2012P024

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ENGINEERS • PLANNERS • SURVEYORS

ADDENDUM TO THE REQUEST FOR LETTER OF NO OBJECTION

FOR

THE BRIDGES EAST

SONOQUI CHANNEL MODIFICATIONS

GILBERT, ARIZONA

Prepared for:

BRIDGES NORTH LP
BRIDGES SOUTH LP
BRIDGES MULTIFAMILY LP
3820 W. Happy Valley Road, Suite 141-246
Glendale, AZ 85310

Prepared by:

hilgartwilson
1661 East Camelback Road, Suite 275
Phoenix, AZ 85016
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Fax: (602) 325-0161

Registered Professional Engineer (Civil)
CERTIFICATE NO. 49011
AUBREY J. THOMAS
Date Signed 7/17/12
ARIZONA, U.S.A.
Expires 12/31/14

July 2012
Project No. 1127

A033.909

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July 17, 2012

Ms. Shelby Brown
Right-of-Way Permits Specialist
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009

RE: Addendum to the Request for Letter of No Objection for
The Bridges East Sonoqui Channel Modifications
HilgartWilson Project No: 1127.00

Dear Ms. Brown:

This letter and attachments shall serve as an Addendum to the Bridges East Sonoqui Channel Modifications Request for Letter of no Objection submitted to the District in April 5, 2012. This addendum is in response to feedback received from the Town of Gilbert based on their review of the improvement plans for the Bridges East project and review comments received from the District on June 21, 2012. The District's review comments and HilgartWilson's responses are as follows:

1. *The new crossing will require installation of maintenance/equestrian access ramps on both sides of the crossing. Since the culverts are so low that maintenance equipment and equestrians cannot pass under the road, they'll have to exit the channel and go over the street surface. Maintenance vehicles might have a curb cut, but pedestrians and maybe equestrians should cross at the pedestrian crosswalk located at curb return midpoints. See the attached markup. The ramps and access points could be located on the north side of the channel, but that would make for a mid-block pedestrian/equestrian crossing that might not be approved by a traffic safety reviewer. The ramps should be constructed with an erosion-resistant construction that provides contiguous channel riprap slope protection under a cover suitable for maintenance vehicles and equestrians, such as DG. Alternatively, a reinforced concrete ramp with cutoff walls with a DG equestrian path adjacent could be installed.*

   Response: Maintenance/equestrian access ramps have been added to both sides of the Soboba Street culvert crossing of Sonoqui Channel. These ramps, which are located on the south side of the channel, have been designed in accordance with the specifications and details provided on the approved *Plans for the Construction of Sonoqui Wash Channelization Queen Creek Wash to Chandler Heights Road* as prepared for the District by Stanley Consultants in 2006 (excerpts attached). The ramp design incorporates contiguous channel riprap slope protection that is surfaced with a layer of compacted decomposed granite.

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2. *At the 36" storm drain outfall into Sonoqui Wash, please provide filter fabric under the loose rip-rap or use grouted rip-rap in the channel. The District recommends using grouted rip-rap with cutoff walls around the grouted rip-rap to reduce maintenance costs.*

   Response: The erosion protection for the 36" storm drain outfall now calls for filter fabric under the loose rip rap. No grouted rip rap will be used for the storm drain outfalls.

3. *The District also recommends placing removable bollards at the channel access points to prevent ATV'S from accessing the channel.*

   Response: Noted. While bollards were considered, they are not proposed at this time to minimize the potential of calling attention to these access points. Additionally, the existing access ramp at the northwest corner of Ocotillo and Recker Roads does not included bollards.

The changes made to the improvement plans and design reports in response to these comments and other necessary design modifications are summarized as follows:

1. Drainage Reports- Updates were made to the Bridges East, *West Parcels*, *East Parcels*, and *Infrastructure* Final Drainage Reports to reflect refinements in the stormwater retention and storm drain systems. These changes were minor in their hydrologic and hydraulic impact on the Sonoqui Channel. The overall retention volume provided for the site increased from the prior submittal. The storm drain system was modified to incorporate minor adjustments in the profiles. Relevant excerpts from the final drainage reports are included in Attachment 1.

2. Improvement Plans- Similar to the revisions listed above, the improvement plans were updated to including the minor modifications to the retention and storm drain systems. The plans were also revised to address the District's comments number 1 and 2 above by adding the requested equestrian/maintenance ramps and clarifying the erosion revetment details and the storm drain outlets. It should also be noted that headwall configuration for the easternmost and westernmost outlets to the Sonoqui Channel were modified for aesthetic and safety reasons. The new configurations closely match those constructed as part of the Ocotillo Road improvements on the south side of this segment of the Sonoqui Channel. Relevant excerpts from the updated Bridges East improvement plans, and the Ocotillo Road improvement plans (for reference only) are included at Attachment 2.

3. Landscape Plans- Subsequent to the initial submittal of this request, the landscape plans were updated to address minor review comments provided by the Town of Gilbert. The proposed landscaping in the vicinity of the Sonoqui Channel continues to be set outside of the 100-year flood limits. The revised plans are included as Attachment 3.

Except for the items listed above, no other changes relative to the proposed Sonoqui Channel modifications have been made since the original submittal was made in April.

As stated in the original request, no adverse impacts to the Sonoqui Channel or other downstream properties are expected to result from these proposed improvements. The analyses that were completed verified the following for the Sonoqui Channel:

- There will be no increases in the peak design flow rates
- There will be no significant increases in flow depth that would jeopardize the requisite freeboard
- No erosive conditions will be created that may lead a loss in the Channel cross-section's integrity.

We hereby request that after a satisfactory review of this addendum letter and attachments, your office provide a Letter of No Objection for these Improvements. Should you need additional information or clarification, please feel free to contact me at 602-490-0535 X 308 or by e-mail at athomas@hilgartwilson.com.

Respectfully submitted,

_____

Aubrey Thomas, P.E.
Manager Stormwater Resources
hilgartwilson

BRIDGES EAST
SONOQUI CHANNEL MODIFICATIONS

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EXCERPTS FROM FINAL

DRAINAGE REPORT

hilgartwilson
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FINAL DRAINAGE REPORT
FOR
THE BRIDGES EAST
EAST PARCELS
GILBERT, ARIZONA

Prepared for:

BRIDGES NORTH LP
BRIDGES SOUTH LP
BRIDGES MULTIFAMILY LP
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Registered Professional Engineer (Civil)
CERTIFICATE NO. 49011
AUBREY J. THOMAS
Date Signed 5/25/12
ARIZONA, U.S.A.
Expires 12/31/14

May 2012
Project No. 1127

DRAINAGE PLAN

FROM FINAL DRAINAGE REPORT

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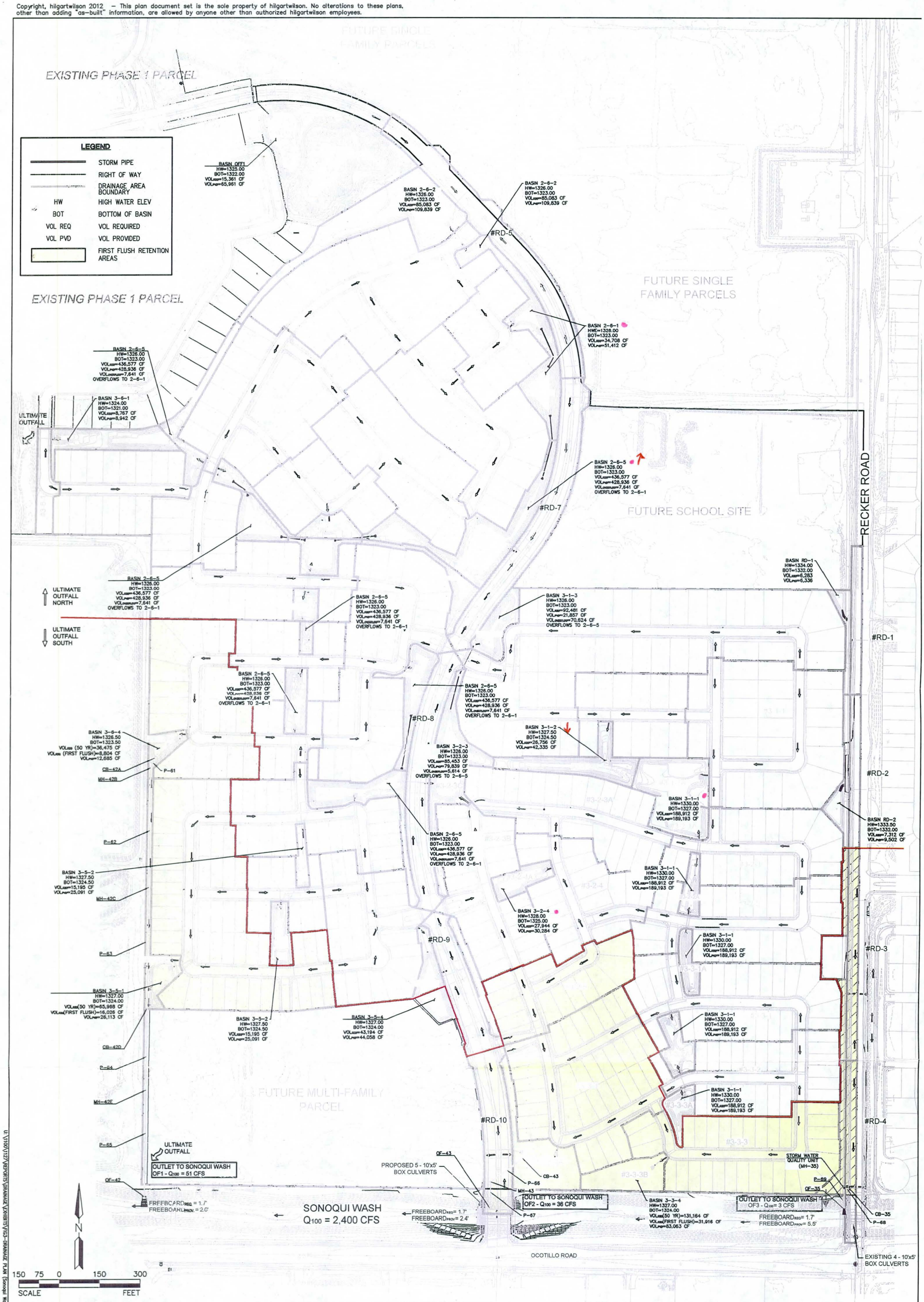

