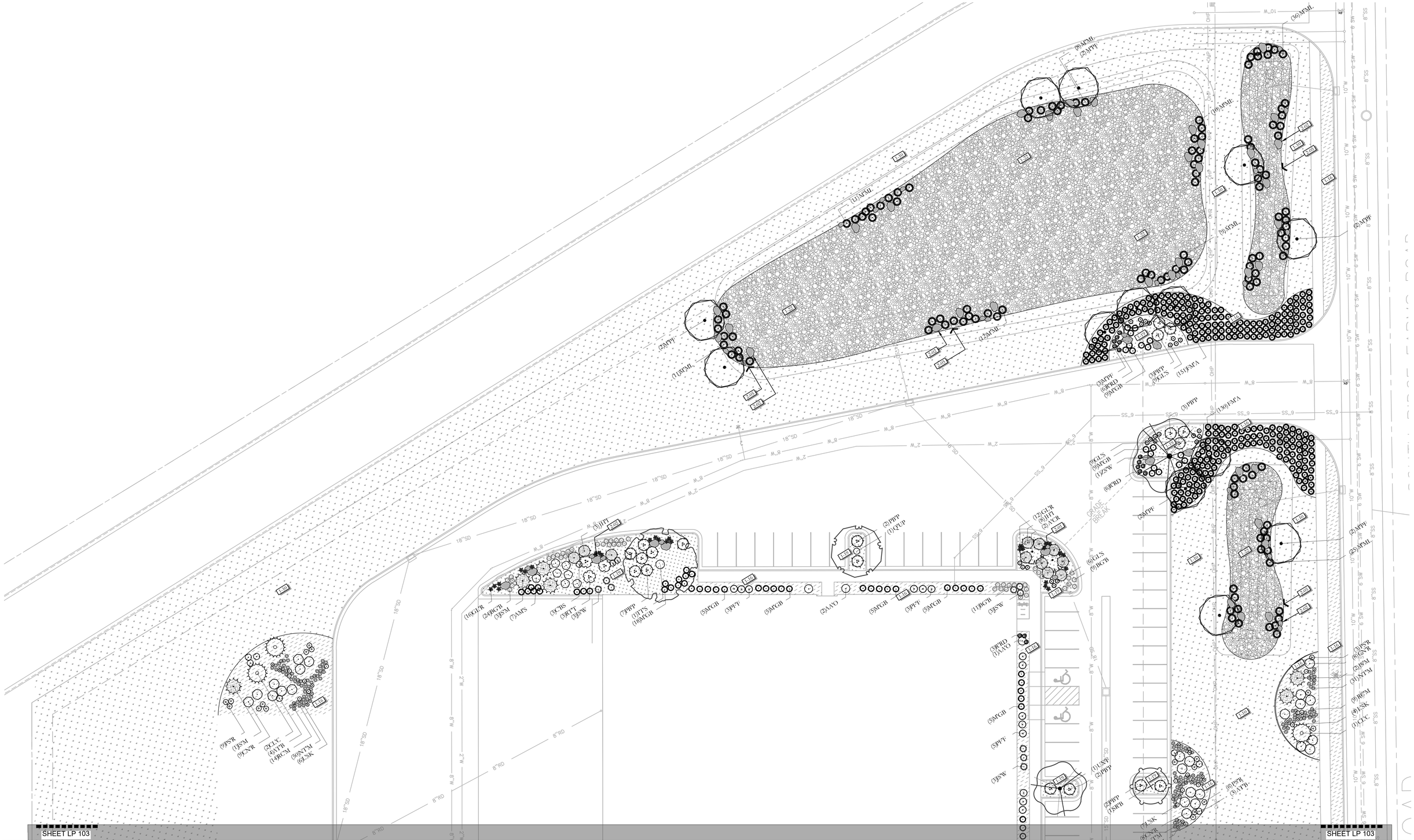
DRAWING INFO

PM: JTA
DRAWN: ACP
CHECKED: JMA
PLOT DATE: 1/26/2024

LANDSCAPE COVER

CITY PERMIT SET

LP-101



ISSUE DATE	PROJECT NUMBER	PLAN INFORMATION	PROJECT INFORMATION	DEVELOPER / PROPERTY OWNER / CLIENT	LANDSCAPE ARCHITECT / PLANNER	LICENSE STAMP	DRAWING INFO
1/26/2024	UT24015		RESEARCH AND TECH CENTER PH. 1 1940 S. RIDGE FARMS RD. SANTAQUIN, UTAH	JON JENSEN JJENSENCM @GMAIL.COM	PKJ DESIGN GROUP Landscape Architecture / Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 753-5644 www.pkjdesigngroup.com	JEREMY ANDREW SMITH 8128121-5301 1/26/2024 ELECTRONIC SEAL STATE OF UTAH	PM: JTA DRAWN: ACP CHECKED: JMA PLOT DATE: 1/26/2024 LANDSCAPE PLAN CITY PERMIT SET

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0' 10' 20' 40' 80'
GRAPHIC SCALE: 1" = 20'

LP-102
LP-103
LP-104

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SHEET LP 102

SHEET LP 102

BUILDING 1
103,025 S.F.

SHEET LP 104

SHEET LP 104

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LICENSED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
8128121-5301
1/26/2024
STATE OF UTAH

PM: JTA
DRAWN: ACP
CHECKED: JMA
PLOT DATE: 1/26/2024

LANDSCAPE PLAN

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LP-103

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LANDSCAPE PLAN
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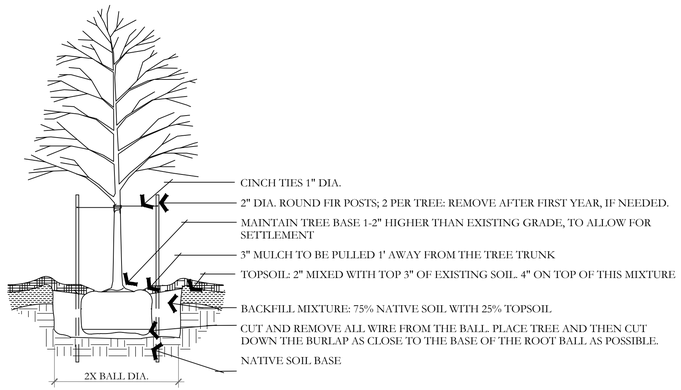

A DECIDUOUS TREE PLANTING
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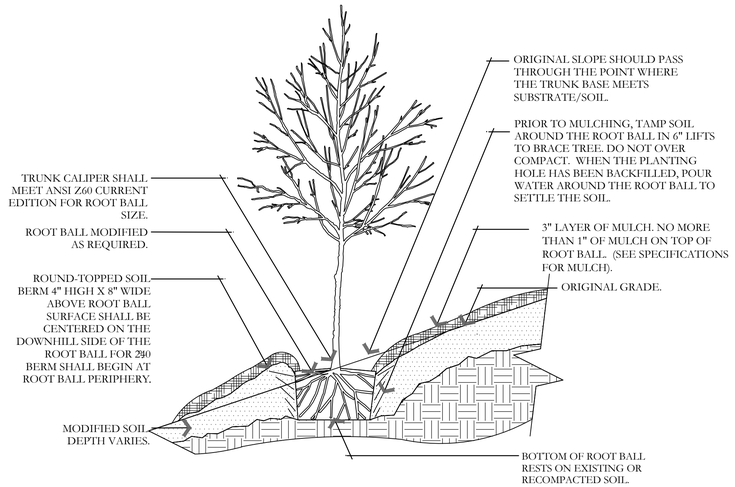

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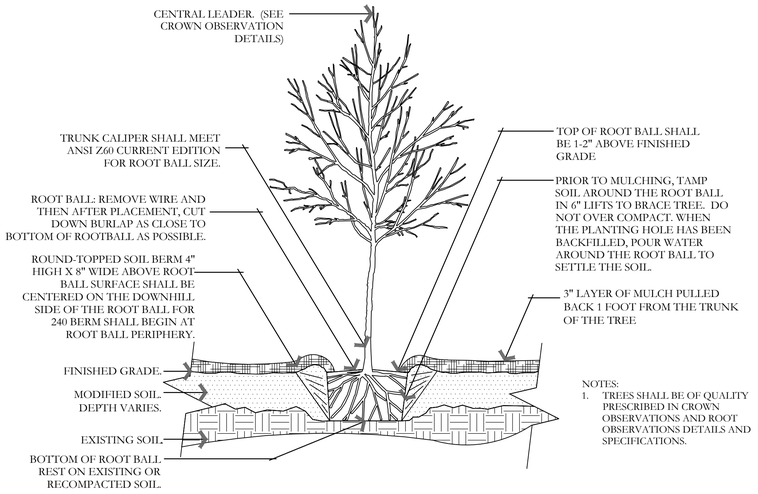

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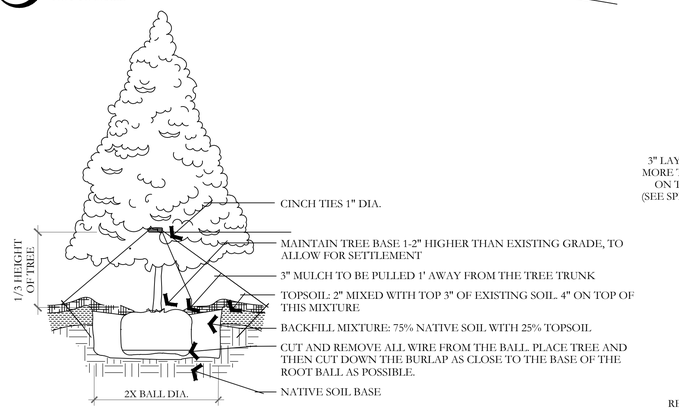

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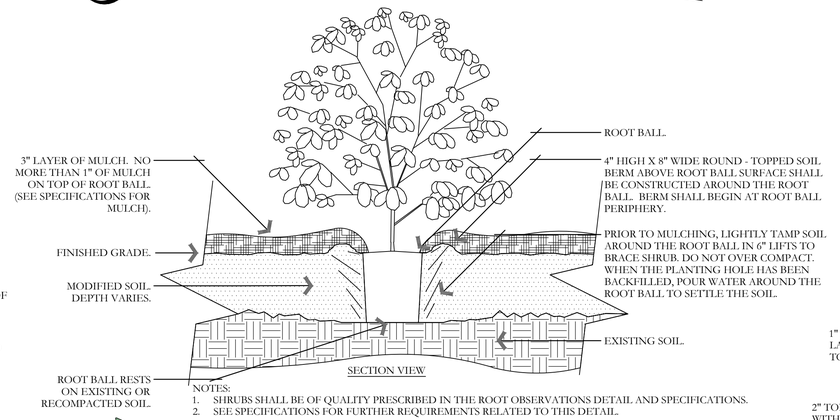

