CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

PIMA COUNTY
FLOOD CONTROL

PIMA COUNTY BOARD OF SUPERVISORS

RICHARD ELIAS, CHAIRMAN, DISTRICT 5
ALLY MILLER, DISTRICT 1 RAMON VALADEZ, DISTRICT 2
SHARON BRONSON, DISTRICT 3 STEVE CHRISTY, DISTRICT 4

PROJECT IN SUPERVISOR DISTRICT 4

GENERAL DESCRIPTION OF PROJECT

THIS PROJECT WILL INSTALL GRADING, DRAINAGE, LANDSCAPE, AND IRRIGATION IMPROVEMENTS. CIENEGA IMPROVEMENTS INCLUDE GRADING, DRAINAGE, AND LANDSCAPE. POLLINATOR GARDEN IMPROVEMENTS INCLUDE LANDSCAPE, PATHS, AND IRRIGATION. ALL IMPROVEMENTS ARE LOCATED ON THE HISTORIC CANOA RANCH SITE LOCATED EAST OF I-19 AND SOUTH OF THE SANTA CRUZ REGIONAL HOSPITAL.

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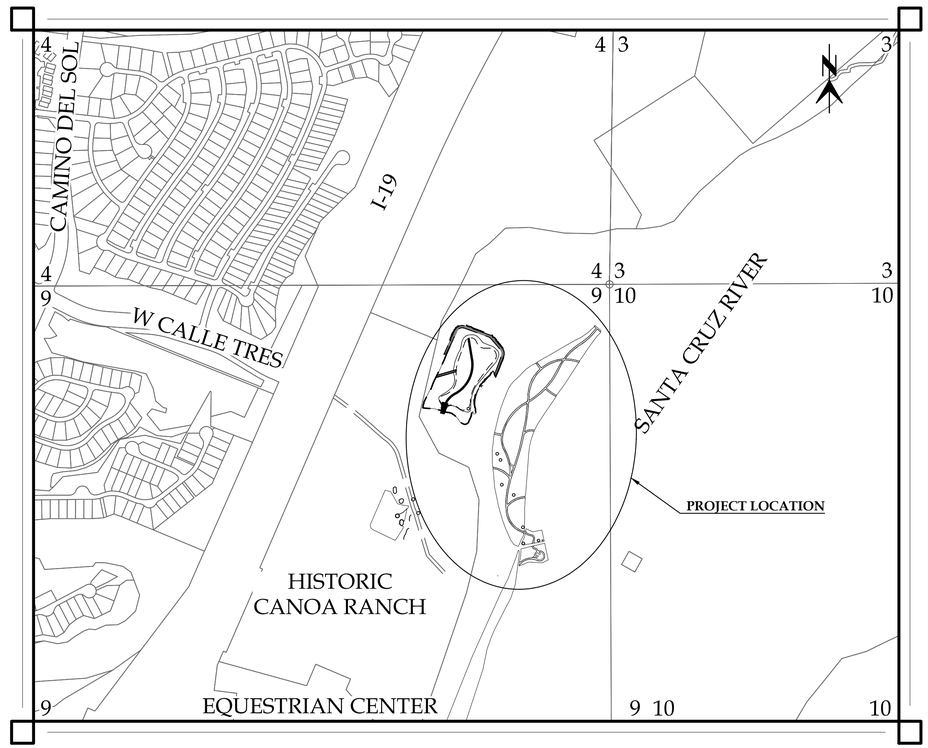
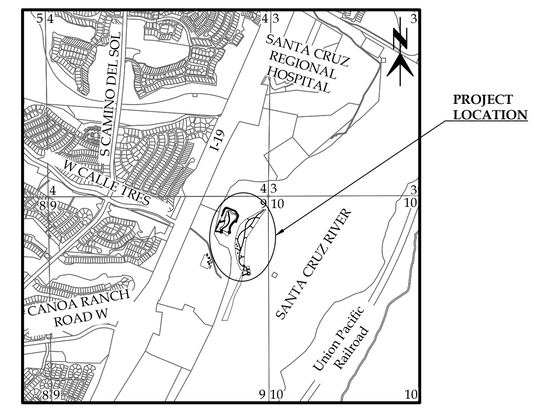


KEY MAP
1" = 500'



LOCATION MAP
3" = 1 MILE

SECTION 9
T-19-S, R-13-E
GILA AND SALT RIVER MERIDIAN,
PIMA COUNTY, ARIZONA

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT
201 N. STONE AVE, 9TH FLOOR TUCSON, ARIZONA 85701
PHONE NUMBER: 520-724-4600
SUZANNE SHIELDS, P.E., DIRECTOR

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

Kimley»Horn

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333 EAST WETMORE ROAD, SUITE 280
TUCSON, ARIZONA 85705 (520) 615-9191

NO.	REVISIONS	ENGINEER	DATE

NO.	AS BUILT	ENGINEER	DATE

100%
JOC BID SET
NOT FOR
CONSTRUCTION
OR RECORDING

REVIEWED BY	ENGINEER	DATE
MGR. DESIGN ENGR.		
MGR. FIELD ENGR.		

APPROVED:_____20____

DIRECTOR

PROJECT NO.

SHEET 1 OF 23

FILE NAME: h_098022061cv01.DWG

GENERAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO THE PAG STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC IMPROVEMENTS, 2015 EDITION, EXCEPT AS MODIFIED BY THE CONTRACT.
2. DUE TO THE HISTORIC NATURE OF THE SITE, EXISTING ABOVE AND BELOW GROUND UTILITIES ARE LARGELY UNKNOWN AND THEREFORE THE ENGINEER MAKES NO GUARANTEE OF THE ACCURACY OR COMPLETENESS OF THE UTILITY LOCATIONS OR OF THE EXISTENCE OR NONEXISTENCE OF ANY UTILITY OR UNDERGROUND STRUCTURES SHOWN. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES WITH THE APPROPRIATE ORGANIZATIONS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEANS NECESSARY TO PROTECT ANY UTILITY. THE CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. CONTACT "BLUE STAKE" AT 1-800-782-5348 TWO (2) FULL WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY PIMA COUNTY AND THE ENGINEER IN WRITING OF ANY UTILITY LOCATIONS DISCOVERED DIFFERING FROM THE PLAN INFORMATION IN A TIMELY MANNER.
3. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEANS NECESSARY TO PROTECT EXISTING HISTORIC STRUCTURES.
4. RIGHT-OF-WAY ENCROACHMENTS SHALL BE REMOVED ONLY BY THE ORDER OF PIMA COUNTY, UNLESS OTHERWISE NOTED.
5. REMOVAL OF ALL CACTI AND NATIVE PLANTS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE "ARIZONA NATIVE PLANT LAW" A.R.S, CHAPTER 7 (ARS SECTION 3-901, ET. SEQ) AND THE PIMA COUNTY NATIVE PLANT PRESERVATION ORDINANCE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.
7. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY ALL GOVERNMENTAL AGENCIES. SINCE THIS PROJECT IS IN PIMA COUNTY, THE CONTRACTOR SHALL VERIFY PERMITTING REQUIREMENTS WITH PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT AND PIMA COUNTY NATURAL RESOURCES, PARKS AND RECREATION DEPARTMENT PRIOR TO CONSTRUCTION. FOR WORK BEYOND THE SCOPE OF THESE PROJECT LIMITS, PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL OBTAIN SEPARATE PERMITS PRIOR TO COMMENCING SUCH WORK.
8. THE PLANS FOR THIS PROJECT HAVE BEEN DESIGNED USING PAG STANDARD DETAILS, 2015.
9. SOILS INFORMATION WILL BE MADE AVAILABLE TO THE CONTRACTOR IN THE GEOTECHNICAL REPORT. SOILS INFORMATION SO PROVIDED SHALL BE FOR INFORMATIONAL PURPOSES ONLY. THIS INFORMATION WAS DEVELOPED AS ACCURATELY AS POSSIBLE BY THE METHODS USED. NEITHER PIMA COUNTY NOR THE ENGINEER OF RECORD ACCEPT RESPONSIBILITY FOR ANY CONDITIONS ENCOUNTERED WHICH VARY FROM THE INFORMATION PROVIDED.
10. CONTOUR LINES ON THE GRADING PLAN ARE TO BE USED FOR ROUGH GRADING. SPECIFIC SPOT ELEVATIONS ARE TO BE USED FOR FINAL GRADING AND CONSTRUCTION.
11. THE CONTRACTOR SHALL PRESERVE ALL STAKES SET FOR THE LINES, LEVELS OR MEASUREMENTS OF THE WORK IN THEIR PROPER PLACES UNTIL AUTHORIZED TO REMOVE THEM BY THE OWNER OR HIS/HER REPRESENTATIVE. ANY EXPENSE INCURRED IN REPLACING ANY STAKES WHICH THE CONTRACTOR OR HIS SUBORDINATES MAY HAVE FAILED TO PRESERVE SHALL BE CHARGED TO THE CONTRACTOR.
12. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, OR DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
13. ALL STATIONING SHOWN ON THE PLANS AND PROFILES IS ALONG THE CONSTRUCTION CENTERLINE UNLESS OTHERWISE NOTED.
14. EXISTING UTILITIES SHALL BE PROTECTED IN-PLACE UNLESS OTHERWISE NOTED AND SHOWN IN THESE PLANS.
15. THE CONTRACTOR'S ATTENTION IS CALLED TO THE LIMITED AREA AVAILABLE ON THE SITE FOR EXCAVATION, EMBANKMENT AND OTHER CONSTRUCTION ACTIVITIES.
16. THE CONTRACTOR SHALL ESTABLISH ACCESS TO THE SITE WITHOUT USING THE MAIN ENTRANCE TO THE HISTORIC RANCH. STAGING OF ALL EQUIPMENT AND MATERIALS SHALL NOT BE LOCATED ON THE ACTIVE PORTION OF THE HISTORIC RANCH AND SHALL NOT DISRUPT EVENTS AND ACTIVITIES AT THE HISTORIC RANCH. CONTRACTOR SHALL PROVIDE PIMA COUNTY WITH AN ACCESS AND STAGING PLAN FOR REVIEW AND APPROVAL PRIOR TO MOBILIZING.
17. EXISTING TOPOGRAPHIC CONDITIONS SHOWN ON PLAN SHEETS REFLECT CONDITIONS AS OF SEPTEMBER, 2018. CONTRACTOR TO VERIFY GRADES AND ALL QUANTITIES DEPENDANT ON EXISTING TOPOGRAPHIC CONDITIONS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND PIMA COUNTY.
18. IN THE EVENT THAT HUMAN REMAINS, INCLUDING HUMAN SKELETAL REMAINS, CREMATIONS, AND/OR CEREMONIAL OBJECTS AND FUNERARY OBJECTS ARE FOUND DURING EXCAVATION OR CONSTRUCTION, GROUND DISTURBING ACTIVITIES MUST CEASE IN THE IMMEDIATE VICINITY OF THE DISCOVERY. STATE LAWS ARS 41-865 AND ARS 41-844, REQUIRE THAT THE ARIZONA STATE MUSEUM BE NOTIFIED OF THE DISCOVERY AT (520)-621-4795 SO THAT CULTURAL OR RELIGIOUS AFFINITY TO THEM CAN MAKE APPROPRIATE ARRANGEMENTS FOR THE REPATRIATION AND REBURIAL OF THE REMAINS. THE HUMAN REMAINS WILL BE REMOVED FROM THE SITE BY A PROFESSIONAL ARCHAEOLOGIST PENDING CONSULTATION AND REVIEW BY THE ARIZONA STATE MUSEUM AND THE CONCERNED CULTURAL GROUPS.
19. THE REMOVAL, SALVAGE, OR PROTECTION OF VEGETATION SHALL BE IN ACCORDANCE WITH THE DISTURBANCE AND PRESERVATION FENCING LIMITS AS SHOWN ON THE PROJECT PLANS. EXISTING VEGETATION IDENTIFIED FOR PRESERVATION IN PLACE SHALL BE PROTECTED IN PLACE WITH FENCING INSTALLED AT THE DRIP-LINE OF THE TREE CANOPY. PRESERVATION FENCING SHALL BE INSTALLED PRIOR TO PROJECT CLEARING. THIS PROTECTED VEGETATION AND VEGETATION BEYOND THE PROJECT LIMITS SHALL NOT BE DISTURBED BEYOND THOSE LIMITS ACTUALLY NEEDED FOR CONSTRUCTION PURPOSES. THOSE ITEMS IN THESE AREAS WHICH ARE DAMAGED SHALL BE REPAIRED, REMEDIED, OR REPLACED AT THE CONTRACTOR'S EXPENSE.
20. NATIVE PLANT SPECIES PROTECTED UNDER THE ARIZONA NATIVE PLANT LAW SHALL BE REMOVED IN ACCORDANCE WITH ARIZONA DEPARTMENT OF AGRICULTURE REQUIREMENTS AND APPLICABLE LOCAL ORDINANCES.
21. OVERHANGING BRANCHES WITHIN THE GRADING LIMITS THAT MAY IMPACT CONSTRUCTION SHALL BE PRUNED PRIOR TO INITIATING WORK.
22. ANY EXCESS EXCAVATED MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM SITE BY CONTRACTOR.
23. VEGETATION AND OTHER ORGANIC MATERIAL DISTURBED DURING CONSTRUCTION SHALL BE REMOVED FROM SITE BY CONTRACTOR AND PROPERLY DISPOSED OF.
24. IF VEGETATION CLEARING WILL OCCUR DURING THE MIGRATORY BIRD BREEDING SEASON (MARCH 1 – AUGUST 31), ALL TREES AND OTHER SUITABLE NESTING HABITAT WITHIN THE LIMITS OF WORK SHALL BE SURVEYED BY THE PROJECT LANDSCAPE ARCHITECT FOR ACTIVE BIRD NESTS PRIOR TO INITIATING CONSTRUCTION RELATED ACTIVITIES. THE CONTRACTOR SHALL AVOID ANY ACTIVE BIRD NESTS. IF ACTIVE NESTS CANNOT BE AVOIDED, THE CONTRACTOR SHALL NOTIFY THE PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT TO EVALUATE THE SITUATION. DURING NON-BREEDING SEASON (SEPTEMBER 1 – FEBRUARY 28), VEGETATION REMOVAL IS NOT SUBJECT TO THIS RESTRICTION.

EROSION AND SEDIMENT CONTROL INFORMATION:

1. THE CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND FILE A NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) PER ARIZONA POLUTANT DISCHARGE ELIMINATION SYSTEM OR EQUIVALENT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES/NPDES) REQUIREMENTS.
2. THE CONTRACTOR, IN CONJUNCTION WITH PIMA COUNTY SHALL DETERMINE THE LOCATION OF THE CONSTRUCTION ENTRANCE/EXIT. ENTRANCE/EXIT SHALL BE LOCATED WHERE DIRT ROAD MEETS PAVED ROAD TO MINIMIZE/ELIMINATE TRACKING.
3. SWEEPING REQUIRED AS SECONDARY MEASURE IF TRACKOUT PAST STABILIZED ENTRACE/EXIT IS VISIBLE.
4. FIELD MODIFICATION TO THIS PLAN IS EXPECTED TO BE MADE THROUGHOUT THE LIFE OF THIS PROJECT. THESE MODIFCATIONS SHOULD BE MADE BY A PROFESSIONAL TAKING RESPONSIBILITY FOR THE SWPPP IMPLEMENTATION AND MAINTENANCE. FIELD CHANGES SHOULD INDICATE PROJECT PHASING, ITEMS NECESSARY DUE TO MAINTENANCE AND PLACEMENT OF BMP'S REQUIRED TO ENSURE THE PROJECT MEETS THE CONDITIONS OF THE CURRENT ARIZONA CONSTRUCTION GENERAL PERMIT.
5. AREAS OUTSIDE THE LIMITS OF DISTURBANCE SHALL REMAIN UNDISTURBED. SOULD ADDITIONAL AREAS NEED TO BE DISTURBED, THE CONTRACTOR SHALL NOTIFY PIMA COUNTY IMMEDIATELY. ANY PROJECT RELATED ACTIVITIES OR DISTURBANCE BEYOND THE PROJECT LIMITS WILL REQUIRE UPDATES TO THE SWPPP AND NOI.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES AS DEFINED IN THE SWPPP SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE.
7. ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED PRIOR TO NOT.
8. DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING SITE CLEARING AND CONSTRUCTION, INCLUDING BUT NOT LIMITED TO WATERING DIRT AND ACCESS ROADS.

GRADING NOTES:

1. UNSUITABLE SOILS SHALL BE UNIFORMLY SPREAD ACROSS NON-STRUCTURAL FILL AREAS AND COVERED WITH TOPSOIL AND SEEDED.
2. FILL AREA SHALL BE PROOF-ROLLED WITH RUBBER-TIRED EQUIPMENT WITH A MINIMUM WEIGHT OF FIFTEEN TONS PRIOR TO BEGINNING FILL OPERATION. AREAS WHICH ARE SOFT OR UNSTABLE SHALL BE UNDERCUT UNTIL STABLE SOILS ARE FOUND. RE-COMPACTION OF THESE SOIL TO 98% MAXIMUM DRY DENSITY AS PER ASTM D698 (STANDARD PROCTOR).
3. CUT AREA SHALL BE PROOF-ROLLED AFTER FINAL SUBGRADE IS ACHIEVED IN THE SAME MANNER AS FILLED AREAS. SOFT OR UNSTABLE SOILS SHALL BE SCARIFIED TO A DEPTH OF 12" AND RE-COMPACTED TO 98% MAXIMUM DRY DENSITY AS PER ASTM D698 (STANDARD PROCTOR).
4. ELEVATIONS SHOWN ON THE PLANS ARE THE FINISH GRADE ELEVATIONS.
5. GRADING SHALL BE SEQUENCED SO THAT BASE STONE IS PLACED WITHIN 10 CALENDAR DAYS OF ACHIEVING OPTIMUM SUBGRADE COMPACTION.
6. CONTRACTOR WILL EMPLOY A QUALIFIED SOILS TESTING LABORATORY/ ENGINEER TO OBSERVE THIS WORK AND MAKE TESTS AS REQUIRED.
7. CONTRACTOR SHALL HAVE EARTH BORROW FILL, AGGREGATE, AND TOPSOIL, AND STRUCTURAL FILL TESTED AND APPROVED BY DESIGNATED TESTING LABORATORY BEFORE MOVING IT TO THE JOB SITE.
8. CONTRACTOR SHALL OBSERVE PROOF-ROLLING OF AREAS WHERE BUILDING AND PAVING WILL BE LOCATED TO DETERMINE ADEQUACY OF SOIL COMPACTION AND IN-PLACE SOILS. OTHER AREAS WILL BE INSPECTED BY SOILS ENGINEER TO DETERMINE ADEQUACY IN THOSE AREAS. IF SOILS ARE NOT ADEQUATE TO BEAR WEIGHTS THAT WILL BE IMPOSED, TESTING LABORATORY WILL OBSERVE AND REPORT CORRECTIVE ACTION TAKEN.
9. TEST IN-PLACE SOIL AND FILLED AND COMPACTED AREAS. IF THESE ARE NOT ADEQUATE TO BEAR WEIGHTS IMPOSED, TESTING LABORATORY WILL ADVICE THE OWNER'S REPRESENTATIVE OF THEIR RECOMMENDATIONS. HE/SHE WILL DIRECT ANY CORRECTIVE MEASURES THAT ARE NECESSARY.
10. SOILS COMPACTION TESTING OF IN-PLACE AND FILLED AND COMPACTED AREAS WILL BE PERFORMED BY TESTING LABORATORY IN ACCORDANCE WITH THEIR REQUIREMENTS.
11. THE SOILS ENGINEER'S AND TESTING LABORATORY'S FEES WILL BE PAID BY THE CONTRACTOR.
12. APPLICABLE SPECIFICATIONS FOR COMPACTED FILL: THE FOLLOWING CURRENT AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) STANDARDS ARE HEREBY MADE PART OF THIS SPECIFICATION:
    - D421-58, DRY PREPARATION OF SOIL SAMPLES FOR GRAIN-SIZE ANALYSIS AND DETERMINATION OF SOIL CONSTANTS.
    - D422-63, STANDARD METHOD OF PARTICLE SIZE ANALYSIS OF SOILS.
    - D1140-54, METHOD OF TEST FOR AMOUNT OF MATERIAL IN SOILS FINER THAN NO.200 SIEVE.
    - D698, METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT
    - D1557-78, STANDARD TEST METHODS FOR MOISTURE-DENSITY RELATIONS OF SOILS AND SOIL-AGGREGATE MIXTURES USING 10 LB. (4.54-KG) RAMMER AND 18-INCH (457 MM) DROP.
14. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS OR STRUCTURES AT ALL LOCATIONS UNLESS OTHERWISE NOTED.

ESTIMATED EARTHWORK

LOCATION	CUT (cu. yd.)	FILL (cu. yd.)	NET (cu. yd)
CIENEGA	13,704	14,213	509 (FILL)
TOTAL	13,704	14,213	509 (FILL)

ESTIMATED EARTHWORK QUANTITIES PROVIDED FOR REFERENCE ONLY. THESE QUANTITIES HAVE NOT BEEN FACTORED TO ACCOUNT FOR SHRINKAGE, BULKING, CLEARING AND GRUBBING, OVER-EXCAVATION, RE-COMPACTION, OR CONSTRUCTION METHODS.