DWG. NO.	PROJ#: 1127	REV.:
1	DATE: MAY, 2012	
SHT. 1 OF 1	SCALE: 1" = 150'	
	DRAWN: CB	
	DESIGNED: CB, TQ	
	APPROVED: AT	

THE BRIDGES EAST

NWC OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

FIG 3: DRAINAGE PLAN (SONOQUI WASH OUTLETS)

hilgartwilson
ENGINEERS • PLANNERS • SURVEYORS
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PH 602.490.0535 / FAX 602.325.0161
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U:\1100\1127\REPORTS\DRAINAGE\EXHIBITS\FIG3-DRAINAGE PLAN (Sonoqui Wash Outlets).dwg 7/17/2012 1:34 PM

RETENTION SUMMARY TABLE

FROM FINAL DRAINAGE REPORT

RETENTION SUMMARY TABLE

FROM FINAL DRAINAGE REPORT

RETENTION BASIN CALCULATIONS TABLE

Project: Bridges East - West Parcels
Prepared by: HW
Date: May, 2012

hilgartwilson

Volume Required = C * (P/ 12) * A

A= Plan-view area of an individual drainage area	
Cw=Weighted Coefficient (50-Yr, 24-Hr)	C=1.00 (First Flush)
P=3.0 in (50-Yr, 24-Hr)	P=0.5 in (First Flush)

- Has adequate volume to provide 50-YR, 24-HR storage for contributing drainage area and any upstream overflow
- Relies upon downstream/equilized retention areas for provision of 50-YR, 24-HR runoff storage
- Retention facilities are sufficient to provide for the first-flush volume, but not the full 50-YR, 24-HR runoff

Retention Basin ID	ON-SITE Drainage Area(s)	Area (A) [sf]	Area (A) [ac]	Weighted C Coefficient, 50-Yr, 24-Hr	ON-SITE Retention Volume Required 50-Yr, 24-Hr [ft^3]	ON-SITE Retention Volume Required First Flush [ft^3]	OFF-SITE 50-Yr, 24-Hr Retention Volume Required [ft^3]	OFF-SITE First-Flush Retention Volume Required [ft^3]	Overflow from Basin [ft^3]	TOTAL 50-Yr, 24-Hr Retention Volume Required [ft^3]	TOTAL First-Flush Retention Volume Required [ft^3]	Retention Volume Provided [ft^3]	Overflow Volume 50-Yr, 24-Hr [ft^3]	Overflow Volume First Flush [ft^3]	Overflows To
2-6-1	2-6-1	108,307	2.5	0.70	19,036	4,513	7,641			34,708	7,190	51,412	0	0	-
	2-6-1A	64,253	1.5	0.50	8,032	2,677									
2-6-2	2-6-2	285,802	6.6	0.70	50,233	11,908				85,083	20,502	109,839	0	0	-
	2-6-2A	97,952	2.2	0.50	12,244	4,081									
	RD-5	108,296	2.5	0.84	22,607	4,512									
2-6-5	2-6-3	240,338	5.5	0.70	42,242	10,014	70,624	355	3-1-3	436,577	88,767	428,936	7,641	0	2-6-1
	2-6-3A	27,642	0.6	0.50	3,455	1,152	5,614	0	3-2-3						
	2-6-4	103,946	2.4	0.70	18,270	4,331									
	2-6-4A	29,414	0.7	0.50	3,677	1,226									
	2-6-5A	187,802	4.3	0.70	33,008	7,825									
	2-6-5B	213,267	4.9	0.70	37,484	8,886									
	2-6-5C	80,138	1.8	0.50	10,017	3,339									
	3-6-2A	135,203	3.1	0.70	23,763	5,633									
	3-6-2B	93,465	2.1	0.70	16,427	3,894									
	3-6-2C	22,281	0.5	0.50	2,785	928									
	3-6-3	161,071	3.7	0.70	28,310	6,711									
	3-6-3A	21,700	0.5	0.50	2,713	904									
	3-6-3B	11,464	0.3	0.50	1,433	478									
	3-6-5A	102,395	2.4	0.70	17,997	4,266									
	3-6-5B	53,307	1.2	0.70	9,369	2,221									
	3-6-5C	6,008	0.1	0.50	751	250									
	3-6-5D	19,900	0.5	0.50	2,488	829									
	3-6-6	264,197	6.1	0.70	46,435	11,008									
	3-6-6A	20,911	0.5	0.50	2,614	871									
	3-6-6B	31,006	0.7	0.50	3,876	1,292									
	3-5-3	154,738	3.6	0.70	27,197	6,447									
	3-5-3A	42,387	1.0	0.50	5,298	1,766									
	RD-7	99,286	2.3	0.84	20,726	4,137									

RETENTION BASIN CALCULATIONS TABLE

Project: Bridges East - West Parcels

Prepared by: HW

Date: May, 2012

hilgartwilson

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Retention Basin ID	ON-SITE Drainage Area(s)	Area (A) [sf]	Area (A) [ac]	Weighted C Coefficient, 50-Yr, 24-Hr	ON-SITE Retention Volume Required 50-Yr, 24-Hr [ft³]	ON-SITE Retention Volume Required First Flush [ft³]	OFF-SITE 50-Yr, 24-Hr Retention Volume Required [ft³]	OFF-SITE First-Flush Retention Volume Required [ft³]	Overflow from Basin [ft³]	TOTAL 50-Yr, 24-Hr Retention Volume Required [ft³]	TOTAL First-Flush Retention Volume Required [ft³]	Retention Volume Provided [ft³]	Overflow Volume 50-Yr, 24-Hr [ft³]	Overflow Volume First Flush [ft³]	Overflows To
3-1-1	3-1-1	286,672	6.6	0.70	50,386	11,945				188,912 ↓	46,182	189,193 =	0	0	-
	3-1-1A	42,152	1.0	0.50	5,269	1,756									
	3-2-1	155,191	3.6	0.70	27,276	6,466									
	3-2-1A	25,842	0.6	0.50	3,230	1,077									
	3-2-2	193,313	4.4	0.70	33,977	8,055									
	3-2-2A	13,220	0.3	0.50	1,652	551									
	3-3-1	196,535	4.5	0.70	34,543	8,189									
	3-3-1A	13,732	0.3	0.50	1,716	572									
	3-3-2	160,506	3.7	0.70	28,211	6,688									
	3-3-2A	21,213	0.5	0.50	2,652	884									
3-1-2	3-1-2	120,124	2.8	0.70	21,113	5,005				26,576 =	6,826	42,335 ↓	0	0	-
	3-1-2A	43,706	1.0	0.50	5,463	1,821									
3-1-3	3-1-3	509,143	11.7	0.70	89,487	21,214				92,481 =	22,212	21,857 =	70,624	355	2-6-5
	3-1-3A	23,953	0.5	0.50	2,994	998									
3-2-3	3-2-3A1	132,892	3.1	0.70	23,357	5,537				85,453 =	20,339	79,839 =	5,614	0	2-6-5
	3-2-3A2	42,139	1.0	0.70	7,406	1,756									
	3-2-3B	166,372	3.8	0.70	29,241	6,932									
	3-2-3C	61,860	1.4	0.50	7,733	2,578									
	RD-8	84,864	1.9	0.84	17,715	3,536									
3-2-4	3-2-4	145,984	3.4	0.70	25,658	6,083				27,944 ↑	6,844	30,284 =	0	0	-
	3-2-4A	18,284	0.4	0.50	2,285	762									
3-3-4	3-3-3	206,843	4.7	0.70	36,355	8,618				131,164 =	31,916	83,063 =	48,101	0	PIPE+WASH
	3-3-3A	14,060	0.3	0.50	1,758	586									
	3-3-3B	32,596	0.7	0.50	4,075	1,358									
	3-3-4	259,558	6.0	0.70	45,620	10,815									
	3-3-4A	51,408	1.2	0.50	6,426	2,142									
	3-2-5	121,575	2.8	0.70	21,368	5,066									
	3-2-5A	13,435	0.3	0.50	1,679	560									
	RD-10	66,507	1.5	0.84	13,883	2,771									
3-5-1	3-5-1	352,432	8.1	0.70	61,943	14,685				65,968 >	16,026	26,113 =	39,855	0	PIPE+WASH
	3-5-1A	32,199	0.7	0.50	4,025	1,342									
3-5-2	3-5-2	67,400	1.5	0.70	11,846	2,808				15,195 =	3,925	25,091 =	0	0	-
	3-5-2A	9,378	0.2	0.50	1,172	391									
	3-5-2B	17,413	0.4	0.50	2,177	726									