E SHRUB - MODIFIED SOIL
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F PERENNIAL PLANTING
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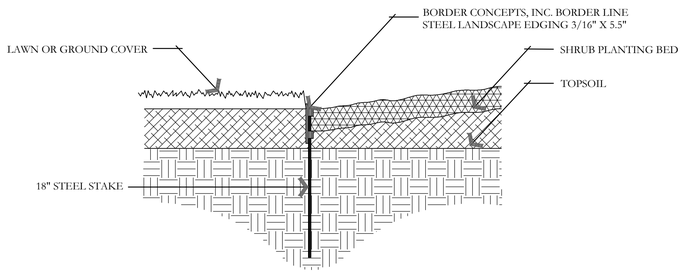

G METAL EDGING DETAIL
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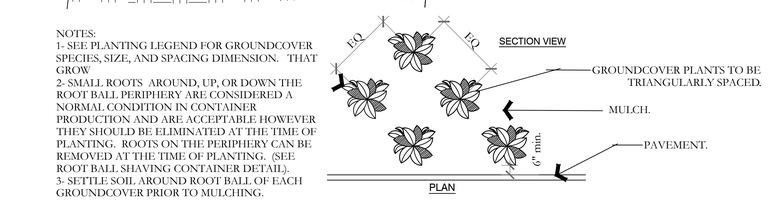

H PERENNIAL/GROUNDCOVER PLANTING
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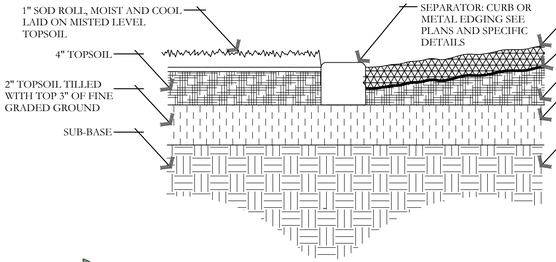

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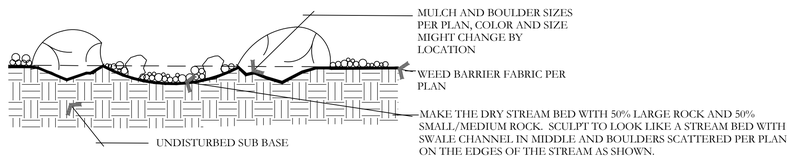

J BOULDER AND DRY STREAM BED DETAIL
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JEREMY AINSWORTH
8128121-5301
1/26/2024
REGISTERED
STATE OF UTAH

DRAWING INFO

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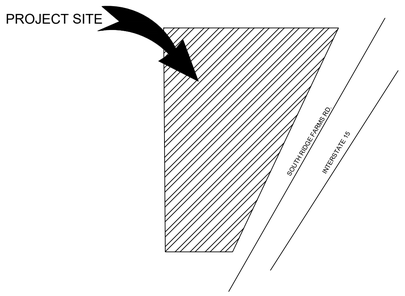
DRAWN:	ACP
CHECKED:	JMA
PLOT DATE:	1/26/2024

LANDSCAPE DETAILS

CITY PERMIT SET

LP-501

VICINITY MAP



SHEET INDEX

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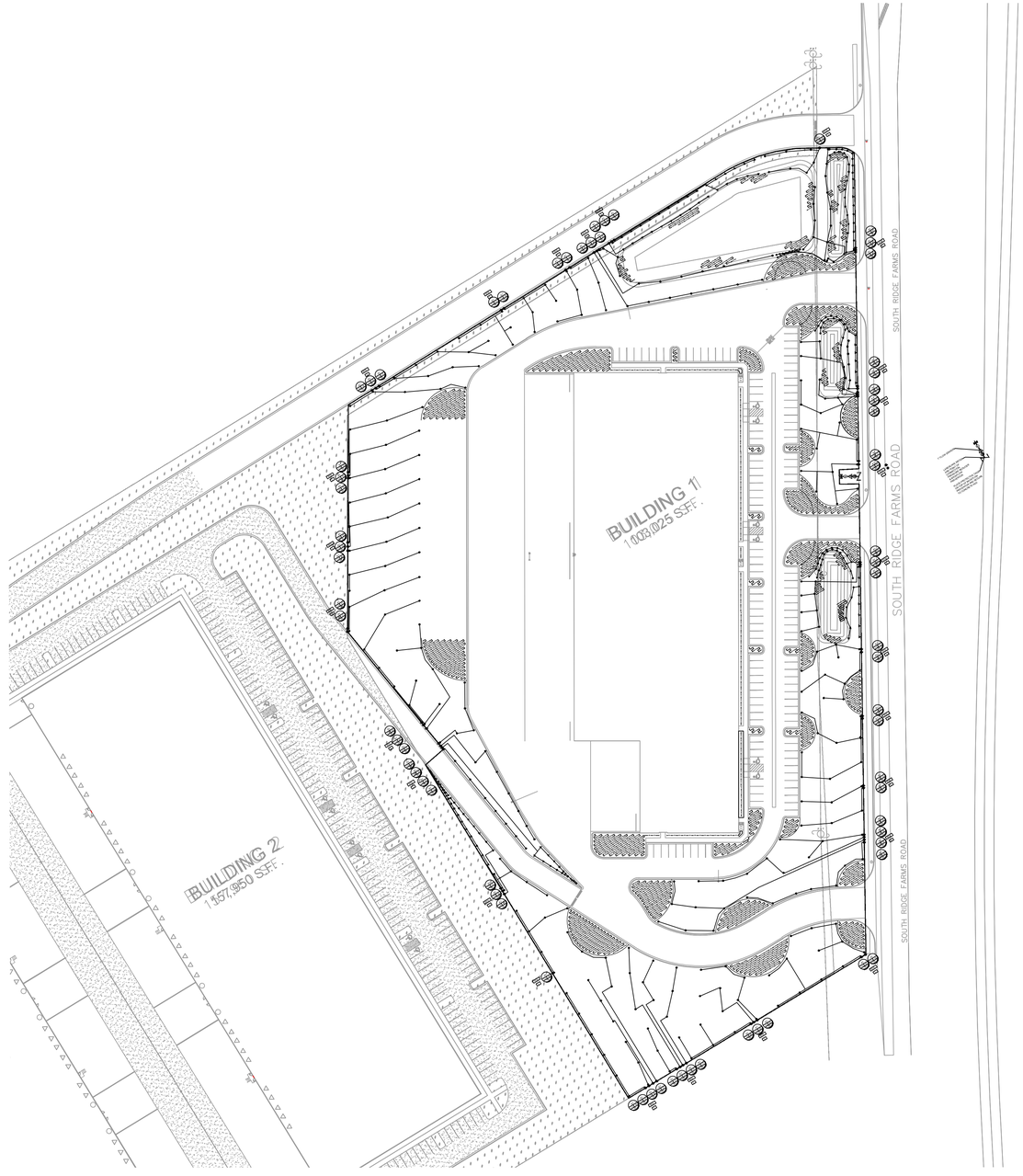

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0' 40' 80' 160' 320'
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8128121-5301
1/26/2024
ELECTRONIC SEAL
STATE OF UTAH

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CHECKED:	JMA
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IRRIGATION OVERALL PLAN

CITY PERMIT SET

IR-100

IRRIGATION PLAN SPECIFICATIONS

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

Work to be done includes all labor, materials, equipment and services required to complete the Project irrigation system as indicated on the Construction Drawings, and as specified herein. Includes but is not limited to: Furnishing and installing underground and above ground sprinkler system complete with any accessories necessary for proper function and operation of the system. All plant material on the Project shall be irrigated. Remove and dispose of any existing sprinkler system components which are disturbed during the construction process and are not to be saved. Restoration of any altered or damaged existing landscape to original state and condition.

1.2 SYSTEM DESCRIPTION

A. Design of irrigation components: Locations of irrigation components on Construction Drawings may be approximate. Piping, sleeving and/or other components shown on Construction drawings may be shown schematically for graphic clarity and demonstration of component groupings and separations. All irrigation components shall be placed in landscaped areas, with the exception of popc and wire in sleeving under hardscapes. Actual routing of pipe, wire or other components may be altered due to site conditions not accounted for in the design process.

B. Construction requirements: Actual placement may vary as required to achieve a minimum of 100% coverage without overspray onto hardscape, buildings or other features.

C. Layout of Irrigation Components: During layout and staking, consult with Owner Approved Representative (hereafter referred to as OAR) to verify proper placement of irrigation components, and to provide Contractor recommendations for changes where revisions may be advisable. Small or minor adjustments to system layout are permissible to avoid existing field obstructions such as utility boxes or street light poles. Contractor shall place remote control valves in groups as practical to economize on quantity of manifold isolation valves. Quick coupler valves shall be placed with manifold groups and protected by manifold isolation valves. Quick coupler valves are shown on Construction Documents in approximate locations.

1.3 DEFINITIONS

A. Water Supply: Secondary water piping and components, furnished and installed by others to provide irrigation water to this Project, including but not limited to filter, saddles, nipples, spools, shut off valves, corporation stop valves, water meters, pressure regulation valves, and piping upstream of (or prior to) the Point of Connection.

B. Point of Connection: Loceation where the Contractor shall tie into the water supply. May require filter, saddle, nipples, spools, isolation valves or Stop and Waste valve for landscape irrigation needs and use.

C. Main Line Piping: Pressurized piping downstream of the Point of Connection to provide water to remote control valves and quick couplers. Normally under constant pressure.

D. Lateral Line Piping: Circuit piping downstream of remote control valves to provide water to sprinkler heads, drip systems or bubblers.

1.4 REFERENCES

A. The following standards will apply to the work of this Section:

a. ASTM-Amercian Society for Testing and Materials

b. IA - The Irrigation Association: Main BMP Document, Landscape Irrigation Scheduling and Water Management Document.

