

193 E.

 $Z: \2020\20-006$ Orchard Hills Ph2\CADD\PRELIMINARY\01-COVERSHEET.dwg 6/3/2021 9:44:32 AM MD1

COMMENCING AT A POINT WHICH LIES SOUTH 87°08'54" WEST ALONG THE SECTION LINE 1373.59 FEET & SOUTH 121.49 FEET FROM THE NORTH 1/4 CORNER OF SECTION 12, TOWNSHIP 10 SOUTH, RANGE 1 EAST, SALT LAKE BASE & MERIDIAN; THENCE SOUTH 10°34'55" EAST 376.33 FEET TO THE NORTHERLY BOUNDARY OF ORCHARD HILLS TOWNHOMES; THENCE SOUTH 65°50'33" WEST 219.78 ALONG SAID BOUNDARY LINE; THENCE NORTH 10'34'47" WEST 294.71 FEET ALONG 120 EAST ROAD RIGHT-OF-WAY BOUNDARY; THENCE NORTH 47°28'27" EAST 251.75 TO THE POINT OF BEGINNING. CONTAINING 1.71 ACRES OF LAND.

OVERALL PARKING TABLE

TOTAL # UNITS=36 PARKING REQ'D=88 PARKING PROVIDED=91 GARAGE PARKING=55 (19)2-CAR (17)1-CAR STALLS=34

DENSITY TABLE

ZONING CLASSIFICATION=RC NUMBER OF UNITS=19 ACREAGE=1.71 ACRES PARCEL SIZE SF=74,413 BUILDING AREA SF=22,252 PARKING LOT AREA SF=18,129 LANDSCAPE AREA IN SF=33,326 LANDSCAPE AREA BEHIND FRONT SETBACK SF=24,264

GENERAL NOTES

1. THE DEVELOPER AND THE GENERAL CONTRACTOR UNDERSTAND THAT IT IS HIS/HER RESPONSIBILITY THAT ALL IMPROVEMENTS INSTALLED WITHIN THIS DEVELOPMENT ARE CONSTRUCTED IN FULL COMPLIANCE WITH ALL STATE AND SANTAQUIN CITY 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.

2. GARAGES TO BE 24'X24' WITH A 20' GARAGE DOOR TO COUNT AS 2 PARKING STALLS FOR PHASE 2.

3. NO PARKING WILL BE ALLOWED ALONG HIGHLAND DRIVE. CURB TO BE 4. UNITS 8-12 NEED TO BE FIRE SPRINKLERED. THE FDC NEEDS TO BE

WITHIN 100 FT. OF THE FIRE HYDRANT. 5. ALL RECOMMENDATIONS MADE IN A PERTINENT GEOTECHNICAL

REPORT/STUDY SHALL BE FOLLOWED EXPLICITLY DURING CONSTRUCTION OF BUILDING AND SITE IMPROVEMENTS.

<u>NOTES</u>

1. ALL UNITS TO BE ADA ADAPTABLE. 2. IF PROJECT IS TO BE SOLD AS CONDO UNITS, CONDOMINIUM PLAT, CC&R'S, AND HOA DOCS WILL BE REQUIRED TO BE APPROVED BY PLANNING COMMISION. 3. SUBDIVISION IS LOCATED NEXT TO ACTIVE AGRICULTURE

400 S. SITE LOCATION -SANTAQUIN CITY

SECTION CORNER EXISTING VALVE EXISTING POWER POLE PROPERTY BOUNDARY CENTERLINE RIGHT-OF-WAY LINE EASEMENT EDGE OF PAVEMENT EXISTING OVER HEAD POWER EXISTING SANITARY SEWER W/MANHOLE **EXISTING CULINARY WATERLINE** EXISTING PRESSURIZED IRRIGATION PROPOSED CULINARY WATERLINE PROPOSED PRESSURIZED IRRIGATION

<u>LEGEND</u>

LEGEND APPLIES TO ALL SHEETS

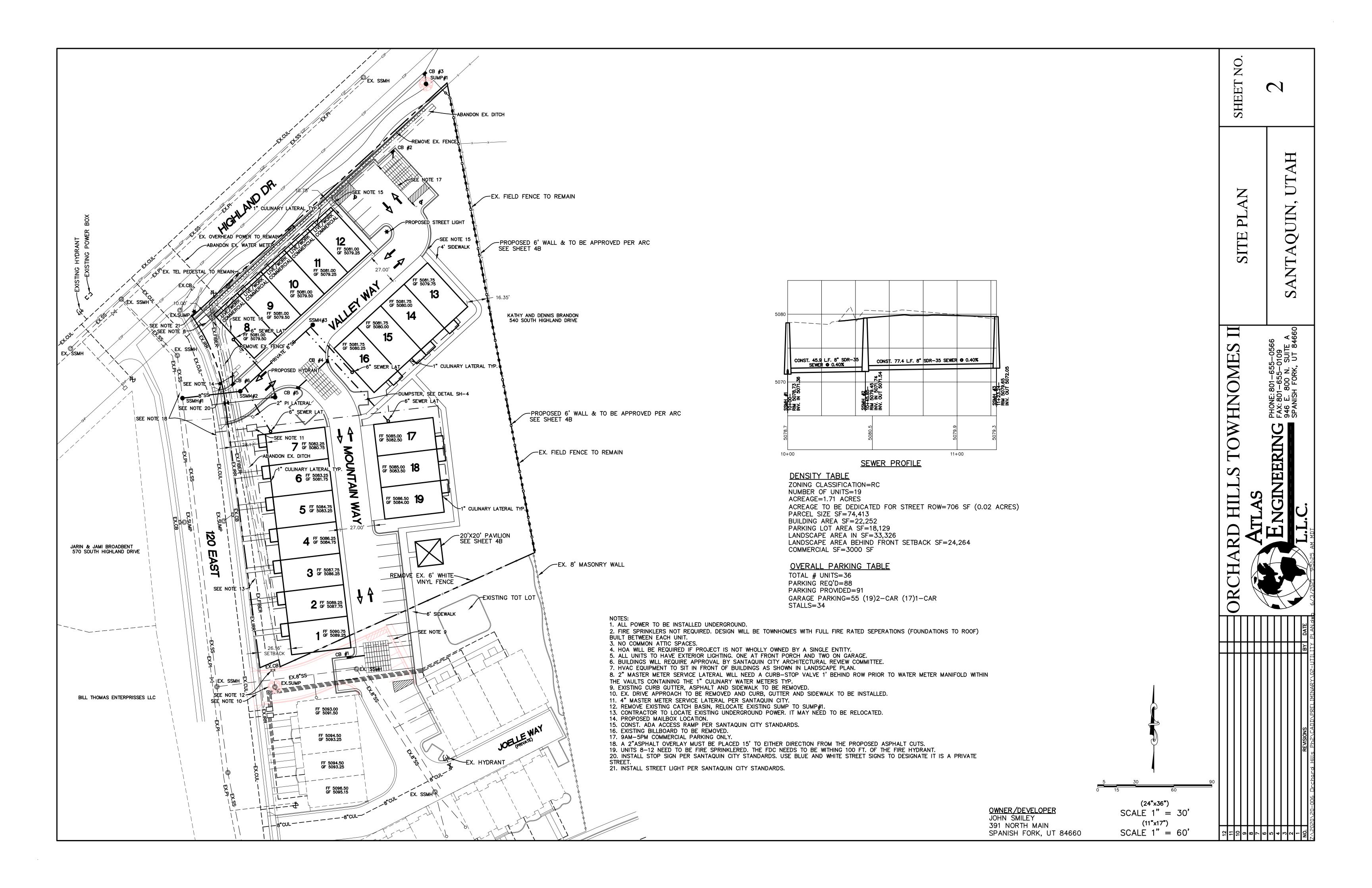
VICINITY MAP
-NTS-

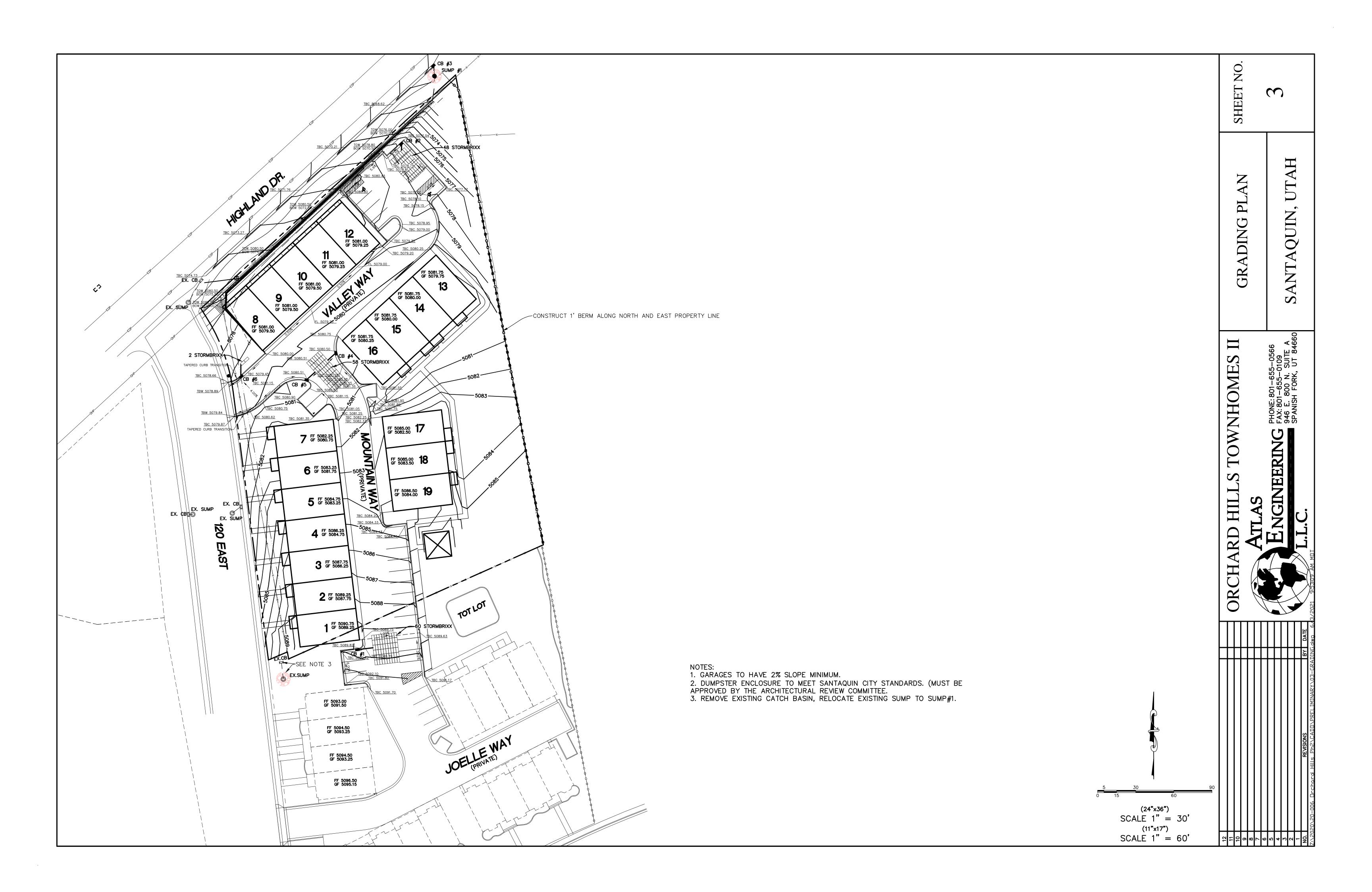


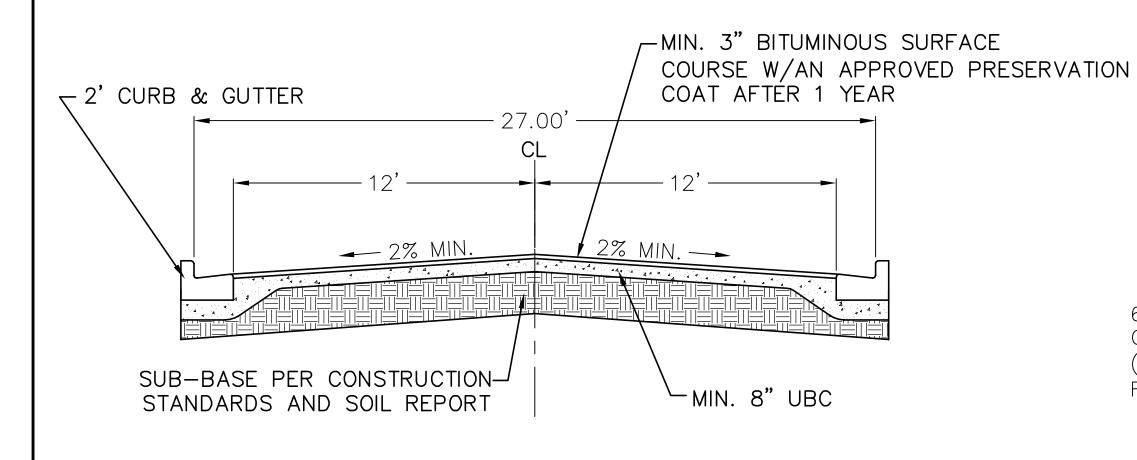
946 E. 800 N. SUITE A SPANISH FORK, UT 84660

PROPOSED SEWER LINE

OWNER/DEVELOPER
JOHN ŚMILEY 391 NORTH MAIN SPANISH FORK, UT 84660







ROAD DETAIL

-NTS-

PLANTER OR SIDEWALK -ASPHALT 6" UNTREATED BASE COARSE (MIN) COMPACTED TO 96% OF MAX. DRY DENSITY-(UNTREATED BASE COARSE AND IMPORTED

24" REVERSE LIP CURB & GUTTER

FOR USE IN PRIVATE STREETS -NTS-

NOTE: PLACE CONTROL JOINTS AT 10 FOOT INTERVALS

PLANTER OR SIDEWALK — -ASPHALT

6" UNTREATED BASE COARSE (MIN) COMPACTED TO 96% OF MAX. DRY DENSITY-(UNTREATED BASE COARSE AND IMPORTED FILL TO MATCH PAVEMENT SECTION)

24" STANDARD CURB & GUTTER

FOR USE IN PRIVATE STREETS -NTS-

NOTE: PLACE CONTROL JOINTS AT 10 FOOT INTERVALS

Specifications

(27.7 cm)

3.19 lbs

Ordering Information

TWS LED

LED Wall Luminaire

Introduction

The popular TWS luminaire is now available with long-lasting, energy-efficient LED technology. Featuring a classic dayform, the TWS LED offers a traditional appearance and is powered by advanced LEDs.

The TWS LED luminaire is powerful yet energy efficient, capable of replacing up to a 70W HPS wall pack while saving up to 78% in energy costs. With long-life LEDs, the TWS LED eliminates frequent lamp and ballast replacements associated with traditional technologies.

Performance Data Lumen Ambient Temperature (LAT) Multipliers Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of enduser environment and application. Projected LED Lumen Maintenance Data references the extrapolated performance projections in a 40°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). Electrical Load To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory. 0 25,000 50,000 55,000 100,000 To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting TWS LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards

FILL TO MATCH PAVEMENT SECTION)

	TWS LED 1 50K 120 PE Mounting height - 10'
LEGEND	
0.2 fc	60
0.5 fc	ordar and a second a second and a second a second and a second a second and a second a second and a second an
1.0 fc	N N N N N N N N N N N N N N N N N N N
	pets
2.0 fc	Test No. LTL226/725 tested in accordance with
	VISUAL
	U.2 U.5 1 2

Visit www.lightingfacts.com for the Label Reference Guide.

LITHONIA

LIGHTING.

Lumens per Watt (Efficacy)

Model Number: TWS LED 1 50K 120 PE Typs: Outdoor wall pack

	XAMPLE: TW	/S LED 1	I 50K 120 PE
ntro	ol Options	Finish	
PE	Photoelectric cell, button type	(blank)	Dark bronze
	NOTES		
	1 Corrected color ter ANSI C78, 377-200	mperature (CC ⁻)8.	T) shown is nominal per
	2. 120V driver operati	es on 120 V .	

FEATURES & SPECIFICATIONS

INTENDED USE

Accessories

energy-efficient, low maintenance LED wall pack suitable for replacing up to 70W HPS fixtures. The traditional shape helps maintain building aesthetics when replacing only a portion of your building's wall packs. TWS LED is for outdoor applications such as personnel doors, loading areas, driveways and parking areas.

Back plate is die-cast aluminum. Front cover is impact-resistant polycarbonate which is fully gasketed. All electronics are protected in the upper housing. Housing is sealed against moisture and environmental contaminants.