RETENTION BASIN CALCULATIONS TABLE

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Prepared by: HW
Date: May, 2012

hilgartwilson

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3-5-4	3-5-4	169,086	3.9	0.70	29,718	7,045				43,194 =	9,994	44,058 =	0	0	-
	3-5-4A	15,514	0.4	0.50	1,939	646									
	RD-9	55,264	1.3	0.84	11,536	2,303									
3-6-1	3-6-1	23,743	0.5	0.70	4,173	989				8,767 =	2,520	8,942 =	0	0	-
	3-6-1A	36,748	0.8	0.50	4,593	1,531									
3-6-4	3-6-4	198,271	4.6	0.70	34,848	8,261				36,475 =	8,804	12,685 =	23,790	0	PIPE+WASH
	3-6-4A	13,015	0.3	0.50	1,627	542									
RD-1	RD-1	22,113	0.5	0.85	4,671	921				6,283 =	1,459	6,336 =	0	0	-
	RD-1A	12,896	0.3	0.50	1,612	537									
RD-2	RD-2	22,585	0.5	0.85	4,771	941				7,312 =	1,788	9,502 =	0	0	-
	RD-2A	20,329	0.5	0.50	2,541	847									
Future Multi-Family Parcel	N/A	828,913	19.0	0.80	165,783	34,538				165,783 =	34,538	34,538 =	131,245	0	PIPE+WASH
TOTAL (acres or AC-FT)			181.5		31.5	7.6				33.468 AC-FT		27.6 ↑			

STORMCAD OUTPUT FOR OVERFLOW

SYSTEMS DISCHARGING TO SONOQUI WASH

FROM FINAL DRAINAGE REPORT

FlexTable: Catch Basin Table (1127 StormCAD Design (Sonoqui West).stc)

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Flow (Additional) (ft^3/s)	Flow (Total Out) (ft^3/s)	Headloss Method	Headloss Coefficient (Standard)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Inlet Location
CB-42A	1,327.10	1,323.60	7.00	7.00	Standard	0.500	1,324.82	1,324.70	In Sag
CB-42D	1,327.69	1,319.43	44.00	51.00	Standard	0.500	1,323.84	1,323.43	In Sag

FlexTable: Manhole Table (1127 StormCAD Design (Sonoqui West).stc)

Label	Elevation (Ground) (ft)	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Flow (Total Out) (ft^3/s)	Headloss Method	Headloss Coefficient (Standard)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Structure Type
MH-42B	1,327.76	1,327.76	1,323.44	7.00	Standard	0.500	1,324.66	1,324.54	Circular Structure
MH-42C	1,327.23	1,327.23	1,321.93	7.00	Standard	0.500	1,324.24	1,324.20	Circular Structure
MH-42E	1,326.71	1,326.71	1,318.38	51.00	Standard	0.500	1,321.89	1,321.49	Circular Structure

Conduit FlexTable: Combined Pipe/Node Report (1127 StormCAD Design (Sonoqui West).stc)

Label	Diameter (in)	Length (Scaled) (ft)	Slope (ft/ft)	Start Node	Invert (Upstream) (ft)	Stop Node	Invert (Downstream) (ft)	Manning's n	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Total Flow (ft^3/s)	Velocity (Average) (ft/s)	Cover (Start) (ft)	Cover (Stop) (ft)
P-61	24.0	46.0	0.003	CB-42A	1,323.60	MH-42B	1,323.44	0.012	1,324.70	1,324.66	7.00	4.56	1.50	2.32
P-62	24.0	442.3	0.003	MH-42B	1,323.44	MH-42C	1,321.93	0.012	1,324.54	1,324.24	7.00	4.53	2.32	3.30
P-63	24.0	442.3	0.003	MH-42C	1,321.93	CB-42D	1,320.42	0.012	1,324.20	1,323.84	7.00	2.23	3.30	5.27
P-64	36.0	309.2	0.003	CB-42D	1,319.43	MH-42E	1,318.38	0.012	1,323.43	1,321.89	51.00	7.22	5.26	5.33
P-65	36.0	389.7	0.004	MH-42E	1,318.38	OF-42	1,317.00	0.012	1,321.49	1,319.32	51.00	7.22	5.33	2.00

FlexTable: Outfall Table (1127 StormCAD Design (Sonoqui West).stc)

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade Line (ft)	Flow (Outfall) (ft^3/s)	Boundary Condition Type	Elevation (Tailwater) (ft)
OF-42	1,322.00	1,317.00	1,317.00	51.00	Free Outfall	0.00

FlexTable: Catch Basin Table (1127 StormCAD Design (Sonoqui at Culvert).stc)

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Flow (Additional) (ft^3/s)	Flow (Total Out) (ft^3/s)	Headloss Method	Headloss Coefficient (Standard)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Inlet Location
CB-43	1,326.00	1,321.94	36.46	36.46	Standard	0.500	1,325.26	1,324.83	In Sag

FlexTable: Manhole Table (1127 StormCAD Design (Sonoqui at Culvert).stc)

Label	Elevation (Ground) (ft)	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Flow (Total Out) (ft^3/s)	Headloss Method	Headloss Coefficient (Standard)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Structure Type
MH-43	1,328.83	1,328.83	1,321.00	36.46	Standard	0.500	1,323.84	1,323.40	Circular Structure

Conduit FlexTable: Combined Pipe/Node Report (1127 StormCAD Design (Sonoqui at Culvert).stc)

Label	Diameter (in)	Length (Scaled) (ft)	Slope (ft/ft)	Start Node	Invert (Upstream) (ft)	Stop Node	Invert (Downstream) (ft)	Manning's n	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Total Flow (ft^3/s)	Velocity (Average) (ft/s)	Cover (Start) (ft)	Cover (Stop) (ft)
P-66	30.0	147.3	0.006	CB-43	1,321.94	MH-43	1,321.00	0.012	1,324.83	1,323.84	36.46	7.43	1.56	5.34
P-67	30.0	103.6	0.005	MH-43	1,321.00	OF-43	1,320.50	0.012	1,323.40	1,322.55	36.46	7.43	5.34	2.00

FlexTable: Outfall Table (1127 StormCAD Design (Sonoqui at Culvert).stc)

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade Line (ft)	Flow (Outfall) (ft^3/s)	Boundary Condition Type	Elevation (Tailwater) (ft)
OF-43	1,325.00	1,320.50	1,320.50	36.46	Free Outfall	0.00

FlexTable: Catch Basin Table (1127 StormCAD Design (Sonoqui Outlets).stc)

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Flow (Additional) (ft^3/s)	Flow (Total Out) (ft^3/s)	Headloss Method	Headloss Coefficient (Standard)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Inlet Location
CB-35	1,331.10	1,327.00	3.00	3.00	Standard	0.500	1,327.84	1,327.70	In Sag

FlexTable: Manhole Table (1127 StormCAD Design (Sonoqui Outlets).stc)

Label	Elevation (Ground) (ft)	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Flow (Total Out) (ft^3/s)	Headloss Method	Headloss Coefficient (Standard)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Structure Type
MH-35	1,331.91	1,331.91	1,326.63	3.00	Standard	0.500	1,327.47	1,327.33	Circular Structure

Conduit FlexTable: Combined Pipe/Node Report (1127 StormCAD Design (Sonoqui Outlets).stc)

Label	Diameter (in)	Length (Scaled) (ft)	Slope (ft/ft)	Start Node	Invert (Upstream) (ft)	Stop Node	Invert (Downstream) (ft)	Manning's n	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Total Flow (ft^3/s)	Velocity (Average) (ft/s)	Cover (Start) (ft)	Cover (Stop) (ft)
P-68	15.0	18.8	0.019	CB-35	1,327.00	MH-35	1,326.63	0.012	1,327.70	1,327.47	3.00	6.98	2.85	4.03
P-69	15.0	76.7	0.020	MH-35	1,326.63	OF-35	1,325.10	0.012	1,327.33	1,325.57	3.00	7.06	4.03	1.75

FlexTable: Outfall Table (1127 StormCAD Design (Sonoqui Outlets).stc)

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade Line (ft)	Flow (Outfall) (ft^3/s)	Boundary Condition Type	Elevation (Tailwater) (ft)
OF-35	1,328.10	1,325.10	1,325.10	3.00	Free Outfall	0.00

EXCERPTS FROM IMPROVEMENT PLANS

THAT INCLUDE OUTLETS TO SONOQUI WASH

EXCERPTS OF

MASS GRADING PLANS

THE BRIDGES EAST
MASS GRADING PLANS
GILBERT, ARIZONA

A PORTION OF SECTION 11 AND SECTION 14, TOWNSHIP 2
SOUTH RANGE 6 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN
MARICOPA COUNTY, ARIZONA

HILGARTWILSON STANDARD ENGINEERING NOTES

1. THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. ANYONE WHO TAKES IT UPON THEMSELF THE INTERPRETATION OF THE DRAWINGS OR MAKES REVISIONS TO THE SAME WITHOUT CONFERRING WITH THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR THE CONSEQUENCES THEREOF.

2. THE ESTIMATED QUANTITIES SHOWN ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETENESS AND ACCURACY OF A DETAILED ESTIMATE BASED ON THESE PLANS, CURRENT CODES, AND SITE VISITATION.

3. ALL EARTHWORK CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD DETAILS AND/OR SPECIFICATIONS INCLUDING ANY SUPPLEMENTS THERETO, AND ALL ADDENDA. THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATION OF THE SOIL INVESTIGATION REPORT AND LETTER, AS PREPARED BY RICKER ATKINSON MCBEE MORMAN & ASSOCIATES, INC. PHONE NO. (480) 921-8100, PROJECT NO. G19365, DATED MARCH 7, 2012.

4. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL THOROUGHLY SATISFY HIMSELF AS TO THE ACTUAL CONDITIONS, REQUIREMENTS OF THE WORK AND EXCESS OR DEFICIENCY IN QUANTITIES. NO CLAIMS SHALL BE MADE AGAINST THE OWNER/DEVELOPER OR ENGINEER FOR ANY EXCESS OR DEFICIENCY THEREIN, ACTUAL OR RELATIVE.

5. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF UTILITIES, POWER POLES, ETC.

7. THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE SURVEYOR REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES SET BY THE SURVEYOR UNLESS ALL SURVEY STAKES SET BY THE ENGINEER ARE MAINTAINED INTACT AND CAN BE VERIFIED AS TO THEIR ORIGIN. IF, IN THE OPINION OF THE SURVEYOR, THE STAKES ARE NOT MAINTAINED INTACT AND CANNOT BE VERIFIED AS TO THEIR ORIGIN, ANY REMEDIAL WORK REQUIRED TO CORRECT ANY ITEM OF IMPROPER CONSTRUCTION WORK SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.