1.5 SUBMITTALS

A. At least thirty (30) days prior to ordering of any materials, the Contractor shall provide manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system. Submittals shall be in three ring binders or other similar bound form. Provide five copies of submittals to OAR for distribution. Place cover or index sheet indicating order in submittal document. No material shall be ordered, delivered or any work preceded in the field until the required submittals have need reviewed in its entirety and stamped approved. Delivered material shall match the approved samples.

B. Operation and Maintenance Manual:

a. At least thirty (30) days prior to final inspection, the Contractor shall provide Operation and Maintenance manual to OAR, containing:

i. Manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system.

ii. Parts list for each operating element of the system

iii. Manufacturer printed literature on operation and maintenance of operating elements of the system.

iv. Section listing instructions for overall system operation and maintenance. Include directions for Spring Start-up and Winterization.

b. Project Record Copy

i. Maintain at project site one copy of all project documents clearly marked "Project Record Copy". Mark any deviation in material installation on Construction drawings. Maintain and update drawing at least weekly. Project Record Copy to be available to OAR on demand.

ii. Completed Project As-Built Drawings

1. Prior to final inspection, prepare and submit to OAR accurate as-built drawings
2. Show detail and dimension changes made during installation. Show significant details and dimensions that were not shown in original Contract Documents.
3. Field dimension locations of sleeving, points of connection, main line piping, wiring runs not contained in main line pipe trenches, valves and valve boxes, quick coupler valves.
4. Dimensions are to be taken from permanent constructed surfaces, features, or finished edges loeated at or above finished grade.
5. Controller Map: upon completion of system, place in each controller a color coded copy of the area that controller services: indicating zone number, type of plant material and location on project that zone services. Laminate map with heat shrink clear plastic.

1.6 QUALITY ASSURANCE

A. Acceptance: Do not install work in this section prior to acceptance by OAR.

B. Regulatory Requirements: All work and materials shall be according to any and all rules, regulations or codes, whether they are State or Local laws and ordinances. Contract documents, drawings or specifications may not be construed or interpreted to permit work or materials not conforming to the above codes.

C. Adequate Water Supply: Water supply to this Project exists, installed by others. Connections to these supply lines shall be by this Contractor. Verify that proper connection is available to supply line and is of adequate size. Verify that secondary connection components may be installed if necessary. Perform static pressure test prior to commencement of work. Notify OAR in writing of problems encountered prior to proceeding.

D. Workmanship and Materials:

a. It is the intent of this specification that all material herein specified and shown on the construction documents shall be of the highest quality available and meeting the requirements specified.

b. All work shall be performed in accordance with the best standards of practice relating to the trade.

E. Contractor Qualifications:

a. Contractor shall provide document or resume including at least the following items:

i. That Contractor has been installing sprinklers on commercial projects for five previous consecutive years.

ii. Contractor is licensed to perform Landscape and Irrigation construction in the State of this Project.

iii. Contractor is bondable for the work to be performed.

iv. References of five projects of similar size and scope completed within the last five years. Three of the projects listed shall be local.

v. Listing of suppliers where materials will be obtained for use on this Project.

vi. Project site Foreman or Supervisor has at least five consecutive years of commercial irrigation installation experience. This person shall be a current Certified Irrigation Contractor in good standing as set forth by the Irrigation Association. This person shall be on Project site at least 75% of each working day.

vii. Evidence that Contractor currently employs workers in sufficient quantities to complete Project within time limits that are established by the Contract.

viii. All General laborers or workers on the Project shall be previously trained and familiar with sprinkler installation and have a minimum of one-year experience. Those workers performing tasks related to PVC pipe shall have certificates designated below.

1.7 DELIVERY-STORAGE-HANDLING

A. During delivery, installation and storage of materials for Project, all materials shall be protected from contamination, damage, vandalism, and prolonged exposure to sunlight. All material stored at Project site shall be neatly organized in a compact arrangement and storage shall not disrupt Project Owner or other trades on Project site. All material to be installed shall be handled by Contractor with care to avoid breakage or damage. Damaged materials attributed to Contractor shall be replaced with new at Contractor's expense.

1.8 SEQUENCING

A. Perform site survey, research utility records, contact utility location services. The Contractor shall familiarize himself with all hazards and utilities prior to work commencement. Install sleeving prior to installation of concrete, paving or other permanent site elements. Irrigation system Point of Connection components, backflow prevention and pressure regulation devices shall be installed and operational prior to all downstream components. All main lines shall be thoroughly flushed of all debris prior to installation of any sprinkler heads.

1.9 WARRANTY

A. Contractor shall provide one year Warranty. Warranty shall cover all materials, workmanship and labor. Warranty shall include filling and or repairing depressions or replacing turf or other plantings due to settlement of irrigation trenches or irrigation system elements. Valve boxes, sprinklers or other components settled from original finish grade shall be restored to proper grade. Irrigation system shall have been adjusted to provide proper, adequate coverage of irrigated areas.

1.10 OWNER'S INSTRUCTION

A. After system is installed, inspected, and approved, instruct Owner's Representatives in complete operation and maintenance procedures. Coordinate instruction with references to previously submitted Operation and Maintenance Manual.

1.11 MAINTENANCE

A. Furnish the following items to Owner's Representative:

a. Two quick coupler keys with hose swivels.

b. One of each type or size of quick coupler valve and remote control valve. Five percent of total quantities used of each sprinkler and sprinkler nozzle.

B. Provide the following services:

a. Winterize entire irrigation system installed under this contract. Winterize by 'blow-out' method using compressed air. Compressor shall be capable of minimum of 175 CFM. This operation shall occur at the end of first growing season after need for plant irrigation but prior to freezing. Compressor shall be capable of evacuating system of all water pressure regulation devices. Compressor shall be regulated to not more than 60 PSI. Start up system the following spring after danger of freezing has passed. Contractor shall train Owner's Representative in proper start-up and winterization procedure.

PART 2 - PRODUCTS

2.1 GENERAL NOTES

A. Contractor shall provide materials to be used on this Project. Contractor shall not remove any material purchased for this Project from the Project Site, nor mix Project materials with other Contractor owned materials. Owner retains right to purchase and provide project material.

2.2 POINT OF CONNECTION

A. The Contractor shall connect onto existing irrigation or water main line as needed for Point(s) of Connection. Contractor shall install new main line as indicated.

2.3 CONNECTION ASSEMBLY

A. Secondary water shall be used on this Project. Install filter and RPZ as needed.

2.4 CONTROL SYSTEM

A. Power supply to the irrigation controller shall be provided for by this Contract.

B. Controller shall be as specified in the drawings. Controller shall be surge protected.

a. Installation of wall-mount/ground pedestal timer controllers: Irrigation contractor shall be responsible for this task. Power configuration for wall-mount/ground pedestal timer controllers shall be 120 VAC unless otherwise noted.

b. Locate Controller(s) in general location shown on Construction drawings. Coordinate power supply and breaker allocation with electrical contractor. Contractor shall be responsible for all power connections to Controllers, whether they are wall mount or pedestal mount. Contractor shall coordinate with electrical or other Project trades as needed to facilitate installation of power to controllers.

C. Wires connecting the remote control valves to the irrigation controller are single conductors, type PE. Wire construction shall incorporate a solid copper conductor and polyethylene (PE) insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Paige Electric Co., LP specification number P7079D.

a. A minimum of 24" of additional wire shall be left at each valve, each splice box and at each controller.

b. Common wire shall be white in color, 12 gauge. Control wire shall be red in color, 14 gauge. Spare/extra wire (3 ft.) shall be looped within each valve box of the grouping it is to service.

D. RCV wire splicing connectors shall be 3M brand DBY or DBR. Wire splicing between controller and valves shall be avoided if at all possible. Any wire splices shall be contained within a valve box. Splices within a valve box that contains no control valves shall be stamped 'WIRE SPLICE' or 'WS' on box lid.

2.5 SLEEVING

A. Contractor shall be responsible to protect existing underground utilities and components. Sleeving minimum size shall be 2". Sleeving 2" through 4" in size shall be S/40 PVC solvent weld. Sleeving 6" and larger shall be CL 200 PVC gasketed. Sleeve diameter shall be at least two times the diameter of the pipe within the sleeve. Sleeves shall be extended 6" minimum beyond walk or edge of pavement. Wire or cable shall not be installed in the same sleeve as piping, but shall be installed in separate sleeves. Sleeve ends on sleeve sizes 4" and larger shall be capped with integral corresponding sized PVC slip cap, pressure fit, until used, to prevent contamination. Sleeves shall be installed at appropriate depths for main line pipe or lateral pipe.

2.6 MAIN LINE PIPE

A. All main line pipe 4" and larger shall be Class 200 gasketed bell end. All main line pipe 3" in size and smaller shall be Schedule 40 PVC solvent weld bell end.

a. Maximum flows allowed through main line pipe shall be:

3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM

b. Main line pipe shall be buried with 24" cover

2.7 MAIN LINE FITTINGS

A. All main line fittings 3" and larger shall be gasketed ductile iron material. All ductile iron fittings having change of direction shall have proper concrete thrust block installed. All main line fittings smaller than 3" in size shall be Schedule 80 PVC.

2.8 ISOLATION VALVES

A. Isolation valves 3" and larger shall be Waterous brand model 2500 east iron gate valve, resilient wedge, push on type, with 2" square operating nut. Place sleeve of 6" or larger pipe over top of valve vertically and then extend to grade. Place 10" round valve box over sleeve at grade.

B. Isolation valves 2-1/2" and smaller shall be Apollo brand 70 series brass ball valves, contained in a Carson Standard size valve box. Valves shall be installed with S/80 PVC TOE Nipples on both sides of the valve. Valve shall be placed so that the handle is vertical toward the top of the valve box in the 'off' position.

2.9 MANIFOLDS

A. Action Manifold fittings shall be used to create unions on both sides of each control valve, allowing the valve to be removed from the box without cutting piping. Valves shall be located in boxes with ample space surrounding them to allow access for maintenance and repair. Where practical, group remote control valves in close proximity, and protect each grouping with a manifold isolation valve as shown in details. Manifold Main Line (or Sub-Main Line) and all manifold components and isolation valves shall be at least as large as the largest diameter lateral served by the respective manifold.

2.10 REMOTE CONTROL VALVES

A. Remote control valves shall be as specified on the drawings. Remote control valves shall be located separately and individually in separate control boxes.