CLEARING AND GRUBBING NOTES:

1. DO NOT EXCEED CLEARING AND GRUBBING LIMITS OF CONSTRUCTION LINES INDICATED ON THE PLANS.
2. ALL AREAS OUTSIDE THE LIMITS OF CONSTRUCTION LINE SHALL NOT BE CROSSED BY HEAVY EQUIPMENT OR USED FOR STORING HEAVY EQUIPMENT OR MATERIALS.
3. NO EQUIPMENT SHALL BE STORED UNDER THE DRIP LINE OF TREES TO REMAIN.
4. DO NOT FALL ANY TREES OR PUSH PILES OF DEBRIS AGAINST ANY TREES TO REMAIN.
5. REMOVE ALL STUMPS, ROCKS, ASPHALT & CONCRETE DEBRIS, ETC. AND DISPOSE OFF SITE IN ACCORDANCE WITH LOCAL, STATE & FEDERAL REGULATIONS.
6. CONTACT ALL UTILITY AUTHORITIES WHO HAVE LINES WITHIN THE CLEARING AND GRUBBING LIMITS BEFORE STARTING WORK
7. ALL EROSION CONTROL SEDIMENT BARRIERS, SILT FENCES, AND TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO STARTING CLEARING AND GRUBBING.
8. AFTER STAKING IS COMPLETED, TREES WITHIN GRADING LIMITS TO BE SAVED WILL BE IDENTIFIED BY THE OWNER'S REPRESENTATIVE. FIELD CHANGES TO GRADING PLANS SHALL BE MADE FOR SMOOTH TRANSITION OF GRADES AROUND ALL TREES WHICH REQUIRE TREE WELLS WITHIN THE GRADING LIMITS.
9. ALL CLEARING SHALL BE LIMITED TO AREAS TO BE GRADED WITHIN 15 CALENDAR DAYS.

LEGEND

- CENTERLINE
- 4-STRAND BARBED WIRE FENCE
- PROTECTION FENCE
- COMPACTED NATIVE ROAD
- CIENEGA RIPRAP/BACKWASH SPILLWAY RIPRAP

ABBREVIATIONS NOT INCLUDED IN PAG SD 101

CUBIC YARD	CU. YD
END POINT	EP
LANE	LN
NORTH AMERICAN DATUM	NAD
NATIONAL GEODETIC SURVEY	NDS
PIMA ASSOCIATION OF GOVERNMENTS	PAG
SAINT OR STREET	ST
STANDARD DETAIL	SD

BASIS OF BEARING:

THE BASIS OF BEARING FOR THIS PROJECT IS BETWEEN PIMA COUNTY OPUS CONTROL POINT C07 WHICH IS AN X CARVED INTO THE CORNER OF A CONCRETE PAD FOUND AT ARIZONA CENTRAL STATE PLANE NAD 83 COORDINATES NORTH 293410.3810, EAST 974355.3150 AND PIMA COUNTY GEODETIC CONTROL POINT D19 BEING A REBAR FOUND AT ARIZONA CENTRAL STATE PLANE NAD 83 COORDINATES NORTH 292736.5670, EAST 988972.8920. SAID BEARING BEING SOUTH 87°21'39" EAST.

BASIS OF ELEVATION:

THE BASIS OF ELEVATION FOR THIS PROJECT IS PIMA COUNTY OPUS CONTROL POINT C07 BEING 3092.28.

Contact Arizona 811 at least two full working days before you begin excavation

ARIZONA811

Call 811 or click Arizona811.com

SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

100% JOC BID SET

NOT FOR CONSTRUCTION OR RECORDING

		DATE
DESIGNED	K. PAYNE	08/2019
DRAWN	J. KELLNER	08/2019
CHECKED	R. FIELD	08/2019
PROJ.ENGR	K. PAYNE	08/2019

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TUCSON, ARIZONA 85705 (520) 615-9191

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

GENERAL NOTES

CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. N/A VERT. N/A

PIMA COUNTY W.O.

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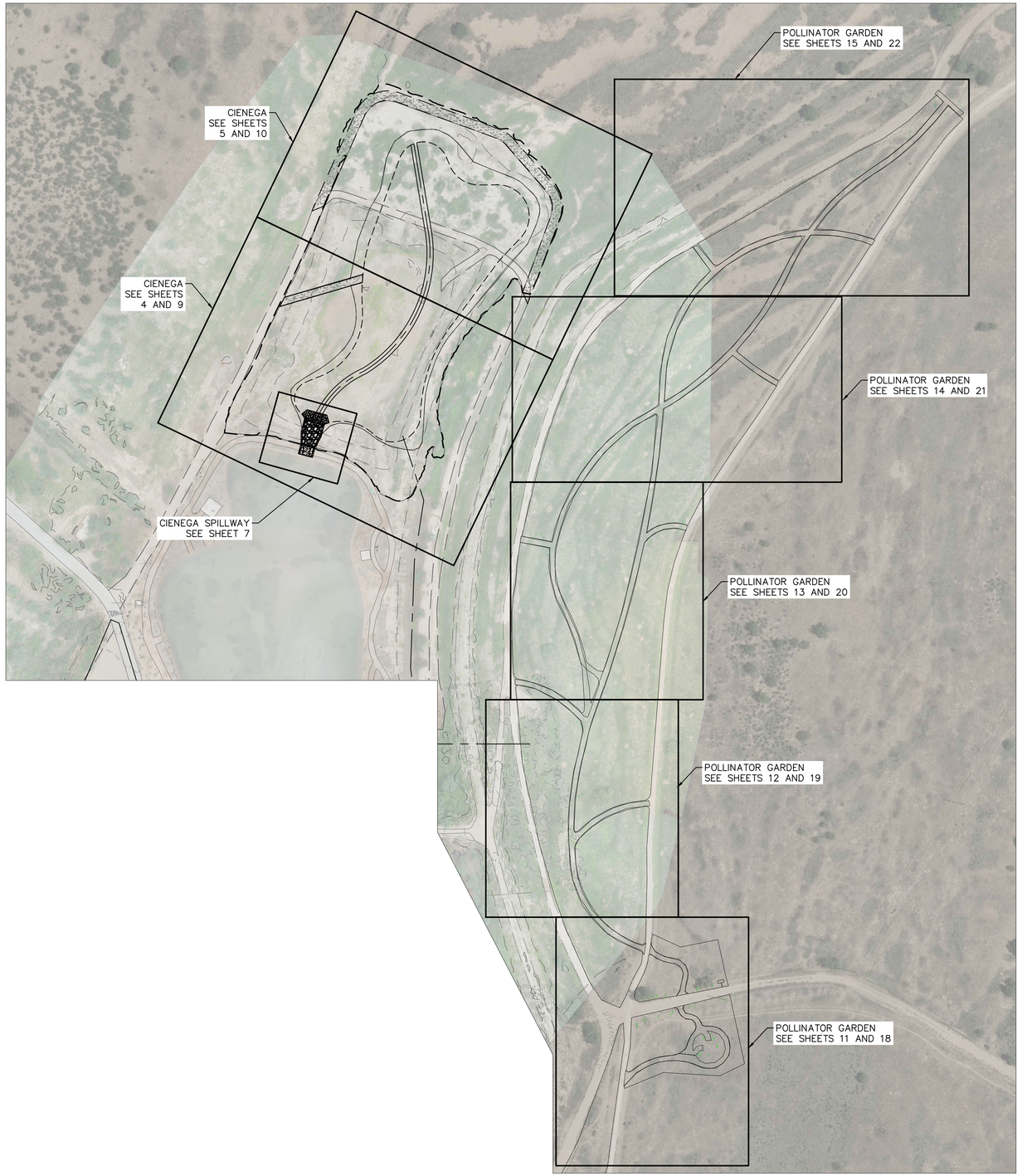

HORIZONTAL CONTROL			
Point #	Elevation	Northing	Easting
2009	2930.56	291206.47	980469.81
2065	2936.76	291390.40	980197.69
2001	2931.74	290875.26	980226.96
2002	2931.75	290867.68	980271.80
2003	2931.77	290903.57	980299.73
2004	2931.75	290939.87	980302.89
2005	2931.25	291000.51	980320.10
2006	2930.91	291054.61	980352.44
2007	2930.53	291152.66	980424.68
2008	2930.57	291189.18	980459.16
2010	2930.23	291252.40	980463.60
2011	2930.01	291273.50	980422.33
2012	2929.86	291273.22	980393.19
2013	2929.69	291281.56	980365.07
2014	2929.48	291304.22	980346.47
2015	2929.37	291316.96	980341.23
2016	2929.25	291341.76	980303.43
2017	2929.62	291315.46	980266.65
2018	2930.07	291259.18	980246.13
2019	2930.19	291180.16	980217.32
2020	2930.59	291128.82	980208.00
2021	2931.00	291076.64	980207.45
2022	2931.07	291053.93	980206.72
2023	2931.14	291031.89	980201.23
2024	2931.24	290991.73	980175.28
2025	2931.37	290966.79	980134.47
2026	2931.59	290938.98	980099.94
2027	2937.03	290825.69	980202.15
2028	2937.67	290782.61	980237.30
2029	2936.55	290771.29	980271.81
2030	2932.40	290817.93	980304.14
2031	2932.21	290855.92	980321.62
2032	2932.35	290839.31	980332.16
2033	2932.81	290866.72	980334.57
2034	2933.82	290930.47	980326.08
2035	2935.10	290995.38	980347.76
2036	2932.80	291058.65	980393.27
2037	2931.40	291092.70	980428.97
2038	2932.93	291124.30	980450.79
2039	2937.75	290875.53	980037.58
2040	2937.56	290879.47	979988.96
2041	2938.29	290919.34	979995.95

HORIZONTAL CONTROL			
Point #	Elevation	Northing	Easting
2042	2938.13	290968.12	980022.63
2043	2938.12	291009.39	980043.61
2044	2937.96	291067.21	980067.43
2045	2937.94	291159.57	980112.32
2046	2937.48	291221.63	980139.09
2047	2932.23	291084.17	980470.20
2048	2932.48	291102.73	980462.43
2049	2932.92	291217.47	980520.80
2050	2933.51	291222.84	980506.79
2051	2933.58	291244.37	980509.08
2052	2933.64	291263.94	980499.82
2053	2933.36	291246.98	980523.85
2054	2933.00	291273.78	980511.14
2055	2933.87	291346.30	980448.03
2056	2933.57	291336.46	980436.72
2057	2932.16	291355.54	980437.68
2058	2933.42	291343.17	980429.19
2059	2933.28	291347.79	980420.21
2060	2933.58	291361.89	980425.34
2061	2934.50	291419.59	980266.68
2062	2934.80	291405.50	980261.55
2063	2936.07	291418.56	980226.44
2064	2935.78	291404.74	980232.29
2066	2936.46	291384.26	980211.38
2067	2937.02	291239.81	980146.65
2068	2937.42	291231.77	980127.11
2069	2930.57	291131.05	980208.23
2070	2930.68	291118.24	980207.18
2071	2937.85	291094.59	980083.37
2072	2937.91	291079.90	980075.87
2073	2932.34	291129.59	980496.40
2074	2932.69	291248.37	980543.84
2075	2932.20	291366.95	980440.67
2076	2937.40	291448.95	980215.21
2077	2936.91	291281.93	980125.58
2078	2931.01	290943.46	980162.54
2079	2930.72	290976.84	980209.35
2080	2930.09	291070.48	980293.91
2081	2929.44	291195.21	980312.90
2082	2929.33	291267.02	980301.06
2083	2929.21	291338.84	980289.22

HORIZONTAL CONTROL			
Point #	Elevation	Northing	Easting
201	2931.75	290901.28	980115.39
209	2937.30	290861.67	980109.78
202	2931.79	290892.76	980146.96
210	2936.20	290860.83	980115.77
203	2930.30	290888.53	980139.60
211	2936.20	290857.96	980126.39
204	2930.30	290893.91	980119.66
205	2930.30	290884.24	980117.11
208	2932.43	290873.24	980141.69
212	2937.40	290855.68	980131.98
206	2932.55	290881.70	980110.24
207	2930.30	290878.88	980137.00
213	2937.40	290861.39	980111.77
214	2937.40	290856.44	980130.12
215	2937.35	290845.94	980105.53
216	2937.40	290845.42	980107.46
217	2936.40	290844.37	980111.33
218	2936.40	290841.51	980121.95
219	2937.40	290840.47	980125.81
220	2937.47	290839.95	980127.74
221	2931.79	290894.97	980154.35
222	2931.72	290907.24	980150.86
223	2931.67	290915.76	980119.29
224	2931.70	290908.94	980110.92

0 100' 200'
SCALE: 1"=100'

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ARIZONA811
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SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

100%
JOC BID SET
NOT FOR CONSTRUCTION OR RECORDING

		DATE
DESIGNED	K. PAYNE	08/2019
DRAWN	J. KELLNER	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

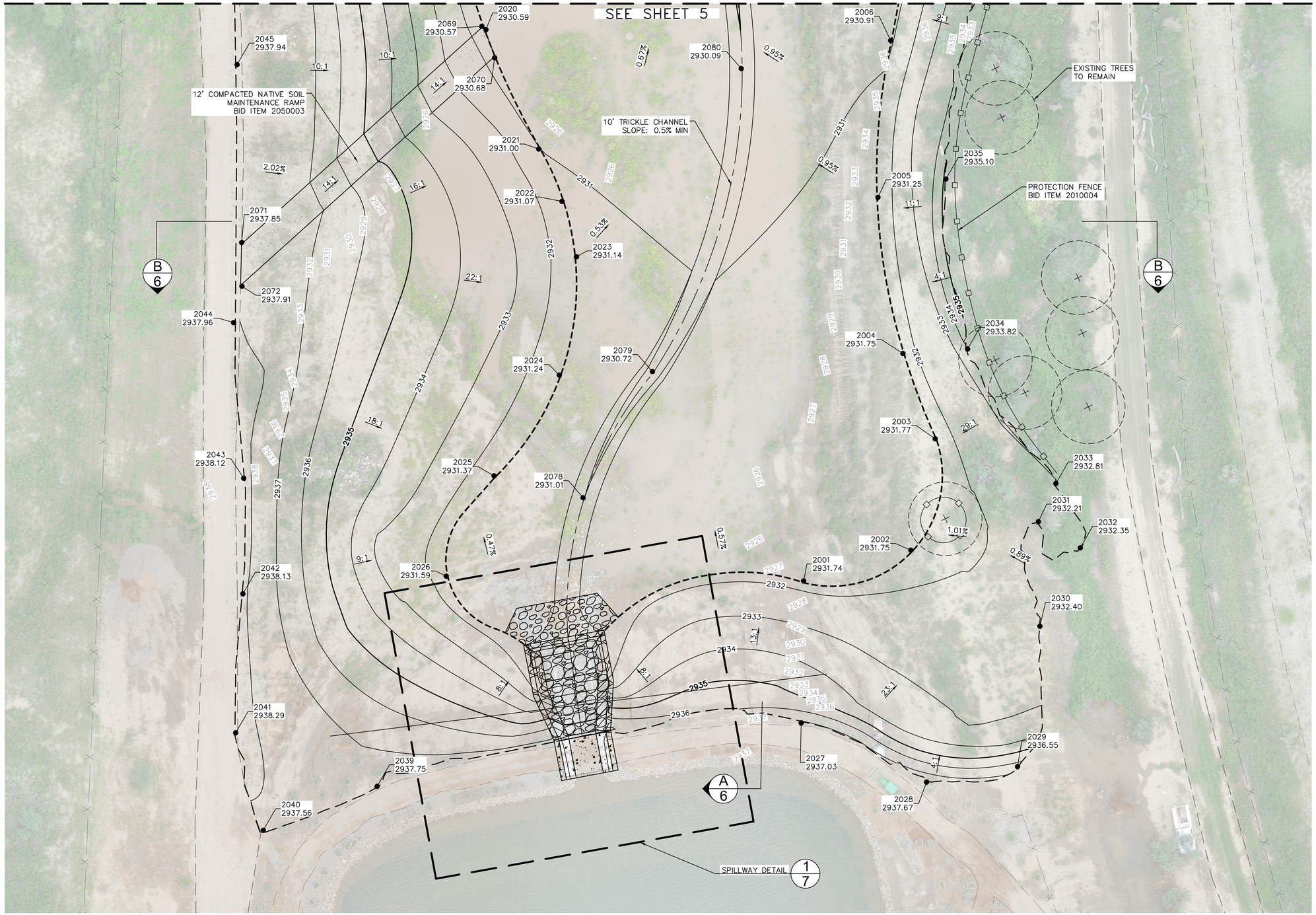
SITE MAP AND
HORIZONTAL CONTROL
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. N/A VERT. N/A

SHEET 3 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\h098022061sm_Cienega.dwg Layout1 Last Saved: Fri, 04 Oct 2019 By: Rebeca.field Plotted: Friday, October 4, 2019 11:57:17 PM



0 20' 40'
SCALE: 1"=20'

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

CIENEGA GRADING PLAN

CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

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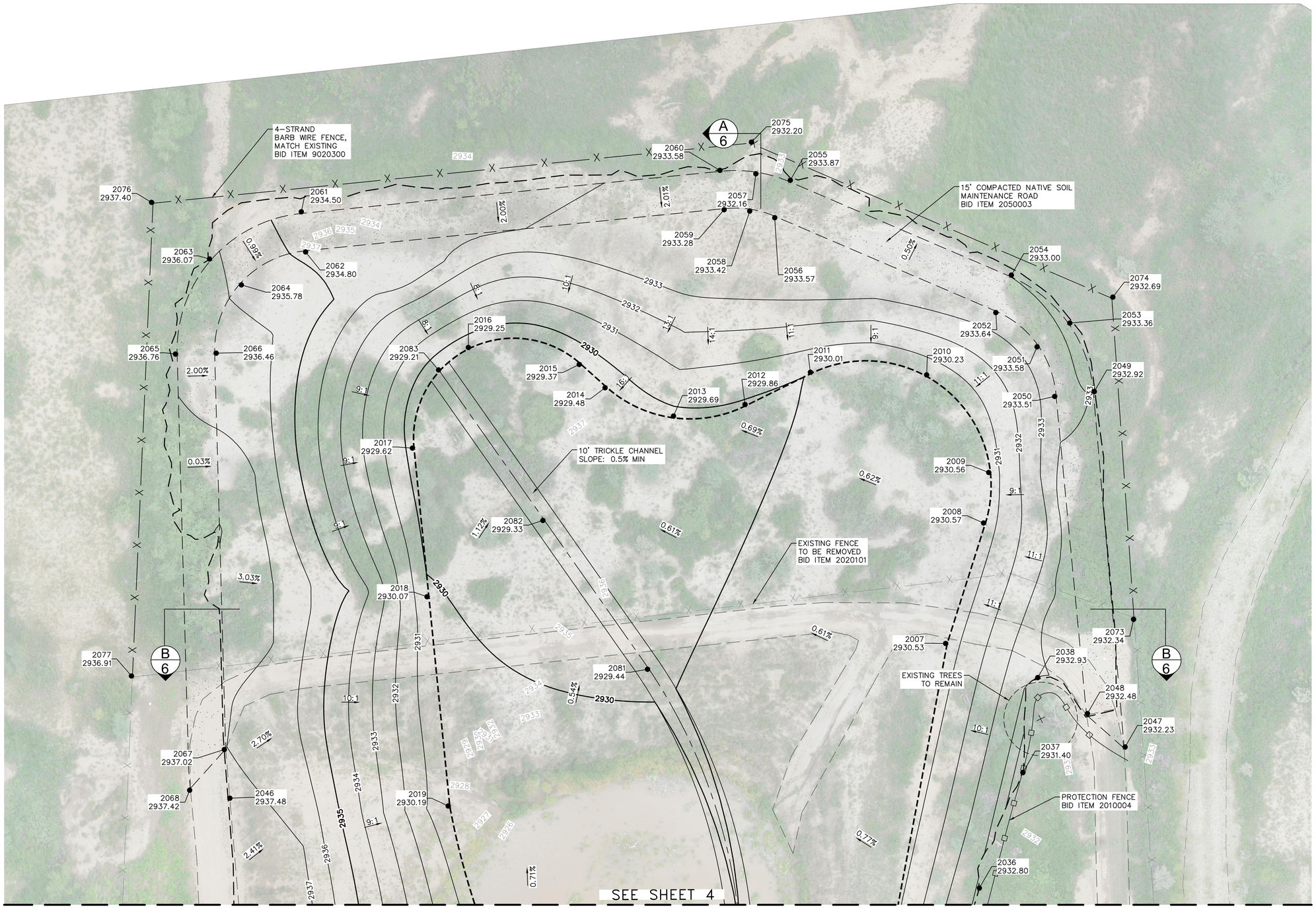
SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 4 OF 23

PIMA COUNTY W.O.