8. THE SURVEYOR WILL MAKE FIELD AS-BUILT MEASUREMENTS OF THE WORK UPON NOTIFICATION BY THE CLIENT OR HIS REPRESENTATIVE THAT THE WORK IS COMPLETE AND READY FOR AS-BUILT SURVEY. FOR PIPE WORK, THE CONTRACTOR IS RESPONSIBLE FOR LEAVING TRENCHES OPEN SO THAT AS-BUILTS CAN BE PERFORMED TO COMPLY WITH THE AGENCY'S REQUIREMENTS. (IF THE TRENCHES ARE BACKFILLED AND OBSCURED TO THE POINT THAT AS-BUILT MEASUREMENTS CANNOT BE PERFORMED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POTHOLE UTILITY TRENCHES AS NECESSARY TO COMPLETE AN AS-BUILT SURVEY.)

9. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITIONS, OR PAVEMENT CROSS-SLOPES DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT BEING ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.

10. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED ACCORDING TO INFORMATION PROVIDED BY THE AGENCY OPERATING EACH UTILITY. LOCATIONS SHOWN ARE APPROXIMATE ONLY, AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CALL BLUE STAKE FOR FIELD LOCATION AT (602) 263-1100. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWING, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN LIKE KIND.

11. PRIOR TO CONSTRUCTION, THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE ANY ALTERATION, OR VARIANCE FROM THESE PLANS. ANY VARIATIONS FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER.

12. ANY INSPECTION BY THE CITY, COUNTY, ENGINEER, OR OTHER JURISDICTIONAL AGENCY, SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH APPLICABLE CODES AND AGENCY REQUIREMENTS.

13. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL STORM DRAIN PIPES, STORM WATER RETENTION PIPES AND DRAINAGE FACILITIES FROM DAMAGE DURING ALL STAGES OF CONSTRUCTION. THE DEPTH OF COVER ON THE STORM DRAIN PIPE IS DESIGNED FOR FINAL GRADE. THEREFORE, EXTRA CARE SUCH AS BERMING OVER PIPES, FLAGGING OR SIGNAGE SHOULD BE USED DURING CONSTRUCTION TO MAINTAIN COVER OR PROTECT THE PIPES.

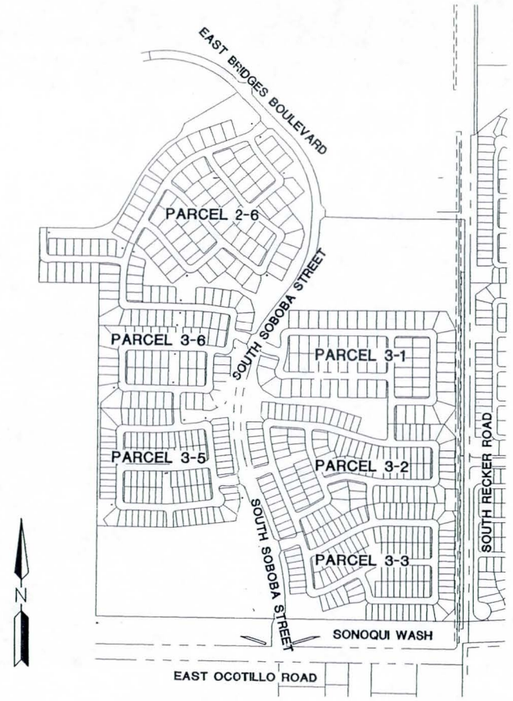
14. THE ENGINEER MAKES NO REPRESENTATION OR GUARANTEE REGARDING EARTHWORK QUANTITIES OR THAT THE EARTHWORK FOR THIS PROJECT WILL BALANCE DUE TO THE VARYING FIELD CONDITIONS, CHANGING SOIL TYPES, ALLOWABLE CONSTRUCTION TOLERANCES AND CONSTRUCTION METHODS THAT ARE BEYOND THE CONTROL OF THE ENGINEER.

15. IF PAD CERTIFICATIONS ARE PERFORMED, IT IS UNDERSTOOD THAT THE CERTIFICATION PROVIDES ONLY A REPRESENTATIVE ELEVATION OF THE AVERAGE GRADE OF EACH LOT, BUILDINGS OR UNIT PAD, AND SHALL NOT BE CONSTRUED TO INCLUDE YARD AND STREET SUB-GRADE CERTIFICATION OR CERTIFICATION THAT THE ENTIRE PAD IS LEVEL, THAT IT WAS CONSTRUCTED IN THE DESIGNED LOCATION OR WAS GRADED TO THE CROSS-SECTION SET FORTH ON THE PLANS OR AS DESIGNATED IN THE SOILS REPORT.

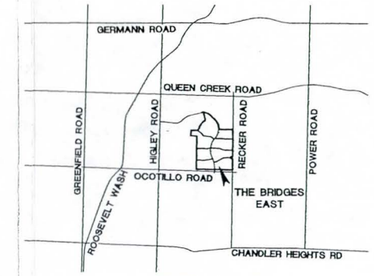
16. FINISH GRADES SHOWN ON THESE PLANS ARE THE FINAL FINISH GRADES. CONTRACTOR IS RESPONSIBLE FOR OVER-EXCAVATING LANDSCAPE AREAS TO ALLOW FOR PLANTING AND UTILITY TRENCHING SPOILS AND FOR THE FINAL LANDSCAPE TREATMENT (DECOMPOSED GRANITE, LAWN, ETC.).

17. UNDERGROUND UTILITIES SHALL BE MARKED IN ACCORDANCE WITH SECTION 40-360 OF THE ARIZONA REVISED STATUTES AND LOCAL MUNICIPALITY REQUIREMENTS.

THIS SET OF CONSTRUCTION PLANS HAS BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES FOR REVIEW AND TO DETERMINE ANY POTENTIAL CONFLICTS.		
UTILITY COMPANY	COMPANY CONTACT	DATE SUBMITTED
CENTURYLINK	DANNY YOUNG	04/03/2012
SALT RIVER PROJECT	BRETT GRUENDLER	04/03/2012
COX COMMUNICATIONS	KEN DEGRAFFENREID	04/03/2012
SOUTHWEST GAS COMPANY	ZACH STEVENSON	04/03/2012



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

ENGINEER
HILGARTWILSON
1661 E. CAMELBACK RD., STE. 275
PHOENIX, ARIZONA 85016
CONTACT: NGUYEN LAM
PHONE: (602) 490-0535
FAX: (602) 325-0161

LANDSCAPE ARCHITECT
ANDERSON BARON
88 SOUTH SAN MARCOS PLACE
SUITE 101
PHOENIX, AZ 85028
(480) 699-7956
FAX: (480) 699-7986
CONTACT: THOMAS DURANT

OWNER/DEVELOPER
BRIDGES NORTH LP
3820 W. HAPPY VALLEY RD
#141-246
GLENDALE, AZ 85310

BRIDGES SOUTH LP
3820 W. HAPPY VALLEY RD
#141-246
GLENDALE, AZ 85310

LIGHTING
WRIGHT ENGINEERING CORPORATION
165 E. CHILTON DRIVE
CHANDLER, AZ 85225
PHONE: (480) 497-5829
FAX: (480) 497-5807
CONTACT: AARON KUTCHINSKY

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN OR NOTED HEREON WERE MADE BY MYSELF OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SIGNATURE_____ DATE_____

LEGEND

(1600)	EXIST. CONTOURS
1600	PROPOSED CONTOURS
	DRYWELL
XX.XX	TOP OF CURB
FF	FINISH FLOOR
FP	FINISH PAD
FG	FINISH GRADE
	SLOPE

ENGINEER'S ESTIMATED EARTHWORK QUANTITIES

GROSS CUT	262,918 C.Y.
GROSS FILL	164,560 C.Y.
SHRINKAGE LOSS (ASSUME 20%)	52,583 C.Y.
PRECOMPACTION LOSS (ASSUME 0.2 FT)	44,976 C.Y.
NET EARTHWORK QUANTITY (EXPORT, IN PLACE)	**799 C.Y.**

NOTE: EARTHWORK QUANTITIES ARE ESTIMATED VOLUMES BASED ON ASSUMED SHRINKAGE AND PRECOMPACTION LOSSES. THE CONTRACTOR SHALL PREPARE HIS OWN EARTHWORK ANALYSIS FOR BIDDING PURPOSES.

SHEET INDEX

MG01	COVER SHEET
MG02-MG03	NOTES AND DETAILS
MG04-MG05	STORM DRAIN PROFILES
MG06-MG23	MASSGRADING PLANS
MG24-MG30	NOTES AND DETAILS
SP01	STORM WATER MANAGEMENT POLLUTION PREVENTION COVER
SP02-SP03	STORM WATER MANAGEMENT POLLUTION PREVENTION PLANS

APPROVALS
THE AUTHORIZED REPRESENTATIVES OF THE FOLLOWING AGENCIES HEREBY ACKNOWLEDGE OR HAVE ACKNOWLEDGED THEY HAVE REVIEWED AND APPROVED THEN DESIGN SHOWN BY THESE DRAWINGS. CONSTRUCTION MAY BEGIN AFTER ALL APPROPRIATE PERMITS HAVE BEEN OBTAINED.

TOWN OF GILBERT _____ DATE_____
TOWN ENGINEER

TOWN OF GILBERT _____ DATE_____
FIRE DEPT.

BASIS OF BEARING
THE EAST SECTION LINE OF SECTION 14, BEING S00°16'16"W.

BENCHMARK NOTE: 1320.20' (NAVD88)
DESCRIBED AS THE NW CORNER OF SCTION 14 T2S, R6E, BEING A TOWN OF GILBERT BRASS CAP HANDHOLE, 0.55 DOWN AT THE INTERSECTION OF QUEEN CREEK ROAD AND HIGLEY ROAD.