2.11 MANUAL CONTROL VALVES

A. Quick coupler valve shall be attached to the manifold sub-main line using a Lasco G17S212 swing joint assembly with snap-lock outlet and brass stabilizer elbow. Quick coupler valve shall be placed within a Carson 10" round valve box. Top of quick coupler valve cover shall allow for complete installation of valve box lid, but also allow for insertion and operation of key. Base of quick coupler valve and top of quick coupler swing joint shall be encased in ¾" gravel. Contractor shall not place quick coupler valves further than 200 feet apart, to allow for spot watering or supplemental irrigation of new plant material. Quick coupler valve at POC shall not be eliminated or relocated.

2.12 LATERAL LINE PIPE

A. All lateral piping shall be Schedule 40 PVC, solvent weld, and bell end. Lateral pipe shall be buried with 12-18" of cover typically. Lateral pipe shall be ¾", 1", 1 ¼", 1 ½" or 2" in size as indicated on Construction Drawings.

2.13 LATERAL LINE FITTINGS

A. All lateral line fittings shall be S/40 PVC

2.14 SPRAY SPRINKLERS

A. Spray head sprinklers shall be as specified on the drawings. Nozzles shall be as specified on the drawings.

2.15 VALVE BOXES

A. Rainbird valve boxes shall be used on this project. Sizes are as directed in these Specifications, detail sheets or plan sheets. Valve boxes shall be centered over the control valve or element they cover. Valve box shall be sized large enough to allow ample room for services access, removal or replacement of valve or element. Valve box shall be set to flush to finish grade of topsoil or barked areas. Contractor shall provide extensions or stack additional valve boxes as necessary to bring valve box pit to proper grade.

2.16 IMPORT BACKFILL

A. All main line pipe, lateral line pipe and other irrigation elements shall be bedded and backfilled with clean soil, free of rocks 1" and larger. Contractor shall furnish and install additional backfill material as necessary due to rocky conditions. Trenches and other elements shall be compacted and/or water settled to eliminate settling. Debris from trenching operations un-usable for fill shall be removed from project and disposed of properly by Contractor.

2.17 OTHER PRODUCTS

A. Substitution of equivalent products is subject to the OAR's approval and must be designated as accepted in writing.

a. The Contractor shall provide materials to make the system complete and operational.

PART 3 - EXECUTION

3.1 PREPARATION

A. Contractor shall repair or replace work damaged by irrigation system installation. If damaged work is new, repair or replacement shall be performed by the original installer of that work. The existing landscape of this Project shall remain in place. Contractor shall protect and work around existing plant material. Coordination of trench and valve locations shall be laid out for the OAR prior to any excavation occurring. Plant material deemed damaged by the OAR shall be replaced with new plant material at Contractor's expense. Contractor shall not cut existing tree roots larger than 2" to install this Project. Route pipe, wire and irrigation elements around tree canopy drip line to minimize damage to tree roots. Contractor shall have no part of existing system used by other portions of site landscape without water for more than 24 hours at a time.

3.2 TRENCHING AND BACKFILLING

A. Pulling of pipe shall not be permitted on this project. Over excavate trenches both in width and depth. Ensure base of trench is rock or debris free to protect pipe and wire. Grade trench base to ensure flat, even support of piping. Backfill with clean soil or import material. Contractor shall backfill no less than 2" around entire pipe with clean, rock free fill. Main line piping and fittings shall not be backfilled until OAR has inspected and pipe has passed pressure testing. Perform balance of backfill operation to eliminate any settling.

3.3 SLEEVING

A. Sleeve all piping and wiring that pass under paving or hardscape features. Wiring shall be placed in separate sleeving from piping. Sleeves shall be positioned relative to structures or obstructions to allow for pipe or wire within to be removed if necessary.

3.4 GRADES AND DRAINAGE

A. Place irrigation pipe and other elements at uniform grades. Winterization shall be by evacuation with compressed air. Automatic drains shall not be installed on this Project. Manual drains shall only be installed at POC where designated on Construction Drawings.

3.5 PVC PIPE

A. Install pipe to allow for expansion and contraction as recommended by pipe manufacturer.

B. Install main line pipes with 18" of cover, lateral line pipes with 12" of cover.

C. Drawings show diagrammatic or conceptual location of piping - Contractor shall install piping to minimize change of direction, avoid placement under large trees or large shrubs, avoid placement under hardscape features.

D. Plastic pipe shall be cut squarely. Burrs shall be removed. Spigot ends of pipes 3" and larger shall be beveled.

E. Pipe shall not be glued unless ambient temperature is at least 50 degress F. Pipe shall not be glued in rainy conditions unless properly tented. All solvent weld joints shall be assembled using IPS 711 glue and P70 primer according to manufacturer's specification, no exceptions. All workers performing glue operations shall provide evidence of certification. Glued main line pipe shall eure a minimum of 24 hours prior to being energized. Lateral lines shall eure a minimum of 2 hours prior to being energized and shall not remain under constant pressure unless cured for 24 hours.

F. Appropriate thrust blocking shall be performed on fittings 3" and larger. All threaded joints shall be wrapped with Teflon tape or paste unless directed by product manufacturer or sealing by o-ring.

3.6 CONTROLLERS

A. All grounding for pedestal controllers shall be as directed by controller manufacturer and ASIC guidelines, not to exceed a resistance reading of 5 OHMs.

B. Locate controllers in protected, inconspicuous places, when possible. Coordinate location of pedestal controllers with Landscape Architect to minimize visibility.

C. Coordinate location of wall mount controllers with building or electrical Contractor to facilitate electrical service and future maintenance needs. Wall mount shall be securely fastened to surface. If exterior mounted, wall mount controllers shall have electrical service wire and field control wire in separate, appropriate sized weatherproof electrical conduit, PVC pipe shall not be used.

D. Wiring under hardscape surfaces shall be placed continuously in conduit. Contractor shall be responsible to coordinate sleeving needs for conduit or sweeps elbows from exterior to interior of building.

E. Pedestal controllers shall be placed upon VIT-Strong Box Quick Pad as per manufacturer's recommendations. Controllers shall be oriented such that Owner's Representative maintenance personnel may access easily and perform field system tests efficiently.

F. Place Standard valve box at base of controller or nearby to allow for three to five feet of slack field control wire to be placed at each controller. This Contractor shall provide conduit access if needed for Electrical Contractor. Electrical supply and installation, as well as hook-up to controller shall be by this Contractor.

G. Electrical contractor is in charge of providing 1.5" conduit from controller to outside landscape area. Provide power and room for controller. Provide ethernet to hardwire power into the controller.

3.7 VALVES

A. Isolation valves, remote control valves, and quick coupler valves shall be installed according to manufacturer recommendation and Contract Specifications and Details.

B. Valve boxes shall be set over valves so that all parts of the valve can be reached for service.

C. Valve box and lid shall be set to be flush with finished grade. Only one remote control valve may be installed in a valve box. Place a minimum of 4" of ¾" washed gravel beneath valve box for drainage. Bottom of remote control valve shall be a minimum of 2" above gravel.

3.8 SPRINKLER HEADS

A. No sprinkler shall be located closer than 6" to walls, fences, or buildings.

B. Heads adjacent to walks, curbs, or paths shall be located at grade and 2" away from hardscape.

C. Control valves shall be opened. Then fully flush lateral line pipe and swing joints prior to installation of sprinklers.

D. Spray heads shall be installed and flushed again prior to installation of nozzles.

E. Contractor shall be responsible for adjustment if necessary due to grade changes during landscape construction.

3.9 FIELD QUALITY CONTROL

A. Main line pipes shall not be backfilled or accepted until the system has been tested for 2 hours at 100 psi.

B. Main line pressure test shall include all pipe and components from the point of connection to the upstream side of remote control valves. Test shall include all manifold components under constant pressure. Piping may be tested in sections that can be isolated.

C. Contractor shall provide pressurized water pump to increase or boost pressure where existing static pressure is less than 100 psi.

D. Schedule testing with OAR 48 hours in advance for approval.

E. Leaks or defects shall promptly be repaired or rectified at the Contractors expense and retested until able to pass testing.

F. Grounding resistance at pedestal controller shall also be tested and shall not exceed 5 OHMs.

3.10 ADJUSTMENT

A. Sprinkler heads shall be adjusted to proper height when installed. Changes in grade or adjustment of head height after installation shall be considered a part of the original contract and at Contractor's expense.

B. Adjust all sprinkler heads for arc, radius, proper trim and distribution to cover all landscaped areas that are to be irrigated.

C. Adjust sprinklers so they do not water buildings, structures, or other hardscape features.

D. Adjust run times of station to meet needs of plant material the station services.

3.11 CLEANING

A. Contractor shall be responsible for cleanliness of jobsite. Work areas shall be swept cleanly and picked up daily.

B. Open trenches or hazards shall be protected with yellow caution tape.

C. Contractor is responsible for removal and disposal of offsite trash and debris generated as a result of this Project.

D. OAR shall perform periodic as well as a final cleanliness inspection.

E. Contractor shall leave Project in at least a 'broom clean' condition.

END OF SECTION

WATERING SCHEDULE

90 DAY ESTABLISHMENT PERIOD IRRIGATION SCHEDULE (APRIL, MAY, JUNE)

	TYPE	IR HEAD	AMT. H20	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	OPERATING PRESSURE
HYDROZONE A	TURF	MP ROTATOR	.5 INCH		15 MIN.		15 MIN.		15 MIN.		30 PSI
HYDROZONE B	SHRUBS	DRIP	2 GAL/HR.		2 HOURS			2 HOURS			40 PSI

Note: Begin irrigation 4:00 am. Use cycle and soak method in clay soils-divide into 3 waterings for each turf irrigation event. Shrubs to be watered so soil is moist 6" below root ball. Do not overwater shrubs, allow to dry between waterings especially in clay soils. Watch for water stress.

SPRING REGULAR IRRIGATION SCHEDULE: BEGIN WATERING MAY 15 (Turf irrigation event once every 5-7 days; shrubs 2-3 times/month)

	TYPE	IR HEAD	AMT. H20	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	OPERATING PRESSURE
HYDROZONE A	TURF	MP ROTATOR	.5 INCH		60 MIN.						30 PSI
HYDROZONE B	SHRUBS	DRIP	2 GAL/HR								40 PSI

Note: Begin irrigation 4:00 am. Use cycle and soak method in clay soils-divide into 3 waterings for each turf irrigation event.
Do not overwater shrubs, allow to dry between waterings especially in clay soils. Watch for water stress.