0 20' 40'
SCALE: 1"=20'

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

CIENEGA GRADING PLAN

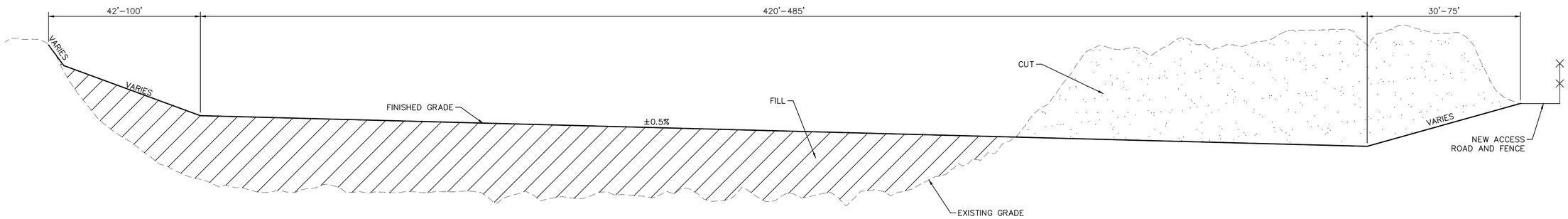
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 5 OF 23

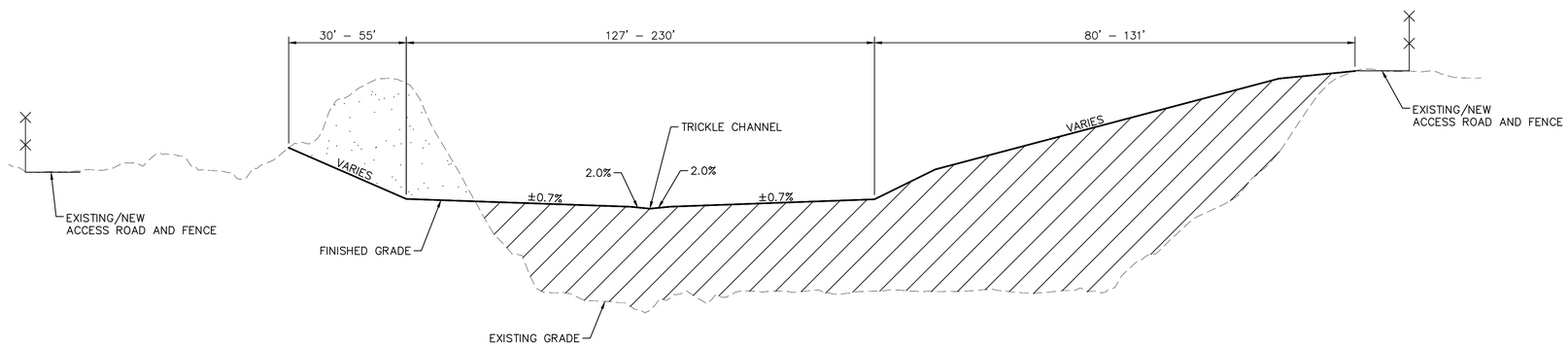
PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Sitelmprovements\h098022061gr_Cienega.dwg Layout1 (2) Last Saved: Fri, 04 Oct 2019 By: Rebecca.field Plotted: Friday, October 4, 2019 11:58:38 PM



A CIENEGA SECTION N/S

NTS



B CIENEGA SECTION E/W

NTS

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PROJ.ENGR	K. PAYNE	08/2019

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

CIENEGA TYPICAL SECTIONS
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. N/A VERT. N/A

SHEET 6 OF 23

PIMA COUNTY W.O.

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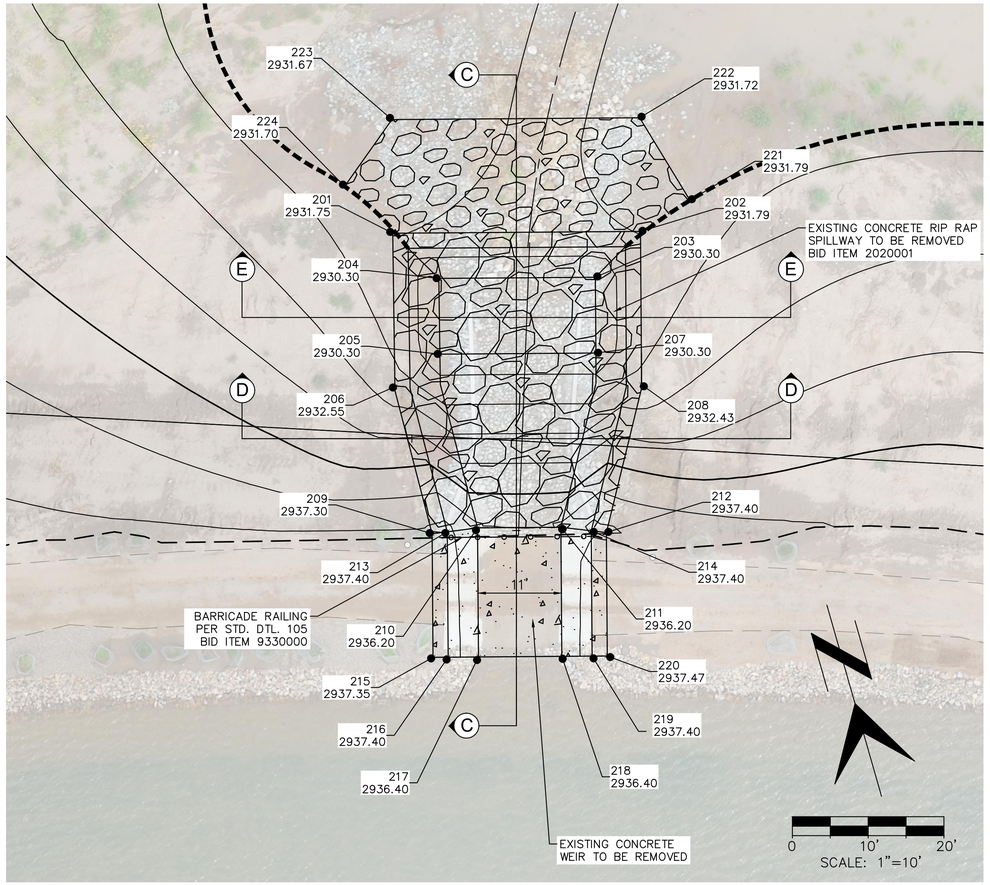
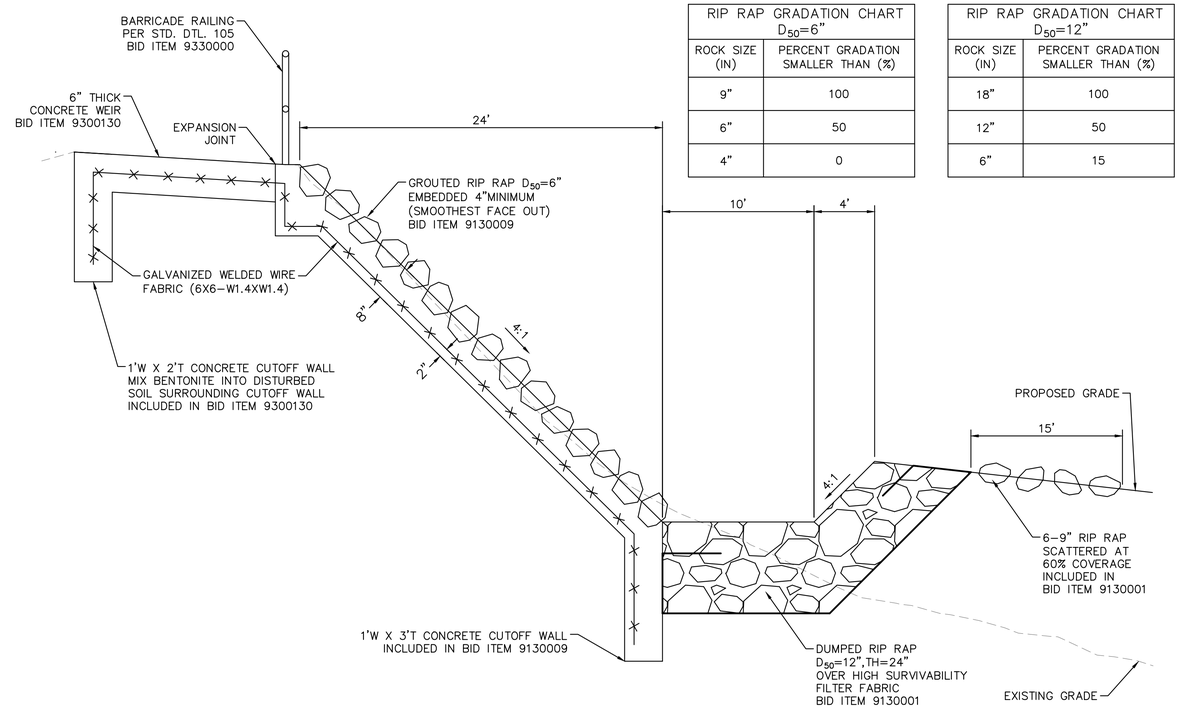


1 SPILLWAY DETAIL

1"=10'



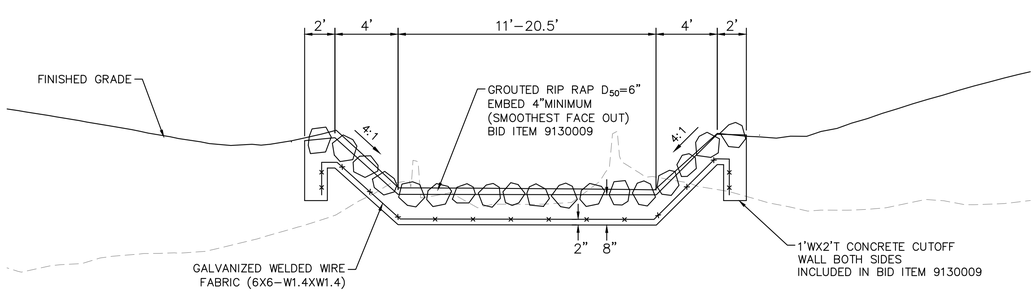
RIP RAP GRADATION CHART D_{50}=6"	
ROCK SIZE (IN)	PERCENT GRADATION SMALLER THAN (%)
9"	100
6"	50
4"	0

RIP RAP GRADATION CHART D_{50}=12"	
ROCK SIZE (IN)	PERCENT GRADATION SMALLER THAN (%)
18"	100
12"	50
6"	15

C SPILLWAY PROFILE N/S

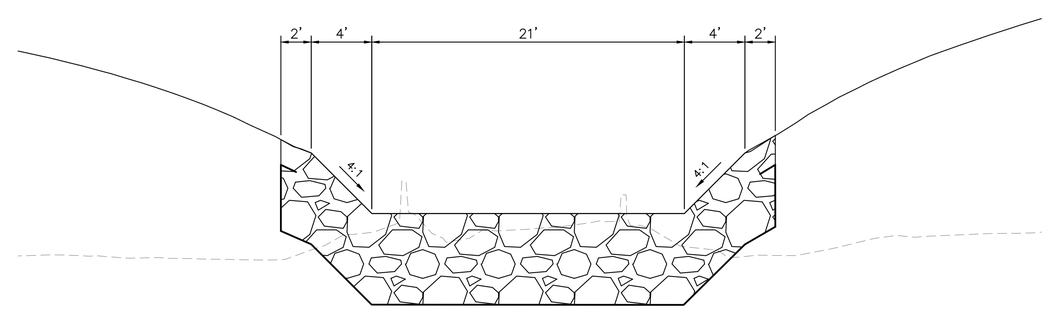
NTS

NOTE: GROUT COLOR TO MATCH COLOR OF EXISTING EXPOSED AGGREGATE DRIVEWAY (DAVIS COLOR 160 'SUNSET ROSE' OR APPROVED EQUAL). RIP RAP COLOR TO MATCH COLOR OF EXISTING RIP RAP ADJACENT TO POND. CONTRACTOR TO PROVIDE COLOR SAMPLES OF RIP RAP AND GROUT FOR APPROVAL BY PROJECT ENGINEER.



D SPILLWAY SECTION E/W

NTS



E PLUNGE BASIN SECTION E/W

NTS

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SUZANNE SHIELDS, P.E., DIRECTOR

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		DATE
DESIGNED	K. PAYNE	08/2019
DRAWN	J. KELLNER	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

HARDSCAPE DETAILS

CANOA RANCH
CIENEGA AND POLLINATOR GARDEN

Kimley»Horn

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SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 7 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\h098022061dtl.dwg Layout2 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:00:08 AM

GENERAL LANDSCAPE NOTES

1. ALL WORK SHALL BE CONFINED TO LIMITS OF CONSTRUCTION AS SHOWN ON PLANS.
2. SITE GRADING NECESSITATED BY THE WORK AS IT PROGRESSES AND NOT SPECIFICALLY CALLED OUT ON THE PLANS SHALL BE CONSIDERED INCIDENTAL WORK. ALL SURPLUS EXCAVATION SHALL BE TAKEN TO A SITE DESIGNATED BY OWNER, AT NO ADDITIONAL COST TO THE OWNER. IF OWNER CHOOSES, THE CONTRACTOR MAY TAKE POSSESSION OF SURPLUS EXCAVATION MATERIAL.
3. CONTRACTOR SHALL COORDINATE AND BE IN COMPLIANCE WITH ALL STATE AND LOCAL MUNICIPALITIES AS WARRANTED.
4. CONTRACTOR IS TO REVIEW PLANS, VERIFY SITE CONDITIONS AND PLANT QUANTITIES PRIOR TO INSTALLATION. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND EXISTING SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
5. DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR CONSENT OF THE OWNER, OR THE PROJECT ENGINEER, MAY BE CAUSE FOR THE WORK TO BE DESIGNATED UNACCEPTABLE.
6. THE CONTRACTOR ACKNOWLEDGES & AGREES THAT THE WORK IS ENTIRELY AT HIS RISK UNTIL SITE IS ACCEPTED, AND HE WILL BE HELD RESPONSIBLE FOR ITS SAFETY BY THE PROJECT ENGINEER.
7. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE DAMAGE OR LOSS OF ANY REFERENCE POINTS AND HUBS DURING THE CONSTRUCTION OF HIS WORK, AND SHALL BEAR THE COST OF REPLACING SAME.
8. THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTALLY AND VERTICALLY LOCATING AND PROTECTING ALL PUBLIC AND PRIVATE UTILITIES WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY.
9. THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC., DURING ALL CONSTRUCTION PHASES UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL REPAIR, AT HIS OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
10. ANY FOREIGN ITEM FOUND DURING CONSTRUCTION IS THE PROPERTY OF THE OWNER. THIS INCLUDES, BUT IS NOT LIMITED TO, PRECIOUS METALS, COINS, AND PAPER CURRENCY. IF ARTIFACTS AND ANTIQUITIES ARE FOUND, PLEASE CONTACT THE PIMA COUNTY OFFICE OF SUSTAINABILITY AND CONSERVATION AT (520) 724–6945.
11. CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND/OR OBTAINING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION.
12. CONTRACTOR IS TO MAINTAIN CONTROLLED PEDESTRIAN AND ADA ACCESS THROUGH ALL AREAS OF THE SITE THROUGHOUT CONSTRUCTION PERIOD.
13. MAINTAIN THE SITE IN A NEAT AND ORDERLY CONDITION AT ALL TIMES. DAILY, AND MORE OFTEN IF NECESSARY, INSPECT & AND PICK UP ALL SCRAP, DEBRIS, & WASTE MATERIAL.
14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL MUD, DIRT, ROCK MULCH AND OTHER MATERIALS TRACKED ONTO ANY PRIVATE OR PUBLIC STREETS OR SIDEWALKS. THE CONTRACTOR MUST CLEAN THESE DAILY, IF NECESSARY. THE CONTRACTOR MUST USE WATER OR OTHER ACCEPTABLE METHODS TO KEEP AIRBORNE DUST TO A REQUIRED MINIMUM.
15. PROVIDE PROTECTION TO ALL FINISHED WORK. MAINTAIN SURFACES CLEAN, UNMARRED, AND SUITABLY PROTECTED UNTIL ACCEPTANCE BY OWNER.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITY TO EXISTING ELEMENTS THAT ARE TO REMAIN.
17. EROSION CONTROL MEASURES (IE: SILT FENCING AND SEDIMENT CONTROL) SHALL BE MAINTAINED BY THE CONTRACTOR PER CIVIL SPECIFICATIONS. ANY EROSION CONTROL MEASURES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED PER CIVIL SPECIFICATIONS.
18. PLANT QUANTITIES LISTED IN THE PLANT LEGEND ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL DO THEIR OWN TAKE–OFFS AND BASE BID ACCORDINGLY.
19. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL BRANCHED, AND DENSELY FOLIATED (WHEN IN–LEAF) AS IS TYPICAL FOR THE SPECIES. THEY SHALL HAVE HEALTHY, WELL DEVELOPED STANDARDS, AND FREE OF ANY BRUISES, CUTS OR OTHER ABNORMALITIES. PLANT MATERIAL SHALL BE SIZED IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMAN.
20. THE PROJECT ENGINEER RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL DEEMED UNACCEPTABLE.
21. INSTALL ALL CANOPY TREES WITH A MINIMUM OF 5 FT. SEPARATION FROM ALL UTILITIES, UNLESS A ROOT BARRIER IS UTILIZED.
22. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN PLANTED AREAS BY MEANS OF CONTINUOUS WATERING, RAISING TREE ROOT BALLS WHICH SETTLE BELOW GRADE, APPLICATION OF SPRAYS WHICH ARE NECESSARY TO KEEP THE PLANTING FREE OF INSECTS AND DISEASES, FERTILIZING, WEEDING, AND/OR OTHER OPERATIONS NECESSARY FOR PROPER CARE AND UPKEEP.
23. PIMA COUNTY NATIVE PLANT NURSERY SHALL PROVIDE ALL PLANT MATERIALS SPECIFIED FOR USE ON THIS PROJECT. ALL EMPTY PLANT CONTAINERS SHALL BE RETURNED TO NATIVE PLANT NURSERY. REFER TO SPECIAL PROVISIONS SECTION 806–2.03.

PLANT LEGEND - CIENEGA

TREES

SYMBOL	BOTANICAL NAME COMMON NAME	QUANTITY	SIZE
	CHILOPIS LINEARIS DESERT WILLOW	6 3	30" TREEPOT 15 GAL
	PARKINSONIA FLORIDA BLUE PALOVERDE	13	30" TREEPOT
	PROSOPIS VELUTINA VELVET MESQUITE	16 11	30" TREEPOT 15 GAL
	SALIX GOODDINGII GOODDINGS WILLOW	12	30" TREEPOT
	SAMBUCUS MEXICANA COMMON ELDERBERRY	7	30" TREEPOT
	EXISTING TREES TO REMAIN		

NOTE: PIMA COUNTY NATIVE PLANT NURSERY SHALL PROVIDE PLANT MATERIALS LABELED AS 15" OR 30" TREEPOTS IN THE QUANTITIES INDICATED ON THE PLANS. ALL EMPTY PLANT CONTAINERS SHALL BE RETURNED TO NATIVE PLANT NURSERY. REFER TO SPECIAL PROVISIONS SECTION 806–2.03.

SHRUBS/FORBS/GRASSES

SYMBOL	Botanical Name Common Name	Quantity	Size
	ANEMOPSIS CALIFORNICA YERBA MANSA	20 6	15" TREEPOT 1 GAL
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE	12 6	15" TREEPOT 1 GAL
	BACCARIS SALICIFOLIA SEEP WILLOW	7	15" TREEPOT
	BOTHRIOCHLOA BARBINODIS CANE BLUESTEM	10 8	15" TREEPOT 1 GAL
	BRICKELLIA COULTERI COULTER'S BRICKELLBUSH	12 6	15" TREEPOT 1 GAL
	CAREX SP. SEDGE	12 18	15" TREEPOT 1 GAL
	CELTIS PALLIDA DESERT HACKBERRY	8 5	15" TREEPOT 1 GAL
	CEPHALANTHUS OCCIDENTALIS BUTTONBUSH	15 4	15" TREEPOT 1 GAL
	CYPERUS SP. SEDGE	12 20	15" TREEPOT 1 GAL
	ELEOCHARIS ROSTELLATA BEAKED SPIKERUSH	15 10	15" TREEPOT 1 GAL
	ERYNGIUM SPARGANOPHYLLUM ARIZONA ERYNGO	15 2	15" TREEPOT 1 GAL
	ERYTHRANTHE GUTTATA SEEP MONKEYFLOWER	15 5	15" TREEPOT 1 GAL
	GOSSYPIUM THURBERI DESERT COTTON	12 8	15" TREEPOT 1 GAL
	JANUSIA GRACILIS SLENDER JANUSIA	14 4	15" TREEPOT 1 GAL
	LARREA TRIDENTATA CREOSOTE BUSH	12 3	15" TREEPOT 1 GAL
	LYCIUM SP. WOLFBERRY	10 4	15" TREEPOT 1 GAL
	MUHLENBERGIA ASPERIFOLIA ALKALI MUHLY	3 25	15" TREEPOT 1 GAL

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME	QUANTITY	SIZE
	RUELLIA NUDIFLORA VIOLET WILD PETUNIA	27	15" TREEPOT
	SPHAERALCEA SP. GLOBEMALLOW	10 9	15" TREEPOT 1 GAL
	SISYRUNCHIUM DEMISSUM DWARF BLUE–EYED GRASS	20	15" TREEPOT
	SPOROBOLUS AIROIDES ALKALI SACATON	12 10	15" TREEPOT 1 GAL
	DICLIPTERA RESUPINATA ARIZONA FOLDWING	8 20	15" TREEPOT 1 GAL
	PAPPOPHORUM VAGINATUM WHIPLASH PAPPUSGRASS	8 12	15" TREEPOT 1 GAL
	PLUCHEA SERICEA ARROWWEED	12 6	15" TREEPOT 1 GAL

IRRIGATION NOTES

1. NO PLANT SHALL BE ORDERED OR INSTALLED UNTIL IRRIGATION SYSTEM IS INSTALLED, TESTED, APPROVED, AND FULLY FUNCTIONAL.
2. IRRIGATION SYSTEM FOR POLLINATOR GARDEN DESIGNED TO CONNECT TO EXISTING 2–1/2" MAINLINE, CONTROLLER, AND MASTER VALVE INSTALLED AS PART OF PREVIOUS SITE IMPROVEMENT WORK. SOURCE OF IRRIGATION WATER IS FROM EXISTING POND. A POND INTAKE, PUMP STATION, AND FORCE MAIN PROVIDE A MINIMUM STATIC PRESSURE OF 75PSI AT EXISTING MASTER VALVE LOCATION. MINIMUM WORKING PRESSURE FOR IRRIGATION EMITTERS IS 15 PSI.
3. IRRIGATION SYSTEM FOR POLLINATOR GARDEN WILL ULTIMATELY SERVICE UP TO 90 ACRES OF RESTORATION AREAS AND IS DESIGNED FOR HIGH FLOWS AND LONG PIPE RUNS. EXISTING PUMP STATION WILL FUNCTION AT A MINIMUM OF 8 GPM. RUN ALL POLLINATOR GARDEN SHRUB ZONES AT ONCE AND ALL POLLINATOR TREE ZONES AT ONCE TO ACCOMMODATE THIS REQUIREMENT.
4. CIENEGA PLANTINGS WILL BE IRRIGATED USING OVERFLOW FROM EXISTING POND. CONTRACTOR TO COORDINATE OVERFLOW SCHEDULE WITH PROJECT ENGINEER.
5. NEW PLANTINGS SOUTH OF CIENEGA WILL BE IRRIGATED USING THE EXISTING IRRIGATION SYSTEM THAT HAS BEEN DESIGNED FOR THE POND. EXTEND ALL LATERAL LINES AS REQUIRED TO PROVIDE IRRIGATION TO ALL NEW PLANTINGS. CONTACT MATT SMOGOR AT 520.724.5220 PRIOR TO ANY CONSTRUCTION ACTIVITIES TO ENSURE PROPER PREPARATION OF EXISTING IRRIGATION SYSTEMS.
6. CONTRACTOR TO FIELD VERIFY ALL WATER PRESSURE AND FLOWS PRIOR TO INSTALLATION OF SYSTEM. IF INSUFFICIENT PRESSURE IS ENCOUNTERED, NOTIFY PROJECT ENGINEER IMMEDIATELY.
7. CONTRACTOR SHALL REVIEW AND FIELD VERIFY LAYOUT OF ALL IRRIGATION SYSTEM COMPONENTS AND HAVE THE LAYOUT AND COMPONENTS APPROVED BY THE PROJECT ENGINEER PRIOR TO STARTING INSTALLATION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, TESTING, MAINTAINING, REPAIRING, AND OPERATING A COMPLETE AND FULLY FUNCTIONAL IRRIGATION SYSTEM INCLUDING ALL LATERAL PIPING AND FITTINGS AS SPECIFIED AND AS DETAILED, WHETHER OR NOT PIPING IS SHOWN ON THE PLANS.
9. ANY SUBSTITUTIONS OR OMISSIONS OF IRRIGATION COMPONENTS AND EQUIPMENT MUST BE APPROVED IN WRITING BY THE PROJECT ENGINEER PRIOR TO STARTING INSTALLATION.