BUILDING DEPARTMENT NOTICE:
ALTHOUGH SOME PLANS AND DETAILING FOR SCHEMATIC PURPOSES WERE PROVIDED, THE SUBDIVISION SUBMITTAL PACKAGE REVIEWED DID NOT INCLUDE ALL SITE AMENITY/IMPROVEMENT PLANS AND DETAILS NECESSARY FOR FULL BUILDING DEPARTMENT APPROVAL. COMPLETE PLANS AND DETAILING INCLUDING STRUCTURAL AND ELECTRICAL PLANS AND DETAILS ARE BEING DEFERRED UNTIL THE FIRST BUILDING PERMIT FOR AN AMENITY IS REQUESTED FROM DEVELOPMENT SERVICES. ALL COMPLETE PLANS AND DETAILS MUST BE SUBMITTED FOR ALL SITE AMENITIES REQUIRING A BUILDING DEPARTMENT PERMIT WHEN THE FIRST BUILDING PERMIT IS REQUESTED. PERMITS WILL NOT BE ISSUED FOR ANY SINGLE AMENITY WITHOUT APPROVAL OF THE OVERALL SITE PLAN AND ALL RELATED AND NECESSARY DETAILS.

PARTIAL PLANS SUBMITTED FOR REVIEW THROUGHOUT THE SUBDIVISION REVIEW PROCESS WILL NEED TO BE RESUBMITTED AS PART OF THE BUILDING PERMIT REQUESTED PROCESS.

AMENITIES OR IMPROVEMENTS THAT REQUIRE BUILDING PERMITS INCLUDE, HOWEVER ARE NOT LIMITED TO: FENCES, RETAINING WALLS, MONUMENT WALLS, RAMADAS, ELECTRICAL PEDESTALS, SITE LIGHTING ADA ACCESS (WHERE NOT SHOWN ON PRIOR DRAWINGS), WATER METERS (BOTH IRRIGATION AND DOMESTIC), DRINKING FOUNTAINS, WATER PUMPING STATIONS, SWIMMING POOLS, BATH HOUSES, AND BACKFLOW ASSEMBLIES.

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

hilgartwilson
ENGINEERS•PLANNERS•SURVEYORS
1661 E. CAMELBACK RD., STE. 275 / PHOENIX, AZ 85016
PH 602.490.0535 / FAX 602.325.0161
www.hilgartwilson.com

THE BRIDGES EAST
MASS GRADING
GILBERT, ARIZONA

COVER SHEET

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-14-12
ARIZONA U.S.A.
Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: NTS	
DRAWN: JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. MG01
SHT. 1 OF 33

ENG 2012-00116

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ENGINEERS ESTIMATED QUANTITIES

NOTE: ENGINEERS ESTIMATED QUANTITIES ARE NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL BASE THEIR BID ON THEIR OWN QUANTITY TAKEOFFS.

STORM DRAIN CONSTRUCTION NOTES

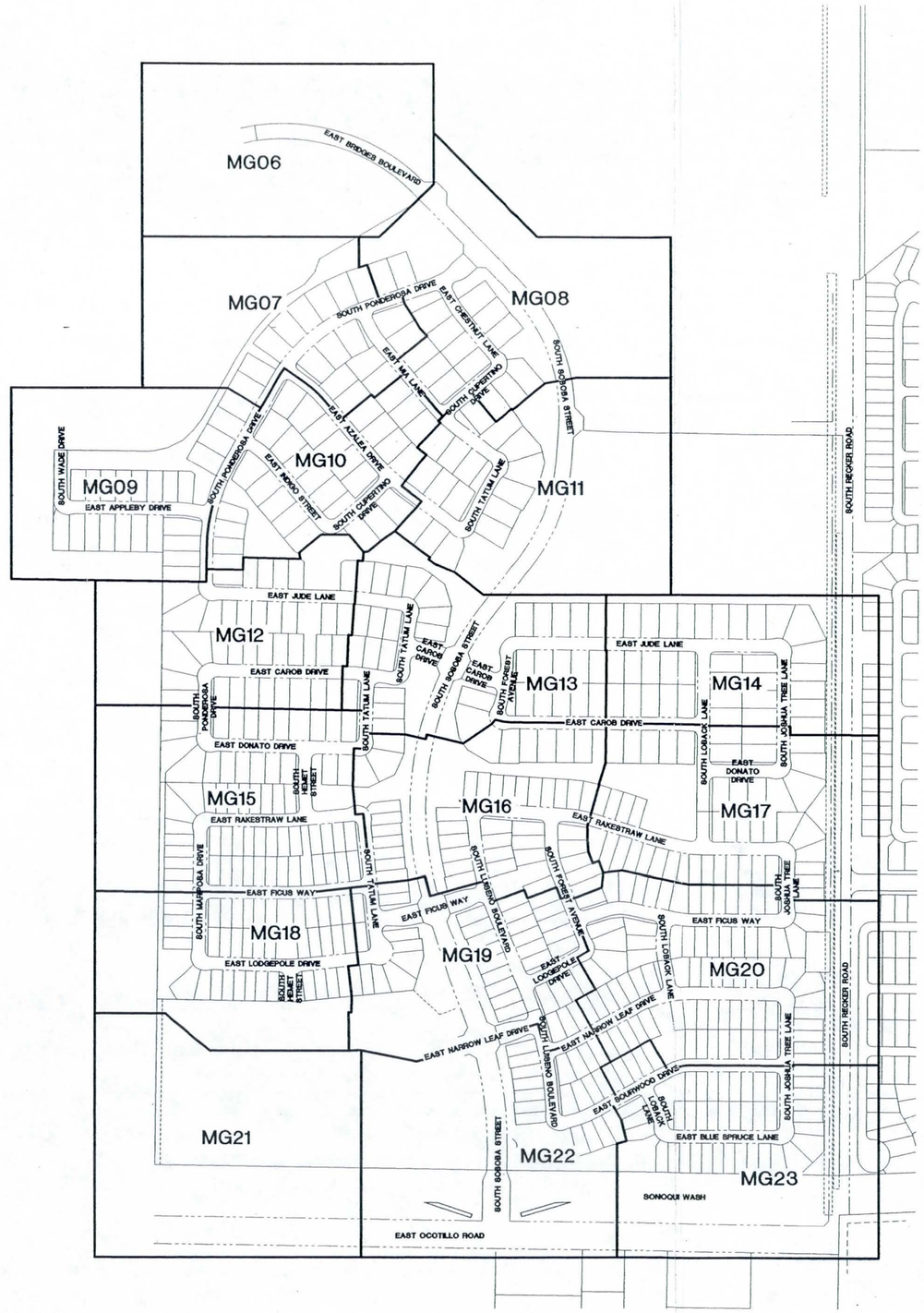
4	LOOSE RIP-RAP D50=9"-18" THICK ON MIRAFI EROSION PROTECTION GEO-TEXTILE OR APPROVED EQUAL; GRANITE TO MATCH THE DECOMPOSED GRANITE ONSITE	166	SY
5	STORM DRAIN MANHOLE; MAG DTLS 424, 520, 522. ADJUST RIM TO GRADE PER MAG DTL 422	7	EA
21	36" HDPE STORM DRAIN	699	LF
27	DROP INLET HEADWALL; MAG DTL 501-5, WITH TRASH RACK; MAG DTL 502-2, WITH HANDRAIL; MAG DTL 145	2	EA
34	15" HDPE STORM DRAIN	555	LF
35	18" HDPE STORM DRAIN	280	LF
36	24" HDPE STORM DRAIN	945	LF
38	FLARED END SECTION WITH ACCESS BARRIER ATTACHED; SEE DETAILS ON SHEET MG05	15	EA
39	FLARED END SECTION; PER MAG STD DTL 545	1	EA

GRADING CONSTRUCTION NOTES

1	MAXWELL IV DRYWELL OR APPROVED EQUAL DETAIL ON SHEET MG03 RIM ELEVATION 0.2FT ABOVE BASIN BOTTOM	34	EA
2	RETAINING WALL, HEIGHT SHOWN ON PLANS. RETAINING WALL DESIGN MUST BE SUBMITTED INDEPENDENTLY BY CONTRACTOR TO BUILDING DEPARTMENT FOR REVIEW AND PERMIT.	5377	LF
12	EXISTING EDGE OF LAKE TO BE PROTECTED	0	NPI
13	SAFETY RAIL, TYPE 1; MAG DTL 145	262	LF

ABBREVIATIONS

ABC	AGGREGATE BASE COURSE
AC	ASPHALTIC CEMENT OR CONCRETE
AHD	AHEAD SEWER STATION
ARCH	ARCHITECTURAL
B/C	BACK OF CURB
BCR	BEGIN CURB RETURN
BK	BACK SEWER STATION
BOT	BOTTOM OF BASIN
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL AT FINISH GRADE
C&G	CURB AND GUTTER
C/L or CL	CENTERLINE
CB	CATCH BASIN
DE	DRAINAGE EASEMENT
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DTL	DETAIL
E	EAST OR EASTING
EA	EACH
ECR	END CURB RETURN
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLOW LINE GRADE
FP	FINISH PAD
FS	FINISH SURFACE
FT	FOOT OR FEET
G	GUTTER
GB	GRADE BREAK
GFF	GARAGE FINISH FLOOR
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HIGH POINT
HWL	HIGH WATER ELEVATION
INV	INVERT OR INVERSE
LF	LINEAR FEET
L.P.	LOW POINT
L/S	LANDSCAPE
L.E.	LANDSCAPE EASEMENT
LT or L	LEFT
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MH	MANHOLE
ML or M/L	MONUMENT LINE
MIN	MINIMUM
MUTE	MULTI-USE TRAIL EASEMENT
N	NORTH OR NORTHING
NTS	NOT TO SCALE
P	PAVEMENT
PAE	PEDESTRIAN ACCESS EASEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PH	PHASE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R/W OR ROW	RIGHT OF WAY
RGRCP	RUBBER GASKET REINFORCED CONCRETE PIPE
RT or R	RIGHT
S	SOUTH, SLOPE OR SEWER LINE
S/W or SW	SIDEWALK
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SPEC	SPECIFICATIONS
STA	STATION
STD	STANDARD
TC	TOP OF CURB
TRANS	TRANSMISSION OR TRANSITION
TF	TOP OF FOOTING
TG	TOP OF GRATE
TL	TRUE LENGTH
TRW	TOP OF RETAINING WALL
TS	TRUE SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VC	VERTICAL CURVE
VERT	VERTICAL
VG	VALLEY GUTTER
Vprov	VOLUME PROVIDED
Vreq	VOLUME REQUIRED
V.T.	VISIBILITY TRIANGLE
W	WEST OR WATER LINE
W/	WITH
W/L	WATERLINE