SUMMER REGULAR IRRIGATION SCHEDULE: BEGIN WATERING JUNE 15 (Turf irrigation event once every 3-5 days; shrubs 1 time/week)

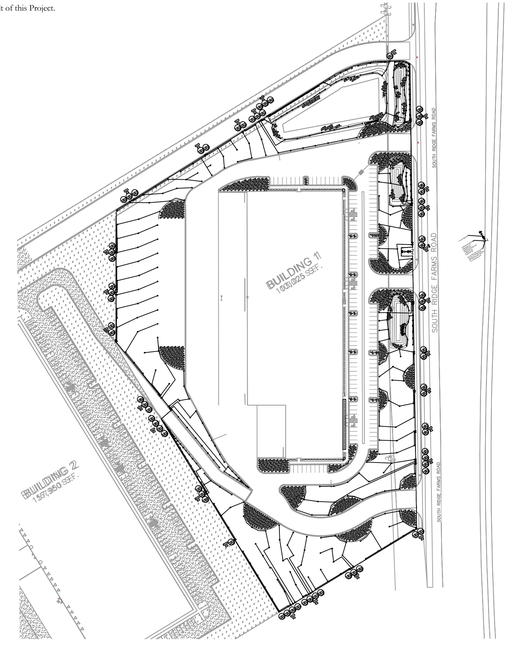
	TYPE	IR HEAD	AMT. H20	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	OPERATING PRESSURE
HYDROZONE A	TURF	MP ROTATOR	.5 INCH		60 MIN.				60 MIN.		30 PSI
HYDROZONE B	SHRUBS	DRIP	2 GAL/HR		2 HRS.						40 PSI

Note: Begin irrigation 4:00 am. Use cycle and soak method in clay soils-divide into 3 waterings for each turf irrigation event.
Do not overwater shrubs, allow to dry between waterings especially in clay soils. Watch for water stress.

FALL REGULAR IRRIGATION SCHEDULE: BEGIN WATERING SEPT. 1, END WATERING OCT. 15
(Turf irrigation event every 5-7 days; shrubs 2-3 times/month)

	TYPE	IR HEAD	AMT. H20	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	OPERATING PRESSURE
HYDROZONE A	TURF	MP ROTATOR	.5 INCH		60 MIN.						30 PSI
HYDROZONE B	SHRUBS	DRIP	2 GAL/HR								40 PSI

Note: Begin irrigation 4:00 am. Use cycle and soak method in clay soils-divide into 3 waterings for each turf irrigation event.
Do not overwater shrubs, allow to dry between waterings especially in clay soils. Watch for water stress.



2" MAINLINE ROUTING ,CONTROLLER AND P.O.C. LOCATION OVERVIEW

ISSUE DATE	PROJECT NUMBER
1/26/2024	UT24015

NO.	REVISION	DATE
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0' 75' 150' 300' 600'
GRAPHIC SCALE: 1" = 150'

PLAN INFORMATION

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1940 S. RIDGE FARMS RD.
SANTAQUIN, UTAH

PROJECT INFORMATION

JON JENSEN
JJENSENCM @GMAIL.COM

DEVELOPER / PROPERTY OWNER / CLIENT

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LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture & Planning & Visualization
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LEHI, UTAH 84043 (801) 753-5644
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IRRIGATION COVER

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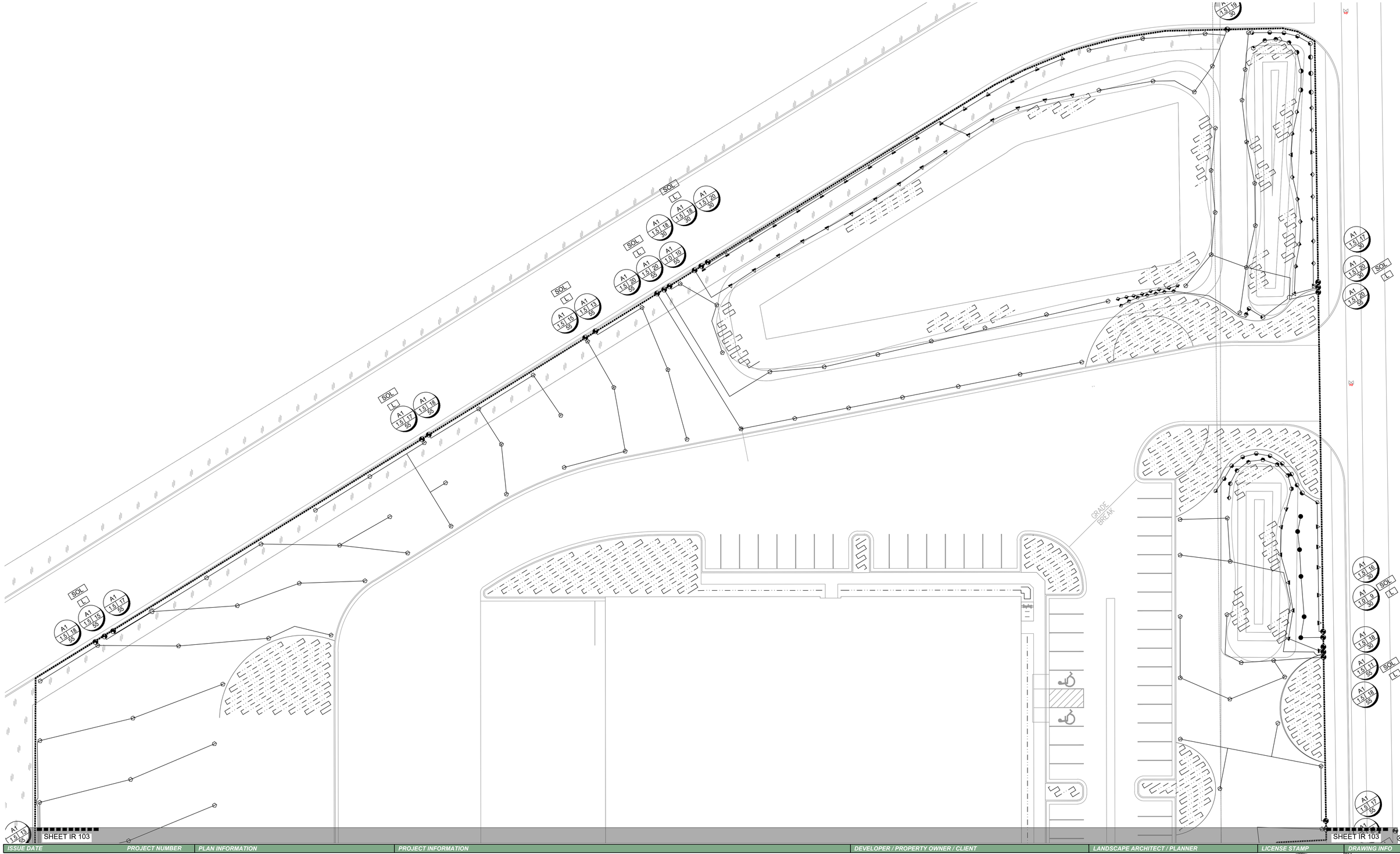
IR-101



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N

0' 10' 20' 40' 80'
GRAPHIC SCALE: 1" = 20'

IR-102
IR-103
IR-104

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LICENSED LANDSCAPE ARCHITECT
KEVIN AINSWORTH
8128121-5301
1/26/2024
ELECTRONIC SEAL
STATE OF UTAH

IRRIGATION PLAN

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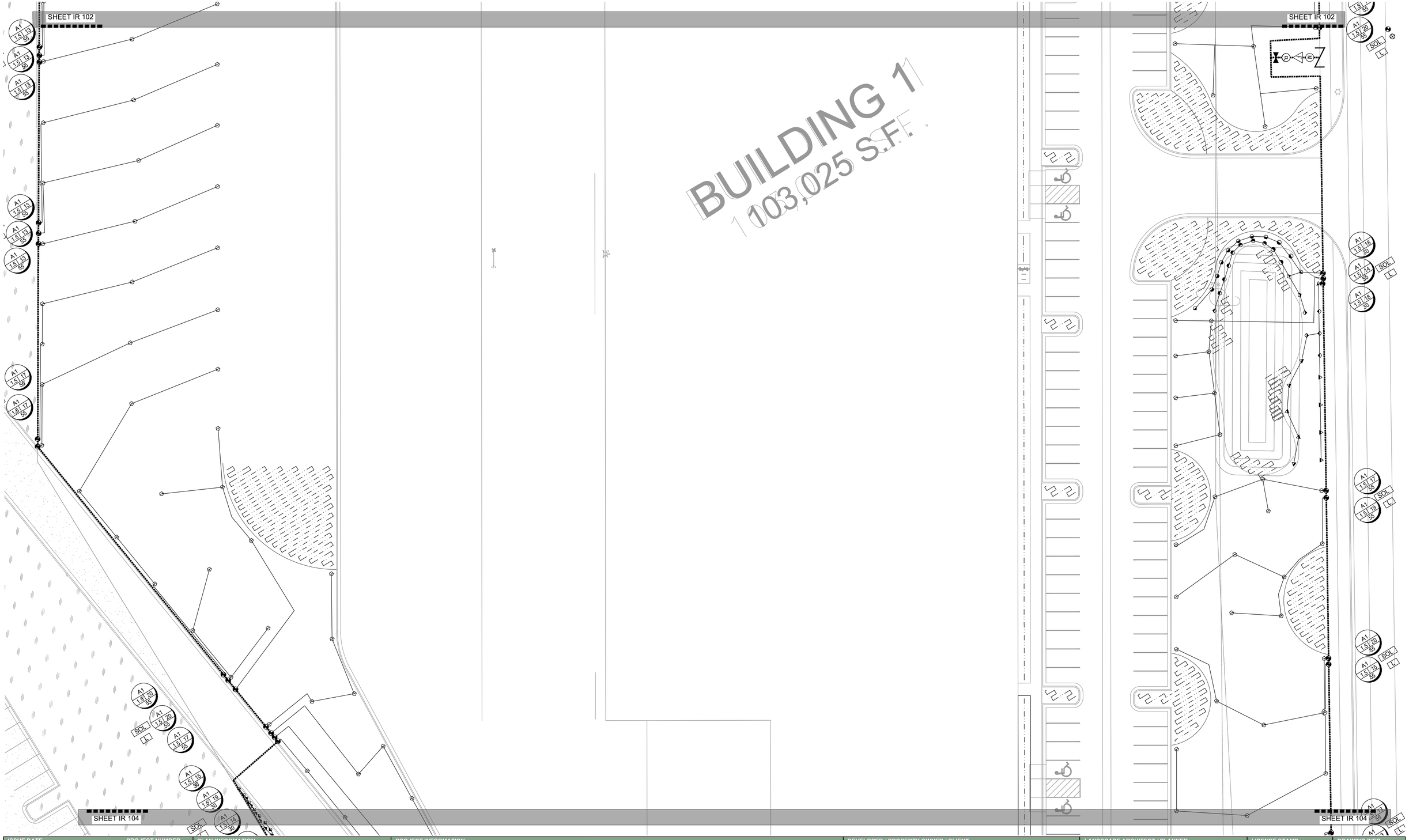
IR-102