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	REMOTE CONTROL VALVE ASSEMBLY – DRIP ZONES	RAINBIRD–100–PESB	1"
	PRESSURE REGULATOR	SENNINGER PMR–35MF	1"
	MAINLINE BALL VALVE	NIBCO T–113–IR	2–1/2", U.N.O.
	BALL VALVE	NIBCO T–113–IR	1"
	MAINLINE	PVC SCH 40	2–1/2", U.N.O.
	TREE LATERAL LINE	PVC SCH 40	3/4"
	SHRUB LATERAL LINE	PVC SCH 40	3/4"
	SUBMAIN	PVC SCH 40	1–1/2"
	END CAP AUTOMATIC FLUSHING COMPRESSION END PLUG		
NOT SHOWN	EMITTER ASSEMBLY SINGLE–PORT; (1 GPH & 2 GPH)	RAINBIRD XB–05PC, XB–10PC, XB–20PC; 3 PER TREE.	

PLANT LEGEND - POLLINATOR GARDEN

TREES

SYMBOL	BOTANICAL NAME COMMON NAME	QUANTITY	Size	GPH
	CHILOPIS LINEARIS DESERT WILLOW	6 59	30" TREEPOT 15 GAL	6 6
	PROSOPIS VELUTINA VELVET MESQUITE	9 87	30" TREEPOT 15 GAL	6 6
	EXISTING TREES TO REMAIN			

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME	QUANTITY	SIZE	GPH
	ABUTILON ABUTILOIDES MALLOW	15	15" TREEPOT	1
	AGAVE MURPHEYI MURPHY'S AGAVE	20 51	15" TREEPOT 5 GAL	0.5 0.5
	AGAVE PALMERI PALMER'S AGAVE	15	5 GAL	1
	ALOYSIA WRIGHTII WRIGHT'S BEEBUSH	5	15" TREEPOT	1
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE	32 54	15" TREEPOT 1 GAL	1 1
	ASCLEPIAS ANGUSTIFOLIA SLENDER MILKWEED	12	15" TREEPOT	1
	BEBBIA JUNCEA SWEETBUSH	15	15" TREEPOT	1
	BOUTELOUA CURTIPENDULA SIDEOAT GRAMA	4	15" TREEPOT	1
	CALLIANDRA ERIOPHYLLA FAIRYDUSTER	12	15" TREEPOT	1
	DICLIPTERA RESUPINATA ARIZONA FOLDWING	9 2	15" TREEPOT 1 GAL	1 1
	DIGITARIA CALIFORNICA ARIZONA COTTONTOP	24 44	15" TREEPOT 1 GAL	1 1
	ENCELIA FARINOSA BRITTLEBUSH	36 39	15" TREEPOT 1 GAL	1 1
	EPILOBIUM CANUM LATIFOLIA HUMMINGBIRD TRUMPET	6 2	15" TREEPOT 1 GAL	1 1
	HYPTIS EMORYI DESERT LAVENDER	8	15" TREEPOT	1
	JUSTICIA CALIFORNICA CHUPAROSA	15	15" TREEPOT	1
	KRAMERIA ERECTA LITTLELEAF RATANY	6	15" TREEPOT	1
	LEPTOCHLOA DUBIA GREEN SPRANGLETOP	3	15" TREEPOT	1
	NOLINA MICROCARPA BEARGRASS	12	15" TREEPOT	1
	PENSTEMON SP. PENSTEMON	10	15" TREEPOT	1
	RUELLIA NUDIFLORA RUELLIA	10 2	15" TREEPOT 1 GAL	1 1
	SENNA COVESII DESERT SENNA	15 55	15" TREEPOT 1 GAL	1 1
	THYMOPHYLLA PENTACHAETA DOGWEED 5–NEEDLE PRICKLEYLEAF	12	15" TREEPOT	1
	GLANDULARIA RIGIDA SANDPAPER VERBENA	10	15" TREEPOT	1

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NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

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JOC BID SET
NOT FOR CONSTRUCTION OR RECORDING

	DATE
DESIGNED	08/2019
DRAWN	08/2019
CHECKED	08/2019
PROJ.ENGR	08/2019
	R. FIELD
	M.VO
	R. FIELD
	K. PAYNE

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

LANDSCAPE NOTES

CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. N/A VERT. N/A

SHEET 8 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\tc098022061la.dwg LANDSCAPE NOTES Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:00:12 AM

MATCHLINE – SEE SHEET 10

PLANT LEGEND - CIENEGA

TREES

SYMBOL	BOTANICAL NAME COMMON NAME
	CHILOPIS LINEARIS DESERT WILLOW
	PARKINSONIA FLORIDA BLUE PALOVERDE
	PROSOPIS VELUTINA VELVET MESQUITE
	SALIX GOODDINGII GOODDINGS WILLOW
	SAMBUCUS MEXICANA COMMON ELDERBERRY
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	ANEMOPSIS CALIFORNICA YERBA MANSA
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE
	BACCARIS SALICIFOLIA SEEP WILLOW
	BOTHRIOCHLOA BARBINODIS CANE BLUESTEM
	BRICKELLIA COULTERI COULTER'S BRICKELLBUSH
	CAREX SP. SEDGE
	CELTIS PALLIDA DESERT HACKBERRY
	CEPHALANTHUS OCCIDENTALIS BUTTONBUSH
	CYPERUS SP. SEDGE
	ELEOCHARIS ROSTELLATA BEAKED SPIKERUSH
	ERYNGIUM SPARGANOPHYLLUM ARIZONA ERYNGO
	ERYTHRANTHE GUTTATA (MIM GUTTATUS) SEEP MONKEYFLOWER
	GOSSYPIUM THURBERI DESERT COTTON
	JANUSIA GRACILIS SLENDER JANUSIA
	LARREA TRIDENTATA CREOSOTE BUSH
	LYCIUM SP. WOLFBERRY
	MUHLENBERGIA ASPERIFOLIA ALKALI MUHLY
	PAPPOPHORUM VAGINATUM WHIPLASH PAPPUSGRASS
	PLUCHEA SERICEA ARROWWEED
	RUELLIA NUDIFLORA VIOLET WILD PETUNIA
	SPHAERALCEA SP. GLOBEMALLOW
	SISYRUNCHIUM DEMISSUM DWARF BLUE-EYED GRASS
	SPOROBOLUS AIROIDES ALKALI SACATON
	DICLIPTERA RESUPINATA ARIZONA FOLDWING

SEED MIXES

SYMBOL	TYPE
	SEED MIX A (BOTTOM OF BASIN)
	SEED MIX B (BASIN SLOPES)

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

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		DATE
DESIGNED	R. FIELD	08/2019
DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

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CIENEGA LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND POLLINATOR GARDEN

SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\098022061la.dwg CIENEGA 1 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:00:28 AM

MATCHLINE – SEE SHEET 9

PLANT LEGEND - CIENEGA

TREES

SYMBOL	BOTANICAL NAME COMMON NAME
	CHILOPIS LINEARIS DESERT WILLOW
	PARKINSONIA FLORIDA BLUE PALOVERDE
	PROSOPIS VELUTINA VELVET MESQUITE
	SALIX GOODDINGII GOODDINGS WILLOW
	SAMBUCUS MEXICANA COMMON ELDERBERRY
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	ANEMOPSIS CALIFORNICA YERBA MANSA
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE
	BACCARIS SALICIFOLIA SEEP WILLOW
	BOTHRIOCHLOA BARBINODIS CANE BLUESTEM
	BRICKELLIA COULTERI COULTER'S BRICKELLBUSH
	CAREX SP. SEDGE
	CELTIS PALLIDA DESERT HACKBERRY
	CEPHALANTHUS OCCIDENTALIS BUTTONBUSH
	CYPERUS SP. SEDGE
	ELEOCHARIS ROSTELLATA BEAKED SPIKERUSH
	ERYNGIUM SPARGANOPHYLLUM ARIZONA ERYNGO
	ERYTHRANTHE GUTTATA (MIM GUTTATUS) SEEP MONKEYFLOWER
	GOSSYPIUM THURBERI DESERT COTTON
	JANUSIA GRACILIS SLENDER JANUSIA
	LARREA TRIDENTATA CREOSOTE BUSH
	LYCIUM SP. WOLFBERRY
	MUHLENBERGIA ASPERIFOLIA ALKALI MUHLY
	PAPPOPHORUM VAGINATUM WHIPLASH PAPPUSGRASS
	PLUCHEA SERICEA ARROWWEED
	RUELLIA NUDIFLORA VIOLET WILD PETUNIA
	SPHAERALCEA SP. GLOBEMALLOW
	SISYRUNCHIUM DEMISSUM DWARF BLUE-EYED GRASS
	SPOROBOLUS AIROIDES ALKALI SACATON
	DICLIPTERA RESUPINATA ARIZONA FOLDWING

SEED MIXES

SYMBOL	TYPE
	SEED MIX A (BOTTOM OF BASIN)
	SEED MIX B (BASIN SLOPES)

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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	DATE
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DRAWN	08/2019
CHECKED	08/2019
PROJ.ENGR	08/2019

DESIGNED	R. FIELD
DRAWN	M.VO
CHECKED	R. FIELD
PROJ.ENGR	K. PAYNE

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

CIENEGA LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND POLLINATOR GARDEN

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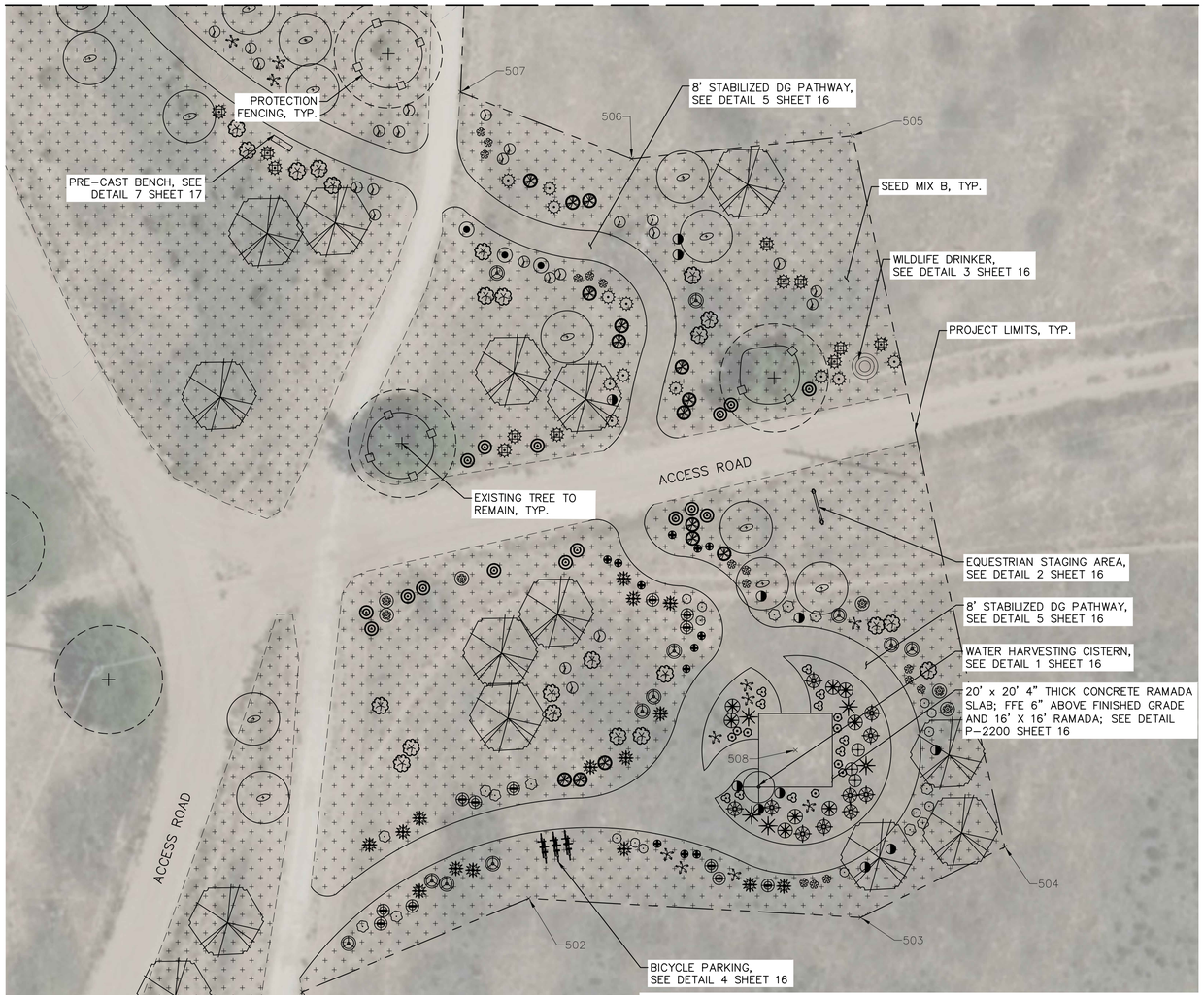
SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 10 OF 23

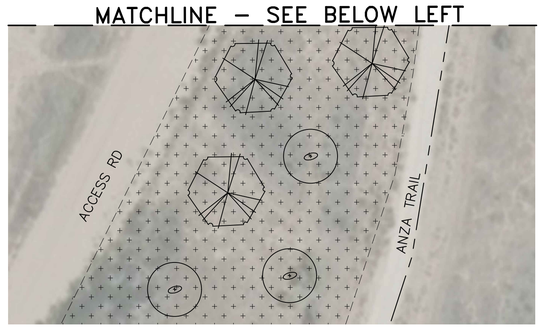
PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\h098022061la.dwg CIENEGA 2 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:00:45 AM

MATCHLINE – SEE SHEET 12



MATCHLINE – SEE BELOW LEFT



MATCHLINE – SEE ABOVE RIGHT

PLANT LEGEND - POLLINATOR GARDEN

TREES

SYMBOL	BOTANICAL NAME COMMON NAME
	CHILOPIS LINEARIS DESERT WILLOW
	PROSOPIS VELUTINA VELVET MESQUITE
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	ABUTILON ABUTILOIDES MALLOW
	AGAVE MURPHEYI MURPHY'S AGAVE
	AGAVE PALMERI PALMER'S AGAVE
	ALOYSIA WRIGHTII WRIGHT'S BEEBUSH
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE
	ASCLEPIAS ANGUSTIFOLIA SLENDER MILKWEED
	BEBBIA JUNCEA SWEETBUSH
	BOUTELOUA CURTIPENDULA SIDEOAT GRAMA
	CALLIANDRA ERIOPHYLLA FAIRYDUSTER
	DICLIPTERA RESUPINATA ARIZONA FOLDWING
	DIGITARIA CALIFORNICA ARIZONA COTTONTOP
	ENCELIA FARINOSA BRITTLEBUSH
	EPILOBIUM CANUM LATIFOLIA HUMMINGBIRD TRUMPET
	HYPTIS EMORYI DESERT LAVENDER
	JUSTICIA CALIFORNICA CHUPAROSA
	KRAMERIA ERECTA LITTLELEAF RATANY
	LEPTOCHLOA DUBIA GREEN SPRANGLETOP
	NOLINA MICROCARPA BEARGRASS
	PENSTEMON SP. PENSTEMON
	RUELLIA NUDIFLORA RUELLIA
	SENNA COVESII DESERT SENNA
	THYMOPHYLLA PENTACHAETA DOGWEED 5-NEEDLE PRICKLEYLEAF
	GLANDULARIA RIGIDA SANDPAPER VERBENA

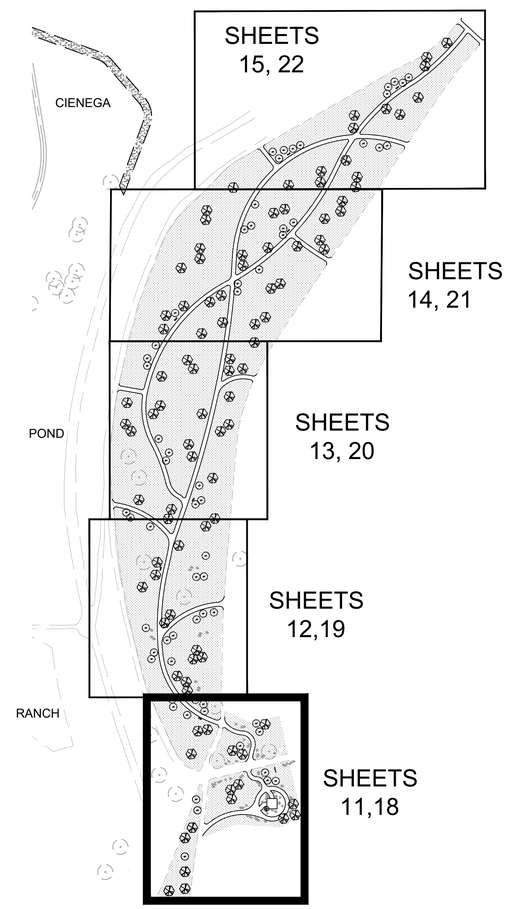
SEED MIX

SYMBOL	TYPE
	SEED MIX B

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

KEY MAP

NOT TO SCALE



GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

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SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

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		DATE
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DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

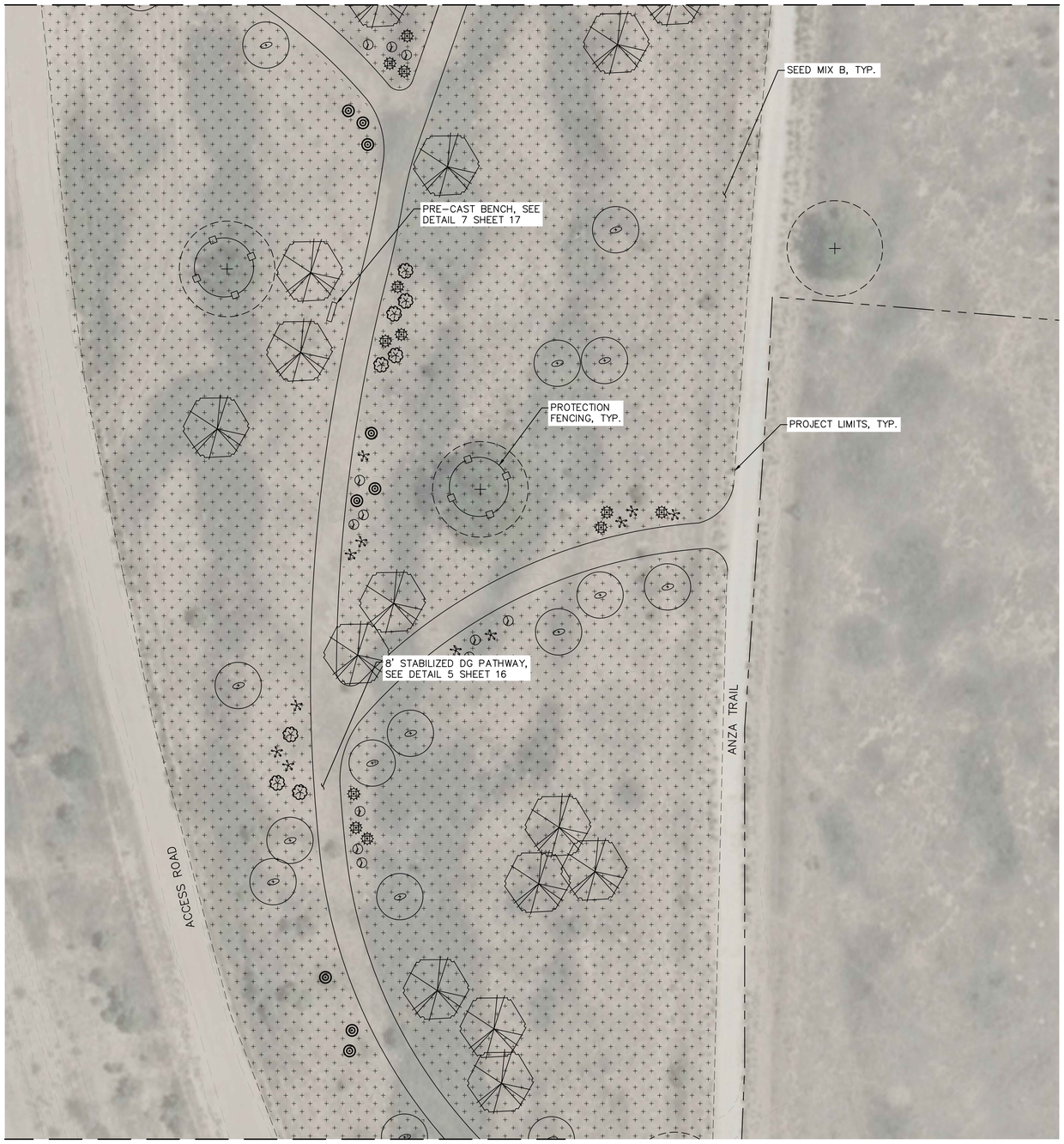
POLLINATOR GARDEN
LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\n098022061la.dwg POLLINATOR GARDEN 1 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:01:10 AM