KEY MAP
N.T.S.

hilgartwilson
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www.hilgartwilson.com

THE BRIDGES EAST

MASS GRADING
GILBERT, ARIZONA

NOTES AND DETAILS

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-29-12
ARIZONA U.S.A.
Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: NTS	
DRAWN: JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. MG02
SHT. 2 OF 33

ENG 2012-00116

CALL TWO WORKING DAYS BEFORE YOU DIG
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1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

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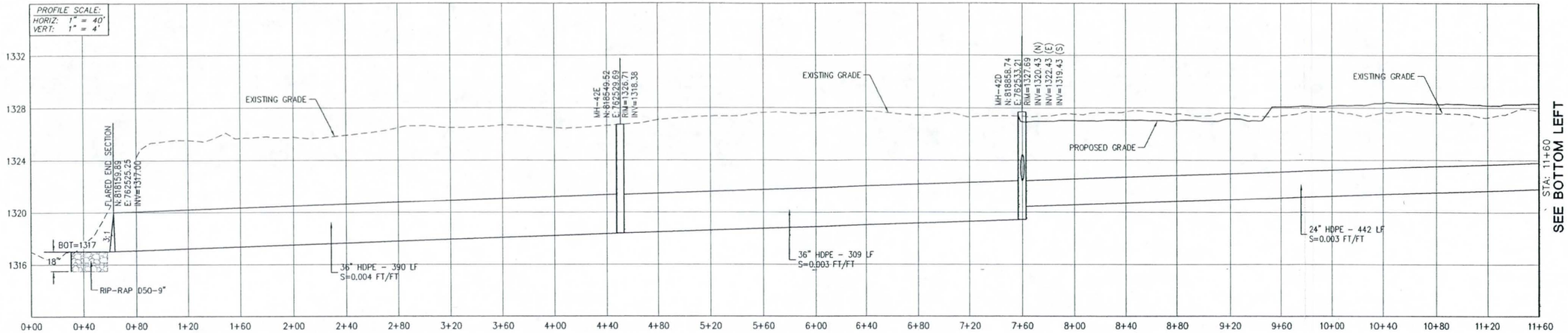
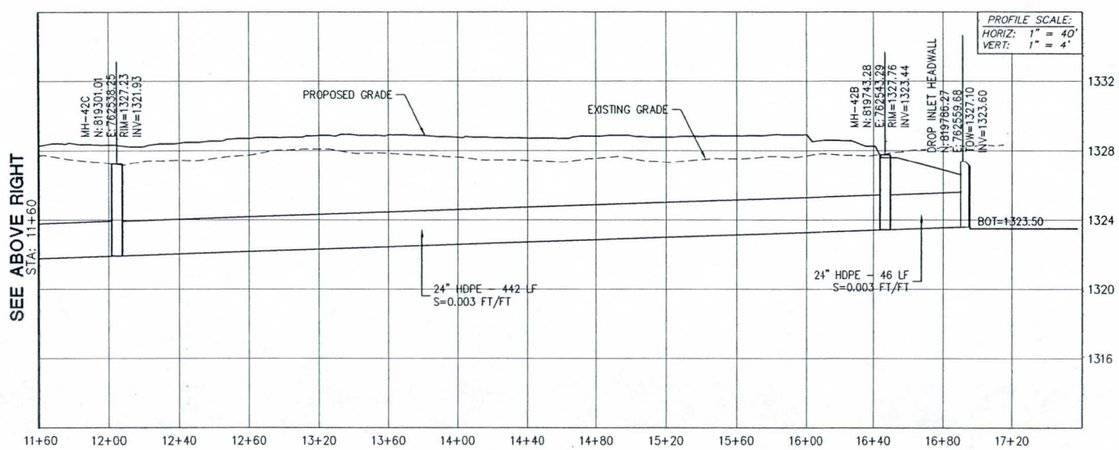


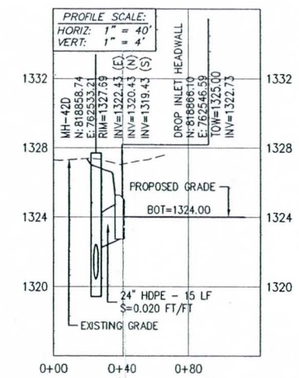
PROFILE A
DRAINAGE PIPE ALONG WEST BOUNDARY LINE

LOOKING WEST
SEE SHEET MG15 & MG18 & MG21



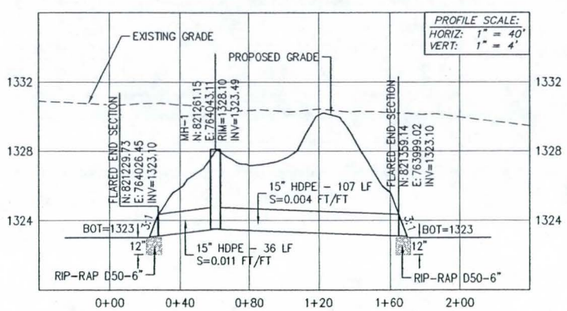
PROFILE A
DRAINAGE PIPE ALONG WEST BOUNDARY LINE

LOOKING WEST
SEE SHEET MG15 & MG18 & MG21



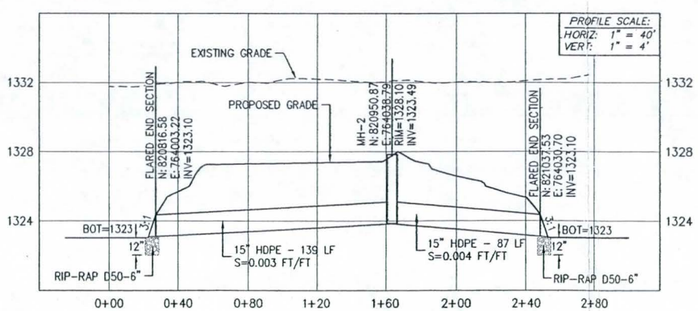
PROFILE B
DRAINAGE PIPE ALONG WEST BOUNDARY LINE

LOOKING NORTHWEST
SEE SHEET MG18



PROFILE C
DRAINAGE PIPE ALONG NORTHWEST SOUTH SOBOBA STREET

LOOKING NORTHWEST
SEE SHEET MG08 & MG11



PROFILE D
DRAINAGE PIPE ALONG WEST OF SOUTH SOBOBA STREET

LOOKING WEST
SEE SHEET MG11

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MASS GRADING
GILBERT, ARIZONA

STORM DRAIN PROFILES

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6/18/12
ARIZONA U.S.A.
Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: 1"=40'	
DRAWN: JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. MG04
SHT. 4 OF 33

ENG 2012-00116

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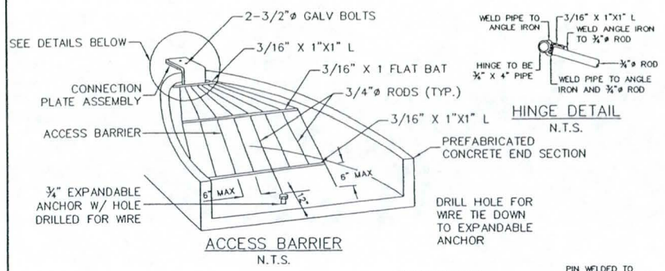

ACCESS BARRIER
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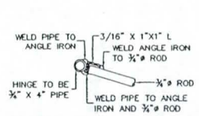
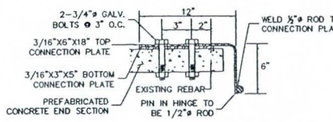
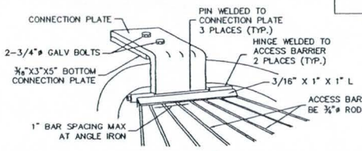


HINGE DETAIL
N.T.S.



CONNECTION PLATE DETAIL
N.T.S.



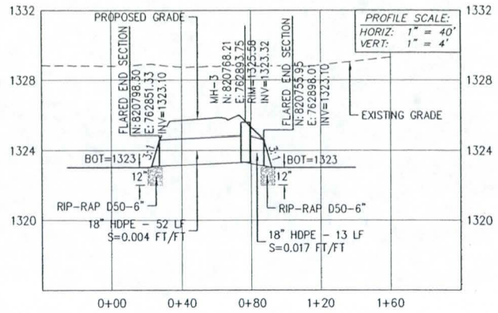
ASSEMBLY DETAIL
N.T.S.