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STATE OF UTAH

IRRIGATION PLAN

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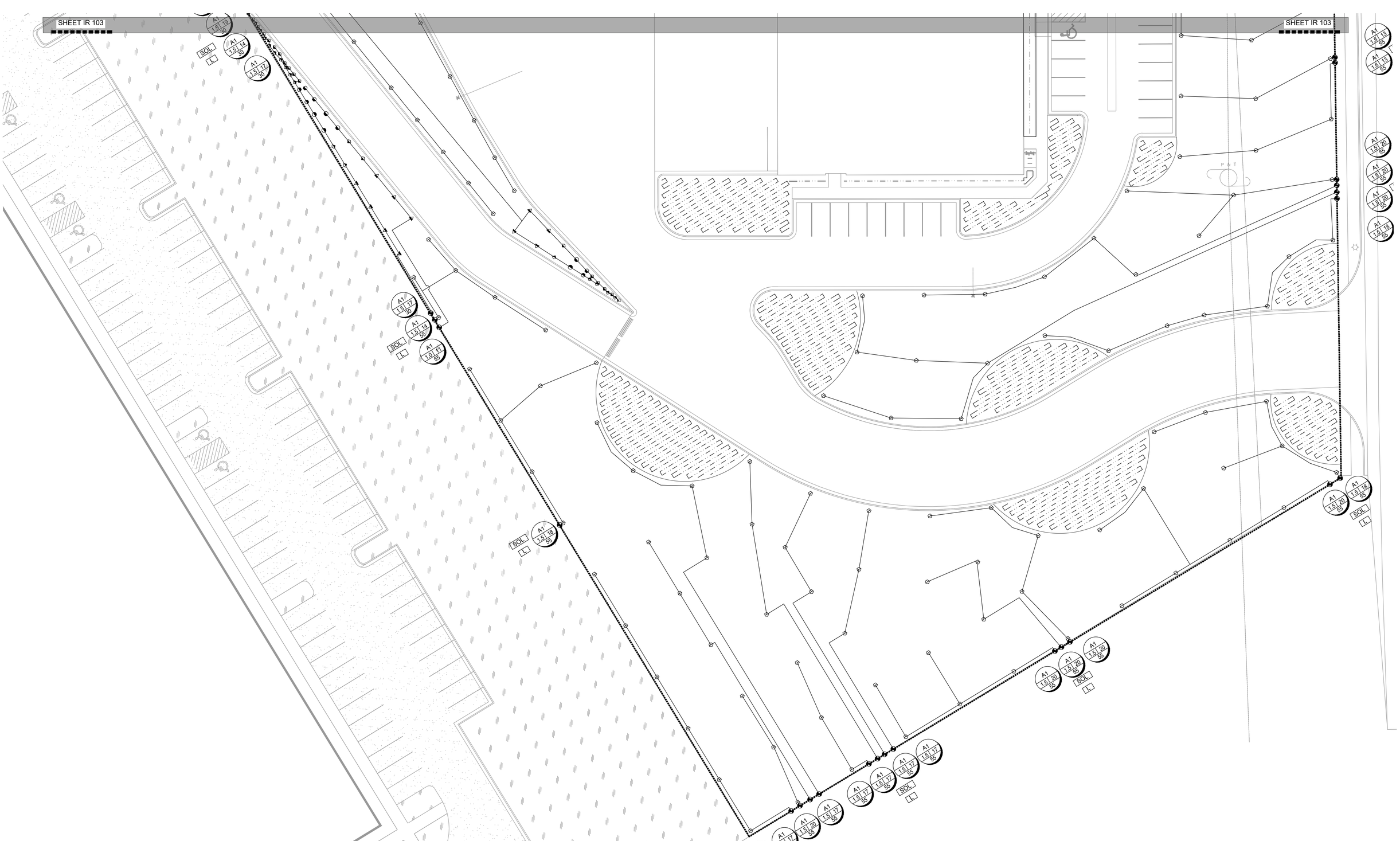
IR-103

SHEET IR 103



ISSUE DATE	PROJECT NUMBER
1/26/2024	UT24015

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JEREMY AINSWORTH
8128121-5301
1/26/2024
ELECTRONIC SEAL
STATE OF UTAH

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IRRIGATION PLAN

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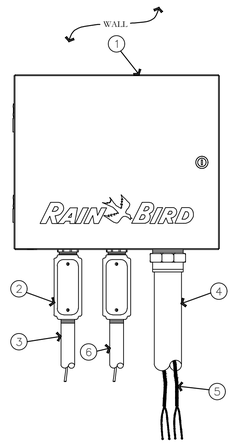
IR-104



1. TWO-WIRE CONTROLLER: RAIN BIRD ESP-LXIVM/PRO IN LXMM METAL CABINET WITH OUTSIDE WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS FOR POWER SUPPLY WIRE
4. 2-INCH CONDUIT AND FITTINGS FOR TWO-WIRE CABLE
5. MAXICABLE TWO-WIRE PATH TO FIELD DEVICES, USE A DIFFERENT CABLE JACKET COLOR FOR EACH PATH.
6. 1-INCH CONDUIT AND FITTINGS FOR GROUND WIRE. ONLY FOR OUTDOOR INSTALLATIONS.

NOTES:
1. ESP-LXIVM CONTROLLER IS AVAILABLE IN TWO MODELS. THE LXIVM WITH 60 STATIONS AND THE LMIVM-PRO WITH 240 STATIONS. REFER TO THE CHART BELOW FOR DIFFERENCES BETWEEN THE TWO MODELS.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS. IF CONTROLLER IS MOUNTED INDOORS, USE POWER SUPPLY GROUND.

KEY SPECIFICATIONS

FEATURE / MODEL	MAX PROGRAMS	STATIONS	MAX SIMULSTATIONS	MASTER VALVES	FLOW SENSORS	WEATHER SENSORS
LX-IVM	10	60	8	5	5	4
LX-IVM PRO	40	240	16	10	10	8

A ESP-LXIVM/PRO TWO-WIRE CONTROLLER IN METAL CABINET
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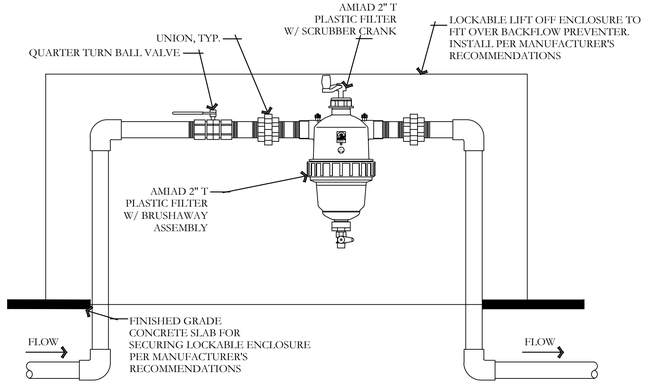
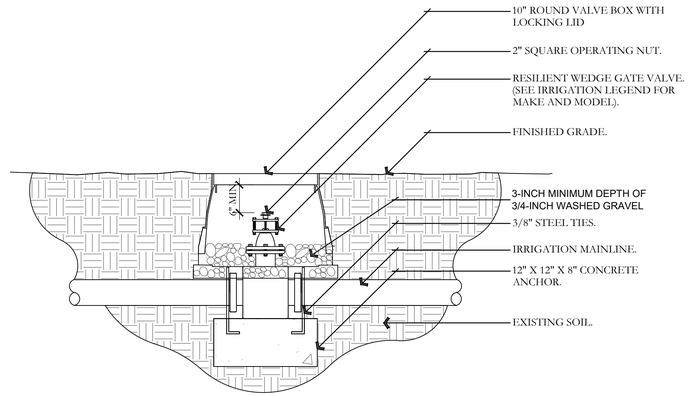
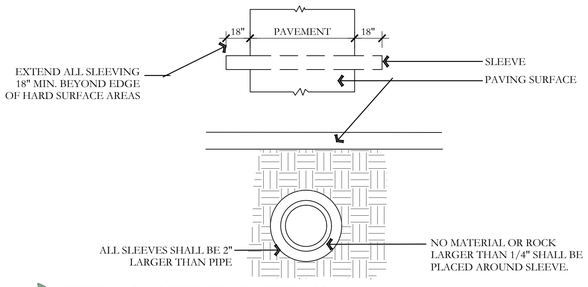


B 2" PLASTIC FILTER W/ BRUSHAWAY ASSEMBLY
NOT TO SCALE — PKJ DESIGN GROUP

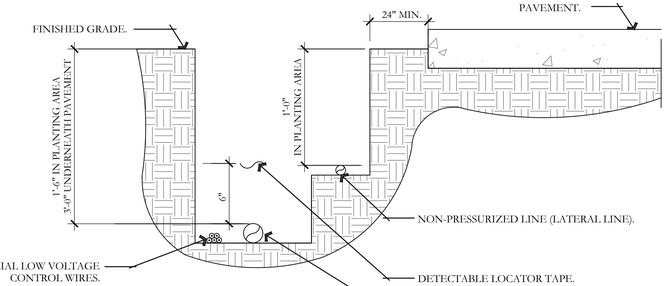


NOTES:
1. INSTALL GATE VALVE PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. VALVE BOX SHALL BE WRAPPED WITH MINIMUM 3 MIL. THICK PLASTIC AND SECURE IT TO VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
3. VALVE BOX SHALL BE LOCATED IN PLANTING AREA.