MATCHLINE – SEE SHEET 13



MATCHLINE – SEE SHEET 11

PLANT LEGEND - POLLINATOR GARDEN

TREES

SYMBOL	BOTANICAL NAME COMMON NAME
	CHILOPIS LINEARIS DESERT WILLOW
	PROSOPIS VELUTINA VELVET MESQUITE
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	ABUTILON ABUTILOIDES MALLOW
	AGAVE MURPHEYI MURPHY'S AGAVE
	AGAVE PALMERI PALMER'S AGAVE
	ALOYSIA WRIGHTII WRIGHT'S BEEBUSH
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE
	ASCLEPIAS ANGUSTIFOLIA SLENDER MILKWEED
	BEBBIA JUNCEA SWEETBUSH
	BOUTELOUA CURTIPENDULA SIDEOAT GRAMA
	CALLIANDRA ERIOPHYLLA FAIRYDUSTER
	DICLIPTERA RESUPINATA ARIZONA FOLDWING
	DIGITARIA CALIFORNICA ARIZONA COTTONTOP
	ENCELIA FARINOSA BRITTLEBUSH
	EPILOBIUM CANUM LATIFOLIA HUMMINGBIRD TRUMPET
	HYPTIS EMORYI DESERT LAVENDER
	JUSTICIA CALIFORNICA CHUPAROSA
	KRAMERIA ERECTA LITTLELEAF RATANY
	LEPTOCHLOA DUBIA GREEN SPRANGLETOP
	NOLINA MICROCARPA BEARGRASS
	PENSTEMON SP. PENSTEMON
	RUELLIA NUDIFLORA RUELLIA
	SENNA COVESII DESERT SENNA
	THYMOPHYLLA PENTACHAETA DOGWEED 5-NEEDLE PRICKLEYLEAF
	GLANDULARIA RIGIDA SANDPAPER VERBENA

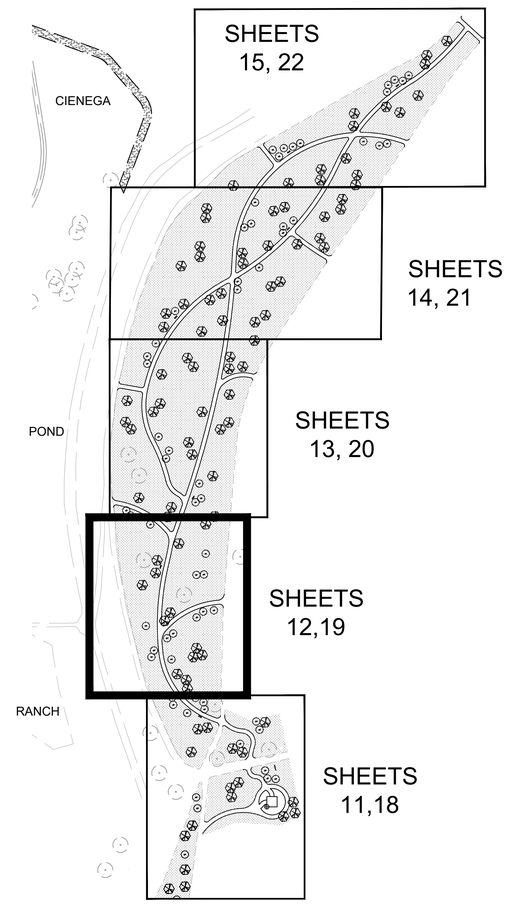
SEED MIX

SYMBOL	TYPE
	SEED MIX B

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

KEY MAP

NOT TO SCALE



GRAPHIC SCALE IN FEET
0 10 20 40

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

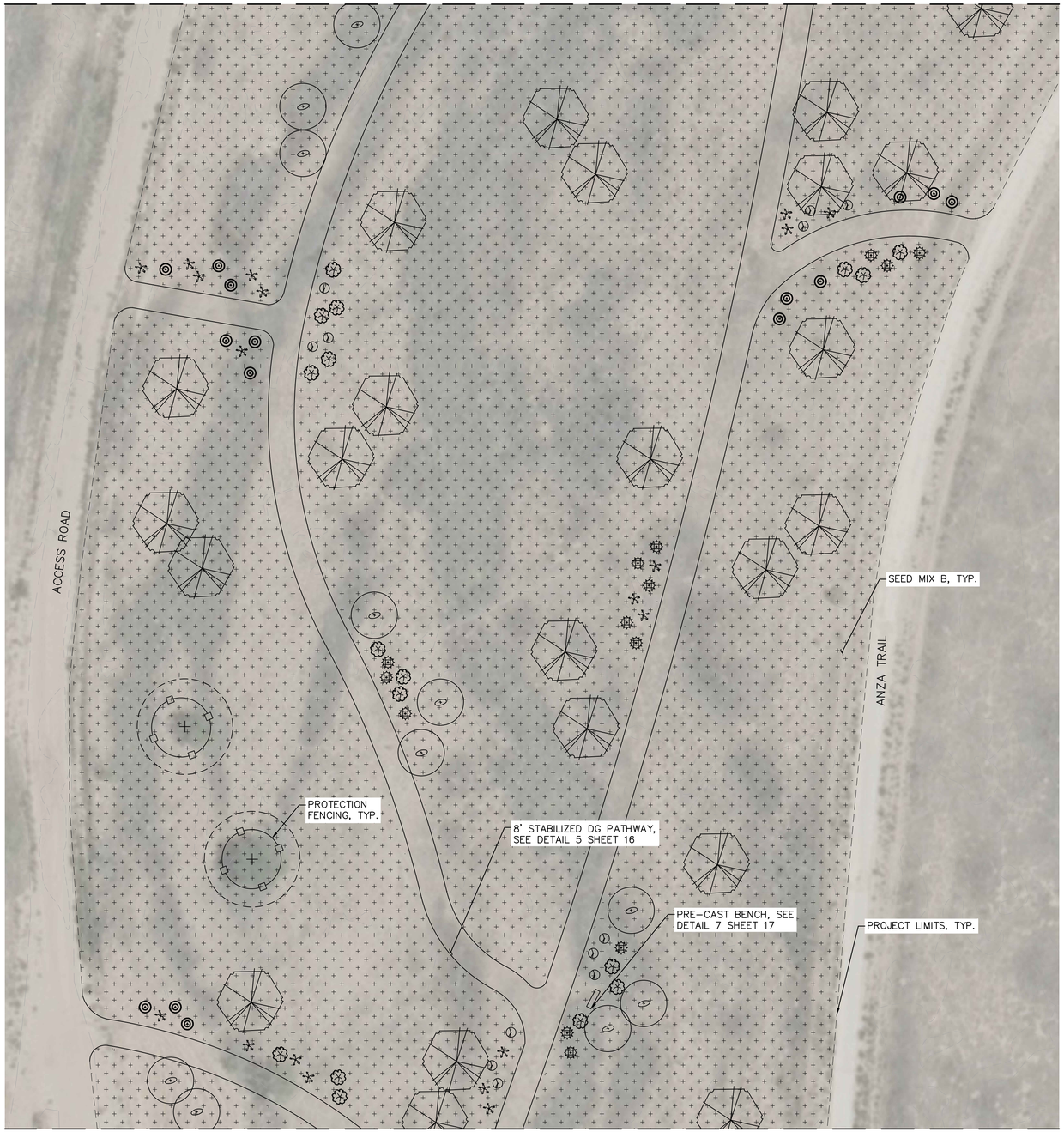
POLLINATOR GARDEN
LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\n098022061la.dwg POLLINATOR GARDEN 2 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:01:30 AM

MATCHLINE – SEE SHEET 14



MATCHLINE – SEE SHEET 12

PLANT LEGEND - POLLINATOR GARDEN

TREES

SYMBOL	BOTANICAL NAME COMMON NAME
	CHILOPIS LINEARIS DESERT WILLOW
	PROSOPIS VELUTINA VELVET MESQUITE
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	ABUTILON ABUTILOIDES MALLOW
	AGAVE MURPHEYI MURPHY'S AGAVE
	AGAVE PALMERI PALMER'S AGAVE
	ALOYSIA WRIGHTII WRIGHT'S BEEBUSH
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE
	ASCLEPIAS ANGUSTIFOLIA SLENDER MILKWEED
	BEBBIA JUNCEA SWEETBUSH
	BOUTELOUA CURTIPENDULA SIDEOAT GRAMA
	CALLIANDRA ERIOPHYLLA FAIRYDUSTER
	DICLIPTERA RESUPINATA ARIZONA FOLDWING
	DIGITARIA CALIFORNICA ARIZONA COTTONTOP
	ENCELIA FARINOSA BRITTLEBUSH
	EPILOBIUM CANUM LATIFOLIA HUMMINGBIRD TRUMPET
	HYPTIS EMORYI DESERT LAVENDER
	JUSTICIA CALIFORNICA CHUPAROSA
	KRAMERIA ERECTA LITTLELEAF RATANY
	LEPTOCHLOA DUBIA GREEN SPRANGLETOP
	NOLINA MICROCARPA BEARGRASS
	PENSTEMON SP. PENSTEMON
	RUELLIA NUDIFLORA RUELLIA
	SENNA COVESII DESERT SENNA
	THYMOPHYLLA PENTACHAETA DOGWEED 5-NEEDLE PRICKLEYLEAF
	GLANDULARIA RIGIDA SANDPAPER VERBENA

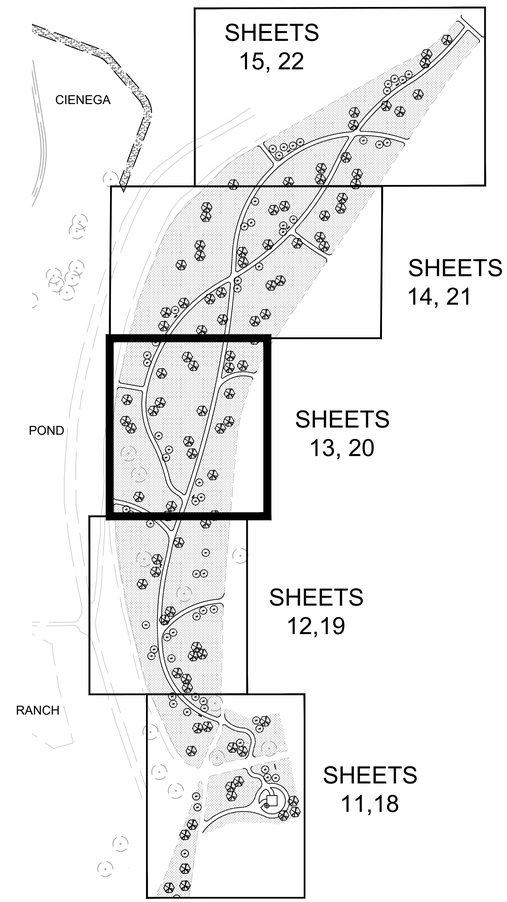
SEED MIX

SYMBOL	TYPE
	SEED MIX B

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

KEY MAP

NOT TO SCALE



GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

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POLLINATOR GARDEN
LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

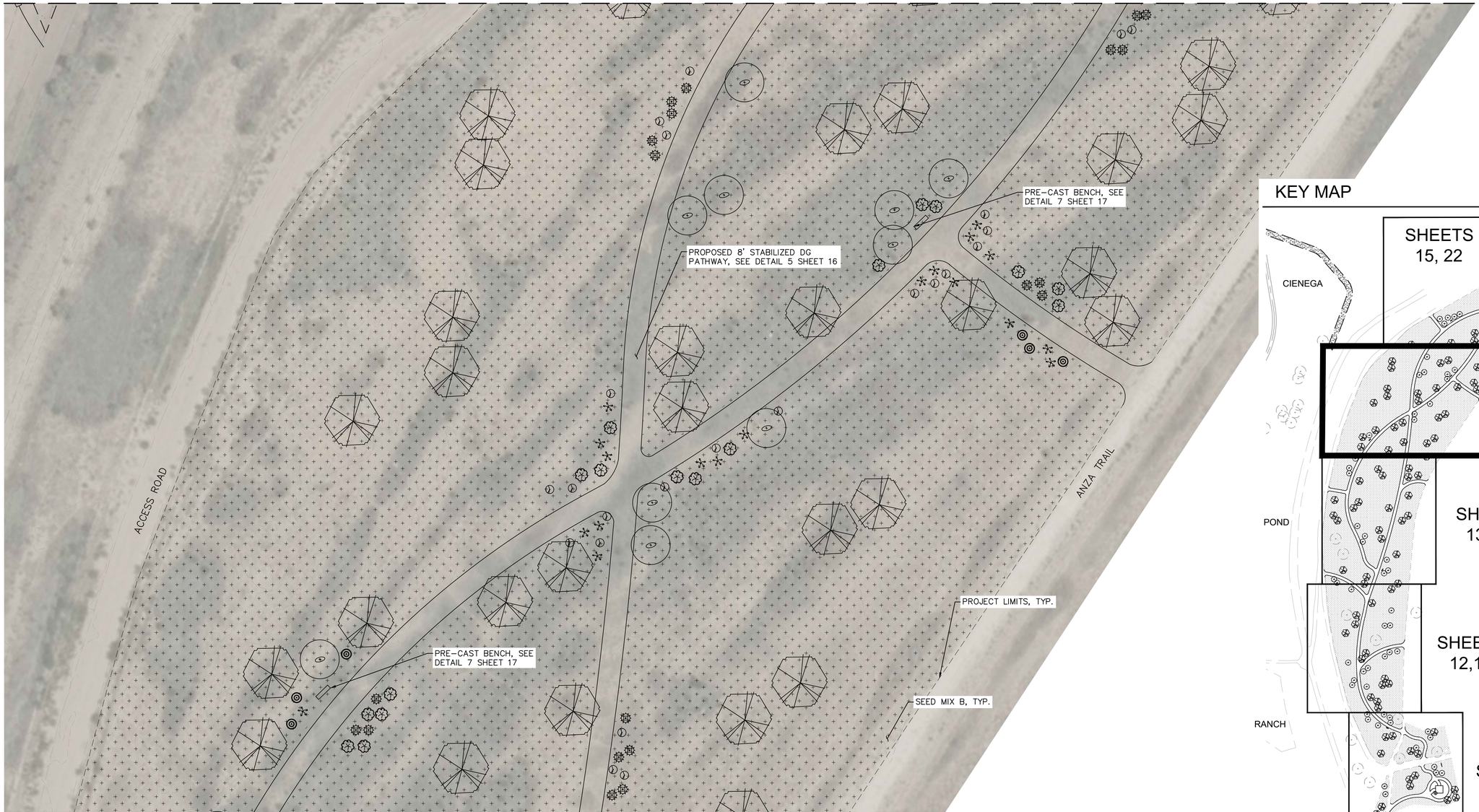
SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 13 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\h098022061la.dwg POLLINATOR GARDEN 3 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:01:49 AM

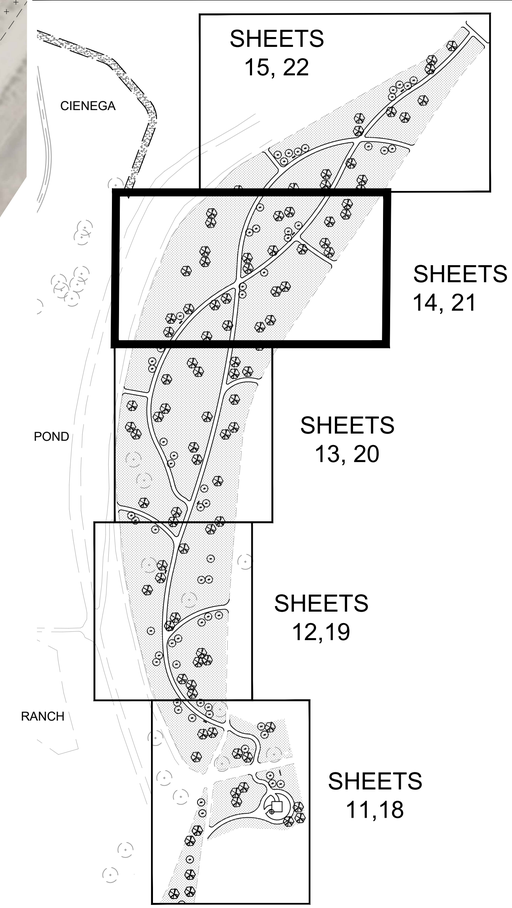
MATCHLINE – SEE SHEET 15



MATCHLINE – SEE SHEET 13

KEY MAP

NOT TO SCALE



PLANT LEGEND - POLLINATOR GARDEN

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME
	CHILOPIS LINEARIS / DESERT WILLOW
	PROSOPIS VELUTINA / VELVET MESQUITE
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME / COMMON NAME
	ABUTILON ABUTILOIDES / MALLOW
	AGAVE MURPHEYI / MURPHY'S AGAVE
	AGAVE PALMERI / PALMER'S AGAVE
	ALOYSIA WRIGHTII / WRIGHT'S BEEBUSH
	ANISACANTHUS THURBERI / DESERT HONEYSUCKLE
	ASCLEPIAS ANGUSTIFOLIA / SLENDER MILKWEED

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME / COMMON NAME
	BEBBIA JUNCEA / SWEETBUSH
	BOUTELOUA CURTIPENDULA / SIDEOAT GRAMA
	CALLIANDRA ERIOPHYLLA / FAIRYDUSTER
	DICLIPTERA RESUPINATA / ARIZONA FOLDWING
	DIGITARIA CALIFORNICA / ARIZONA COTTONTOP
	ENCELIA FARINOSA / BRITTLEBUSH

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME / COMMON NAME
	EPILOBIUM CANUM LATIFOLIA / HUMMINGBIRD TRUMPET
	HYPTIS EMORYI / DESERT LAVENDER
	JUSTICIA CALIFORNICA / CHUPAROSA
	KRAMERIA ERECTA / LITTLELEAF RATANY
	LEPTOCHLOA DUBIA / GREEN SPRANGLETOP
	NOLINA MICROCARPA / BEARGRASS

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME / COMMON NAME
	PENSTEMON SP. / PENSTEMON
	RUELLIA NUDIFLORA / RUELLIA
	SENNA COVESII / DESERT SENNA
	THYMOPHYLLA PENTACHAETA / DOGWEED 5-NEEDLE PRICKLEYLEAF
	GLANDULARIA RIGIDA / SANDPAPER VERBENA

SEED MIX

SYMBOL	TYPE
	SEED MIX B

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

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SUZANNE SHIELDS, P.E., DIRECTOR

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Kimley»Horn

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

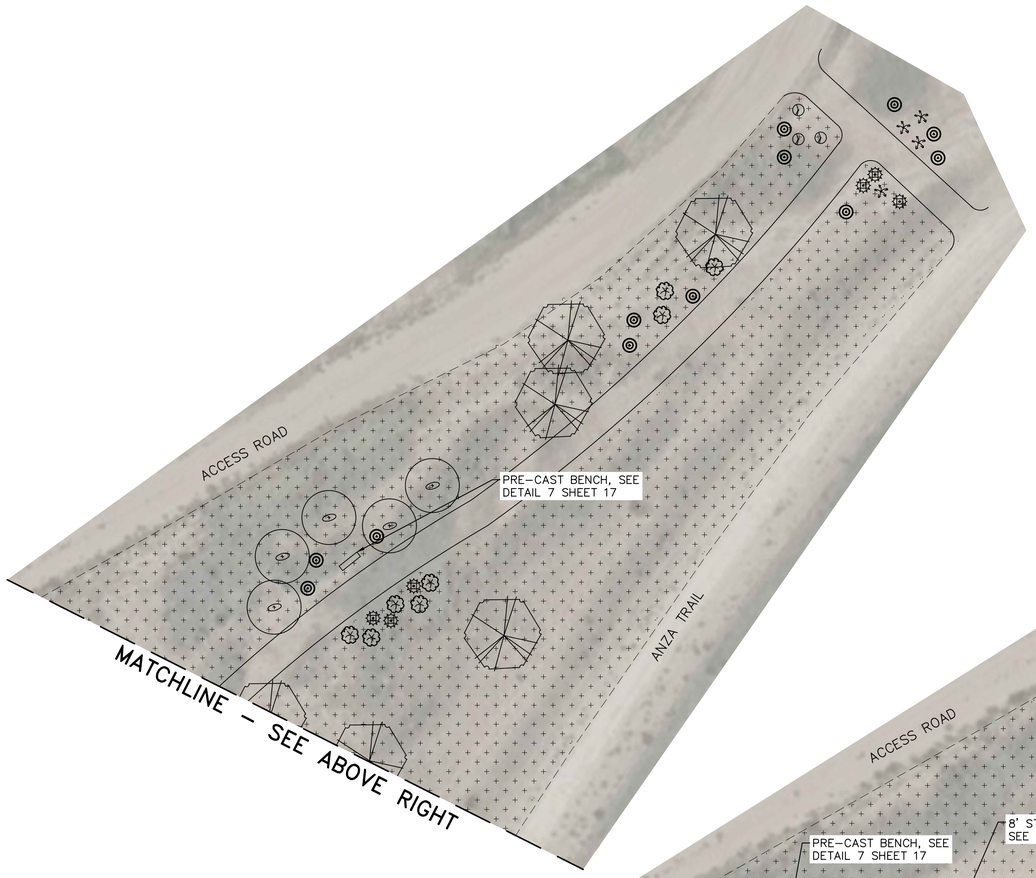
POLLINATOR GARDEN
LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