FLARED END SECTION ACCESS BARRIER DETAIL
(NTS)

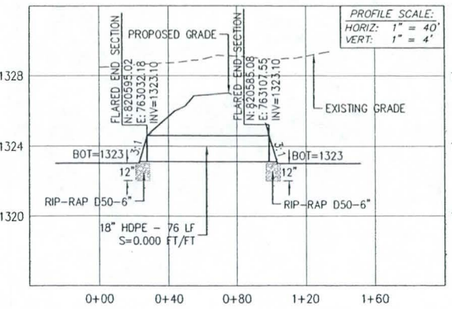
Table 1
End Sections for Round Pipe (2-2/3" x ½", 3" x 1", and 5" x 1"

Pipe Diameter Inches	Gage	Approximate Dimensions, Inches [7] A (Min.) (Inches)	B (Max.) (Inches)	H (Min.) (Inches)	F (Min.) (Inches)	L (+/- 2") (Inches)	W (Max. Width) (Inches)	Approx. Slope [6]
12	16	5	7	6	22	21	44	2-1/4
15	16	6	8	6	28	26	52	2-1/4
18	16	7	10	6	34	31	58	2-1/8
21	16	8	12	6	40	36	66	2-1/8
24	16	9	13	6	46	41	72	2-1/8
30	14	11	16	8	55	51	88	2-1/8
36	14	13	19	9	70	60	105	2

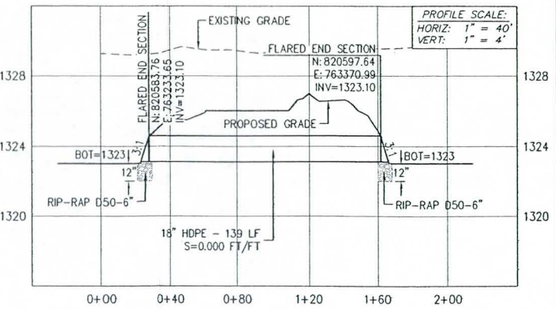
Notes for all End Section:
4. Toe plate is available as an accessory, when specified on the order, and will be same gage as the End Section.
5. Stiffener angles, angle reinforcement, and toe plates are the same base metal as end section body.
6. End sections with 6:1 and 4:1 slopes are available in 12" through 24" diameters.
7. Actual dimensions may vary slightly.



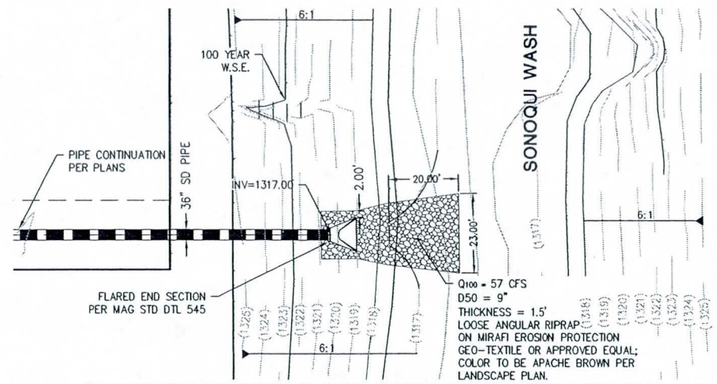
PROFILE E
DRAINAGE PIPE ALONG WEST ON PARCEL 2-6
LOOKING NORTH
SEE SHEET MG10



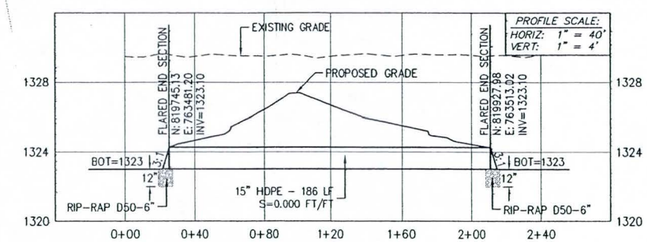
PROFILE F
DRAINAGE PIPE ALONG WEST ON PARCEL 2-6
LOOKING NORTH
SEE SHEET MG10 & MG12



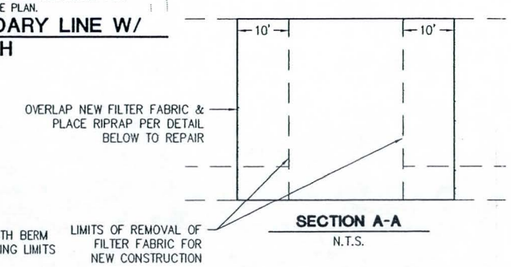
PROFILE G
DRAINAGE PIPE ALONG NORTH ON PARCEL 3-6
LOOKING NORTH
SEE SHEET MG12 & MG13



36" DRAINAGE PIPE ALONG WEST BOUNDARY LINE W/ OUTFALL TO SONOQUI WASH
SCALE: 1"=20'
SEE SHEET MG21



PROFILE H
DRAINAGE PIPE ALONG EAST ON PARCEL 3-6
LOOKING WEST
SEE SHEET MG13 & MG16



SECTION A-A
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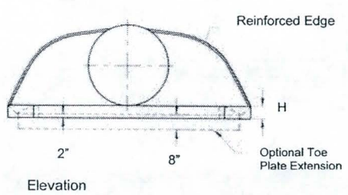
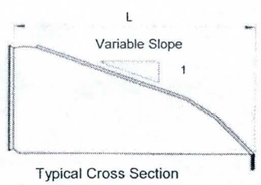
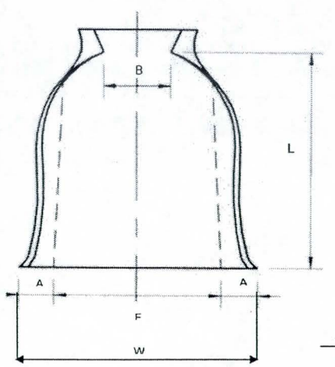
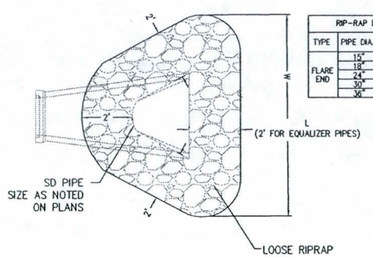


Elevation



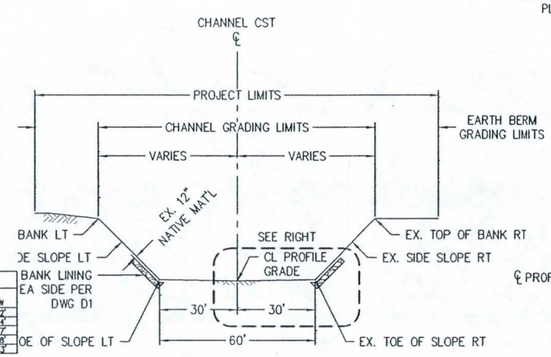
Typical Cross Section





RIP-RAP DIMENSIONS			
TYPE	PIPE DIA.	L	W
FLARE END	15"	10'	12'
	18"	12'	14'
	24"	15'	17'
	30"	15'	18'
	36"	20'	23'

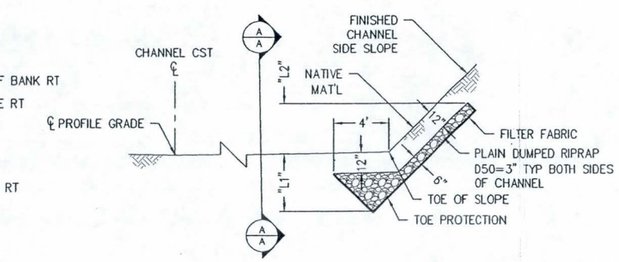
STEEL FLARED END SECTION
(PER CONTECH SPEC'S OR APPROVED EQUAL)
(NTS)



IDITIONS:

G SHALL BE PLACED ON BOTH SIDES OF CHANNEL CONTINOUS ALONG ENTIRE ROAD TO CHANDLER HEIGHTS ROAD EXCEPT AT WEIRS, ROADWAYS, DROP CAL INFLOW STRUCTURES.

OFILE GRADE TO BOTTOM OF TOE PROTECTION, "L2"=4' FROM CL PROFILE GRADE NING.



NOTES FOR BRIDGES EAST:

1. THE PURPOSE OF THIS DETAIL IS TO SHOW EXISTING CONDITIONS AND REFERENCE ON WHAT TO REMOVE AND REPLACE WITH THE CONSTRUCTION OF STORM CULVERT, WATER MAIN AND SEWER MAIN.
2. DETAIL IS BASED OFF OF SONOQUI WASH CHANNELIZATION PLANS BY STANLEY CONSULTANTS AS-BUILT SET DATED 4-4-2008.
3. CONTRACTOR TO VERIFY EXISTING CONDITIONS. CONTRACTOR TO CONTACT DESIGN ENGINEER OF ANY FINDING THAT DO NOT MATCH THE DESIGN INTENT.