UV stabilized polycarbonate front cover has dark bronze color which provides superior resistance to corrosion and weathering and that can withstand extreme cimate changes without cracking

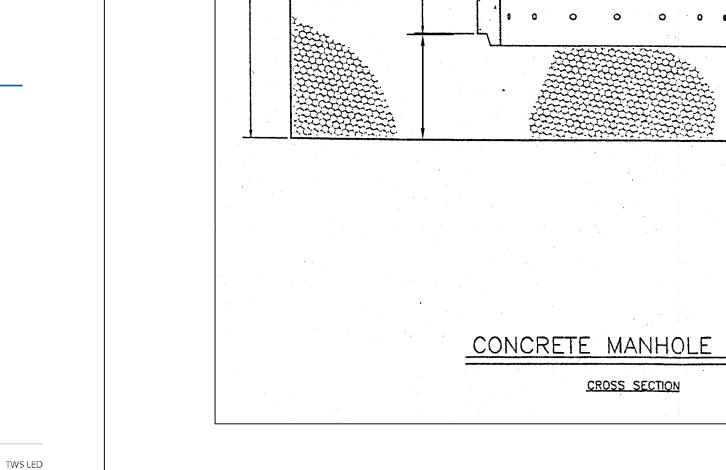
internal aluminum heat sink to maximize heat dissipation and promote long life (L95/100,000 hours at 40°C). Driver and integral photocell operate at 120V and are fully enclosed in the upper housing. There are no user serviceable parts.

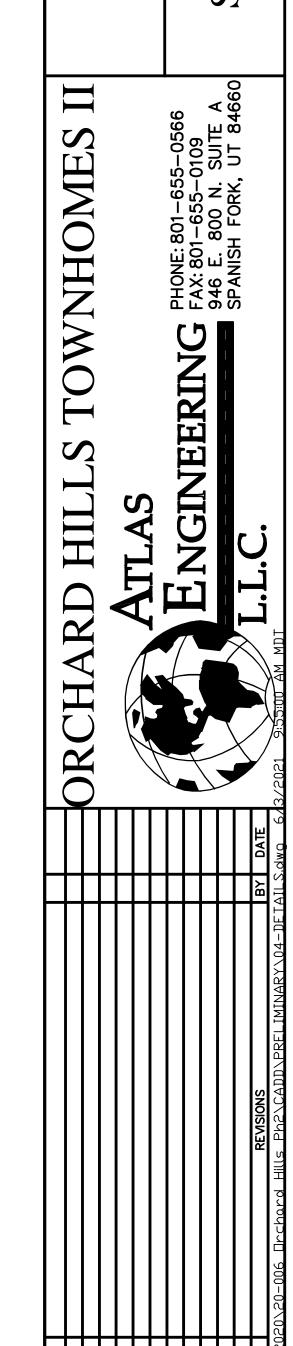
Back housing easily mounts to any recessed junction box. With all electronics in upper housing the open lower section makes wiring easy. Mount on any vertical surface. Not recommended in applications where a sprayed stream of water can come in direct contact

Note: Specifications are subject to change without notice. Actual performance may differ as