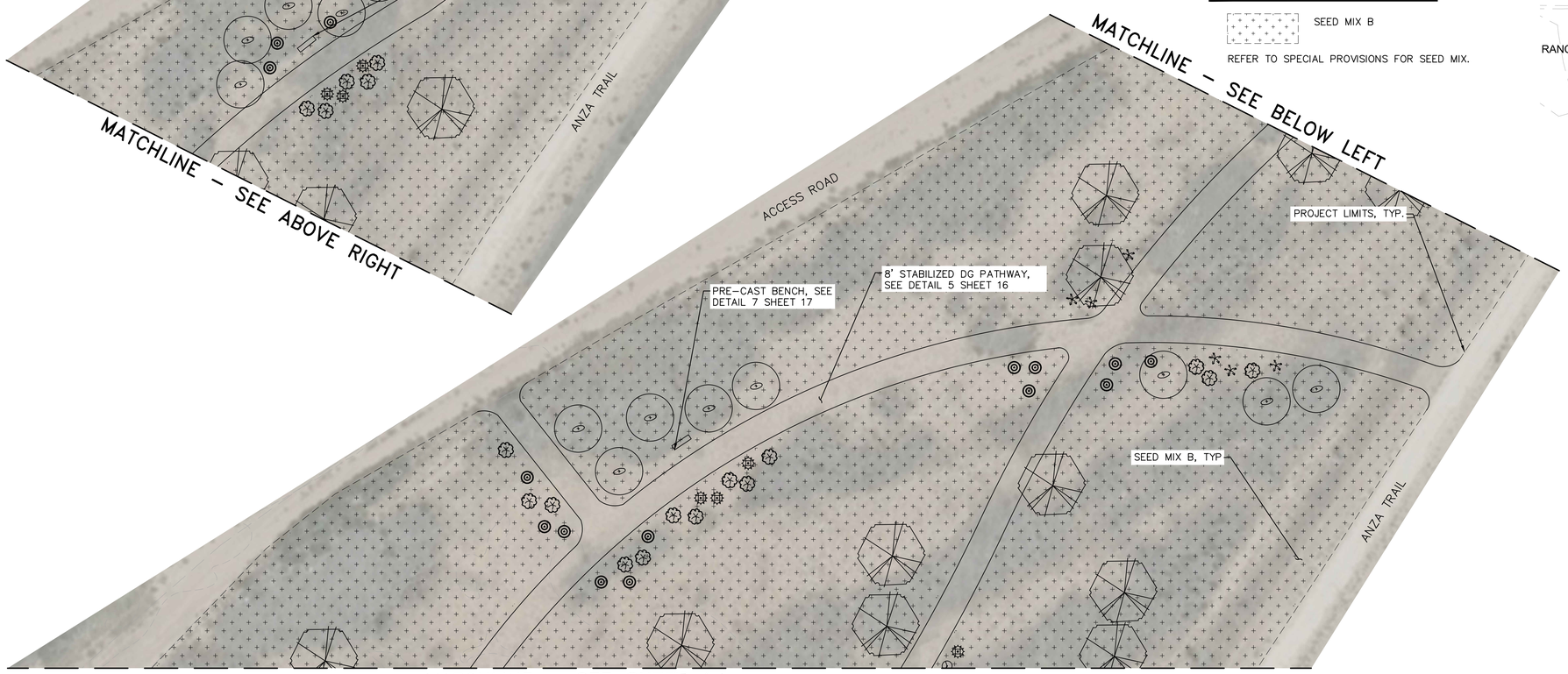
SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 14 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\h098022061ls.dwg POLLINATOR GARDEN 4 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:02:11 AM





PLANT LEGEND - POLLINATOR GARDEN

TREES

SYMBOL	BOTANICAL NAME COMMON NAME
	CHILOPIS LINEARIS DESERT WILLOW
	PROSOPIS VELUTINA VELVET MESQUITE
	EXISTING TREES TO REMAIN

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	ABUTILON ABUTILOIDES MALLOW
	AGAVE MURPHEYI MURPHY'S AGAVE
	AGAVE PALMERI PALMER'S AGAVE
	ALOYSIA WRIGHTII WRIGHT'S BEEBUSH
	ANISACANTHUS THURBERI DESERT HONEYSUCKLE
	ASCLEPIAS ANGUSTIFOLIA SLENDER MILKWEED
	BEBBIA JUNCEA SWEETBUSH
	BOUTELOUA CURTIPENDULA SIDEOAT GRAMA
	CALLIANDRA ERIOPHYLLA FAIRYDUSTER

SHRUBS/FORBS/GRASSES

SYMBOL	BOTANICAL NAME COMMON NAME
	DICLIPTERA RESUPINATA ARIZONA FOLDWING
	DIGITARIA CALIFORNICA ARIZONA COTTONTOP
	ENCELIA FARINOSA BRITTLEBUSH
	EPILOBIUM CANUM LATIFOLIA HUMMINGBIRD TRUMPET
	HYPTIS EMORYI DESERT LAVENDER
	JUSTICIA CALIFORNICA CHUPAROSA
	KRAMERIA ERECTA LITTLELEAF RATANY
	LEPTOCHLOA DUBIA GREEN SPRANGLETOP
	NOLINA MICROCARPA BEARGRASS
	PENSTEMON SP. PENSTEMON
	RUELLIA NUDIFLORA RUELLIA
	SENNA COVESII DESERT SENNA
	THYMOPHYLLA PENTACHAETA DOGWEED 5-NEEDLE PRICKLEYLEAF
	GLANDULARIA RIGIDA SANDPAPER VERBENA

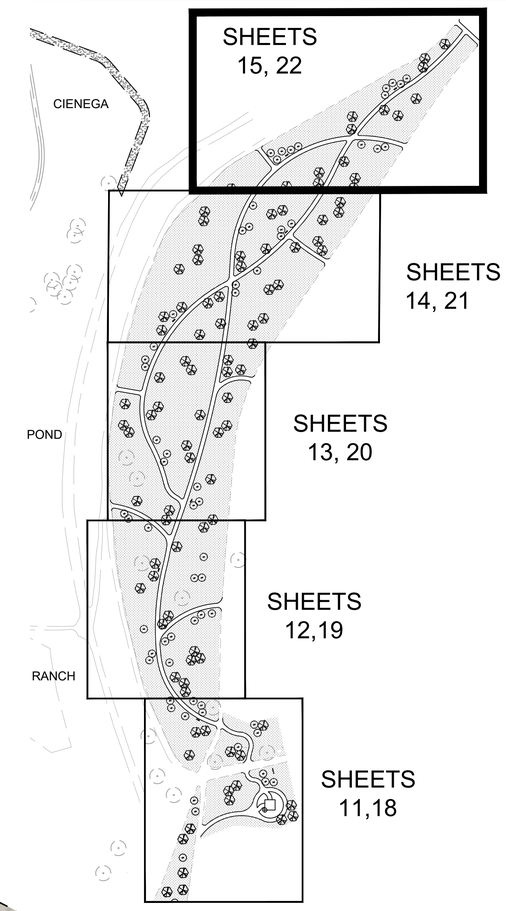
SEED MIX

SYMBOL	TYPE
	SEED MIX B

REFER TO SPECIAL PROVISIONS FOR SEED MIX.

KEY MAP

NOT TO SCALE



GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

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SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

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JOC BID SET
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		DATE
DESIGNED	R. FIELD	08/2019
DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
PROJ.ENGR	K. PAYNE	08/2019

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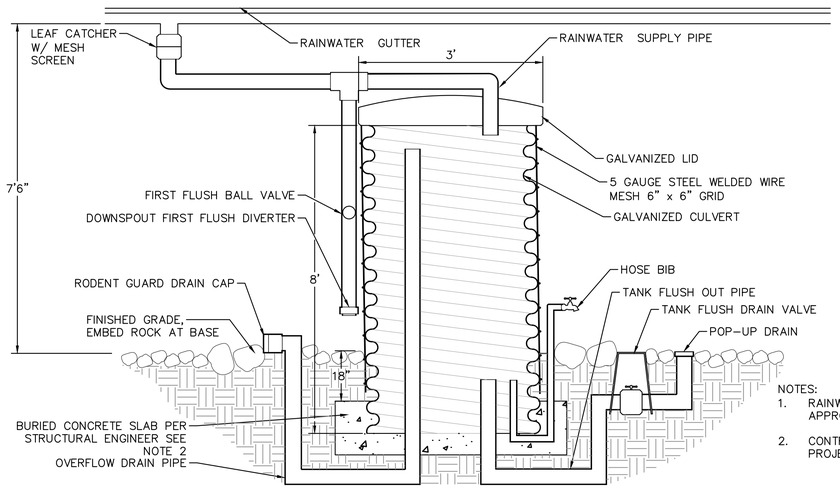
PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

POLLINATOR GARDEN
LANDSCAPE PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\h098022061la.dwg POLLINATOR GARDEN 5 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:02:40 AM

SCALES: HORIZ. 1" = 20' VERT. N/A

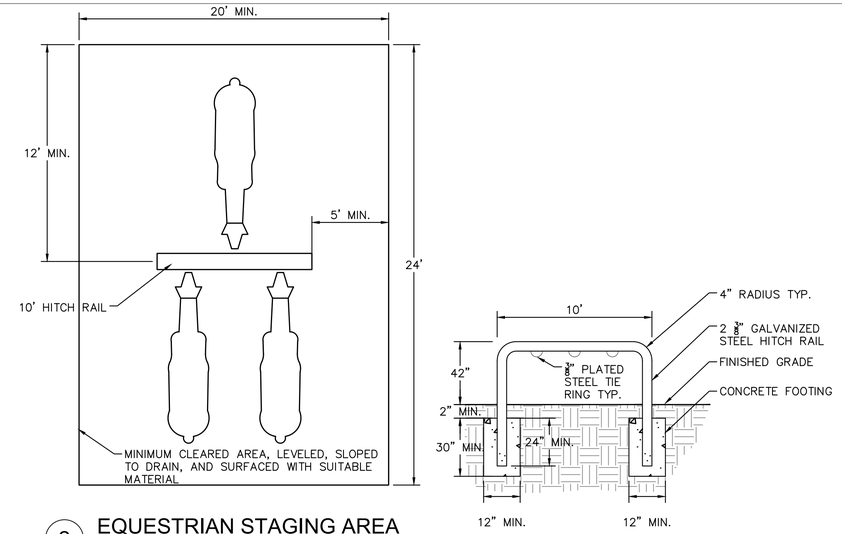
PIMA COUNTY W.O.



NOTES:
1. RAINWATER HARVEST CISTERN KIT, 3' DIA. BY 8' HIGH, FROM ACME SAND & GRAVEL, OR APPROVED EQUAL.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SEALED BY A STRUCTURAL ENGINEER FOR PROJECT ENGINEER APPROVAL PRIOR TO CONSTRUCTION.

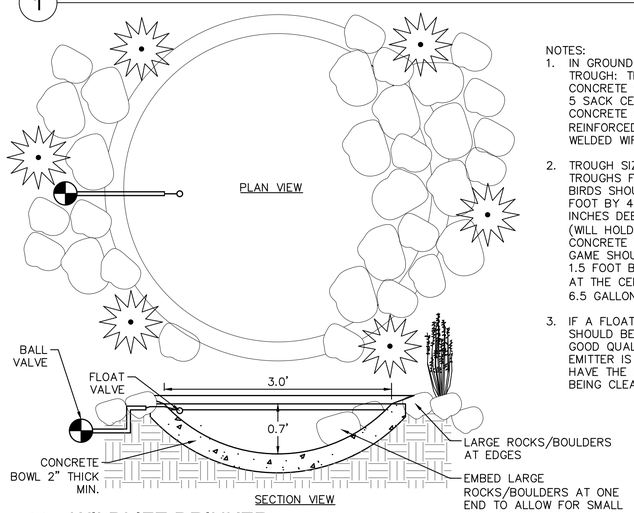
1 WATER HARVESTING CISTERN

NTS



2 EQUESTRIAN STAGING AREA

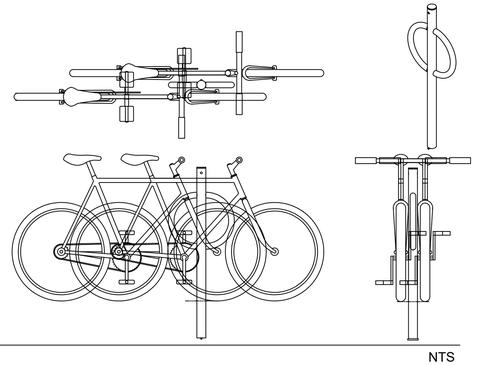
NTS



NOTES:
1. IN GROUND BOWL STORAGE TROUGH: TROUGH MATERIAL: CONCRETE WILL BE AT LEAST 5 SACK CEMENT MIX. CONCRETE WILL BE REINFORCED USING 6" X 6" WELDED WIRE.
2. TROUGH SIZE: CONCRETE TROUGHS FOR UPLAND GAME BIRDS SHOULD BE AT LEAST 1 FOOT BY 4 INCHES DEEP AT THE CENTER (WILL HOLD 2 GALLONS). CONCRETE TROUGHS FOR BIG GAME SHOULD BE AT LEAST 1.5 FOOT BY 6 INCHES DEEP AT THE CENTER (WILL HOLD 6.5 GALLONS).
3. IF A FLOAT IS USED IT SHOULD BE NEW AND OF GOOD QUALITY. IF A DRIP EMITTER IS USED IT SHOULD HAVE THE CAPABILITY OF BEING CLEANED OUT.

3 WILDLIFE DRINKER

NTS

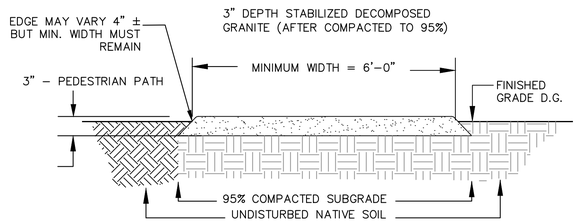


MANUFACTURER: VICTOR STANLEY
MODEL #: BRBS-103

COLOR: BRONZE
CONTRACTOR SHALL FOLLOW AND REFER TO SPEC SHEET FOR DIMENSIONS, INSTALLATION AND FOOTING REQUIREMENTS.

4 BICYCLE PARKING

NTS



DECOMPOSED GRANITE SIEVE ANALYSIS PERCENTAGE OF WEIGHT PASSING A SQUARE MESH SIEVE AASHTO T11-82 AND T27-82

DECOMPOSED GRANITE GRADATION FOR STABILIZER

SIEVE DESIGNATION	% PASSING BY WEIGHT
1/2"	95-100
3/8"	90-100
NO. 4	65-80
NO. 8	48-63
NO. 16	40-49
NO. 30	30-40
NO. 50	20-27
NO. 100	10-18
NO. 200	10-12

NOTES FOR STABILIZED DG:

1. STAKE AND MEASURE AREA ACCORDING TO PLANS. FINAL GRADE OF STABILIZED GRANITE SHALL BE ½" ABOVE FINAL GRADE OF ADJACENT AREA.

2. STABILIZER MUST BE THOROUGHLY PRE-MIXED WITH CRUSHED AGGREGATE AT THE RATE OF 15-LBS OF STABILIZER PER 1-TON OF AGGREGATE OR PER MANUFACTURER'S RECOMMENDATIONS. DROP SPREADING OF STABILIZER OVER PRE-PLACED AGGREGATE OR MIXING BY ROTOTILLING IS NOT ACCEPTABLE. STABILIZER SHALL BE MECHANICALLY BLENDED. BUCKET BLENDING IS NOT AN APPROVED METHOD.

3. PLACE THE STABILIZER AND AGGREGATE MIXTURE ON THE PREPARED BASE AND RAKE SMOOTH TO DESIRED GRADE AND CROSS SECTION. PLACE MATERIAL TO SUFFICIENT DEPTH TO ALLOW 3" FOR PATHWAY AFTER COMPACTION.

4. DO NOT INSTALL STABILIZED AGGREGATE DURING RAINY CONDITIONS OR BELOW 40 DEGREES FAHRENHEIT AND FALLING.

5. WATER HEAVILY WITH A HOSE TO ACHIEVE FULL DEPTH MOISTURE PENETRATION OF THE MIX. TO ACHIEVE SATURATION OF STABILIZED AGGREGATE PROFILE, 25-45-GALLONS OF WATER PER 1-TON MUST BE APPLIED. DO NO WATER WITH A WATER TRUCK. TEST FOR PENETRATION BY RANDOM CORE INSPECTION.

6. WAIT A MINIMUM OF 6-HOURS TO A MAXIMUM OF 48-HOURS, OR UNTIL THE AGGREGATE IS ABLE TO ACCEPT COMPACTION FROM A 1 TO 5-TON ROLLER WITHOUT SEPARATION, PLOWING OR ANY OTHER PHYSICAL DAMAGE OF THE AGGREGATE. DO NOT ALLOW MATERIAL TO DRY OUT COMPLETELY.

7. COMPACT MATERIAL WITH A COMPACTOR AS SPECIFIED BELOW MAKING 3 TO 4 PASSES (DO NOT USE A VIBRATORY UNIT). UPON THOROUGH MOISTURE PENETRATION, COMPACT AGGREGATE TO 95% RELATIVE COMPACTION BY EQUIPMENT SUCH AS A 1 TO 5-TON DOUBLE DRUM ROLLER. DO NOT USE A VIBRATORY PLATE COMPACTOR OR VIBRATION FEATURE ON ROLLER.

8. INSTALLATION OF STABILIZED AGGREGATE MORE THAN 3" MUST BE INSTALLED IN LIFTS. COMPACT IN (2) 2.5" LIFTS.

9. PATHWAY SHALL HAVE A 2% CROWN TO SHED WATER OFF THE SIDES AND AVOID CARRYING EXCESSIVE WATER.

10. ONCE COMPLETELY DRIED, THE SURFACE SHALL BE SMOOTH, UNIFORM AND SOLID WITH NO EVIDENCE OF CHIPPING OR CRACKING. CURED AND COMPACTED SURFACE SHALL BE FIRM THROUGHOUT PROFILE WITH NO SPONGY AREAS. LOOSE MATERIAL SHALL NOT BE PRESENT ON THE SURFACE AFTER INSTALLATION, BUT MAY APPEAR AFTER USE.

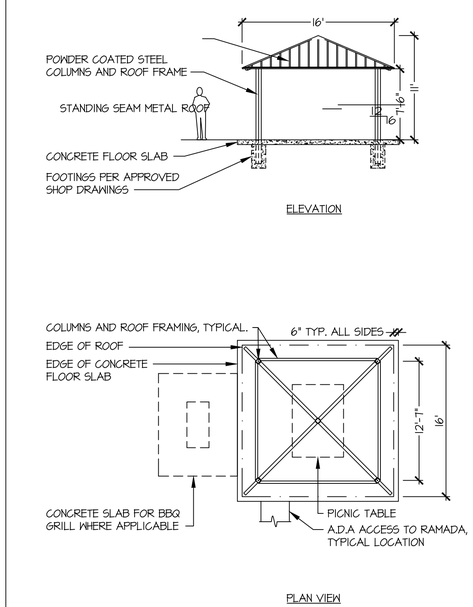
11. MAINTENANCE: REMOVE DEBRIS, SUCH AS PAPER, LEAVES OR OTHER ORGANIC MATERIAL BY MECHANICALLY BLOWING OR HAND RAKING THE SURFACE AS NEEDED. DURING THE FIRST YEAR, A MINOR AMOUNT OF LOOSE AGGREGATE WILL APPEAR ON THE SURFACE (1/16" TO 1/4"). IF THIS MATERIAL EXCEEDS A 1/4 OF AN INCH, REDISTRIBUTE THE MATERIAL OVER THE ENTIRE SURFACE. WATER MATERIAL THOROUGHLY TO THE DEPTH OF 1", AND COMPACT WITH POWER ROLLER OF NO LESS THAN 1000-LBS.