C GATE VALVE AND ANCHOR DETAIL
NOT TO SCALE — PKJ DESIGN GROUP

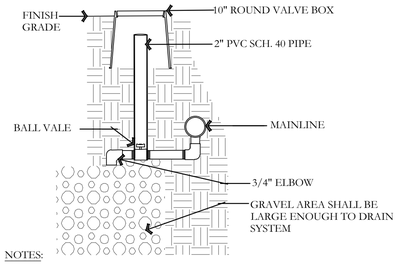


D TYPICAL SLEEVING DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



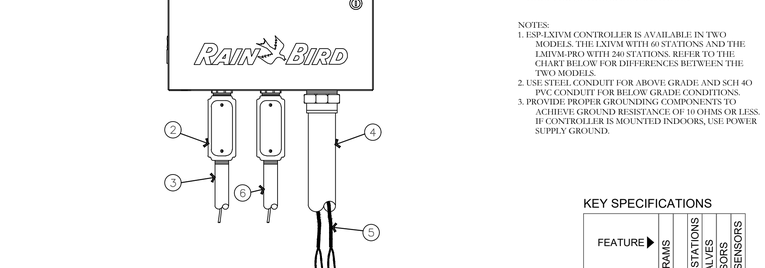
NOTES:
1. SEE IRRIGATION LEGEND FOR MAINLINE AND LATERAL LINE PIPE SIZE AND TYPE.
2. DIRECT BURIAL CONTROL WIRES SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT IF REQUIRED.
3. 2-WIRE IRRIGATION WIRE SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT.
4. DETECTABLE LOCATOR TAPE SHALL BE LOCATED SIX INCHES (6") ABOVE THE ENTIRE MAINLINE RUN.

E IRRIGATION TRENCHING DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



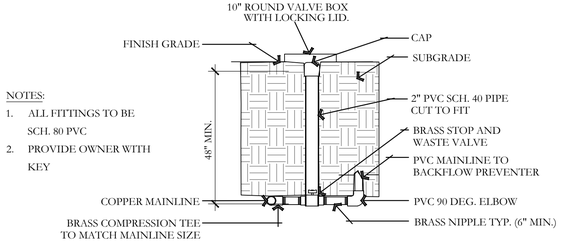
NOTES:
1. ALL FITTINGS TO BE SCH. 80 PVC
2. PROVIDE OWNER WITH KEY

F MANUAL DRAIN DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



NOTES:
1. ALL THREADED CONNECTIONS SHALL BE INSTALLED USING TEFLON TAPE.
2. VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL. THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
3. ALL QUICK COUPLERS SHALL BE INSTALLED A MINIMUM OF 18" OFF OF THE MAINLINE.
4. VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.

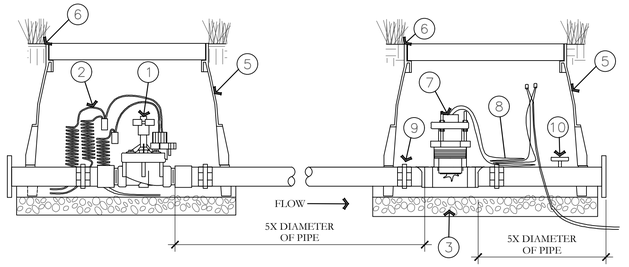
G QUICK COUPLER DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



NOTES:
1. ALL FITTINGS TO BE SCH. 80 PVC
2. PROVIDE OWNER WITH KEY

H STOP AND WASTE VALVE ASSEMBLY DETAIL
NOT TO SCALE — PKJ DESIGN GROUP

1. NORMALLY CLOSED MASTER VALVE(S)
2. 36-INCH LENGTH OF COILED WIRE TO SATELLITE CONTROLLER SPARE STATION
3. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
4. FINISH GRADE
5. VALVE BOX WITH COVER - RAINBIRD JUMBO BOX
6. RAIN BIRD FS SERIES FLOW SENSOR(S). SEE COVER SHEET FOR SIZE
7. 36-INCH LENGTH OF COILED MAXI-CABLE TO FLOW SENSING
8. PVC PIPE UNION
9. BRASS BALL VALVE



I MASTER VALVE AND FLOW SENSOR DETAIL
NOT TO SCALE — PKJ DESIGN GROUP

ISSUE DATE	PROJECT NUMBER	PLAN INFORMATION	PROJECT INFORMATION	DEVELOPER / PROPERTY OWNER / CLIENT	LANDSCAPE ARCHITECT / PLANNER	LICENSE STAMP	DRAWING INFO
1/26/2024	UT24015						

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
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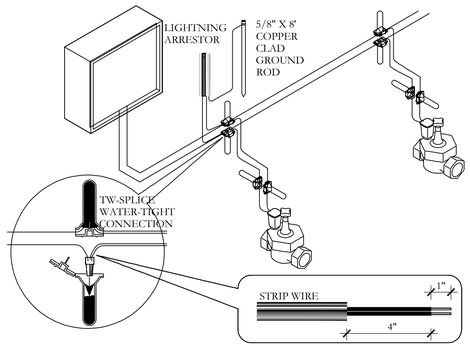
LICENSED LANDSCAPE ARCHITECT — JEREMY AINSWORTH — 8128724301 — 1/26/2024 — ELECTRONIC SIG — STATE OF UTAH

DRAWING INFO	
PM:	JTA
DRAWN:	ACP
CHECKED:	JMA
PLOT DATE:	1/26/2024

IRRIGATION DETAILS
CITY PERMIT SET

IR-501



J 2-WIRE CONNECTION DETAIL

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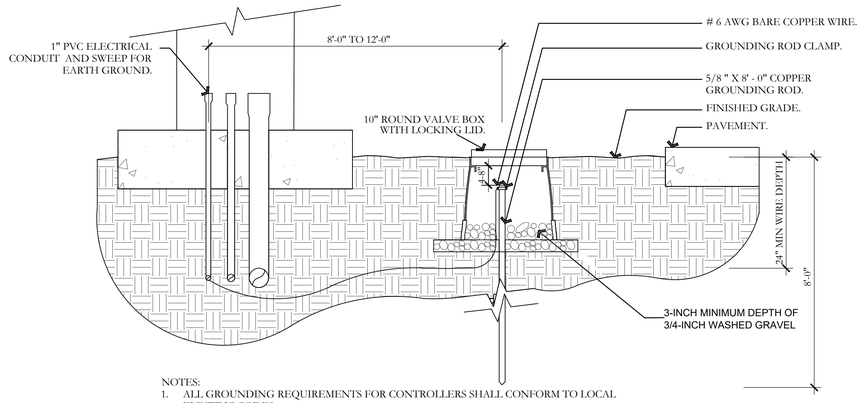

NOTES:

1. ALL GROUNDING REQUIREMENTS FOR CONTROLLERS SHALL CONFORM TO LOCAL ELECTRIC CODES.
2. GROUNDING ROD SHALL NOT BE LOCATED IN THE SAME TRENCH AS THE IRRIGATION MAINLINES OR LATERAL LINES.
3. VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
4. INSTALL GROUNDING ROD PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

K GROUNDING ROD DETAIL

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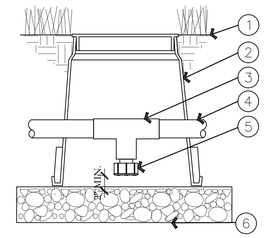

1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER: RAIN BIRD VB-6RND
3. PVC SCH 40 TEE
4. PVC LATERAL PIPE
5. FILTERED DRAIN VALVE: RAIN BIRD 16A-FDV-075
6. 6-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL

L MANUAL LINE DRAIN VALVE DETAIL

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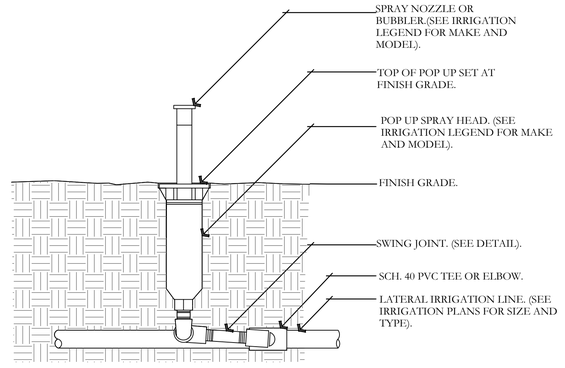

NOTE:

1. 4" POP UPS SHALL BE USED IN TURF AREAS.
2. CONTRACTOR SHALL SETTLE SOIL AROUND THE POP UP AFTER INSTALLATION.
3. ALL POP UP SPRAY HEADS SHALL HAVE CHECK VALVES.
4. ALL SCH. 40 PVC TO SCH. 80 PVC CONNECTIONS SHALL BE MADE USING TEFLON TAPE.

O POP UP-SPRAY HEAD DETAIL

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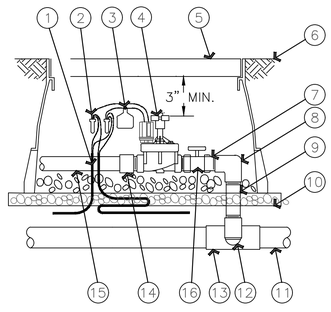

1. 36-INCH LENGTH OF 2-WIRE CABLE
2. WATERPROOF CONNECTION RAIN BIRD WC20 (TWO REQUIRED)
3. ID TAG: RAIN BIRD VID SERIES
4. REMOTE CONTROL VALVE: RAIN BIRD PEB/PESB/PESB-R WITH IVM-SOL
5. VALVE BOX WITH COVER: RAIN BIRD VB-STD
6. FINISH GRADE/TOP OF MULCH
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
11. PVC MAINLINE PIPE SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
12. PVC SCH 40 TEE OR ELL
13. PVC SCH 40 MALE ADAPTER
14. PVC LATERAL PIPE
15. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
16. BRASS BALL VALVE

M ELECTRIC REMOTE-CONTROL VALVE PEB OR PESB SERIES WITH IVM-SOL

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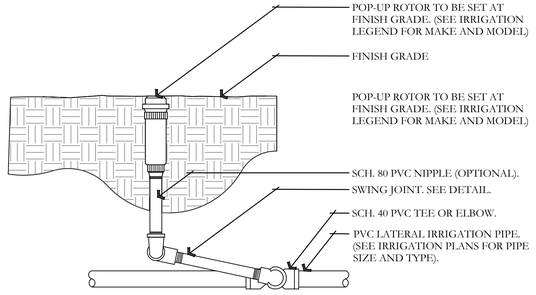

NOTES:

1. ALL THREADED CONNECTION POINTS BETWEEN SCH. 40 PVC AND SCH. 80 PVC FITTING SHALL BE INSTALLED USING TEFLON TAPE.
2. CONTRACTOR SHALL COMPACT SOIL AROUND ROTOR AND RISER PRIOR TO PLANTING, PLUGGING, SEEDING, OR LAYING OF SOD.