Rev. 01/09/14

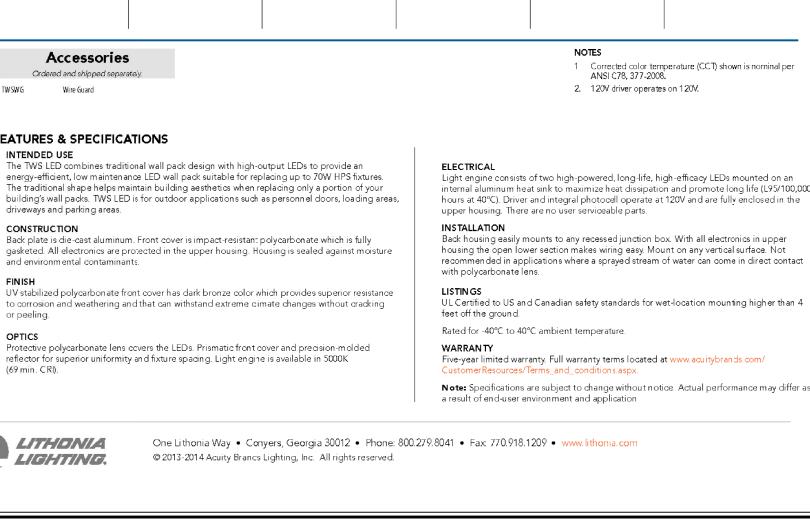




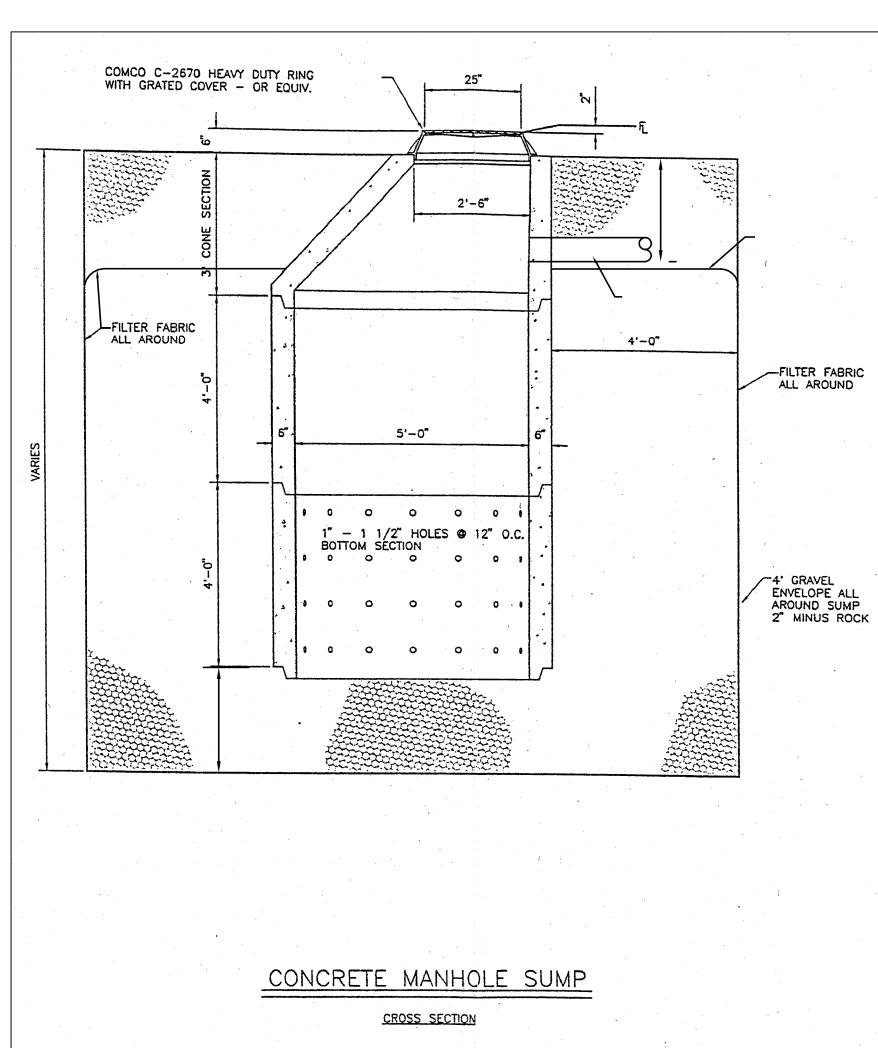
SHEET

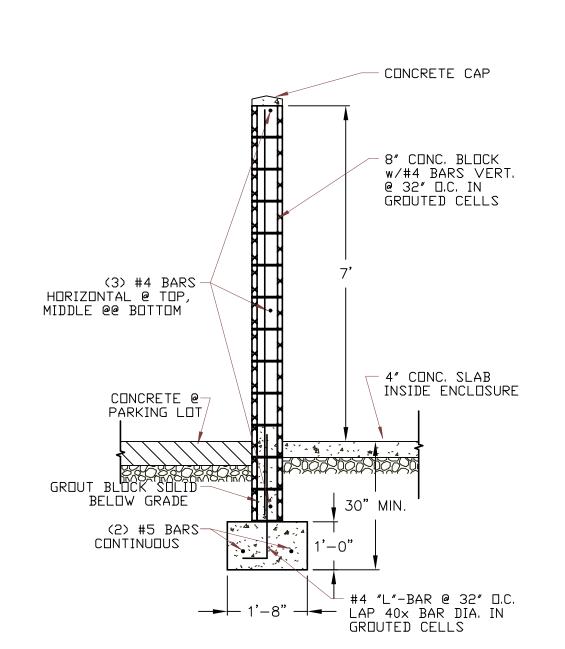
SHEET

DETAIL

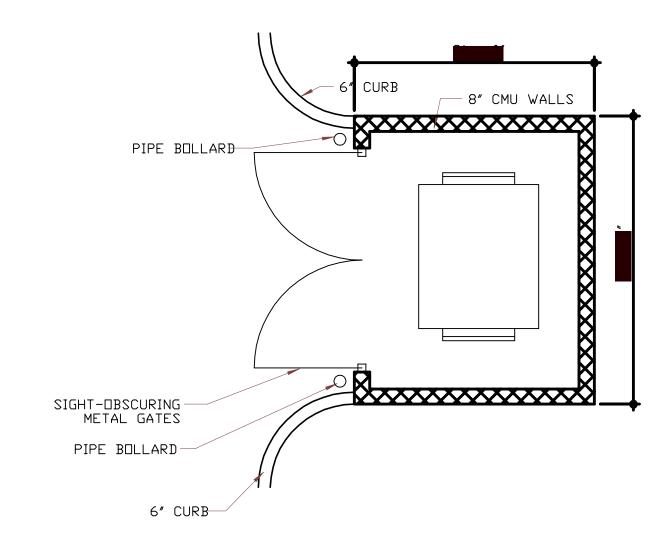


120V ²

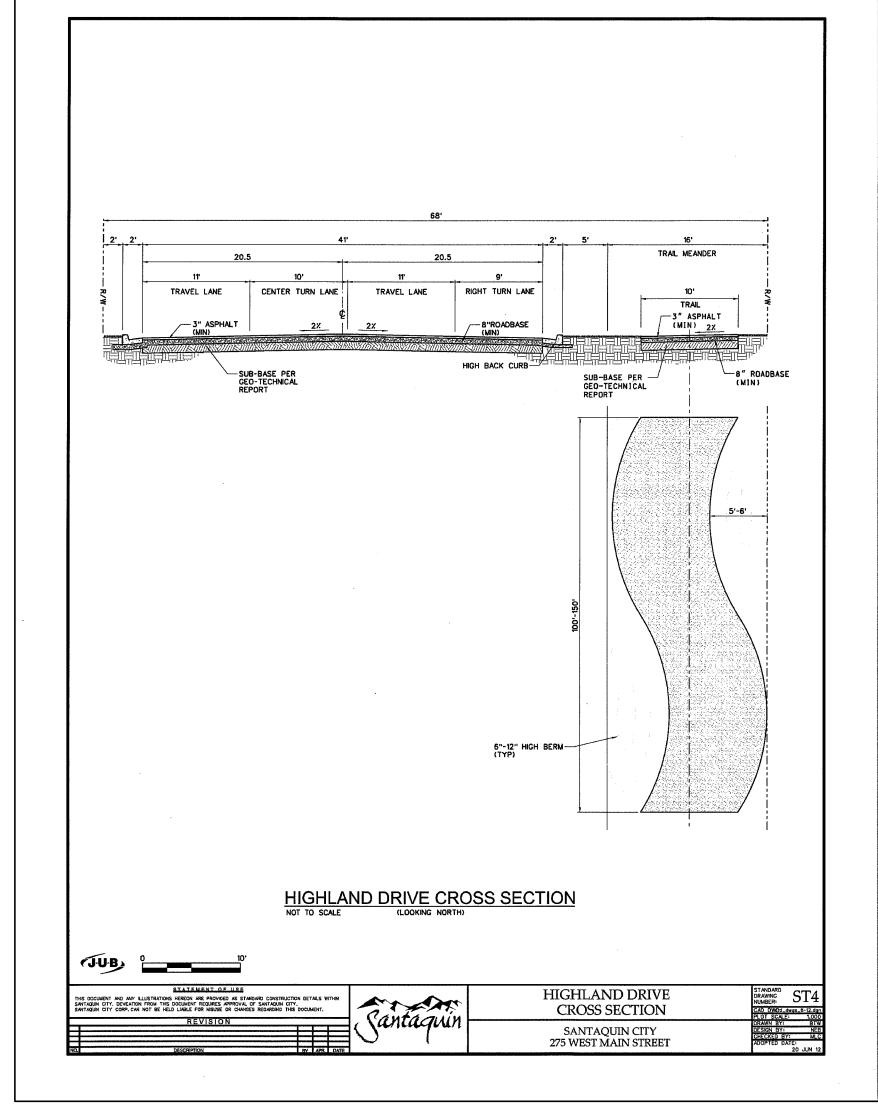


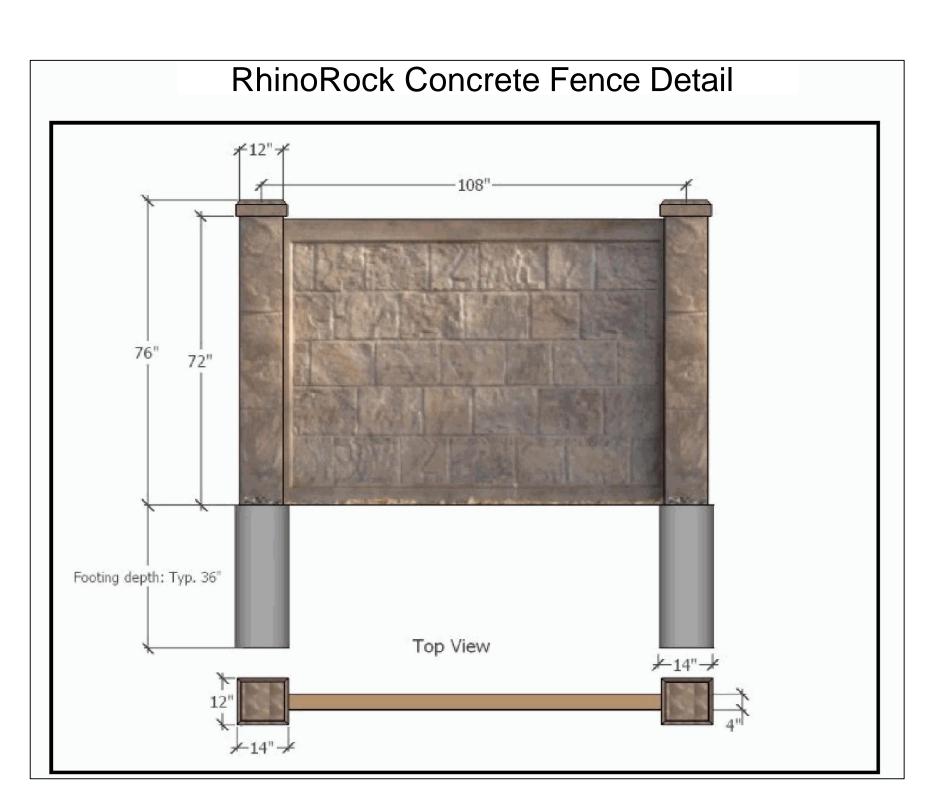


DUMPSTER WALL



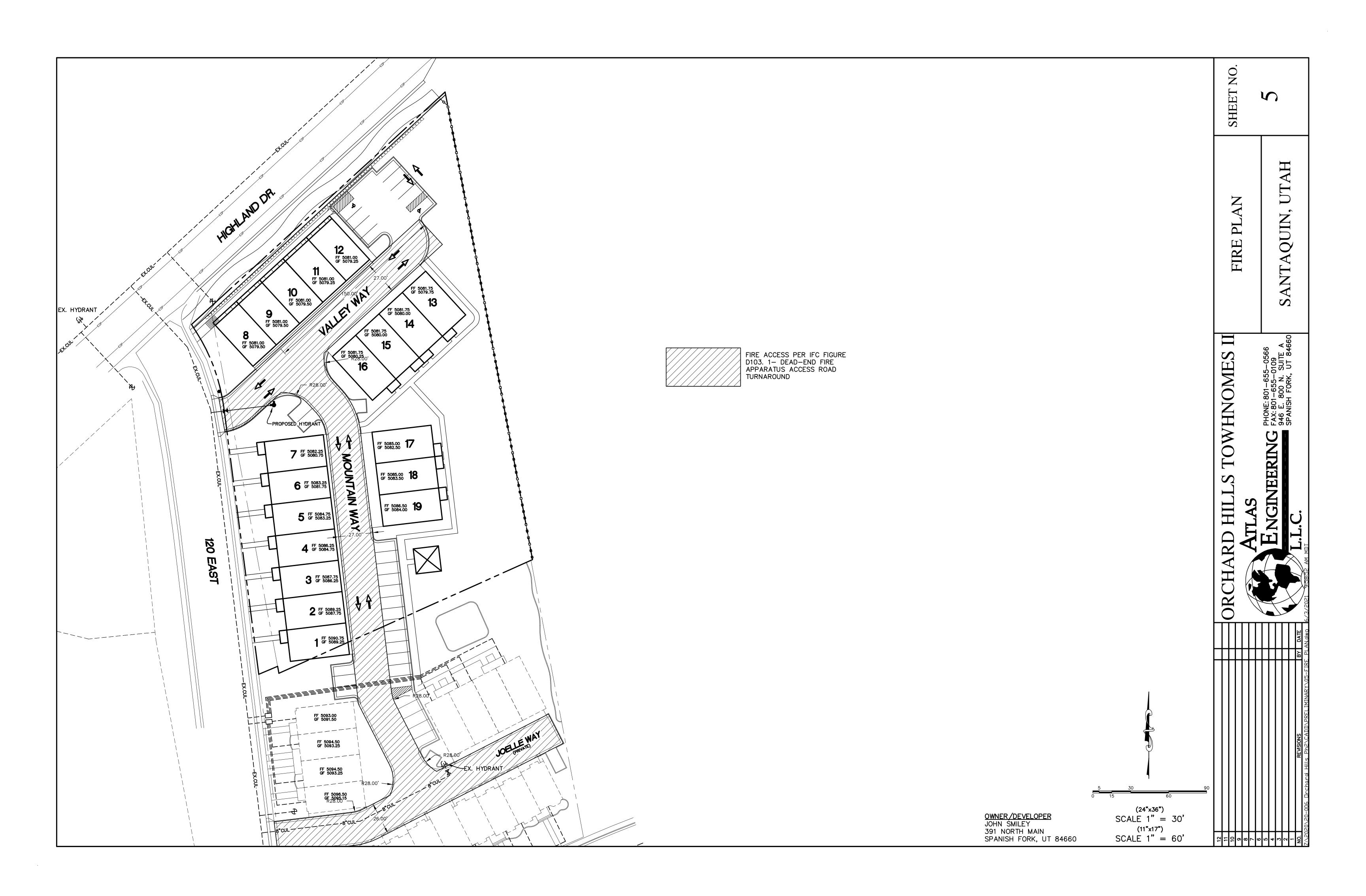
DUMPSTER ENCLOSURE

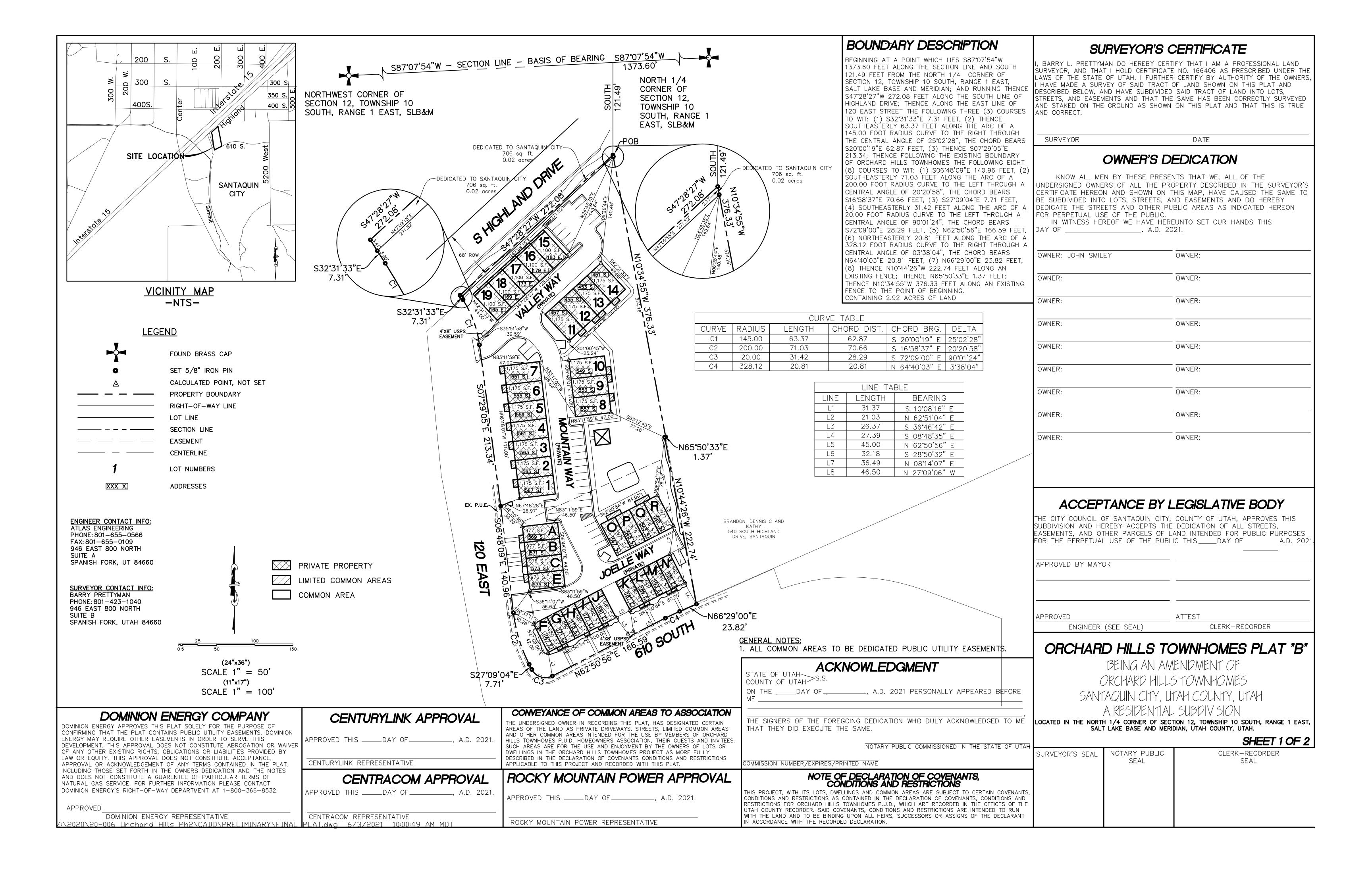


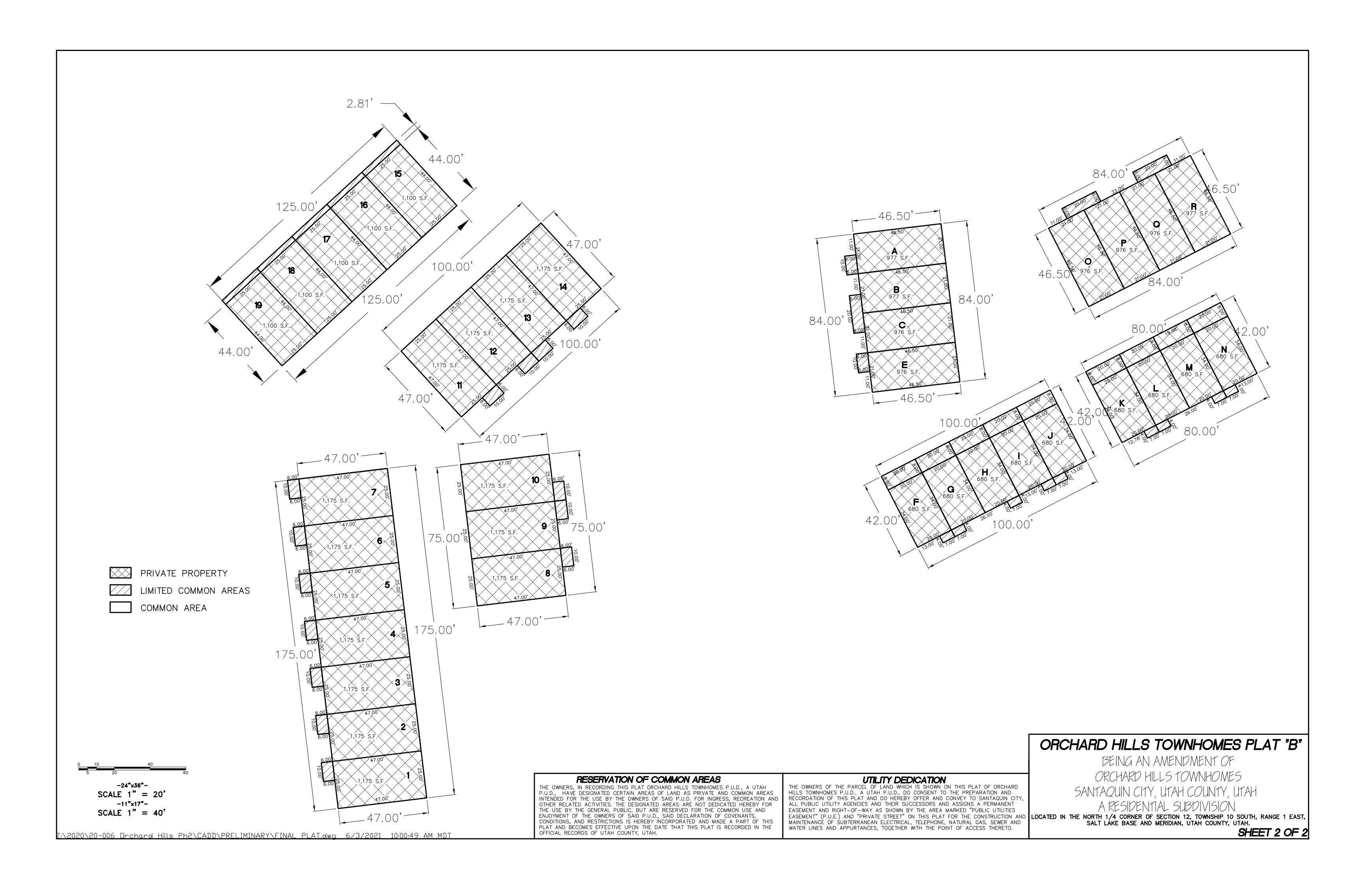


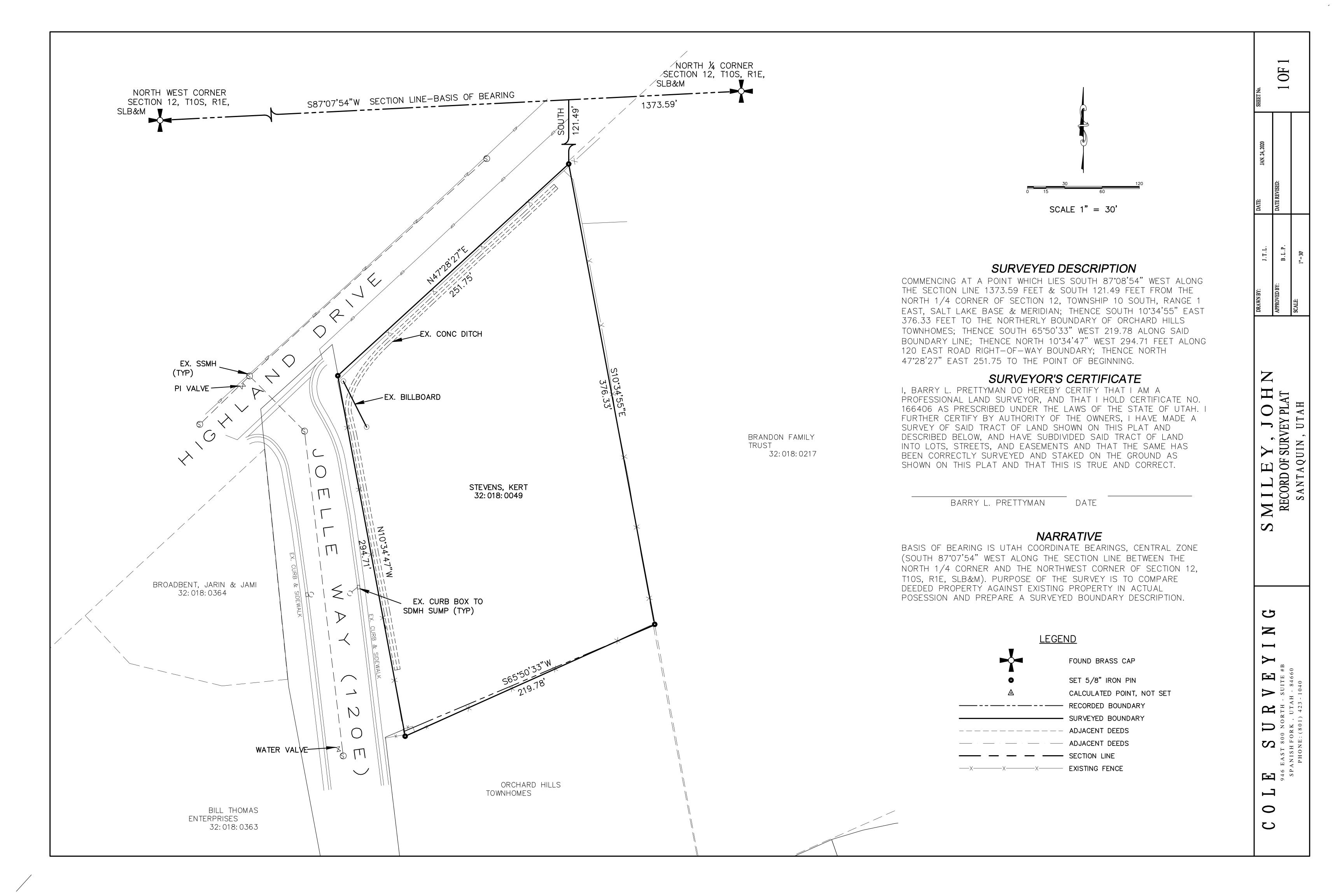


TOWNHOMES GINEERING









			ELECTRICAL SYMBOLS		
SYMBOL	EXPLANATION	SYMBOL	EXPLANATION	SYMBOL	EXPLANATION
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL	F1	FIXTURE TYPE SYMBOL	\$	TAMPER AND FLOW
	BRANCH CIRCUIT CONCEALED IN GROUND OR FLOOR		LINIER FIXTURE (TYPICAL)	FACP	FIRE ALARM CONTROL PANEL
A-1,3	BRANCH CIRCUIT HOMERUNS TO PANEL	0	EMERGENCY LIGHTING UNIT	RFAA	REMOTE FIRE ALARM ANNUNCIATOR PANEL
135	ROOM NUMBER		SURFACE OR PENDANT MOUNTED FIXTURE	NAC	FIRE ALARM NAC PANEL
CH 1	MECHANICAL EQUIPMENT SYMBOL	Ø	RECESSED FIXTURE	VOICE	FIRE ALARM VOICE PANEL
1>	KEYED NOTE REFERENCE	-0	WALL MOUNTED FIXTURE	D/H	DOOR HOLDER
(42X)	FEEDER TAG (SEE FEEDER SCHEDULE)	•	WALL PACK	F/S	FIRE/SMOKE DAMPER
	LIGHTING AND POWER PANELBOARD		STRIP FIXTURE	E	FIRE ALARM PULL STATION
- NON-FUSED - FUSED	DISCONNECT SWITCH	$\nabla \nabla$	TRACK LIGHTING	図	FIRE ALARM STROBE
- NON-FUSED - FUSED	DISCONNECT SWITCH WITH MOTOR STARTER	BUGEYE EGRESS	EMERGENCY LIGHTING UNIT		FIRE ALARM HORN/STROBE
\boxtimes	MOTOR STARTER	⊬⊗	WALL MOUNTED EXIT LIGHT (SINGLE FACE)		FIRE ALARM HORN/STROBE (LF = LOW FREQUENCY)
VFD	VARIABLE FREQUENCY DRIVE	₽	WALL MOUNTED EXIT LIGHT (DOUBLE FACE)		FIRE ALARM HORN/STROBE WITH PROTECTIVE COVER
С	CONDUIT STUB	8	CEILING MOUNTED EXIT LIGHT		FIRE ALARM SPEAKER/STROBE
J	JUNCTION BOX	፟	CEILING MOUNTED EXIT LIGHT (DOUBLE FACE)		FIRE ALARM SPEAKER/STROBE (LF = LOW FREQUENCY)
	ELECTRIC VEHICLE CHARGING STATION	⊗)	EXIT LIGHT WITH PROTECTIVE COVER		FIRE ALARM SPEAKER
WP A-3 EFF	—MODIFIER —PANEL SPACE ASSIGNMENT —EQUIPMENT DESIGNATION	\$	SINGLE POLE SWITCH (SUBSCRIPT AS INDICATED BELOW)		FIRE ALARM SPEAKER (LF = LOW FREQUENCY)
		3	TWO POLE SWITCH 3-WAY SWITCH		FIRE ALARM HORN
WP GFCI	WEATHERPROOF COVER & LISTED WEATHER RESISTANT DEVICE PROTECTED BY FAULT CIRCUIT INTERRUPTER	4 D	4-WAY SWITCH DIMMER SWITCH		FIRE ALARM HORN (LF = LOW FREQUENCY)
+44 REF	MOUNTING HEIGHT ABOVE FLOOR OR GRADE GIVEN IN INCHES. REFRIGERATOR	K	KEYED SWITCH TIMER SWITCH	8	FIRE ALARM STROBE CEILING MOUNTED
DW	DISHWASHER	M	MANUAL STARTER WITH THERMAL OVERLOAD PADDLE FAN SPEED CONTROL. (CANARM "CN" SERIES)	84	FIRE ALARM HORN/STROBE CEILING MOUNTED
	DISPOSAL WASHING MACHINE	ос	OCCUPANCY SENSOR SWITCH	Ø\$\dLF	FIRE ALARM HORN/STROBE CEILING MOUNTED
EWC USB	ELECTRIC WATER COOLER HUBBELL USB15AC5W OR EQUAL DUPLEX PLUS USB CHARGER	LV/D	LOW VOLTAGE CONTROL SWITCH WITH DIMMER	01	(LF = LOW FREQUENCY) FIRE ALARM HORN CEILING MOUNTED
TR	TAMPER RESISTANT	0C/D 0C/2	OCCUPANCY SENSOR CONTROL SWITCH WITH DIMMER DUAL RELAY OCCUPANCY SENSOR CONTROL SWITCH		
 	DUPLEX RECEPTACLE OUTLET	55			FIRE ALARM HORN CEILING MOUNTED (LF = LOW FREQUENCY)
⊕	QUAD RECEPTACLE OUTLET	\$\$ a,b	DOUBLE GANG SWITCH LOW VOLTAGE MULTI BUTTON CONTROL SWITCH	② B	SMOKE DETECTOR (SUBSCRIPT AS INDICATED BELOW) SMOKE ALARM BATTERY—BACKED
-	SPLIT WIRED DUPLEX RECEPTACLE OUTLET	\$a,b,c \$	(LETTER INDICATES CONTROL OF CORRESPONDING FIXTURES) CONTROLLING SWITCH	С	SMOKE/CARBON MONOXIDE ALARM COMBO BATTERY-BACKED
=	220V RECEPTACLE OUTLET	\$9\$	(LETTER INDICATES CONTROL OF CORRESPONDING FIXTURES)	D R	DUCT SMOKE DETECTOR SMOKE DETECTOR WITH ADDRESSABLE RELAY
⊕=	ISOLATED GROUND RECEPTACLE	\$	OCCUPANCY SENSOR (CEILING MOUNTED)	S	SMOKE DETECTOR WITH SOUNDER BASE
	RECEPTACLE FLOOR DEVICE	DT PIR	DUAL TECHNOLOGY OCCUPANCY SENSOR (CEILING MOUNTED) PASSIVE INFRARED OCCUPANCY SENSOR (CEILING MOUNTED)	(1)	HEAT DETECTOR
	CEILING MOUNTED DEVICE	(RC)	ROOM CONTROLLER	0	GAS DETECTOR
\times	SPECIAL RECEPTACLE	(LS)	DAYLIGHT SENSOR	CO/NO2	CARBON MONOXIDE DETECTOR CARBON MONOXIDE/NITROGEN DIOXIDE SENSOR (GARAGE)
9	MOTOR OUTLET	®	PHOTOCELL	©	ADA TWO-WAY COMMUNICATIONS SYSTEM
	EXHAUST FAN	(V)	VOLUME CONTROL	KP	ACCESS CONTROL KEY PAD
•	THERMOSTAT OUTLET		WALL SPEAKER	CR	ACCESS CONTROL CARD READER
S	REMOTE SENSOR OUTLET		CEILING SPEAKER	Sps	ACCESS CONTROL DOOR STRIKE
\$	TELEPHONE OUTLET		SURVEILLANCE CAMERA	ML	ACCESS CONTROL MAG LOCK
▽(#)	COMPUTER DATA OUTLET (#) INDICATES JACK QUANTITIES	DVR	SURVEILLANCE DIGITAL VIDEO RECORDER	DS	ACCESS CONTROL DOOR SENSOR
$\overline{\Psi}$	NETWORK AND VOICE OUTLET	NURSE	NURSE CALL ANNUNCIATOR PANEL	Φ	ACCESS CONTROL REQUEST TO EXIT
	WIRELESS ACCESS POINT CEILING MOUNTED	₽ N	NURSE CALL EMERGENCY CALL DEVICE	0	PUSHBUTTON
TV	TELEVISION OUTLET	M	NURSE CALL EMERGENCY CALL LIGHT	-B	BELL
NOTE: ALL SYMBO	DLS MAY NOT BE USED.	•	-		-