12. COLOR TO MATCH EXISTING GROUND SURFACE. SUBMIT SAMPLE FOR PROJECT ENGINEER APPROVAL PRIOR TO CONSTRUCTION

5 STABILIZED DECOMPOSED GRANITE PATH

PEDESTRIAN PATH

NTS



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PARK BUILDINGS:	P-2200
PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION	RAMADA - TYPE 1 (16' x 16')	SHEET 1 OF 1

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	DATE
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DRAWN	08/2019
CHECKED	08/2019
PROJ ENGR	08/2019

DESIGNED	R. FIELD
DRAWN	M.VO
CHECKED	R. FIELD
PROJ ENGR	K. PAYNE

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

SITE IMPROVEMENT DETAILS
CANOA RANCH CIENEGA AND POLLINATOR GARDEN

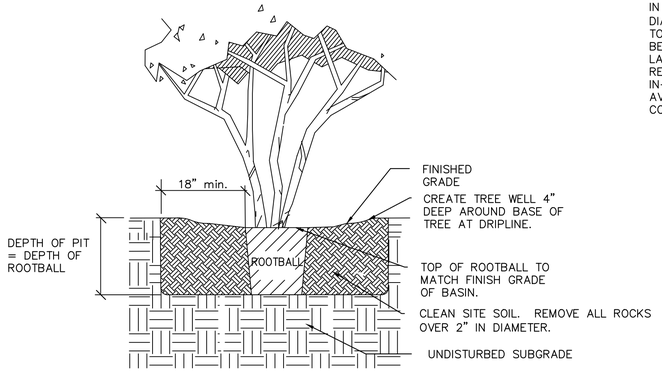
SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\098022061la.dwg SITE IMPROVEMENT DETAILS Last Saved: Sat, 05 Oct 2019 By: Rebecca.field Plotted: Saturday, October 5, 2019 12:02:43 AM

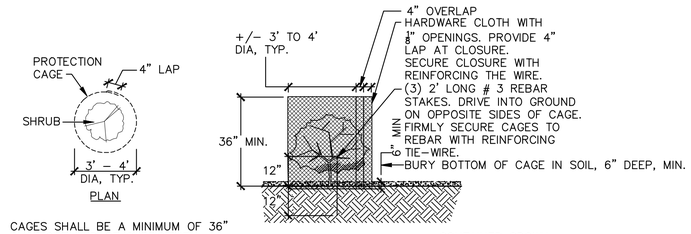
NOTES:

1. ALL TREES TO BE LOW BRANCHING OR MULTI-TRUNK. NO STANDARD TREES TO BE USED.
2. NO TREES TO BE STAKED.
3. DEPTH OF PLANT PIT = DEPTH OF ROOTBALL.
4. PRE-WATER PLANT PIT BY FILLING WITH WATER AND ALLOWING TO DRAIN ONE TIME PRIOR TO PLANTING.
5. PROVIDE PROTECTION CAGE PER DETAIL 2, THIS SHEET.

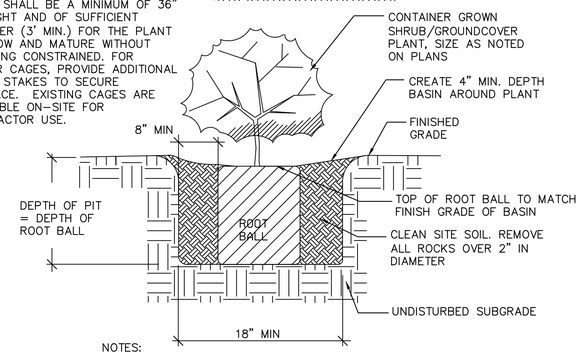


1 TREE PLANTING - 15 GALLON

NTS



CAGES SHALL BE A MINIMUM OF 36" IN HEIGHT AND OF SUFFICIENT DIAMETER (3' MIN.) FOR THE PLANT TO GROW AND MATURE WITHOUT BECOMING CONSTRAINED. FOR LARGER CAGES, PROVIDE ADDITIONAL REBAR STAKES TO SECURE IN-PLACE. EXISTING CAGES ARE AVAILABLE ON-SITE FOR CONTRACTOR USE.

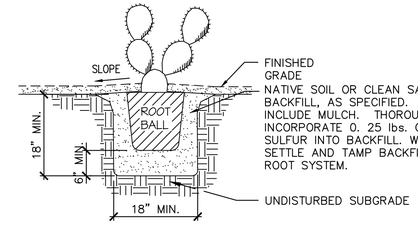


NOTES:

1. DEPTH OF PLANT PIT = DEPTH OF ROOTBALL.
2. PRE-WATER PLANT PIT BY FILLING WITH WATER AND ALLOWING TO DRAIN ONE TIME PRIOR TO PLANTING.

2 SHRUB PLANTING & PROTECTION CAGE

NTS

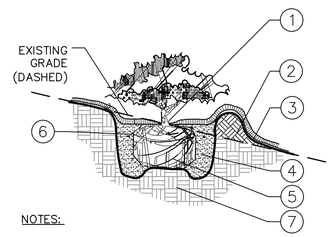


NOTES:

1. DO NOT CREATE BASIN AT BASE OF CACTUS. SLOPE BACKFILL AWAY FROM PLANT.
2. SET CACTUS SO THAT TOP OF ROOT BALL MATCHES ADJACENT GRADE.
3. THIS DETAIL APPLIES TO NURSERY GROWN STOCK OF THE GENUS OPUNTIA, AGAVE, ALOE, DASYLIRION, HESPERALOE, NOLINA, AND YUCCA.
4. PRE-WATER PLANT PIT BY FILLING WITH WATER AND ALLOWING TO DRAIN ONE TIME PRIOR TO PLANTING.

3 SUCCULENT/CACTI PLANTING

NTS



NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANT OPENINGS PRIOR TO INSTALLATION.

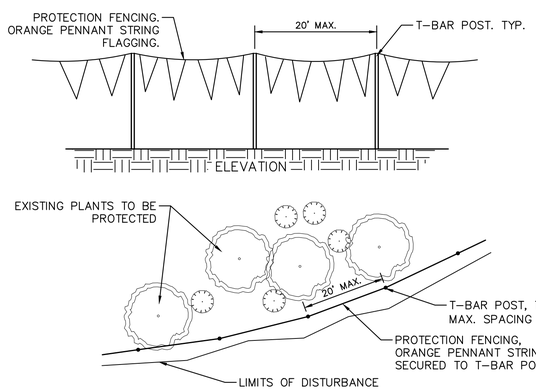
B. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

1. TOP OF ROOTBALLS TO BE PLANTED AT GRADE OR SLIGHTLY ABOVE SURROUNDING SOIL. 2" DIA. CLEAR OF MULCH AT TRUNK FLARE.
2. SOIL BERM TO HOLD WATER. TOP OF PLANTING PIT \'BERM' TO BE LEVEL ACROSS PIT. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE. MULCH OVER EXPOSED TOPSOIL.
3. FINISHED GRADE (SEE GRADING PLAN)
4. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).
5. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
6. FERTILIZER TABLETS (MAX 3" DEEP).
7. UNDISTURBED NATIVE SOIL

4 SHRUB/GROUND COVER PLANTING - SLOPE

PLANTING - 1, 5 & 15 GAL. SIZE

NTS



NOTES:

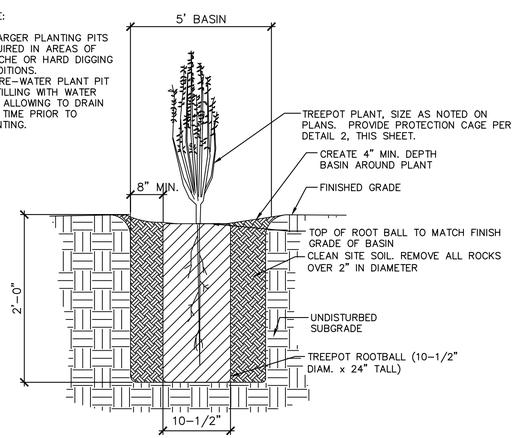
1. THE PROTECTION FENCING SHOWN ON THIS DETAIL IS THE ORANGE PENNANT STRING FLAGGING TYPE FENCING.
2. THE PROTECTION FENCING SHALL BE PLACED ALONG ALL CONSTRUCTION HAUL ROUTE, SOIL AND OTHER STOCKPILE AREAS, SOIL CEMENT PLANT, AND OTHER CONSTRUCTION AREAS ADJACENT TO NATIVE VEGETATION TO BE PRESERVED-IN-PLACE.
3. THE PROTECTION FENCING SHALL BE INSPECTED AND APPROVED BY THE PROJECT ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL NOT DESTROY OR DAMAGE ANY NATIVE PLANTS LOCATED WITHIN THE PROTECTION FENCING AREA. ANY DAMAGE OR DESTROYED NATIVE PLANTS SHALL BE REPLACED IN-KIND AT THE CONTRACTORS EXPENSE.

5 PROTECTION FENCING DETAIL

NTS

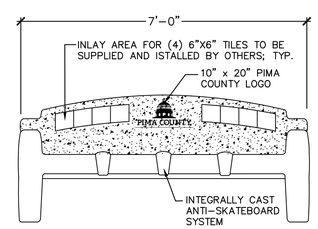
NOTE:

1. LARGER PLANTING PITS REQUIRED IN AREAS OF CALICHE OR HARD DIGGING CONDITIONS.
2. PRE-WATER PLANT PIT BY FILLING WITH WATER AND ALLOWING TO DRAIN ONE TIME PRIOR TO PLANTING.

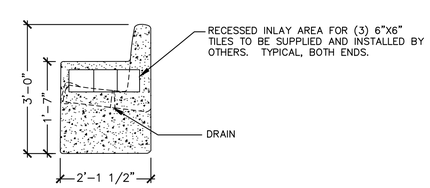


6 TREE PLANTING DETAIL - TREEPOT

NTS



FRONT ELEVATION



SIDE ELEVATION

7 PRE-CAST CONCRETE BENCH

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

LANDSCAPE DETAILS

CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

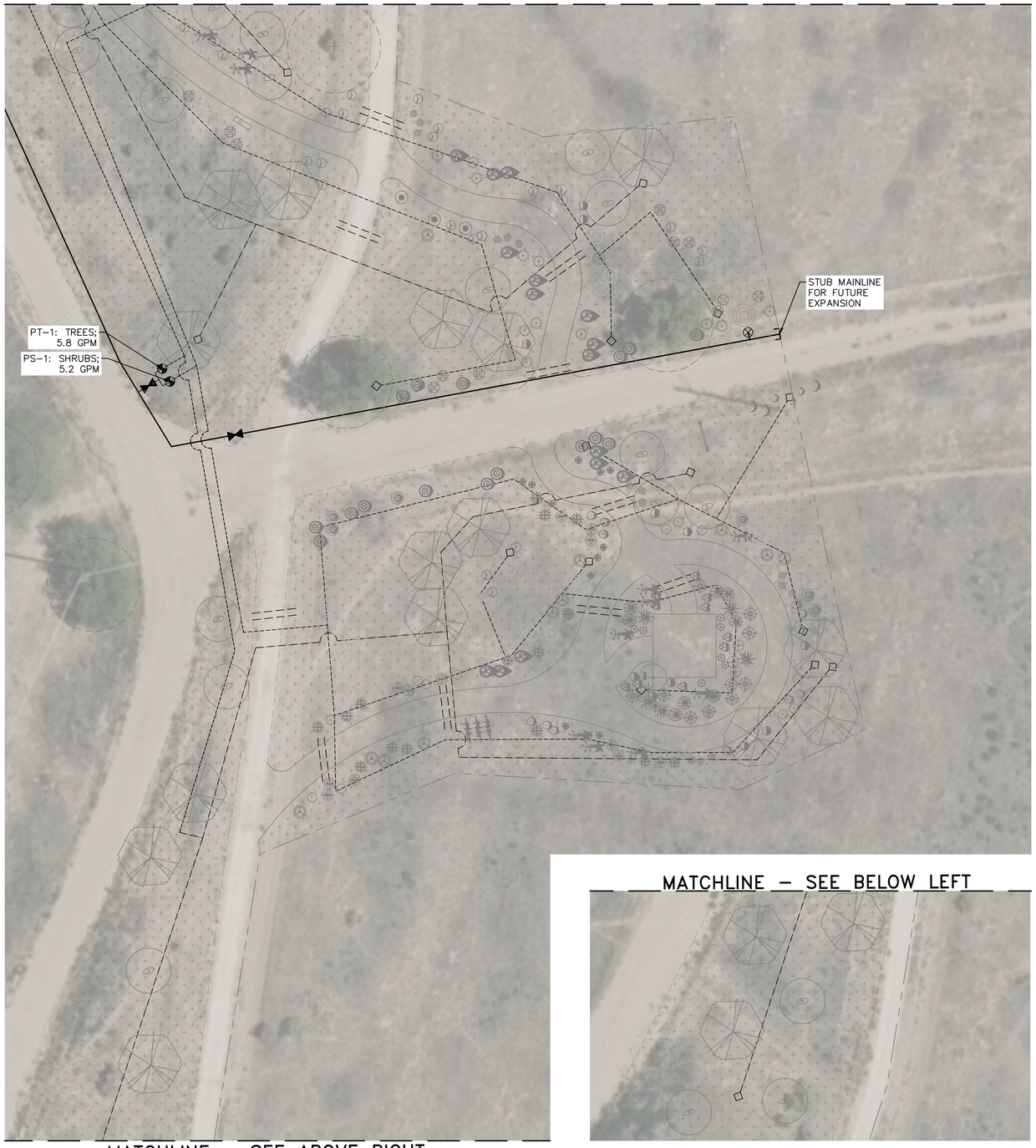
SCALES: HORIZ. NTS VERT. NTS

SHEET 17 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\h098022061la.dwg LANDSCAPE DETAILS Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:02:45 AM

MATCHLINE – SEE SHEET 19



MATCHLINE – SEE BELOW LEFT

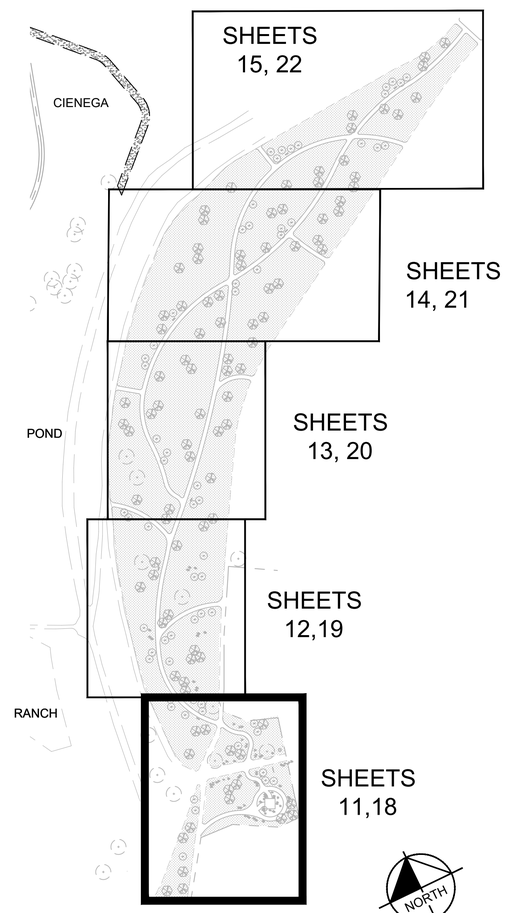
MATCHLINE – SEE ABOVE RIGHT

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	REMOTE CONTROL VALVE ASSEMBLY – DRIP ZONES	RAINBIRD–100–PESB	1"
	PRESSURE REGULATOR	SENNINGER PMR–35MF	1"
	MAINLINE BALL VALVE	NIBCO T–113–IR	2–1/2", U.N.O.
	BALL VALVE	NIBCO T–113–IR	1"
	MAINLINE	PVC SCH 40	2–1/2", U.N.O.
	TREE LATERAL LINE	PVC SCH 40	3/4"
	SHRUB LATERAL LINE	PVC SCH 40	3/4"
	SUBMAIN	PVC SCH 40	1–1/2"
	END CAP AUTOMATIC FLUSHING COMPRESSION END PLUG		
NOT SHOWN	EMITTER ASSEMBLY SINGLE–PORT; (1 GPH & 2 GPH)	RAINBIRD XB–05PC, XB–10PC, XB–20PC; 3 PER TREE	

KEY MAP

NOT TO SCALE



NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

POLLINATOR GARDEN
IRRIGATION PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

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K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\098022061ir.dwg POLLINATOR GARDEN 1 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:03:26 AM

SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

MATCHLINE – SEE SHEET 20

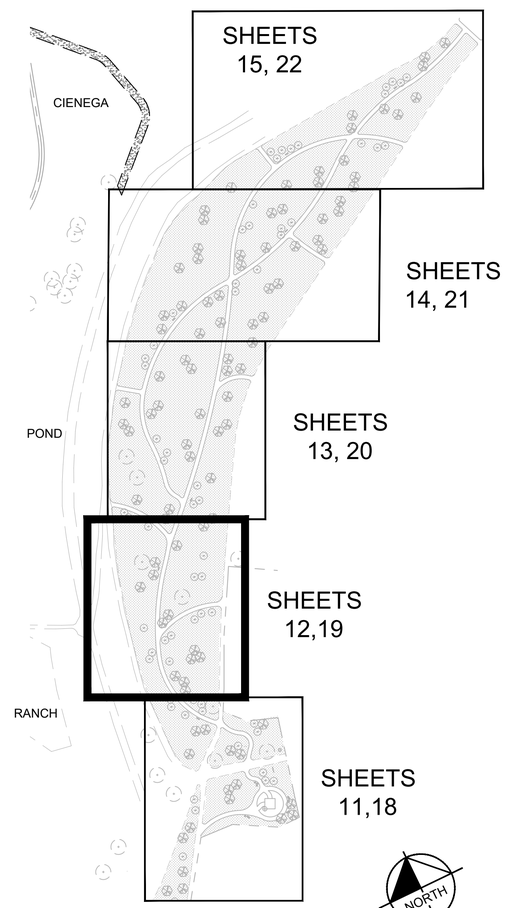
MATCHLINE – SEE SHEET 18

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	REMOTE CONTROL VALVE ASSEMBLY – DRIP ZONES	RAINBIRD–100–PESB	1"
	PRESSURE REGULATOR	SENNINGER PMR–35MF	1"
	MAINLINE BALL VALVE	NIBCO T–113–IR	2–1/2", U.N.O.
	BALL VALVE	NIBCO T–113–IR	1"
	MAINLINE	PVC SCH 40	2–1/2", U.N.O.
	TREE LATERAL LINE	PVC SCH 40	3/4"
	SHRUB LATERAL LINE	PVC SCH 40	3/4"
	SUBMAIN	PVC SCH 40	1–1/2"
	END CAP AUTOMATIC FLUSHING COMPRESSION END PLUG		
NOT SHOWN	EMITTER ASSEMBLY SINGLE–PORT; (1 GPH & 2 GPH)	RAINBIRD XB–05PC, XB–10PC, XB–20PC; 3 PER TREE	

KEY MAP

NOT TO SCALE



GRAPHIC SCALE IN FEET
0 10 20 40

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ARIZONA811

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SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

100%
JOC BID SET
NOT FOR CONSTRUCTION OR RECORDING

		DATE
DESIGNED	R. FIELD	08/2019
DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

POLLINATOR GARDEN
IRRIGATION PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

Kimley»Horn

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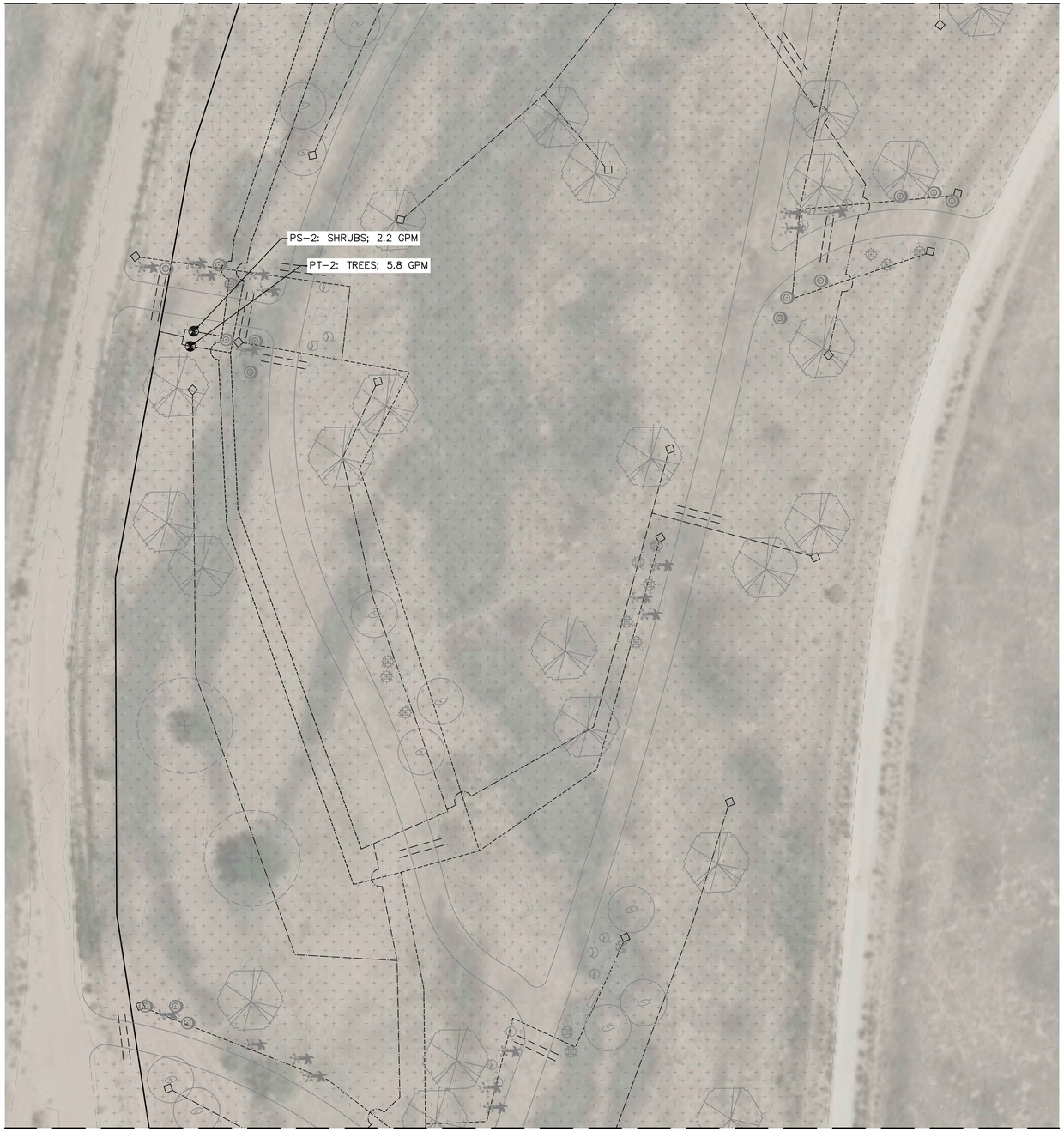
K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\098022061P.dwg POLLINATOR GARDEN 2 Last Saved: Sat, 05 Oct 2019 By: Rebecca.field Plotted: Saturday, October 5, 2019 12:03:43 AM

SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

MATCHLINE – SEE SHEET 21



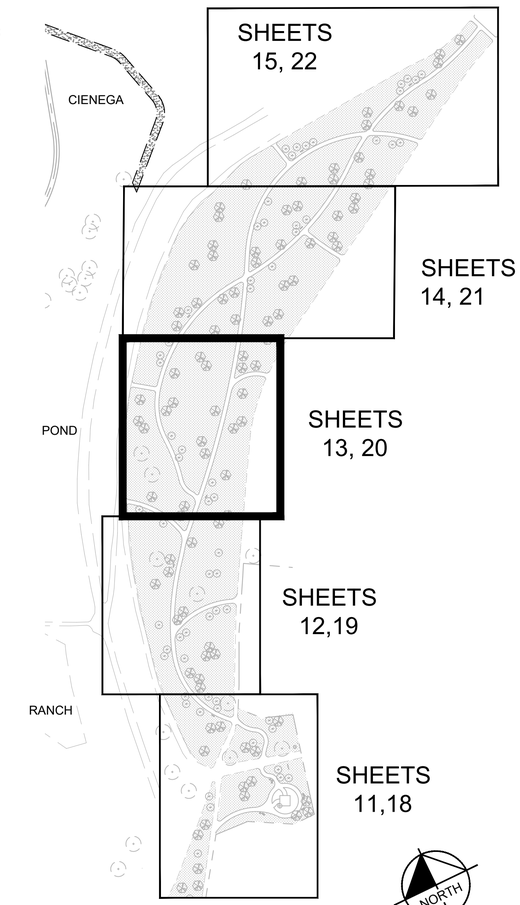
MATCHLINE – SEE SHEET 19

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	REMOTE CONTROL VALVE ASSEMBLY – DRIP ZONES	RAINBIRD–100–PESB	1"
	PRESSURE REGULATOR	SENNINGER PMR–35MF	1"
	MAINLINE BALL VALVE	NIBCO T–113–IR	2–1/2", U.N.O.
	BALL VALVE	NIBCO T–113–IR	1"
	MAINLINE	PVC SCH 40	2–1/2", U.N.O.
	TREE LATERAL LINE	PVC SCH 40	3/4"
	SHRUB LATERAL LINE	PVC SCH 40	3/4"
	SUBMAIN	PVC SCH 40	1–1/2"
	END CAP AUTOMATIC FLUSHING COMPRESSION END PLUG		
NOT SHOWN	EMITTER ASSEMBLY SINGLE–PORT; (1 GPH & 2 GPH)	RAINBIRD XB–05PC, XB–10PC, XB–20PC; 3 PER TREE	

KEY MAP

NOT TO SCALE



NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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SUZANNE SHIELDS, P.E., DIRECTOR

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100% JOC BID SET
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		DATE
DESIGNED	R. FIELD	08/2019
DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

POLLINATOR GARDEN
IRRIGATION PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

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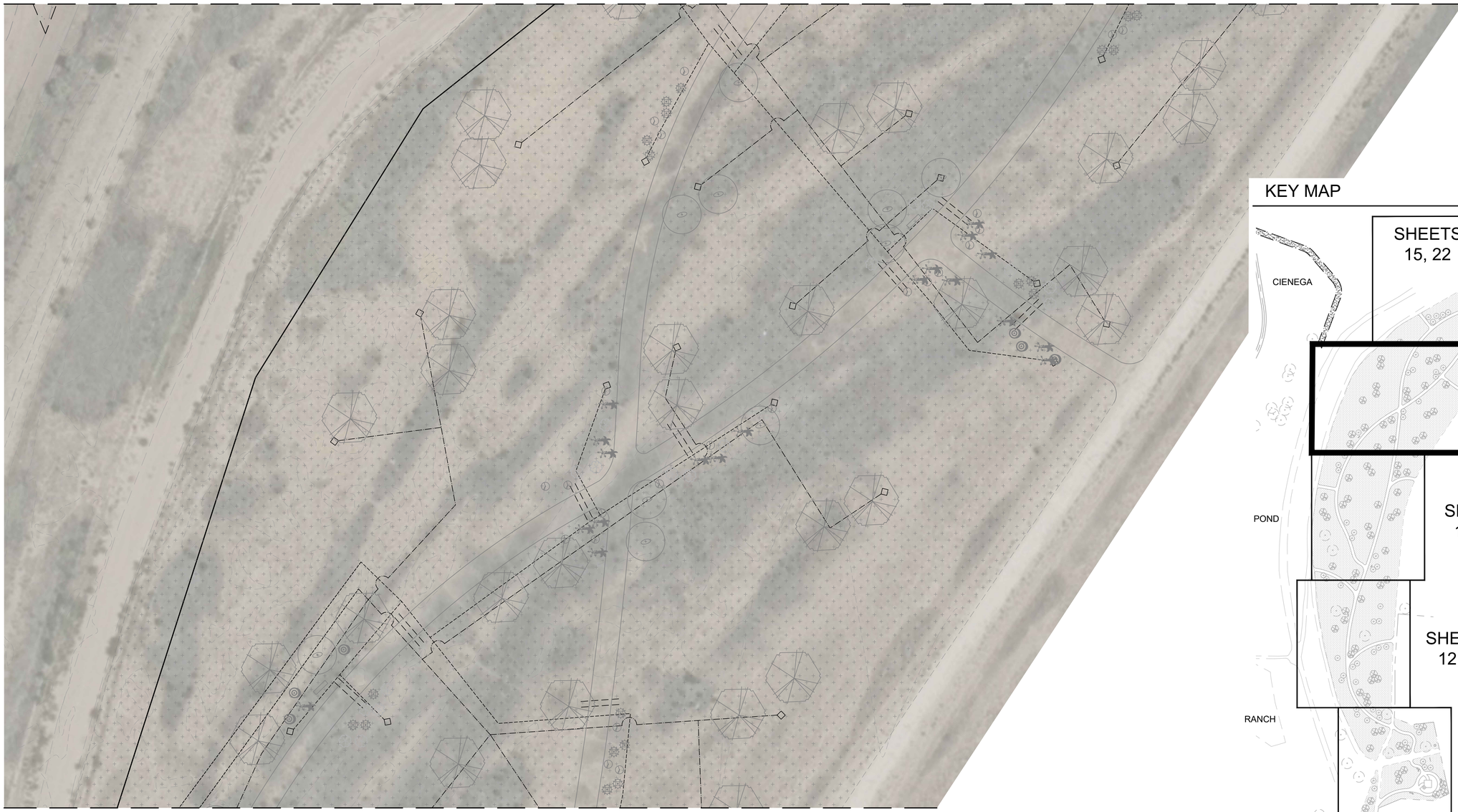
K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\h098022061ir.dwg POLLINATOR GARDEN 3 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:03:59 AM

SCALES: HORIZ. 1" = 20' VERT. N/A

SHEET 20 OF 23

PIMA COUNTY W.O.

MATCHLINE – SEE SHEET 22



MATCHLINE – SEE SHEET 20

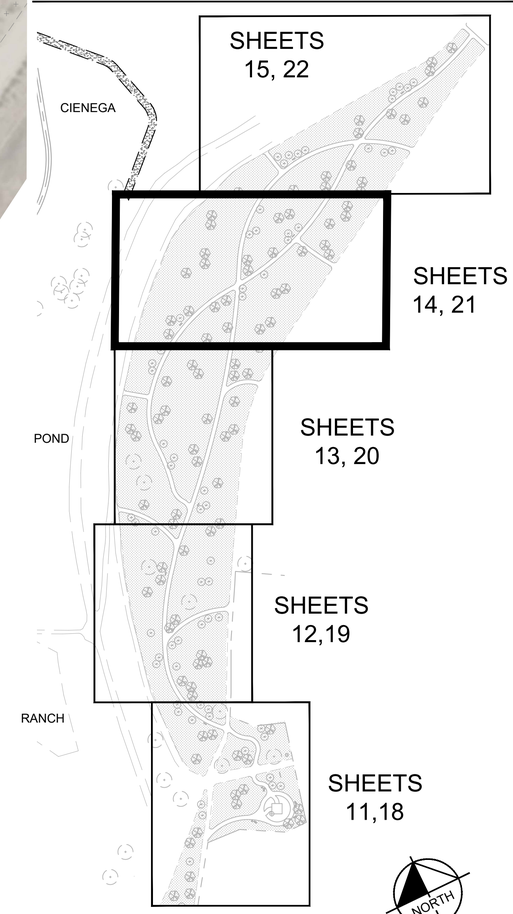
IRRIGATION LEGEND

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	REMOTE CONTROL VALVE ASSEMBLY – DRIP ZONES	RAINBIRD–100–PESB	1"
	PRESSURE REGULATOR	SENNINGER PMR–35MF	1"
	MAINLINE BALL VALVE	NIBCO T–113–IR	2–1/2", U.N.O.
	BALL VALVE	NIBCO T–113–IR	1"
	MAINLINE	PVC SCH 40	2–1/2", U.N.O.
	TREE LATERAL LINE	PVC SCH 40	3/4"
	SHRUB LATERAL LINE	PVC SCH 40	3/4"
	SUBMAIN	PVC SCH 40	1–1/2"

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	END CAP AUTOMATIC FLUSHING COMPRESSION END PLUG		
NOT SHOWN	EMITTER ASSEMBLY SINGLE–PORT; (1 GPH & 2 GPH)	RAINBIRD XB–05PC, XB–10PC, XB–20PC; 3 PER TREE	

KEY MAP

NOT TO SCALE



NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

100% JOC BID SET
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		DATE
DESIGNED	R. FIELD	08/2019
DRAWN	M.VO	08/2019
CHECKED	R. FIELD	08/2019
PROJ ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

POLLINATOR GARDEN
IRRIGATION PLAN
CANOA RANCH
CIENEGA AND
POLLINATOR GARDEN

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K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\h098022061r.dwg POLLINATOR GARDEN 4 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:04:20 AM

SCALES: HORIZ. 1" = 20' VERT. N/A

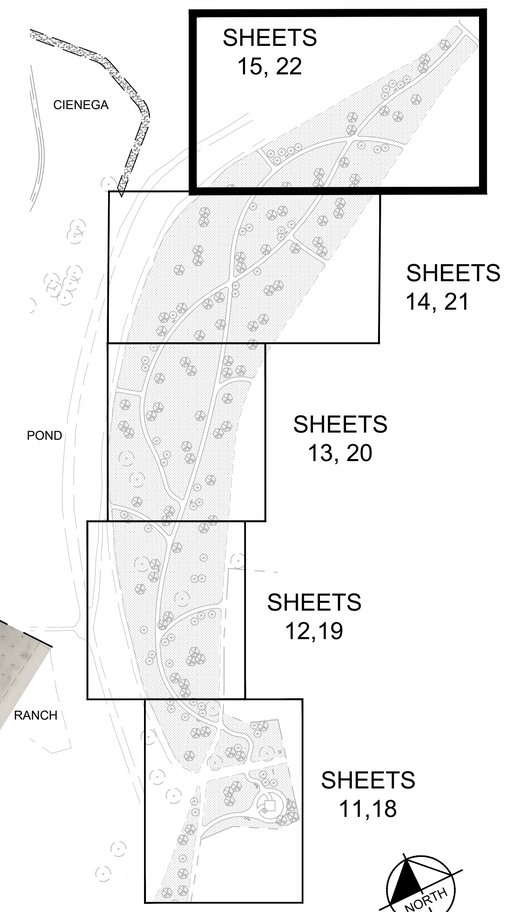
PIMA COUNTY W.O.

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	PRODUCT	SIZE
	REMOTE CONTROL VALVE ASSEMBLY – DRIP ZONES	RAINBIRD–100–PESB	1"
	PRESSURE REGULATOR	SENNINGER PMR–35MF	1"
	MAINLINE BALL VALVE	NIBCO T–113–IR	2–1/2", U.N.O.
	BALL VALVE	NIBCO T–113–IR	1"
	MAINLINE	PVC SCH 40	2–1/2", U.N.O.
	TREE LATERAL LINE	PVC SCH 40	3/4"
	SHRUB LATERAL LINE	PVC SCH 40	3/4"
	SUBMAIN	PVC SCH 40	1–1/2"
	END CAP AUTOMATIC FLUSHING COMPRESSION END PLUG		
NOT SHOWN	EMITTER ASSEMBLY SINGLE–PORT; (1 GPH & 2 GPH)	RAINBIRD XB–05PC, XB–10PC, XB–20PC; 3 PER TREE	

KEY MAP

NOT TO SCALE



GRAPHIC SCALE IN FEET
0 10 20 40

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		DATE
DESIGNED	R. FIELD	08/2019
DRAWN	M.YO	08/2019
CHECKED	R. FIELD	08/2019
PROJ.ENGR	K. PAYNE	08/2019

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

POLLINATOR GARDEN
IRRIGATION PLAN
CANOA RANCH
CIENEGA AND
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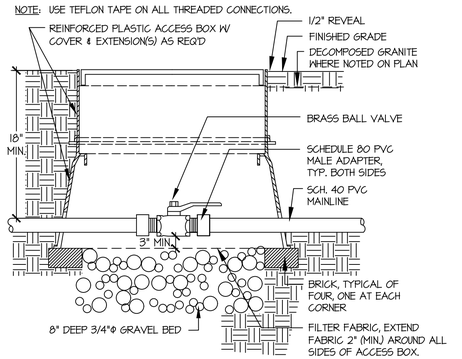
K:\TUC_LA\098022061_Canoa Ranch Restoration\CADD\Sheets\Siteimprovements\h098022061ir.dwg POLLINATOR GARDEN 5 Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:04:44 AM

SCALES: HORIZ. 1" = 20' VERT. N/A

PIMA COUNTY W.O.

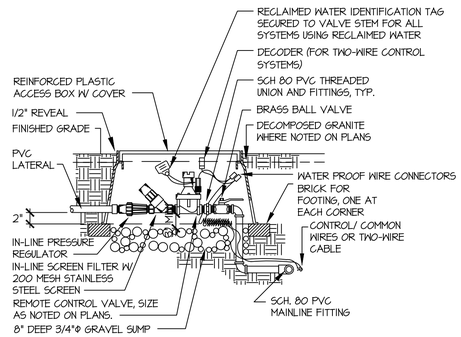
NOTE: USE TEFLON TAPE ON ALL THREADED CONNECTIONS.



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: MAINLINE ISOLATION (BALL) VALVE (½" TO 2" SIZE)	P-307
		SHEET 1 OF 1

NOTES:
1. ALL WIRES TO BE INSTALLED PER LOCAL CODE. TAPE AND BUNDLE WIRES EVERY 20'. PROVIDE EXPANSION COIL AT EACH WIRE CONNECTION IN VALVE BOX (WRAP AROUND 1/2" Φ PIPE 15 TIMES).
2. COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS ADJACENT UNDISTURBED SOIL.
3. ALL THREADED PVC JOINTS SHALL BE WRAPPED WITH TEFLON TAPE.

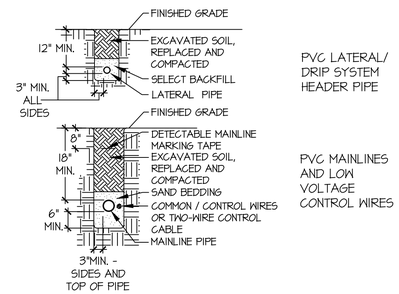


NOTE: RECLAIMED WATER IDENTIFICATION TAGS AVAILABLE FROM TUCSON WATER.

SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: REMOTE CONTROL VALVE ASSEMBLY - DRIP ZONES	P-310
		SHEET 1 OF 1

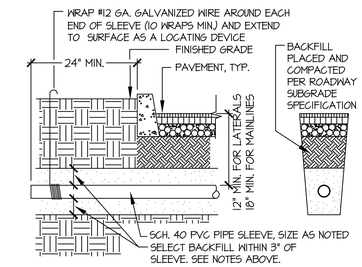
NOTES:
1. SELECT BACKFILL SHALL BE SAND OR SOIL FREE OF ROCKS AND STONES LARGER THAN 1/4" DIA.
2. BACKFILL MATERIAL SHALL BE WATERED IN AND COMPACTED TO DENSITY OF ADJACENT UNDISTURBED SOIL.



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: PIPE TRENCHING AND BACKFILL - MAINLINES, LATERALS, & MARKING TAPE	P-311
		SHEET 1 OF 1

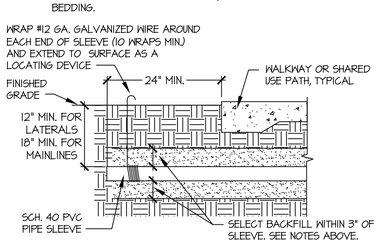
NOTE: BACKFILL WITHIN 3" OF SLEEVE SHALL BE FREE OF ROCKS AND STONES LARGER THAN 1/4"Φ. IF ROCK CANNOT BE REMOVED FROM EXCAVATED SOIL, PROVIDE CLEAN SAND BEDDING.



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: SLEEVE UNDER STREET OR PARKING LOT	P-312
		SHEET 1 OF 1

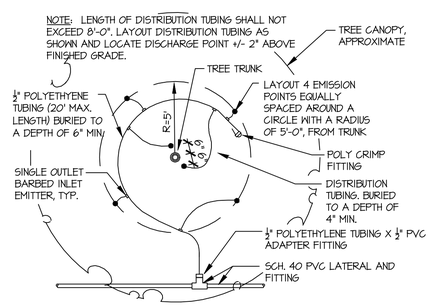
NOTES:
1. SLEEVES UNDER WALKWAYS SHALL BE SCHEDULE 40 PVC PIPE. SIZE SHALL BE AS NOTED ON PLANS.
2. BACKFILL WITHIN 3" OF SLEEVE SHALL BE FREE OF ROCKS AND STONES LARGER THAN 1/4" DIA. IF ROCK CANNOT BE REMOVED FROM EXCAVATED SOIL, PROVIDE CLEAN SAND BEDDING.



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: SLEEVE UNDER WALKWAY OR SHARED USE PATH	P-313
		SHEET 1 OF 1

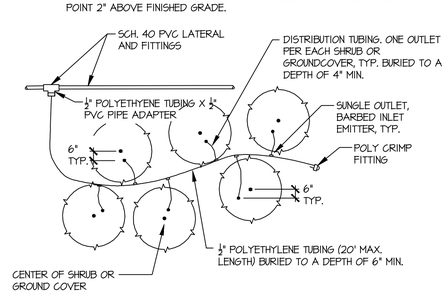
NOTE: LENGTH OF DISTRIBUTION TUBING SHALL NOT EXCEED 8'-0". LAYOUT DISTRIBUTION TUBING AS SHOWN AND LOCATE DISCHARGE POINT +/- 2" ABOVE FINISHED GRADE.



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: EMITTER/ POLYETHYLENE TUBING LAYOUT AT TREE - SIX EMITTERS PER TREE	P-317A
		SHEET 1 OF 1

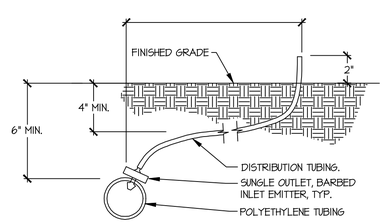
NOTES:
1. LENGTH OF DISTRIBUTION TUBING SHALL NOT EXCEED 8'-0"
2. LAYOUT DISTRIBUTION TUBING AS SHOWN AND LOCATE THE DISCHARGE POINT 2" ABOVE FINISHED GRADE.



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: EMITTER/ POLYETHYLENE TUBING LAYOUT AT SHRUBS	P-317B
		SHEET 1 OF 1

NOTE: MAXIMUM LENGTH OF DISTRIBUTION TUBING = 8'-0"



SCALE: N.T.S.

ISSUED: 01/16	STANDARD DETAIL	DETAIL NO.
REVISED:	PIMA COUNTY NATURAL RESOURCES PARKS • RECREATION — IRRIGATION: SINGLE OUTLET EMITTER WITH BARBED FITTING ON POLYETHYLENE TUBING	P-318A
		SHEET 1 OF 1

SUZANNE SHIELDS, P.E., DIRECTOR

NO.	REVISION DESCRIPTION	DIV/SECT.ENGR.	DATE

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	DATE
DESIGNED	08/2019
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CHECKED	08/2019
PROJ ENGR	08/2019

R. FIELD
M.VO
R. FIELD
K. PAYNE

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PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

IRRIGATION DETAILS

CANOA RANCH CIENEGA AND POLLINATOR GARDEN

SCALES: HORIZ. N/A VERT. N/A

SHEET 23 OF 23

PIMA COUNTY W.O.

K:\TUC_LA\098022081_Canoa Ranch Restoration\CADD\Sheets\SiteImprovements\h098022081e.dwg IRRIGATION DETAILS Last Saved: Sat, 05 Oct 2019 By: Rebeca.field Plotted: Saturday, October 5, 2019 12:04:46 AM