N ROTOR HEAD DETAIL

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ISSUE DATE	PROJECT NUMBER
1/26/2024	UT24015

NO.	REVISION	DATE
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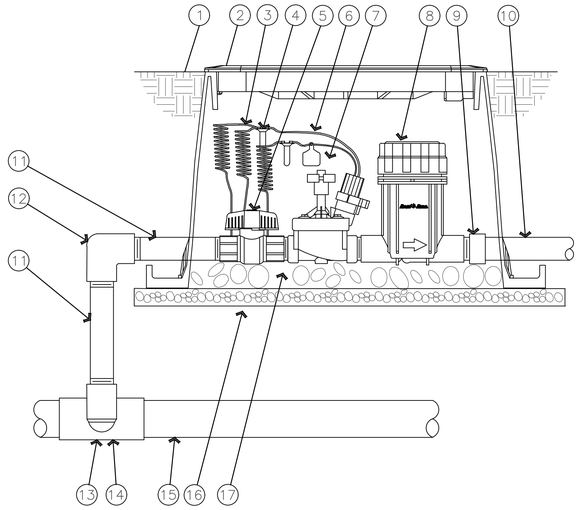
LICENSED LANDSCAPE ARCHITECT
KEVIN ANDWORTH
8128121-5301
1/26/2024
ELECTRONIC SEAL
STATE OF UTAH

DRAWING INFO	
PM:	JTA
DRAWN:	ACP
CHECKED:	JMA
PLOT DATE:	1/26/2024

IRRIGATION DETAILS

CITY PERMIT SET

IR-502



1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER: RAIN BIRD VB-STD
3. 30-INCH LINEAR LENGTH OF WIRE, COILED
4. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
5. 1-INCH BALL VALVE (INCLUDED IN XCZ-PRB-100-COM KIT)
6. ID TAG
7. REMOTE CONTROL VALVE: RAIN BIRD PESB (INCLUCED IN XCZ-PRB-100-COM KIT)
8. PRESSURE REGULATING AND FLOW INDICATING BASKET FILTER: RAIN BIRD XCZ-100-FLOW
9. PVC SCH 40 FEMALE ADAPTOR
10. LATERAL PIPE
11. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
12. PVC SCH 40 ELL
13. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
14. PVC SCH 40 TEE OR ELL
15. MAINLINE PIPE
16. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17. PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-100-COM KIT)

P DRIP CONTROL ZONE KIT DETAIL

NOT TO SCALE

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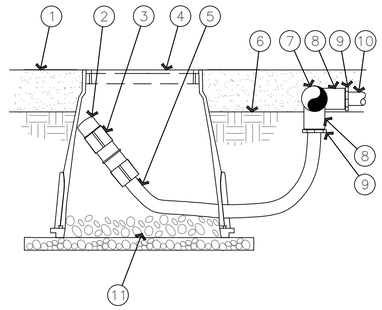

1. MULCH
2. FLUSH CAP FOR EASY FIT COMPRESSION FITTINGS: POTABLE:RAIN BIRD MDCFCAP
3. EASY FIT COUPLING: RAIN BIRD MDCFCOUP
4. SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
5. ½" POLYETHYLENE TUBING: RAIN BIRD XF BLANK TUBING
6. FINISH GRADE
7. PVC EXHAUST HEADER
8. PVC SCH 40 TEE OR EL
9. BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
10. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE
11. 3-INCH MINIMUM DEPTH OF 3/4 " WASHED GRAVEL

NOTE:
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

Q ON-SURFACE DRIPLINE FLUSH POINT DETAIL

NOT TO SCALE

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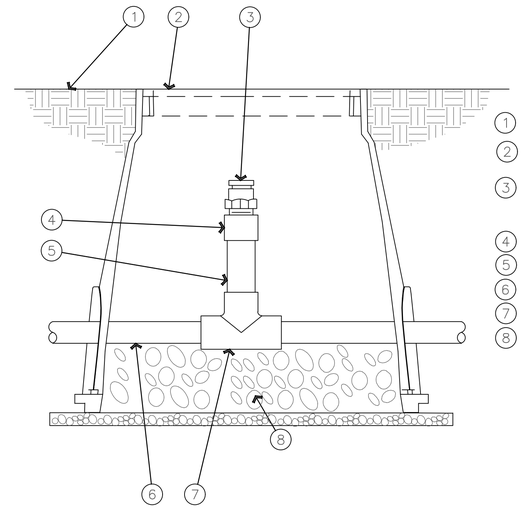

1. FINISH GRADE
2. SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
3. ½" AIR RELIEF VALVE: RAIN BIRD ARV050 TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
4. PVC SCH 40 FEMALE ADAPTER
5. PVC SCH 80 RISER
6. PVC HEADER PIPE
7. PVC SCH 40 TEE
8. 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

R AIR RELIEF VALVE DETAIL

NOT TO SCALE

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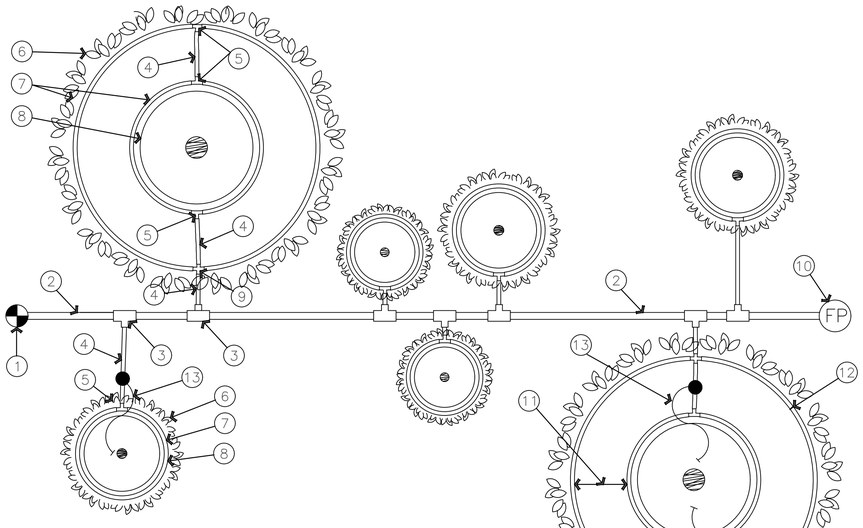

1. RAIN BIRD CONTROL ZONE KIT (SIZED TO ACCOMIDATE LATERAL FLOW DEMAND)
2. PVC DRIP LATERAL PIPE
3. PVC SCH 40 TEE OR EL (TYPICAL)
4. ½" POLYETHYLENE TUBING: RAIN BIRD XF SERIES- S FOR COPPER SHEILD (TYPICAL)
5. BARB X BARB INSERT TEE: RAIN BIRD XFF-TEE (TYPICAL)
6. PROJECTED CANOPY LINE OF TREE OR SHRUB (TYPICAL)
7. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV SERIES PLACE AS SHOWN (LENGTH AS REQUIRED, TYPICAL)
8. ROOT BALL (TYPICAL)
9. BARB X BARB INSERT CROSS: RAIN BIRD XFD-CROSS (TYPICAL)
10. DRIPLINE FLUSH POINT (SEE RAIN BIRD DETAIL: "XFCV DRIPLINE FLUSH POINT WITH BALL VALVE")
11. SPACING PER SPECIFICATION
12. TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (QUANTITY AS REQUIRED, SEE NOTES 2-3 BELOW)
13. POINT SOURCE EMITTERS FOR ESTABLISHMENT PERIOD. REMOVE AFTER ESTABLISHMENT PERIOD.

NOTES:
1. INSTALL MULTIPLE RINGS AS REQUIRED TO PROVIDE IRRIGATION COVERAGE FROM ROOT BALL TO PROJECTED TREE CANOPY. REFER TO RAIN BIRD DESIGN GUIDELINES AND SPECIFICATIONS FOR RECOMMENDED SPACING BETWEEN RINGS.
2. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
3. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

S ON-SURFACE DRIPLINE TREE/SHRUB DETAIL

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PLAN INFORMATION

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PROJECT INFORMATION

DEVELOPER / PROPERTY OWNER / CLIENT

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LANDSCAPE ARCHITECT / PLANNER

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LICENSE STAMP

LICENSED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
STATE OF UTAH
8129171-5301
1/26/2024
RENEWAL

DRAWING INFO

PM:	JTA
DRAWN:	ACP
CHECKED:	JMA
PLOT DATE:	1/26/2024

IRRIGATION DETAILS

CITY PERMIT SET

IR-503

Polar Plot

Symbol	Label	QTY	Manufacturer	Catalog	Description	Number Lamps	Total Output	Input Power
	PL1	15	Lithonia Lighting	RSX1 LED P2 50K R3	RSX Area Fixture Size 1 P2 Lumen Package 5000K CCT Type R3 Distribution	1	9843	72.95
	WL1	19	Lithonia Lighting	WDGE2 LED P2 50K 80CRI T3M	WDGE2 LED WITH P2 - PERFORMANCE PACKAGE, 5000K, 80CRI, TYPE 3 MEDIUM OPTIC	1	2038	18.9815
	WL2	18	Lithonia Lighting	WDGE2 LED P3 50K 70CRI T3M	WDGE2 LED WITH P3 - PERFORMANCE PACKAGE, 5000K, 70CRI, TYPE 3 MEDIUM OPTIC	1	3675	32.1375

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	0.6 fc	2.9 fc	0.0 fc	N/A	N/A

1 E001 ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

N

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SANTAQUIN UT 84655

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REVISIONS

ROCKY MOUNTAIN CONSULTING ENGINEERS, INC.
2332 West 12600 South, Suite F | Riverton, UT 84065
(801) 566-0503 www.rmceut.com

PROJECT #: 24026
DRAWN BY: JG / QG
CHECKED BY: WW
DATE: 01/19/2024

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SHEET TITLE:

ELECTRICAL SITE PLAN

E001