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 20 21 22 24 25 26 27 28 29 30 31 32 33 34

NOTE: ALL SYMBOLS MAY NOT BE USED.

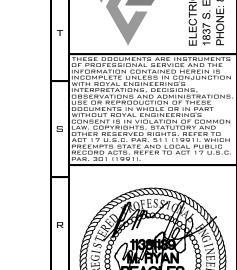
9 10 11 12 13 14 15 16 17

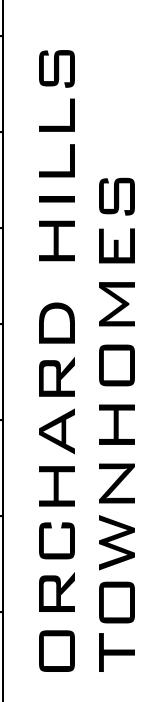
	ABBREVIATIONS INDEX										
#	NUMBER	DC	DIRECT CURRENT	KW	KILOWATT	PT	POTENTIAL TRANSFORMER				
ф	PHASE	DISP	DISPOSAL	LRA	LOCKED ROTOR AMPS	PV	PHOTOVOLTAIC				
Ϊφ	SINGLE PHASE	DRY	DRYER	LTG	LIGHTING	PVC	POLYVINYL CHLORIDE				
2P	TWO-POLE	DW	DISHWASHER	MATV	MASTER ANTENNA TELEVISION	(R)	RELOCATE				
З ф	THREE PHASE	DWG	DRAWING	MAX	MAXIMUM	ŘĚCP	RECEPTACLE				
4P	FOUR-POLE	EC	EMPTY CONDUIT	MB	MAIN BUS	REF	REFRIGERATOR				
AC	ALTERNATING CURRENT	EM	EMERGENCY	MCB	MAIN CIRCUIT BREAKER	REQ	REQUIRED				
AFF	ABOVE FINISHED FLOOR	EMG	EMERGENCY GENERATOR	MCC	MOTOR CONTROL CENTER	RLA	RATED LOAD AMPS				
AFG	ABOVE FINISHED GRADE	EMT	ELECTRICAL METALLIC TUBING	MCM	1000 CIRCULAR MILLS	RMS	ROOT MEAN SQUARE				
AFP	ARC FAULT PROTECTOR	EP0	EMERGENCY POWER OFF	MH	MANHOLE	SE	SERVICE ENTRANCE				
AHJ	AUTHORITY HAVING JURISDICTION	EWC	ELECTRIC WATER COOLER	MIC	MICROPHONE	SPD	SURGE PROTECTION DEVICE				
AIC	AMP INTERRUPTING CURRENT (SYMMETRICAL)	EWH	ELECTRIC WATER HEATER	MIN	MINIMUM	SPEC	SPECIFICATION				
AL	ALUMINUM	(E) (F)	EXISTING	MLO	MAIN LUGS ONLY	SPK	SPEAKER				
AM	AMPS METER	(F)	FUTURE	MNF	MANUFACTURER	SS	SELECTOR SWITCH				
AMP	AMPERE	FA	FIRE ALARM	MTG	MOUNTING	SW	SWITCH				
ANN	ANNUNCIATOR	FACP	FIRE ALARM CONTROL PANEL	MTR	MOTOR	SWBD	SWITCHBOARD				
ATS	AUTOMATIC TRANSFER SWITCH	FC	FOOT CANDLE	MW	MICROWAVE	SWGR	SWITCHGEAR				
AUX	AUXILIARY	FLA	FULL LOAD AMPS	(N) N/A	NEW	πв	TELEPHONE TERMINAL BOARD				
AWG	AMERICAN WIRE GAUGE	FT	FOOT	N/A	NOT APPLICABLE	TBC	TELEPHONE TERMINAL CABINET				
BC	BARE COPPER	FRZ	FREEZER	NC	NORMALLY CLOSED	TV	TELEVISION				
BFG	BELOW FINISH GRADE	FS	FUSED SWITCH	NEC	NATIONAL ELECTRICAL CODE	TYP	TYPICAL				
С	CONDUIT	GFAF	DUAL FUNCTION GFCI/AFCI CIRCUIT BREAKER	NEMA	NATIONAL MANUFACTURING ASSOCIATION	UG	UNDERGROUND				
CAB	CABINET	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NFC	NATIONAL FIRE CODE	UNO	UNLESS NOTED OTHERWISE				
CATB	COMMUNITY ANTENNA TELEVISION	GFEP	GROUND-FAULT EQUIPMENT PROTECTION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	UPS	UNINTERRUPTIBLE POWER SUPPLY				
CATV	CABLE TELEVISION	GFP	GROUND FAULT PROTECTOR	NFS	NON FUSED SWITCH	٧ .	VOLT (KV-KILOVOLT)				
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	GRC	GALVANIZED RIGID CONDUIT	NIC	NOT IN CONTRACT	VA/R	VOLT-ÀMPS/REACTIVE				
CKT	CIRCUIT	GRD	GROUND	NL	NIGHT LIGHT	VM	VOLT METER				
CLG	CEILING	HP	HORSE POWER	NO	NORMALLY OPEN	W _	WATTS				
CNTR	CONTRACTOR	HZ	HERTZ	NTS	NOT TO SCALE	W/	WITH				
CO	CONVENIENCE OUTLET	IG	ISOLATED GROUND	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	WASH	WASHER				
CRT	COMPUTER TERMINAL	IMC	INTERMEDIATE METALLIC CONDUIT	OFOI	OWNER FURNISHED OWNER INSTALLED	WH	WATTHOUR				
CT	CURRENT TRANSFORMER	IN	INCH	OS&Y	OUTSIDE SCREW AND YOKE	W/O	WITHOUT				
CU	COPPER	J-BOX	JUNCTION BOX	PB	PUSH BUTTON	WP	WEATHER PROOF				
C/W	CONDUIT WITH	KV	KILOVOLT	PF	POWER FACTOR	XFMR	TRANSFORMER				
(D)	DEMOLISH/DELETE	KVA	KILOVOLT AMPERES	PFR	PHASE FAILURE RELAY	XFMR-SW					
DB	DECIBEL	KVAR	KILOVARS	PNL	PANEL	XP	EXPLOSION PROOF				
NOTE: THIS	IS A TYPICAL ABBREVIATION LIST. NOT ALL ABBREVIATIONS MAY BE USED ON	THIS PROJECT									

 18
 19
 20
 21
 22
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34

	DESIGN C	ONTACTS
	ELECTRICAL ENGINEER:	RYAN BEAGLES
	ELECTRICAL TEAM LEAD:	MANUEL MASBERNAT
	ELECTRICAL DESIGNER:	CHASE CHRISTENSEN

	SHEET INDEX							
SHEET NUMBER	SHEET TITLE							
E0.0	ELECTRICAL COVERSHEET							
E1.0	SITE PHOTOMETRIC PLAN							
E6.1	ELECTRICAL SCHEDULES & DETAILS							





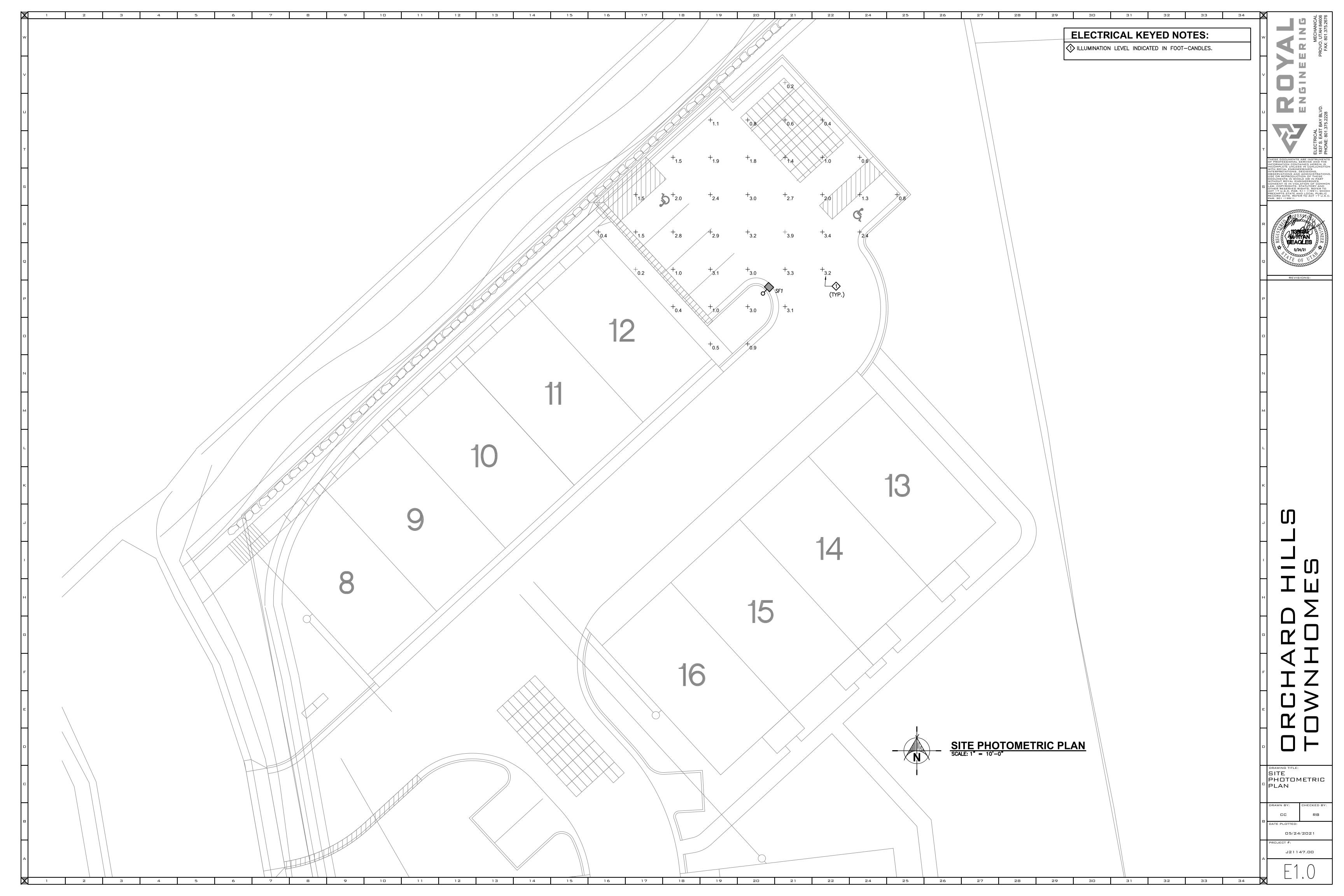
ELECTRICAL COVERSHEET

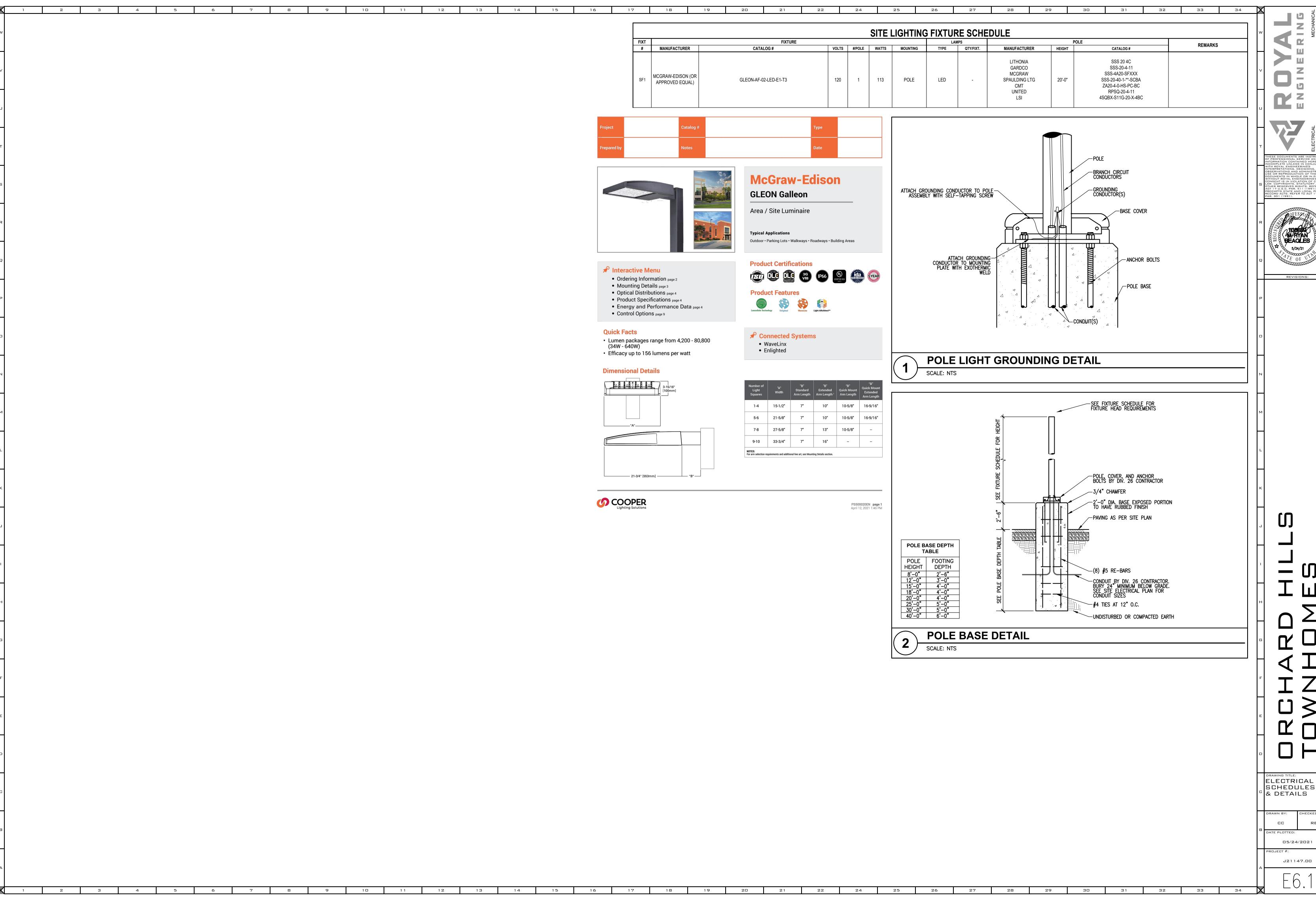
DRAWN BY: CHECKED

05/24/2021

J21147.00

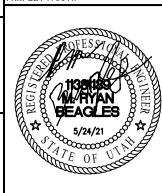
 $F \cap \cap$





ING MECHANICAL), UTAH 84606 : 801.375,2676

JUT ROYAL ENGINEERING'S
ENTIS IN VIOLATION OF COMMO
COPYRIGHTS, STATUTORY AND R
RESERVED RIGHTS, REFER TO
7 U.S.C. PAR. 511 (1991). WHICI
MPTS STATE AND LOCAL PUBLIC
RD ACTS. REFER TO ACT 17 U.S.(
301 (1991).



ELECTRICAL SCHEDULES & DETAILS

J21147.00

LANDSCAPE PLAN SPECIFICATIONS PART 1 - GENERAL c. Reinforced fiber - Specifically produced for compatibility with aggressive alkaline environment of Portland cement-based composites. 1.1 SUMMARY d. Only potable water for mixing. A. This section includes landscape procedures for the Project including all labor, materials, and installation necessary, but not limited to, the following: PART III - EXECUTION 1. Soil Amendments 3.1 GRADING 2. Fine Grading A. Topsoil Preparation: Grade planting areas according to the grading plan. Eliminate uneven areas and low spots. Provide for proper grading and drainage. 3. Cultivation B. Topsoil Placement: Slope surfaced away from building at two (2) percent slope with no 4. Landscape Edging pockets of standing water. Establish finish grades of one (1) inches for planters below grade Turf Planting of adjacent paved surfaced. Provide neat, smooth, and uniform finish grades. Remove surplus sub-soil and topsoil from the site. 6. Furnish and Installing Plant C. Compaction: compaction under hard surface areas (asphalt paths and concrete surfaces) 7. Maintenance shall be ninety-five (95) percent. Compaction under planting areas shall be between Mowing eighty-five (85) and ninety (90) percent. 9. Weeding 3.2 TURF GRADING 1.2 SITE CONDITIONS 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 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 B. The finish grade of the topsoil adjacent to all sidewalks, mow-strips, etc. prior to the laying of Contract Documents are at a variance with the applicable laws, building codes, rules, sod, shall be set such that the crown of the grass shall be at the same level as the adjacent regulations, or contain obvious erroneous or uncoordinated information, the Contractor shall concrete or hard surface. No exceptions. promptly notify the Project Representative and the necessary changes shall be accomplished 3.3 PLANTING OPERATIONS A. Review the exact locations of all trees and shrubs with the Project Representative for B. Protection: Contractor to conduct the Work in such a manner to protect all existing approval prior to the digging of any holes. Prepare all holes according to the details on the 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 B. Water plants immediately upon arrival at the site. Maintain in moist condition until planted. C. Irrigation System: Do not begin planting until the irrigation system is completely installed, is adjusted for full coverage and is completely operational. C. Before planting, locate all underground utilities prior to digging. Do not place plants on or D. The tree planting hole should be the same depth as the root ball, and three times the 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. E. Trees must be placed on undisturbed soil at the bottom of the planting hole. 1.4 PLANT DELIVERY, QUALITY, AND AVAILABILITY F. The tree hole depth shall be determined so that the tree may be set slightly high of finish A. Unauthorized substitutions will not be accepted. If proof is submitted that specific plants or grade, 1" to 2" above the base of the trunk flare, using the top of the root ball as a guide. 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 G. Plant immediately after removal of container for container plants. before the bid due date. H. Set tree on soil and remove all burlap, wire baskets, twine, wrappings, etc. before beginning 1.5 FINAL INSPECTION and backfilling operations. Do not use planting stock if the ball is cracked or broken before or A. All plants will be inspected at the time of Final Inspection prior to receiving a Landscape during planting operation. Substantial Completion for conformance to specified planting procedures, and for general Apply vitamin B-1 root stimulator at the rate of one (1) tablespoon per gallon. appearance and vitality. Any plant not approved by the Project Representative will be J. Upon completion of backfilling operation, thoroughly water tree to completely settle the soil rejected and replaced immediately. and fill any voids that may have occurred. Use a watering hose, not the area irrigation 1.6 LANDSCAPE SUBSTANTIAL COMPLETION 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. 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 K. The amount of pruning shall be limited to the minimum necessary to remove dead or injured to be designated areas of a project. twigs and branches. All cuts, scars, and bruises shall be properly treated according to the 1.7 MAINTENANCE 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 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, L. Prepare a watering circle of 2' diameter around the trunk. For conifers, extend the watering weeding, cultivating, fertilizing, monitoring water schedules, controlling insects and diseases, well to the drip line of the tree canopy. Place mulch around the planted trees. re-guying and staking, and all other operations of care necessary for the promotion of root 3.4 TURF - SOD LAYING growth and plant life so that all plants are in a condition satisfactory at the end of the A. Top Soil Amendments: Prior to laying sod, commercial fertilizer shall be applied and guarantee period. The Contractor shall be held responsible for failure to monitor watering incorporated into the upper four (4) inches of the topsoil at a rate of four pounds of nitrogen operations and shall replace any and all plant material that is lost due to improper per one thousand (1,000) square feet. Adjust fertilization mixture and rate of application as application of water. needed to meet recommendations given by topsoil analysis. Include other amendments as 1.8 GUARANTEE A. Guarantee: A guarantee period of one year shall begin from end of maintenance period and 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 the guarantee period and trees shall live and grow in acceptable upright position. Any plant rates to meet recommendations given by topsoil analysis. 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 D. Sod Laying: The surface upon which the new sod to be laid will be prepared as specified eight (8) foot common pine stakes used as shown on the details. B. Tree Wrap: Tree wrap is not to be used. E. Sod shall be tamped lightly as each piece is set to insure that good contact is made between C. Mulch: See Plans. All planter beds to receive a minimum 4" layer for trees, shrubs, and perennials and 1" for groundcovers. D. Weed Barrier: DeWitt 5 oz. weed barrier fabric. Manufactured by DeWitt Company, F. Apply water directly after laying sod. Rainfall is not acceptable. dewittcompany.com or approved equal. G. Watering of the sod shall be the complete responsibility of the Contractor by whatever E. Tree, Shrub, and Grass Backfill Mixture; Backfill mixture to be 50% native soil and 50% topsoil, thoroughly mixed together prior to placement.

C. Sod Availability and Condition: The Contractor shall satisfy himself as to the existing conditions prior to any construction. The Contractor shall be fully responsible for furnishing and lay 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 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

above. 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.

edges and also the ground. Sod laid on any sloped areas shall be anchored with wooden dowels or other materials which are accepted by the grass sod industry.

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.

H. 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.

I. 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. Cut a slit or x at each plant location no larger than necessary to install plant.

B. Overlap rows of fabric min. 6"

C. Stable fabric edges and overlaps to ground.

END OF SECTION

SITE REQUIREMENT CALCULATIONS

STREET FRONTAGE

25 mph 40' x 40'

SIDE AND REAR LANDSCAPE YARDS ABUTTING A NONRESIDENTIAL DEVELOPMENT OR PROPERTY ZONED FOR SUCH SHALL INCLUDE A MINIMUM OF ONE TREE AND FOUR (4) SHRUBS FOR EACH FORTY (40) LINEAR FEET OR FRACTION THEREOF OF THE LANDSCAPE YARD AREA (AS MEASURED ALONG THE PROPERTY LINE). FRONT AND STREET SIDE LANDSCAPE AREAS SHALL INCLUDE A MINIMUM OF ONE TREE FOR EACH FORTY (40) LINEAR

FEET OR FRACTION THEREOF OF THE LANDSCAPE YARD AREA (AS MEASURED ALONG THE PROPERTY LINE). IN ADDITION TO THE ABOVE, GROUND COVER SHALL BE PROVIDED OVER ALL LANDSCAPE AREAS

TRASH ENCLOSURES AND OTHER ACCESSORY STRUCTURES SHALL HAVE A MINIMUM FIVE FOOT (5') WIDE PLANTING AREA ALONG THREE (3) SIDES AND A MINIMUM OF FOUR (4) SHRUBS PER LANDSCAPED SIDE. THESE PLANTING AREAS MAY OVERLAP REQUIRED LANDSCAPE YARDS

Design Speed Triangle Leg Dimensions

ALL A/C UNITS TO

ALL A/C UNITS TO

STREET FRONTAGE

120 EAST (1/40 LN. FT.) 280 FT.

SIDE YARD PROPERTY LINES

EAST: (1/30 LN. FT.) 365 FT

HIGHLAND DR. (1/40 LN. FT.) 240 FT.

STREET TREES:

ORCHARD HILLS TOWNHOMES 95 WEST 200 NORTH #2 SPANISH FORK, UT 84660

> 95 WEST 200 NORTH #2 SPANISH FORK, UT 801-655-0566

DESIGN GROUP 3450 N. TRIUMPH BLVD. SUITE 102

PRELIMINARY PLANS NOT FOR CONSTRUCTION

CHECKED:

JTA

ORCHARD HILLS TOWNHOMES

120 EAST AND HIGHLAND DR SANTAQUIN, UTAH

Developer / Property Owner:

12 TREES

61 SHRUBS

PROVIDED:

Client / Engineer

ATLAS ENGINEERING

CHERRY PLUM PRUNUS X CERASIFERA 2" CAL. MODERATE ACER RUBRUM 'ARMSTRONG" ARMSTRONG RED QUERCUS ROBUR 'FASTIGIATA' COLUMNAR ENGLISH OAK 11 SHRUB LEGEND COMMON NAME QTY. SIZE HYDROZONE SPECIAL NOTES BUXUS X 'GREEN MOUNTAIN' 5 GAL. MODERATE BERBERIS THUNBERGII 'CRIMSON PYGMY' CRIMSON PYGMY DWARF 1 GAL. LOW JAPANESE BARBERR **BLUE CHIP JUNIPER** CORNUS ALBA 'BAILHALO' IVORY HALO DOGWOOD 5 GAL MODERATE BUDDLEJA DAVIDII **BUTTERFLY BUSH** PICEA ABIES 'NIDIFORMIS' NEST NORWAY SPRUCE SPIREA X BUMALDA 'ANTHONY ANTHONY WATERER TAXUS X MEDIA 'DENSIFORMIS' DENSE SPREADING YEW 5 GAL MODERATE SYMPHORICARPUS ALBUS COMMON SNOWBERRY CARAGANA FRUTEX 'GLOBOSA' GLOBE PEASHRUB 5 GAL MODERATE **GRASSES LEGEND** QTY. SIZE HYDROZONE SPECIAL NOTES CALAMAGROSTIS A. 'FOERSTER' FOERSTER FEATHER PENNISETUM APOLCUROIDES HAMELN DWARF FOUNTAIN 30 PERENNIAL LEGEND QTY. SIZE HYDROZONE SPECIAL NOTES HEMEROCALLIS X LITTLE BUSINESS DAYLILY 45 'LITTLE BUSINESS' COMMON PERIWINKLE VINCA MINOR 'BOWLES'

QTY. SIZE HYDROZONE SPECIAL NOTES

2" CAL. LOW

SPECIAL NOTES

LOCATED WHERE SPECIFIED

LOCATED IN TREE RINGS

DROUGHT TOLERANT VARIETY *SEE NOTE BELOW

TREE LEGEND (TOTAL PLANT COUNT)

ZELKOVA SERRATA 'MUSASHINO' MUSASHINO COLUMNAR

LANDSCAPE GENERAL NOTES

INSTALLER RESPONSIBILITIES AND LIABILITIES

LAWN (SOD) AREA

BROWN BARK MULCH

SITE MATERIALS

1. THESE PLANS ARE FOR BASIC DESIGN LAYOUT AND INFORMATION. THE INSTALLER IS REQUIRED TO REFER TO THEIR INDIVIDUAL TRADE - SCOPE OF WORK. OWNER ASSUMES NO LIABILITIES FOR INADEQUATE ENGINEERING CALCULATIONS. MANUFACTURER PRODUCT DEFECTS, INSTALLATION OF ANY LANDSCAPING AND COMPONENTS, OR

10,511 SQ.FT. (97.3 CU.YD)

2. THE INSTALLER OF ALL LANDSCAPING AND IRRIGATION SYSTEMS ARE LIABLE AND RESPONSIBLE FOR ALL

QUANTITY

25,711 SQ.FT.

142 SQ. FT.

(DeWitt 5 OZ. WEED BARRIER FABRIC TO BE INSTALLED IN ALL PLANTER AREAS)

GRADING AND DRAINAGE REQUIREMENTS

1. ALL GRADING IS TO SLOPE AWAY FROM THE STRUCTURE PER CODE. 2. FINISHED GRADE IS NOT PERMITTED BY CODE TO DRAIN ON NEIGHBORING PROPERTIES

3. 6" MIN. FOUNDATION LEFT EXPOSED AT ALL CONDITIONS 4. LANDSCAPER TO MAINTAIN OR IMPROVE EXISTING FINAL GRADE AND PROPER DRAINAGE ESTABLISHED BY THE

EXCAVATOR'S FINAL GRADE ACTIVITIES INCLUDING ANY MAINTENANCE, PRESERVATION, OR EXAGGERATION OF SLOPES, BERMS, AND SWALES

5. IF ANY SWALE, BERM, OR GRADE HAS BEEN DAMAGED OR IS INCORRECT TO ENSURE CORRECT WATER FLOW THE TRADE CONTRACTOR IS RESPONSIBLE TO FIX STATED ISSUE. 6. ROOF RUN-OFF DEVICES SHOULD BE INSTALLED TO COLLECT AND DISCHARGE ALL ROOF RUNOFF A MINIMUM OF 10

FEET FROM FOUNDATION ELEMENTS OR BEYOND THE LIMITS OF BACKFILL AROUND THE FOUNDATION WALLS: WHICHEVER DISTANCE IS GREATER.

7. THE GROUND SURFACE WITHIN 10 FEET OF THE FOUNDATIONS SHOULD BE SLOPED TO DRAIN AWAY FROM THE STRUCTURE WITH A MINIMUM FALL OF 6 INCHES.

LANDSCAPING REQUIREMENTS

1. ALL LANDSCAPING IS TO BE INSTALLED PER ALL GOVERNING JURISDICTIONS I.E. INTERNATIONAL BUILDING CODE, 2. NON-COMPLIANCE TO ALL GOVERNING JURISDICTION REQUIREMENTS AND REGULATION ARE THE RESPONSIBILITY

OF THE LANDSCAPING INSTALLER.

3. ALL PLANTED LANDSCAPING IS TO BE INSTALLED ACCORDING TO THE NURSERY CARE AND INSTALLATION

INSTRUCTIONS WHERE PURCHASED AND BASED ON INDIVIDUAL SOIL CONDITIONS AND SITE CONDITIONS.

LANDSCAPE NOTES

1. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES OF ALL MATERIALS FOR BIDDING AND INSTALLATION PURPOSES. IF DISCREPANCIES EXIST, THE PLAN SHALL DICTATE QUANTITIES TO BE USED.

LANDSCAPE CHANGES MUST BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO

2. PLANT MATERIAL TO BE INSTALLED PER PLANT LEGEND. IF SUBSTITUTIONS ARE WANTED, PROPOSED

3. NEW LAWN AREAS TO BE SODDED WITH DROUGHT TOLERANT VARIETY. FINE LEVEL ALL AREAS PRIOR TO

SANDY LOAM TOPSOIL TO BE IMPLEMENTED AT THE FOLLOWING DEPTHS: 6" TOPSOIL (WITH 2" HUMUS MIXED INTO TOPSOIL PRIOR TO SPREADING) IN ALL NEW PLANTER AREAS AND 4" IN ALL NEW LAWN AREAS. PLANTER BEDS TO BE EXCAVATED AS NECESSARY IN ORDER TO ACCOMMODATE NEW TOPSOIL AND/OR PLANTER BED MULCH TO REACH FINISHED GRADE.

5. 4"X6" EXTRUDED CONCRETE MOW CURB TO BE INSTALLED BETWEEN ALL LAWN AND PLANTER AREAS PER PLAN. ANY TREES LOCATED IN LAWN MUST HAVE A 4' CONCRETE TREE RING.

6. DeWitt 5 OZ. WEED BARRIER FABRIC TO BE INSTALLED IN ALL PLANTER AREAS EXCEPT UNDER ANNUAL

PLANTING AREAS AS SHOWN ON PLAN.

ROCK MULCH TO BE IMPLEMENTED AT THE FOLLOWING DEPTHS: 4" IN ALL TREE, SHRUB, AND PERENNIAL

PLANTER AREAS; ANNUAL PLANTING AREAS AS SHOWN ON PLAN TO RECEIVE 4" OF SOIL AID MATERIAL. PULL BARK MULCH MIN. 3" AWAY FROM BASE OF ALL PERENNIALS AND SHRUBS AND MIN. 6" AWAY FROM ALL TREES. 8. CONTRACTOR TO PROVIDE NEW AUTOMATIC UNDERGROUND IRRIGATION SYSTEM TO BE INSTALLED IN ALL

LANDSCAPE AREAS. ALL LAWN AREA TO RECEIVE 100% HEAD TO HEAD COVERAGE WITH SPRAY AND ROTARY SPRINKLER HEADS. ALL PLANTER AREAS NEED TO RECEIVE A FULL DRIP SYSTEM TO EACH TREE AND SHRUB ON PROJECT. SEE IRRIGATION PLAN.



LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com

LANDSCAPE PLAN

NO. REVISION DATE XX-XX-XX XXXX

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

e. Texture (particle size per USDA soil classification): Sand <70%; Clay < 30%; Silt < 70%,

G. Turf Sod: All sod shall be 18 month old as specified on plans (or approved equal) that has

H. Landscape Edging: Headers and Edging six (6) inches by four (4) inches extruded concrete

UT20039

been cut fresh the morning of installation. Only sod that has been grown on a commercial

Stone fragments (gravel or any soil particle greater than two (2) mm in size) < 5% by

b. EC (electrical conductivity): < 2.0 mmhos per centimeter

sod farm shall be used. Only use sod from a single source.

b. Portland Cement (see concrete spec. below for type)

a. Washed mortar sand free of organic material.

c. SAR (sodium absorption ration): < 3.0

d. % OM (percent organic matter): >1%

curb made up of the following materials:

11-04-2020

meet the following standards:

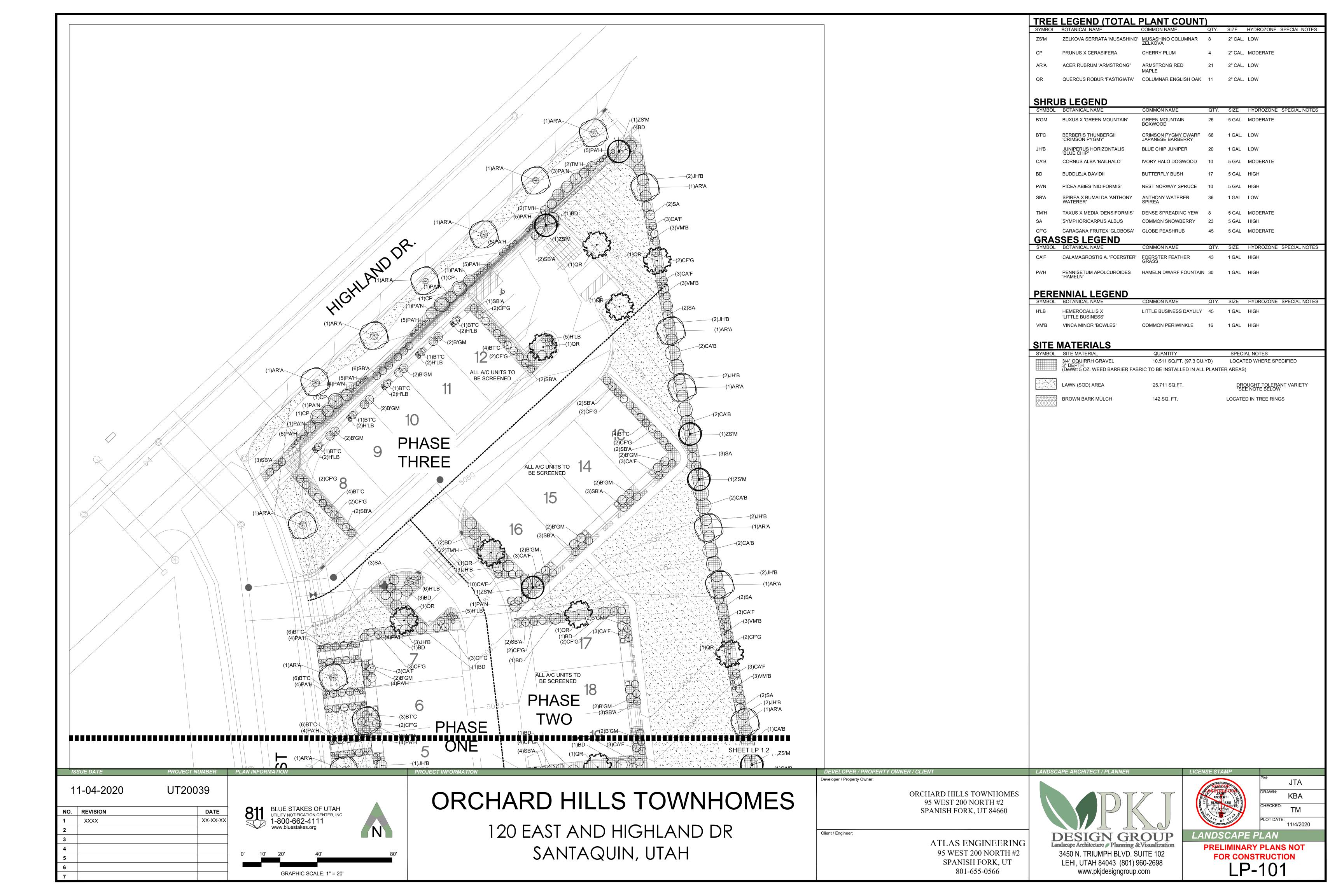
a. PH: 5.5-7.5

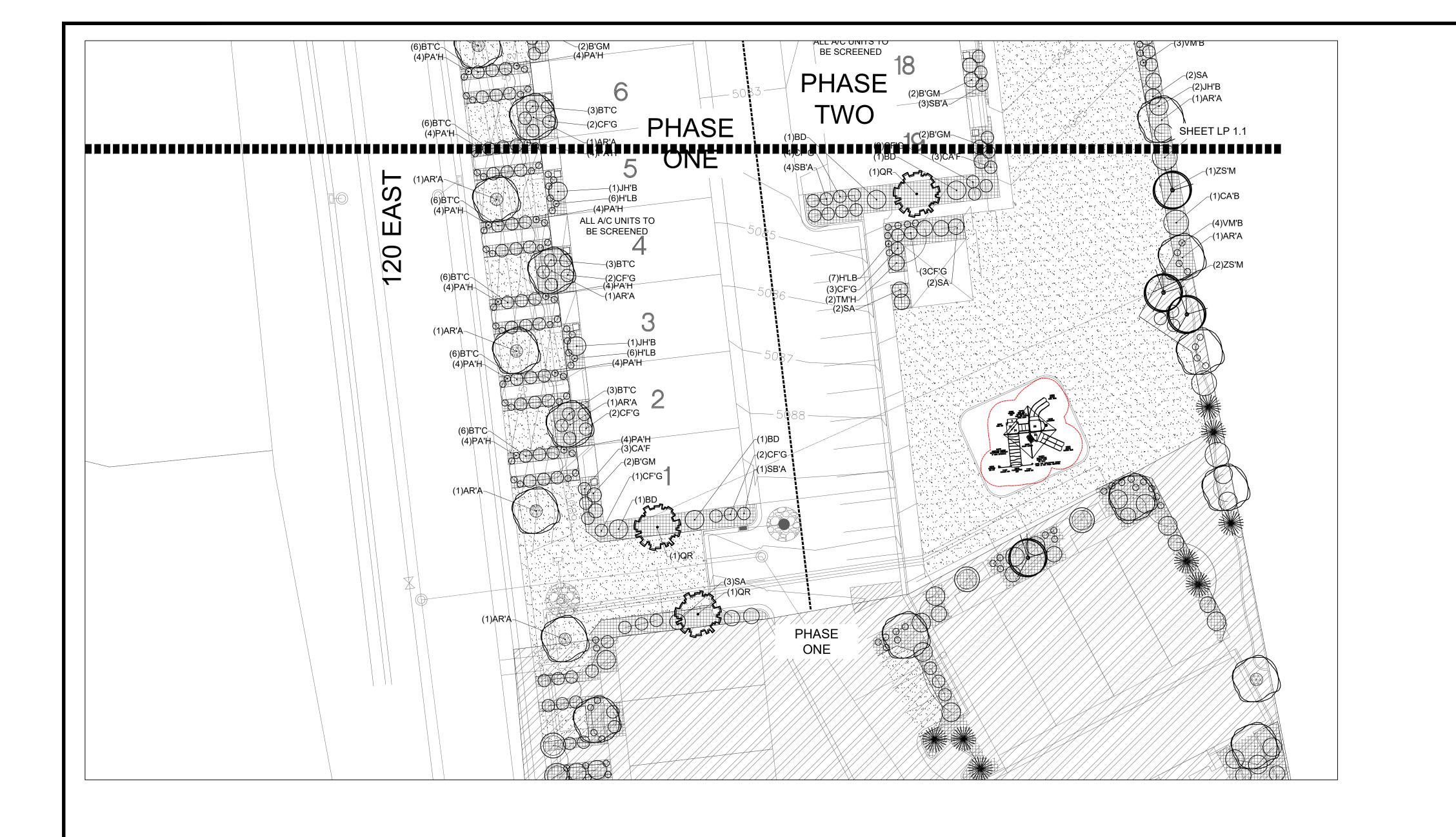
1-800-662-4111 www.bluestakes.org

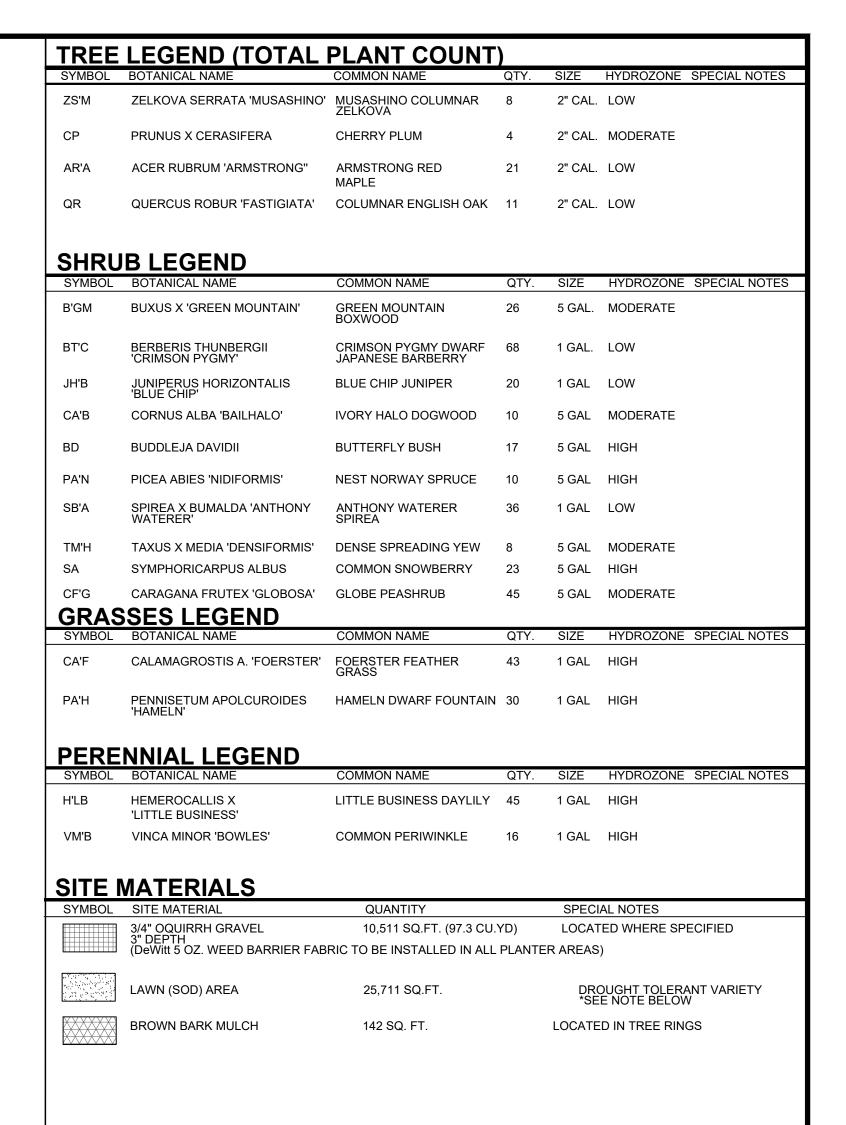


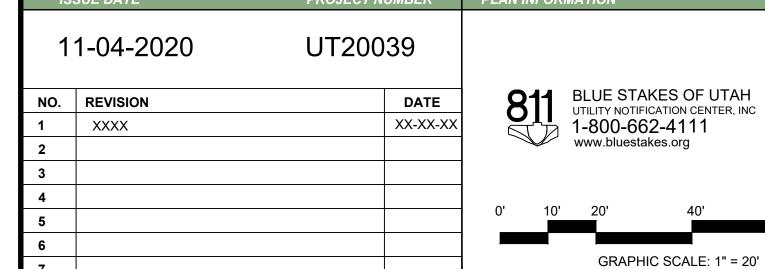
BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC

GRAPHIC SCALE: 1" = 30'









ORCHARD HILLS TOWNHOMES

120 EAST AND HIGHLAND DR SANTAQUIN, UTAH Developer / Property Owner:

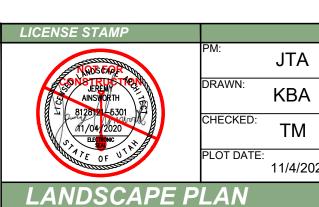
ORCHARD HILLS TOWNHOMES 95 WEST 200 NORTH #2 SPANISH FORK, UT 84660

Client / Engineer:

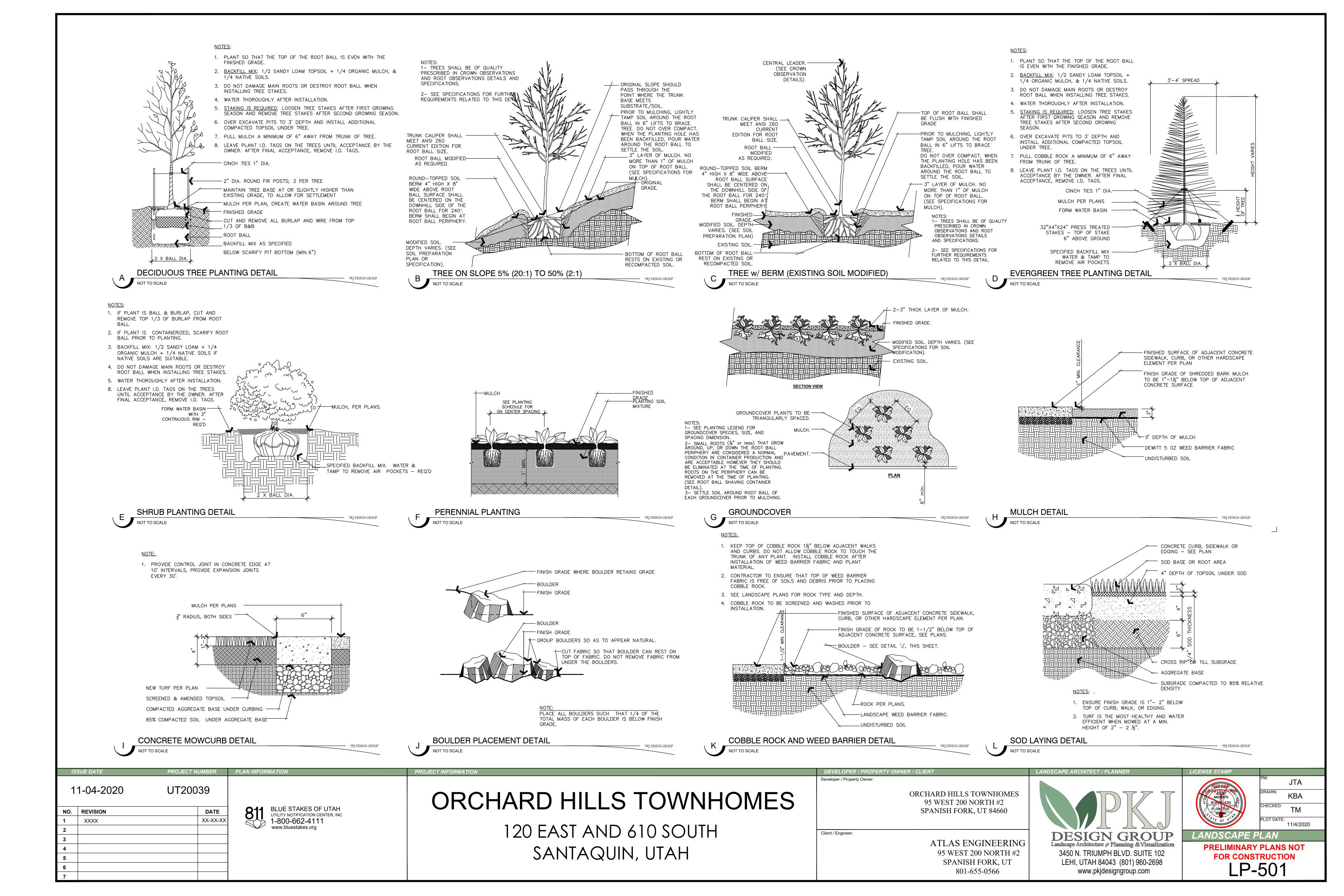
ATLAS ENGINEERING 95 WEST 200 NORTH #2 SPANISH FORK, UT 801-655-0566



www.pkjdesigngroup.com



PRELIMINARY PLANS NOT FOR CONSTRUCTION LP-102



ORCHARD HILLS PH 2

SPANISH FORK, UTAH

IRRIGATION SPECIFICATIONS

or damaged existing landscape to original state and condition.

IRRIGATION SPECIFICATIONS

PART I - 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. Removal and disposal of any existing sprinkler 1.7 system components are not to be saved, which are disturbed during the construction process. Restoration of any altered

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 pope 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 1.10 OWNER'S INSTRUCTION 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: Location 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 guick couplers. Normally under constant pressure.

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

1.4 REFERENCES

A. The following standards will apply to the work of this Section: a. ASTM-American Society for Testing and Materials

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

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 PART 2 - PRODUCTS ring binders or other similar bound form. Provide five copies of submittals to OAR for distribution. Place cover or index 2.1 GENERAL NOTES 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

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

ii. Parts list for each operating element 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

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

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 located at or above

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 1.6 QUALITY ASSURANCE

A. Acceptance: Do not install work of this section prior to acceptance by OAR of area to receive such work.

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

PROJECT NUMBER

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.

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 2.9 MANIFOLDS 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.

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.

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 settles from original finish grade shall be restored to proper grade. Irrigation system shall have been adjusted to provide proper, adequate coverage of irrigated

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

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 evacuation system of all water pressure regulation device. 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.

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 2.17 OTHER PRODUCTS 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 indicate.

2.3 CONNECTION ASSEMBLY

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

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 controllers: Irrigation contractor shall be responsible for this task. Power configuration for wall-mount 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 nower 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 wire 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.

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.

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:

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

2.8 ISOLATION VALVES

A.Isolation valves 3" and larger shall be Waterous brand model 2500 cast 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 3.7 VALVES the handle is vertical toward the top of the valve box in the 'off' position.

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.

A. Carson 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.

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

A. Contractor shall repair or replace work damaged by irrigation system installation. If damaged work is new, replacement or the original installer of that work shall perform repairs. 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 b laid out 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 without

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.

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 cure a minimum of 24 hours prior to being energized. Lateral lines shall cure 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.

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. Wire 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

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.

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 o ne remote control valve may be installed in a Carson 1419124 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 and 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

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

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

A. Sprinkler heads shall be adjusted to proper height when installed. Changes in grade or adjustment of head height after

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

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

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

installation shall be considered a part of the original contract and at Contractor's expense.

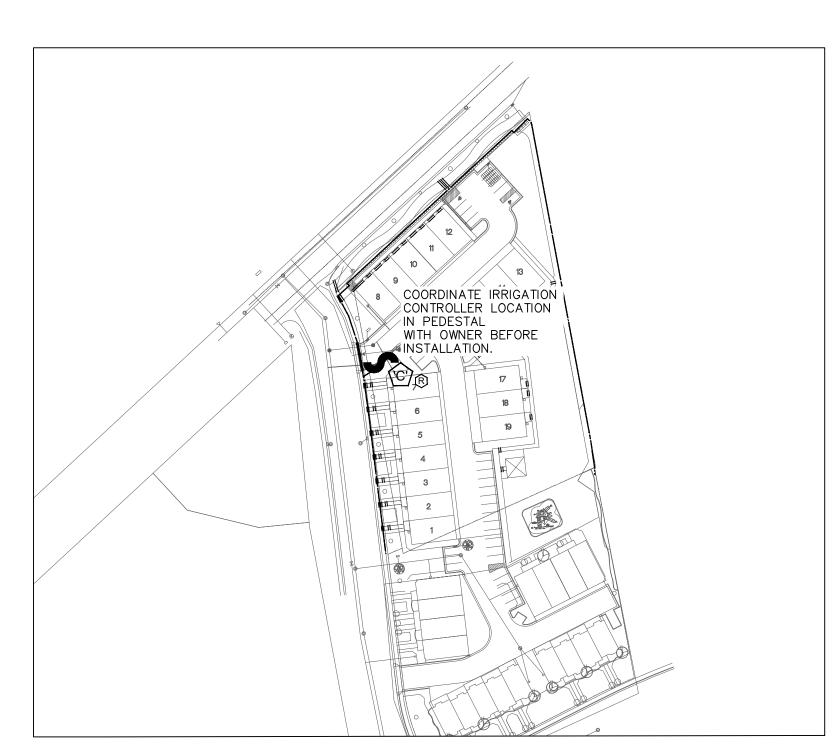
D. Adjust run times of station to meet needs of plant material the station services.

A. Contractor shall be responsible for cleanliness of jobsite. Work areas shall be swept cleanly and picker up daily. B. Open trenches or hazards shall be protected with yellow caution tape.

C. Contractor is responsible for removal and disposal offsite of 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.

sections that can be isolated.



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

11/4/2020 UT20039 NO. REVISION DATE

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

GRAPHIC SCALE: 1" = 100'

ORCHARD HILLS TOWNHOMES

120 EAST AND HIGHLAND DR SANTAQUIN, UTAH

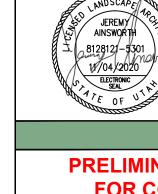
ORCHARD HILLS TOWNHOMES 95 WEST 200 NORTH #2 SPANISH FORK, UT 84660

DEVELOPER / PROPERTY OWNER / CLIENT

Developer / Property Owner:

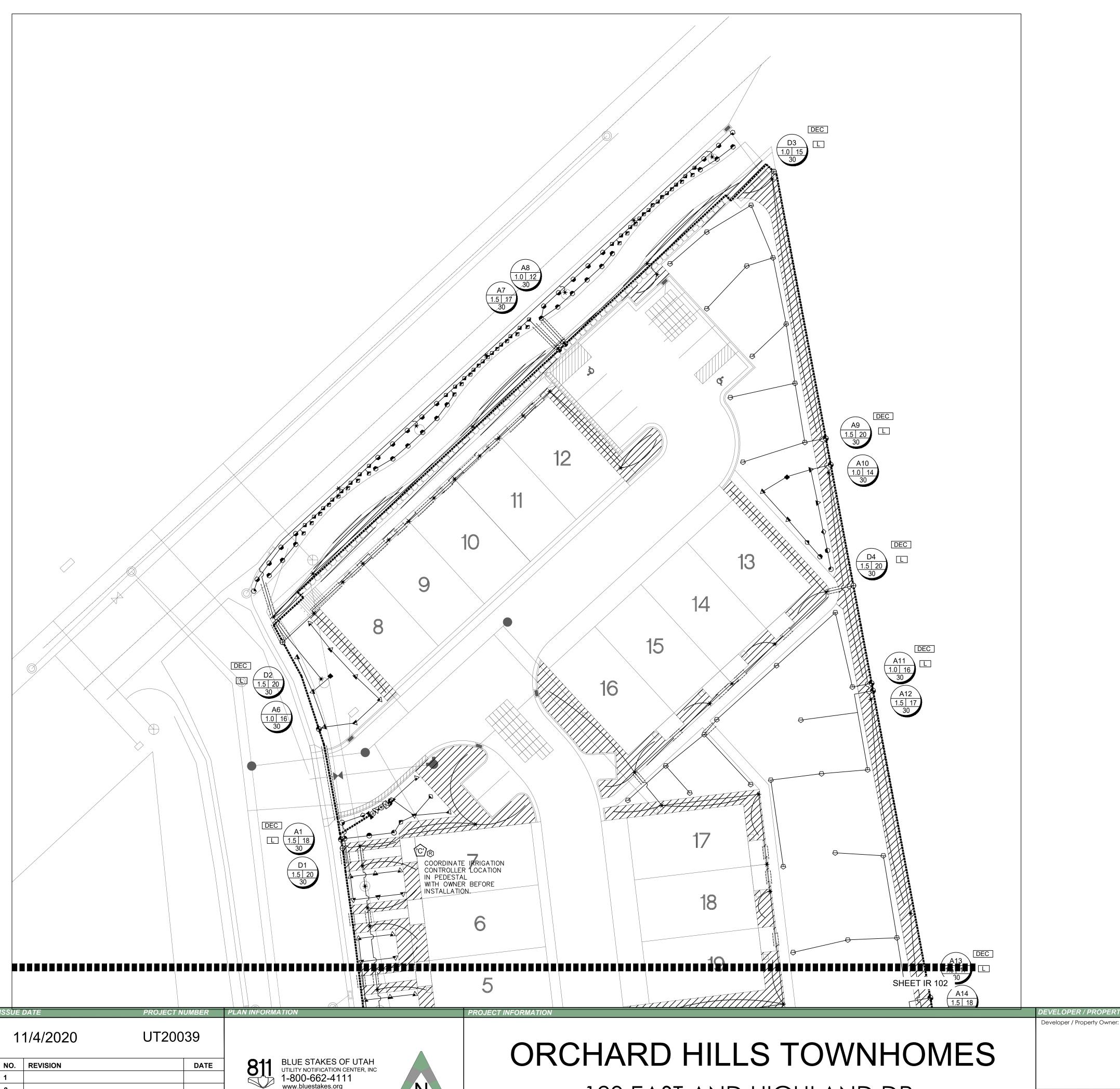
ATLAS ENGINEERING 95 WEST 200 NORTH #2 SPANISH FORK, UT 801-655-0566



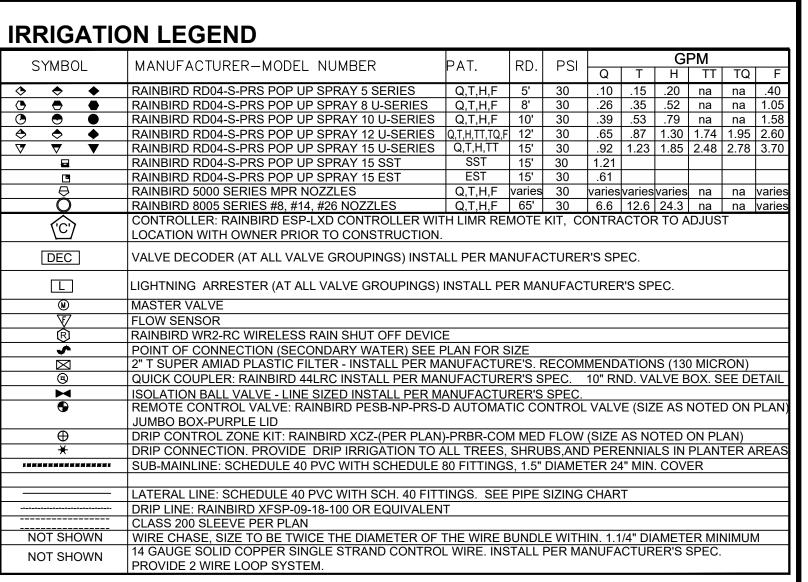


KBA CHECKED 11/4/2020

PRELIMINARY PLANS NOT FOR CONSTRUCTION IR 100



GRAPHIC SCALE: 1" = 20'



DRIP ZONE

	TYPE	PART NUMBER	EMITTER FLO	ow	EMITTER	SPACING	ROW SPACING	ROW SPACING
V/////	XFS DRIPLINE	XFSP-09-18	.9 GPH		18"		18"	18-21 IN.
- Y/////								
- Y/////	TOTAL DRIP ZON	IE FLOW	20 GPM TIME TO APPLY 1/4" OF WATER				23	
	MAX. LATERAL LI	ENGTH OF TUBING	350 FT		REQUIRED	NUMBER O	F STAKES	500
	TOTAL LENGTH	OF ZONE DRIPLINE	2,000 FT (varies per	plan)	NUMBER C	F FLUSH PC	DINTS	2
	APPLICATION RA	\TE	.64 IN. / HR	Ç	SUGGESTE	D HEADER	& FOOTER PIPE SIZ	E CLASS 200 1.25"
	*NUMBERS MAY	CHANGE DUE TO S	ZE OF DRIP ZONE	E PEF	R PLAN		_	

	90 Day Establishment Period Irrigation Schedule (April, May, June)										
	Туре	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure		
Turf	Turf	15 min	30 psi								
Shrubs	Shrubs	25 min	0	25 min	0	25 min	0	25 min	40 psi		

Note: Begin irrigation 4:00 am, only 1 cycle per day

	Regular Irrigation Schedule (see Seasonal Differential Chart)											
	Туре	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure			
Turf	Turf	15 min	15 min		15 min		15 min		30 psi			
Shrubs	Shrubs	45 min		45 min		45 min		45 min	40 psi			

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Seasonal Differential										
	April	May	June	July	August	Sept.	October			
Turf	10 min	10 min	15 min	15 min	15 min	10 min	10 min			
Shrubs	30 min	30 min	45 min	45 min	45 min	30 min	30 min			

IRRIGATION NOTES

- 1. ALL CONNECTIONS ARE SECONDARY WATER AND SHOULD BE NOTED AS SUCH. THEREFORE ALL PARTS MUST MEET SECONDARY WATER
- 2. ALL PIPE TO BE SCHEDULE 40 PVC PIPE. NO POLY PIPE SHALL BE INCLUDED. FITTINGS UP TO 1.1/2" MUST BE SCHEDULE 40 OR BETTER. FITTINGS LARGER THAN 1.1/2" MUST BE SCHEDULE 80 OR BETTER.
- CONTRACTOR SHALL HAVE ALL UTILITIES BLUE STAKED PRIOR TO DIGGING. ANY DAMAGE TO THE UTILITIES SHALL BE REPAIRED AT THI EXPENSE OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER.
- 4. PLACE ALL IRRIGATION IN LANDSCAPE AREAS AND ON THE PROPERTY OF THE OWNER.
- 5. MODIFY LOCATION OF IRRIGATION COMPONENTS TO AVOID PLACING TREES, SHRUBS AND OTHER SITE ELEMENTS DIRECTLY OVER PIPE, PER PLANS. DO NOT LOCATE VALVE BOXES IN LAWN AREAS UNLESS DIRECTED TO BY LANDSCAPE ARCHITECT.
- 6. CONTRACTOR SHALL INSTALL A 1" THREADED TEE WITH 1" THREADED PLUG AT POINT OF CONNECTION IN ORDER TO BLOW OUT THE SYSTEM
- 7. CONTRACTOR SHALL USE ONLY COMMERCIAL GRADE IRRIGATION PRODUCTS AND IS RESPONSIBLE FOR ENSURING ACCURATE COUNTS AND QUANTITIES OF ALL IRRIGATION MATERIALS FOR BIDDING AND INSTALLATION PURPOSES.
- 8. INSTALL DRIP IRRIGATION PER DETAILS. CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY
- 9. CONTRACTOR SHALL PROVIDE AND INSTALL SLEEVES FOR ALL PIPES AND WIRES UNDER PAVEMENT AND SIDEWALKS. SLEEVES SHALL BE 2. SIZES LARGER THAN PIPE INSIDE. ALL WIRE SHALL BE IN SEPARATE SLEEVES (NOT SHOWN). ALL CONTROL WIRE SHALL BE INSTALLED IN CLASS 200 PIPE. PLACE JUNCTION BOXES WHERE NECESSARY TO MINIMIZE LONG RUNS OR AT DIRECTIONAL CHANGES
- 10. WATER LINES AND ELECTRICAL LINES MUST NOT SHARE CONDUITS. ALL WIRE CONNECTIONS MUST BE CONTAINED IN VALVE BOX WITH 3' OF EXTRA WIRE. WIRE TO BE CONNECTED TO MAIN LINE PIPE WHERE POSSIBLE WITH TAPE AT 25' INTERVALS. SLACK IN CONTROL WIRES REQUIRED AT EVERY CHANGE OF DIRECTION. WIRES MUST HAVE SEPARATE COLORS FOR COMMON, CONTROL AND SPARE. MINIMUM 1 SPARE WIRE FOR EVERY 5 VALVES. ALL CONTROL WIRES TO BE INSULATED 14 GAUGE COPPER. ALL SPARE WIRES MUST "HOME RUN" TO CONTROLLER AND SPARE WIRES AVAILABLE AT ALL VALVE MANIFOLDS AND CLUSTERS
- 11. ALL SLEEVES INSTALLED SHALL BE DUCT TAPED TO PREVENT DIRT OR OTHER DEBRIS ENTERING PIPE. ALL SLEEVES SHALL BE IDENTIFIED BY WOOD OR PVC STAKES AND BE SPRAY PAINTED WITH MARKING PAINT. REMOVE STAKES ONCE IRRIGATION SYSTEM IS COMPLETE.
- 12. IRRIGATION SYSTEM MUST CONTAIN CHECK VALVES TO PREVENT LOW POINT DRAINAGE.
- 13. SPACE ALL SPRAY HEADS 2" AWAY FROM ANY HARDSCAPE.
- 14. CONTRACTOR SHALL MATCH PRECIPITATION RATES AS MUCH AS POSSIBLE FOR ALL LANDSCAPED AREAS. OVERHEAD IRRIGATION MUST HAVE
- A MINIMUM DU (DISTRIBUTION UNIFORMITY) OF 60%. 15. IRRIGATION CONTRACTOR SHALL PRESSURE TEST MAINLINE FOR LEAKS PRIOR TO BACKFILLING.
- 16. MAIN LINES SHALL BE 18" DEEP MIN. AND LATERAL LINES 12" DEEP MIN. NO ROCK GREATER THAN 1/2" DIAMETER SHALL BE ALLOWED IN TRENCHES. TRENCHING BACKFILL MATERIAL SHALL BE COMPACTED TO PROPER FINISHED GRADE.
- 17. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE CITY AND/OR COUNTY CODES. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY PERMITS.
- 18. IRRIGATION INSTALLATION TO COMPLY WITH APPLICABLE CITY SPECIFICATIONS AND DRAWINGS.
- 19. ACTUAL INSTALLATION OF IRRIGATION SYSTEM MAY VARY SOMEWHAT FROM PLANS. THE CONTRACTOR IS RESPONSIBLE TO MAKE ADJUSTMENTS AS NEEDED TO ENSURE PROPER COVERAGE OF ALL LANDSCAPED AREAS.
- 20. CONTRACTOR SHALL INSTALL IRRIGATION SYSTEM WITH HEAD TO HEAD COVERAGE IN ALL TURF AREAS. USE VAN AND/OR U-SERIES NOZZLES AS NECESSARY TO PROVIDE PROPER COVERAGE AND TO KEEP WATER OFF OF BUILDINGS AND HARDSCAPES.
- 21. POWER TO CONTROLLER TO BE PROVIDED BY OWNER, OWNER TO SPECIFY EXACT LOCATION OF CONTROLLER, INSTALL PER MANUFACTURERS
- INSTRUCTIONS. CONTRACTOR SHALL INSTALL A RAIN SENSOR WITH CONTROLLER UNLESS OTHERWISE DIRECTED BY OWNER OR L.A. 22. INVESTIGATE TO MAKE SURE THAT THE IRRIGATION SYSTEM IS, IN FACT, BEING CONNECTED TO A SECONDARY SYSTEM. IF IT IS NOT
- CONNECTED TO SECONDARY, CONTACT THE OWNER AND LANDSCAPE ARCHITECT TO COORDINATE PROVISION AND INSTALLATION OF A
- 23. LATERAL LINES SHALL BE NO SMALLER THAN 3/4". LANDSCAPE CONTRACTOR TO ENSURE THE FOLLOWING PIPE SIZES DO NOT

EXCEED THE SUGGESTED GPM LISTED BELOW: 53 GPM

75 GPM

110 GPM

VALVE SIZE -

VALVE ID TAG - CONTROLLER NUMBER, VALVE NUMBER **GALLONS PER MINUTE** VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE

ORCHARD HILLS TOWNHOMES 95 WEST 200 NORTH #2 SPANISH FORK, UT 84660

Building Architect / Engineer:

ATLAS ENGINEERING 95 WEST 200 NORTH #2 LEHI, UTAH 84043 (801) 960-2698 SPANISH FORK, UT www.pkjdesigngroup.com 801-655-0566



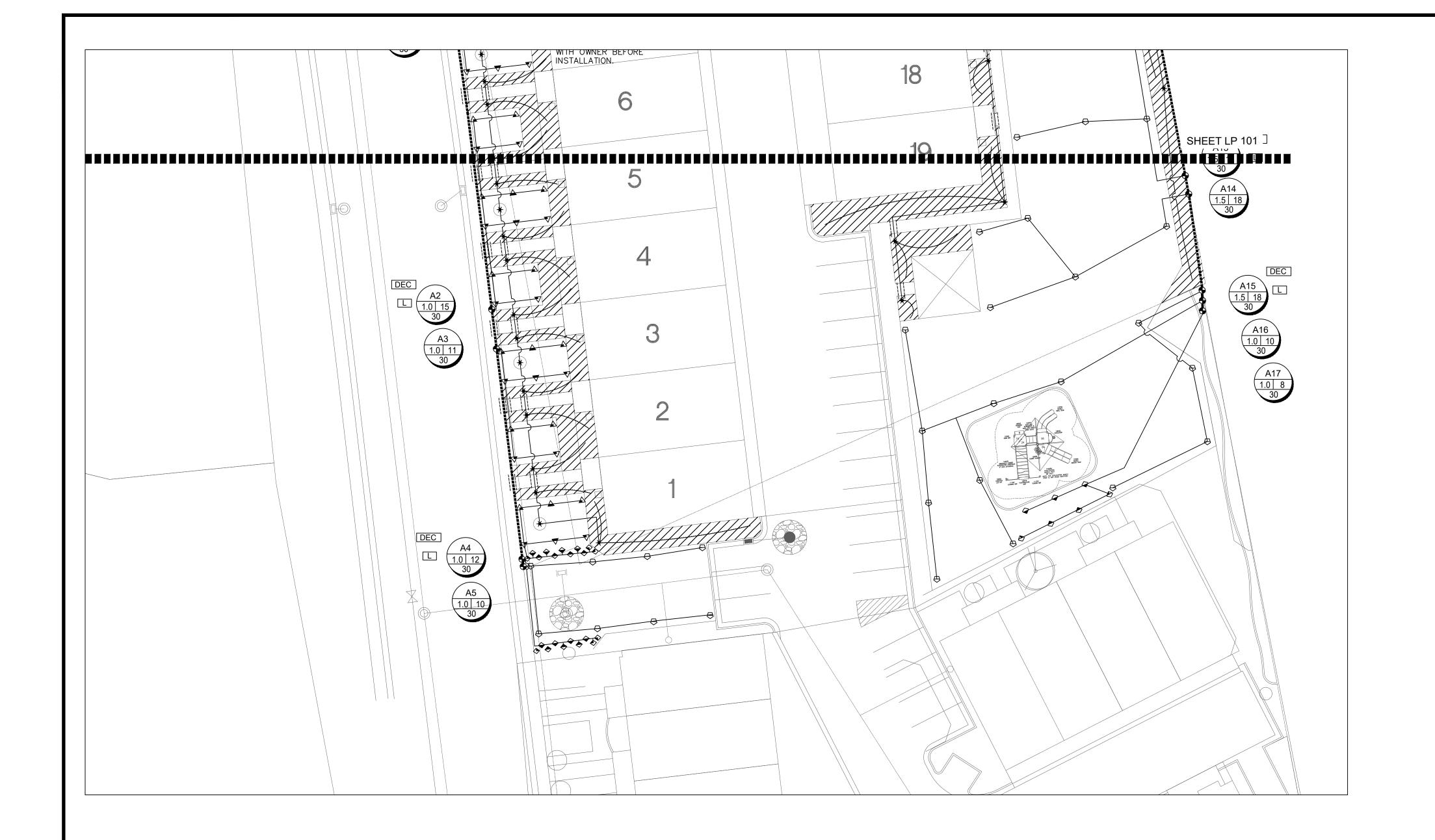
11/4/2020

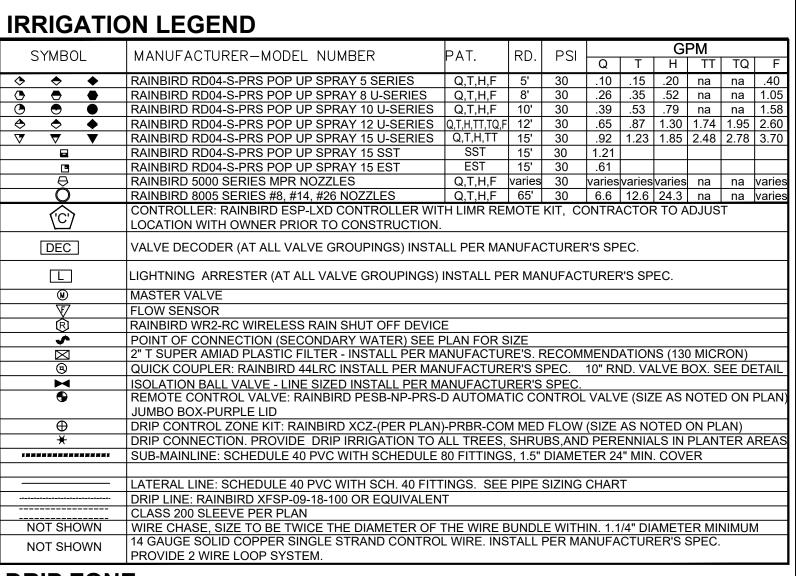
VALVES APPEAR ON THE DRAWING

IRRIGATION PLAN PRELIMINARY PLANS NOT

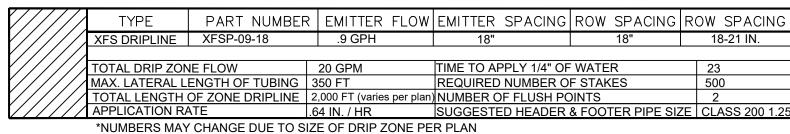
FOR CONSTRUCTION IR 101

120 EAST AND HIGHLAND DR SANTAQUIN, UTAH





DRIP ZONE



90 Day Establishment Period Irrigation Schedule (April, May, June)											
	Туре	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure		
Turf	Turf	15 min	30 psi								
Shrubs	Shrubs	25 min	0	25 min	0	25 min	0	25 min	40 psi		

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Regular Irrigation Schedule (see Seasonal Differential Chart)											
	Туре	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure		
Turf	Turf	15 min	15 min		15 min		15 min		30 psi		
Shrubs	Shrubs	45 min		45 min		45 min		45 min	40 psi		

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Seasonal Differential										
	April	May	June	July	August	Sept.	Octobe			
Turf	10 min	10 min	15 min	15 min	15 min	10 min	10 min			
Shrubs	30 min	30 min	45 min	45 min	45 min	30 min	30 min			

IRRIGATION NOTES

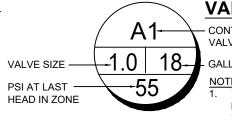
- 1. ALL CONNECTIONS ARE SECONDARY WATER AND SHOULD BE NOTED AS SUCH. THEREFORE ALL PARTS MUST MEET SECONDARY WATER
- 2. ALL PIPE TO BE SCHEDULE 40 PVC PIPE. NO POLY PIPE SHALL BE INCLUDED. FITTINGS UP TO 1.1/2" MUST BE SCHEDULE 40 OR BETTER. FITTINGS LARGER THAN 1.1/2" MUST BE SCHEDULE 80 OR BETTER.
- CONTRACTOR SHALL HAVE ALL UTILITIES BLUE STAKED PRIOR TO DIGGING. ANY DAMAGE TO THE UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER.
- 4. PLACE ALL IRRIGATION IN LANDSCAPE AREAS AND ON THE PROPERTY OF THE OWNER.
- 5. MODIFY LOCATION OF IRRIGATION COMPONENTS TO AVOID PLACING TREES, SHRUBS AND OTHER SITE ELEMENTS DIRECTLY OVER PIPE, PER PLANS. DO NOT LOCATE VALVE BOXES IN LAWN AREAS UNLESS DIRECTED TO BY LANDSCAPE ARCHITECT.
- 6. CONTRACTOR SHALL INSTALL A 1" THREADED TEE WITH 1" THREADED PLUG AT POINT OF CONNECTION IN ORDER TO BLOW OUT THE SYSTEM
- 7. CONTRACTOR SHALL USE ONLY COMMERCIAL GRADE IRRIGATION PRODUCTS AND IS RESPONSIBLE FOR ENSURING ACCURATE COUNTS AND QUANTITIES OF ALL IRRIGATION MATERIALS FOR BIDDING AND INSTALLATION PURPOSES.
- 8. INSTALL DRIP IRRIGATION PER DETAILS. CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY.
- 9. CONTRACTOR SHALL PROVIDE AND INSTALL SLEEVES FOR ALL PIPES AND WIRES UNDER PAVEMENT AND SIDEWALKS. SLEEVES SHALL BE 2 SIZES LARGER THAN PIPE INSIDE. ALL WIRE SHALL BE IN SEPARATE SLEEVES (NOT SHOWN). ALL CONTROL WIRE SHALL BE INSTALLED IN CLASS 200 PIPE. PLACE JUNCTION BOXES WHERE NECESSARY TO MINIMIZE LONG RUNS OR AT DIRECTIONAL CHANGES.
- 10. WATER LINES AND ELECTRICAL LINES MUST NOT SHARE CONDUITS. ALL WIRE CONNECTIONS MUST BE CONTAINED IN VALVE BOX WITH 3' OF EXTRA WIRE. WIRE TO BE CONNECTED TO MAIN LINE PIPE WHERE POSSIBLE WITH TAPE AT 25' INTERVALS. SLACK IN CONTROL WIRES REQUIRED AT EVERY CHANGE OF DIRECTION. WIRES MUST HAVE SEPARATE COLORS FOR COMMON, CONTROL AND SPARE. MINIMUM 1 SPARE WIRE FOR EVERY 5 VALVES. ALL CONTROL WIRES TO BE INSULATED 14 GAUGE COPPER. ALL SPARE WIRES MUST "HOME RUN" TO CONTROLLER AND SPARE WIRES AVAILABLE AT ALL VALVE MANIFOLDS AND CLUSTERS.
- 11. ALL SLEEVES INSTALLED SHALL BE DUCT TAPED TO PREVENT DIRT OR OTHER DEBRIS ENTERING PIPE. ALL SLEEVES SHALL BE IDENTIFIED BY WOOD OR PVC STAKES AND BE SPRAY PAINTED WITH MARKING PAINT. REMOVE STAKES ONCE IRRIGATION SYSTEM IS COMPLETE.
- 12. IRRIGATION SYSTEM MUST CONTAIN CHECK VALVES TO PREVENT LOW POINT DRAINAGE.
- 13. SPACE ALL SPRAY HEADS 2" AWAY FROM ANY HARDSCAPE.
- 14. CONTRACTOR SHALL MATCH PRECIPITATION RATES AS MUCH AS POSSIBLE FOR ALL LANDSCAPED AREAS. OVERHEAD IRRIGATION MUST HAVE A MINIMUM DU (DISTRIBUTION UNIFORMITY) OF 60%.
- 15. IRRIGATION CONTRACTOR SHALL PRESSURE TEST MAINLINE FOR LEAKS PRIOR TO BACKFILLING. 16. MAIN LINES SHALL BE 18" DEEP MIN. AND LATERAL LINES 12" DEEP MIN. NO ROCK GREATER THAN 1/2" DIAMETER SHALL BE ALLOWED IN
- TRENCHES. TRENCHING BACKFILL MATERIAL SHALL BE COMPACTED TO PROPER FINISHED GRADE.
- 17. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE CITY AND/OR COUNTY CODES. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY PERMITS.
- 18. IRRIGATION INSTALLATION TO COMPLY WITH APPLICABLE CITY SPECIFICATIONS AND DRAWINGS.
- 19. ACTUAL INSTALLATION OF IRRIGATION SYSTEM MAY VARY SOMEWHAT FROM PLANS. THE CONTRACTOR IS RESPONSIBLE TO MAKE ADJUSTMENTS AS NEEDED TO ENSURE PROPER COVERAGE OF ALL LANDSCAPED AREAS.
- 20. CONTRACTOR SHALL INSTALL IRRIGATION SYSTEM WITH HEAD TO HEAD COVERAGE IN ALL TURF AREAS. USE VAN AND/OR U-SERIES NOZZLES AS NECESSARY TO PROVIDE PROPER COVERAGE AND TO KEEP WATER OFF OF BUILDINGS AND HARDSCAPES.
- 21. POWER TO CONTROLLER TO BE PROVIDED BY OWNER. OWNER TO SPECIFY EXACT LOCATION OF CONTROLLER. INSTALL PER MANUFACTURERS INSTRUCTIONS. CONTRACTOR SHALL INSTALL A RAIN SENSOR WITH CONTROLLER UNLESS OTHERWISE DIRECTED BY OWNER OR L.A.
- 22. INVESTIGATE TO MAKE SURE THAT THE IRRIGATION SYSTEM IS, IN FACT, BEING CONNECTED TO A SECONDARY SYSTEM. IF IT IS NOT CONNECTED TO SECONDARY, CONTACT THE OWNER AND LANDSCAPE ARCHITECT TO COORDINATE PROVISION AND INSTALLATION OF A

23. LATERAL LINES SHALL BE NO SMALLER THAN 3/4". LANDSCAPE CONTRACTOR TO ENSURE THE FOLLOWING PIPE SIZES DO NOT

110 GPM

180 GPM

EXCEED THE SUGGESTED GPM LISTED BELOW: 53 GPM 75 GPM



VALVE ID TAG - CONTROLLER NUMBER, VALVE NUMBER **GALLONS PER MINUTE** VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING

ISSUE	DATE	PROJECT NUI	MBER	PLAN IN	NFORMA	TION		
1	1/4/2020	UT2003	39					
NO.	REVISION		DATE	۶ [211		AKES OF UTAH FICATION CENTER, INC	
1						1-800-6	62-4111	
2]		www.bluest	akes.org	
3								
4				0'	10'	20'	40'	80'
5								
6						GRAPH	IIC SCALE: 1" = 20'	

ORCHARD HILLS TOWNHOMES

120 EAST AND HIGHLAND DR SANTAQUIN, UTAH

ORCHARD HILLS TOWNHOMES 95 WEST 200 NORTH #2 SPANISH FORK, UT 84660

Building Architect / Engineer:

Developer / Property Owner:

ATLAS ENGINEERING 95 WEST 200 NORTH #2 SPANISH FORK, UT 801-655-0566



www.pkjdesigngroup.com



CHECKED: 11/4/2020

IRRIGATION PLAN

PRELIMINARY PLANS NOT FOR CONSTRUCTION IR 102