SONOQUI WASH CHANNEL TYPICAL SECTION
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THE BRIDGES EAST
MASS GRADING
GILBERT, ARIZONA

STORM DRAIN PROFILES

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM Date Signed 6-29-12 ARIZONA U.S.A. Expires 3/31/2013

REV.:

PROJ#: 1127
DATE: JUNE 2012
SCALE: 1"=20'
DRAWN: JF
DESIGNED: CB
APPROVED: NL

DWG. NO. MG05
SHT. 5 OF 33

ENG 2012-00116

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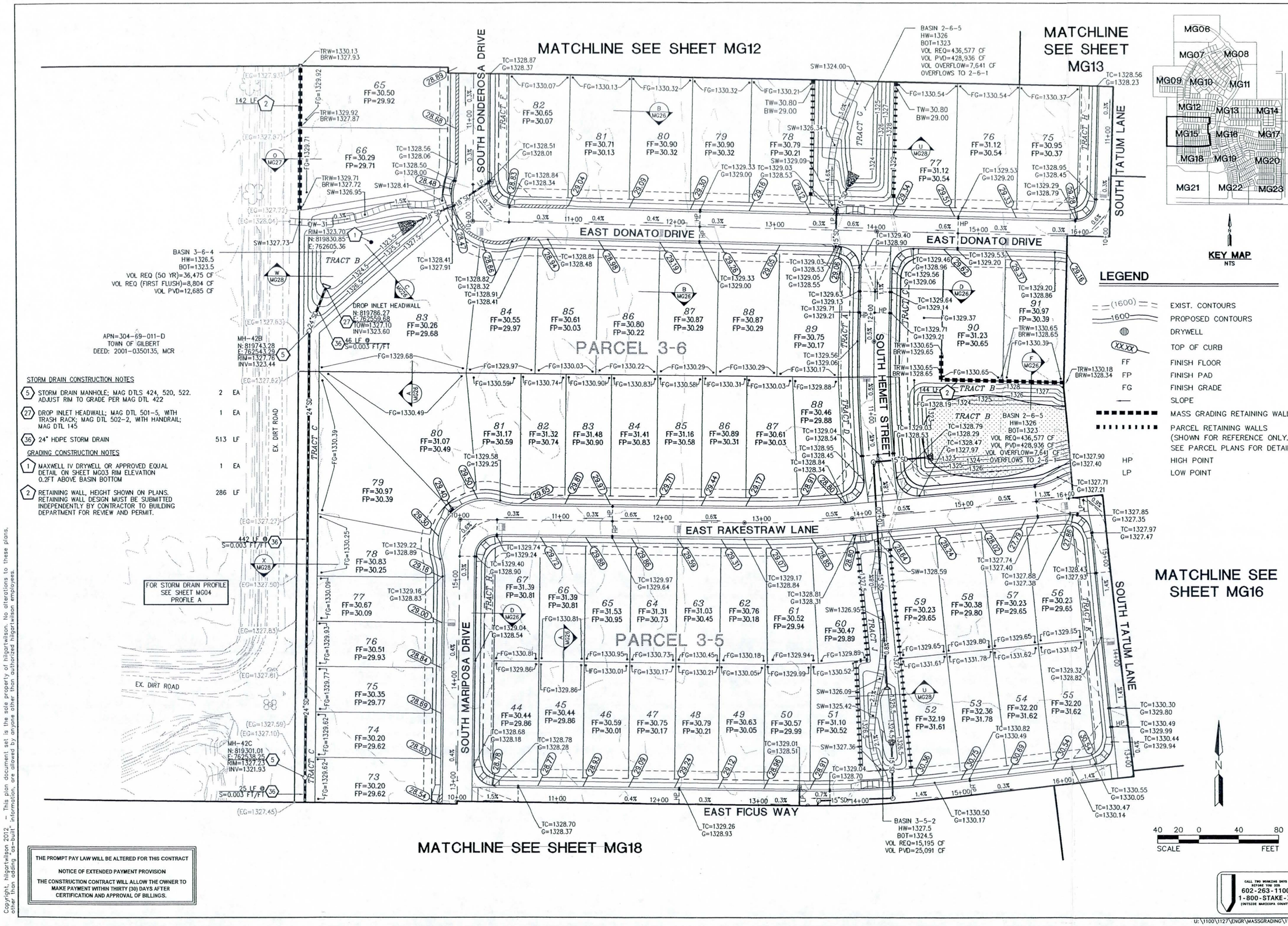

STORM DRAIN CONSTRUCTION NOTES

5	STORM DRAIN MANHOLE; MAG DTLS 424, 520, 522. ADJUST RIM TO GRADE PER MAG DTL 422	2	EA
27	DROP INLET HEADWALL; MAG DTL 501-5, WITH TRASH RACK; MAG DTL 502-2, WITH HANDRAIL; MAG DTL 145	1	EA
36	24" HDPE STORM DRAIN	513	LF

GRADING CONSTRUCTION NOTES

1	MAXWELL IV DRYWELL OR APPROVED EQUAL DETAIL ON SHEET MG03 RIM ELEVATION 0.2FT ABOVE BASIN BOTTOM	1	EA
2	RETAINING WALL, HEIGHT SHOWN ON PLANS. RETAINING WALL DESIGN MUST BE SUBMITTED INDEPENDENTLY BY CONTRACTOR TO BUILDING DEPARTMENT FOR REVIEW AND PERMIT.	286	LF

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

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MASS GRADING PLANS

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-29-12
ARIZONA U.S.A.
Expires 3/31/2013

REV.:

PROJ#: 1127	
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DRAWN: JF	
DESIGNED: CB	
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DWG. NO. MG15
SHT. 15 OF 33

ENG 2012-00116

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LEGEND

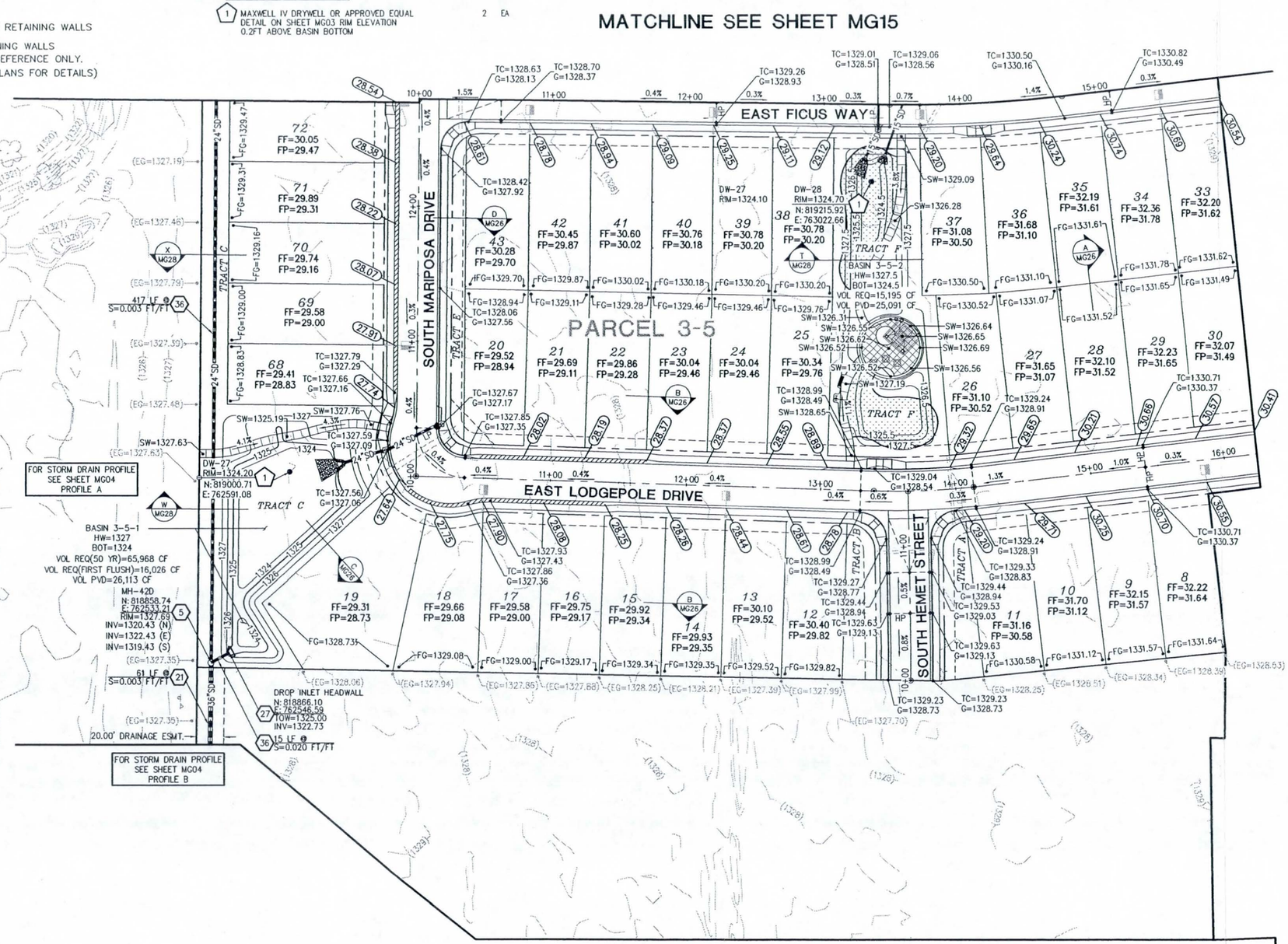
(1600)	EXIST. CONTOURS
1600	PROPOSED CONTOURS
	DRYWELL
XX.XX	TOP OF CURB
FF	FINISH FLOOR
FP	FINISH PAD
FG	FINISH GRADE
	SLOPE
	MASS GRADING RETAINING WALLS
	PARCEL RETAINING WALLS (SHOWN FOR REFERENCE ONLY. SEE PARCEL PLANS FOR DETAILS)
HP	HIGH POINT
LP	LOW POINT

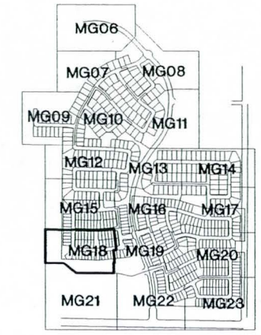
STORM DRAIN CONSTRUCTION NOTES

5	STORM DRAIN MANHOLE; MAG DTLS 424, 520, 522. ADJUST RIM TO GRADE PER MAG DTL 422	1 EA
21	36" HDPE STORM DRAIN	61 LF
27	DROP INLET HEADWALL; MAG DTL 501-5, WITH TRASH RACK; MAG DTL 502-2, WITH HANDRAIL; MAG DTL 145	1 EA
36	24" HDPE STORM DRAIN	432 LF

GRADING CONSTRUCTION NOTES

1	MAXWELL IV DRYWELL OR APPROVED EQUAL DETAIL ON SHEET MG03 RIM ELEVATION 0.2FT ABOVE BASIN BOTTOM	2 EA





KEY MAP
NTS

MATCHLINE SEE SHEET MG19

N

SCALE 40 20 0 40 80 FEET

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

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MASS GRADING PLANS

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM ARIZONA U.S.A. Expires 3/31/2013

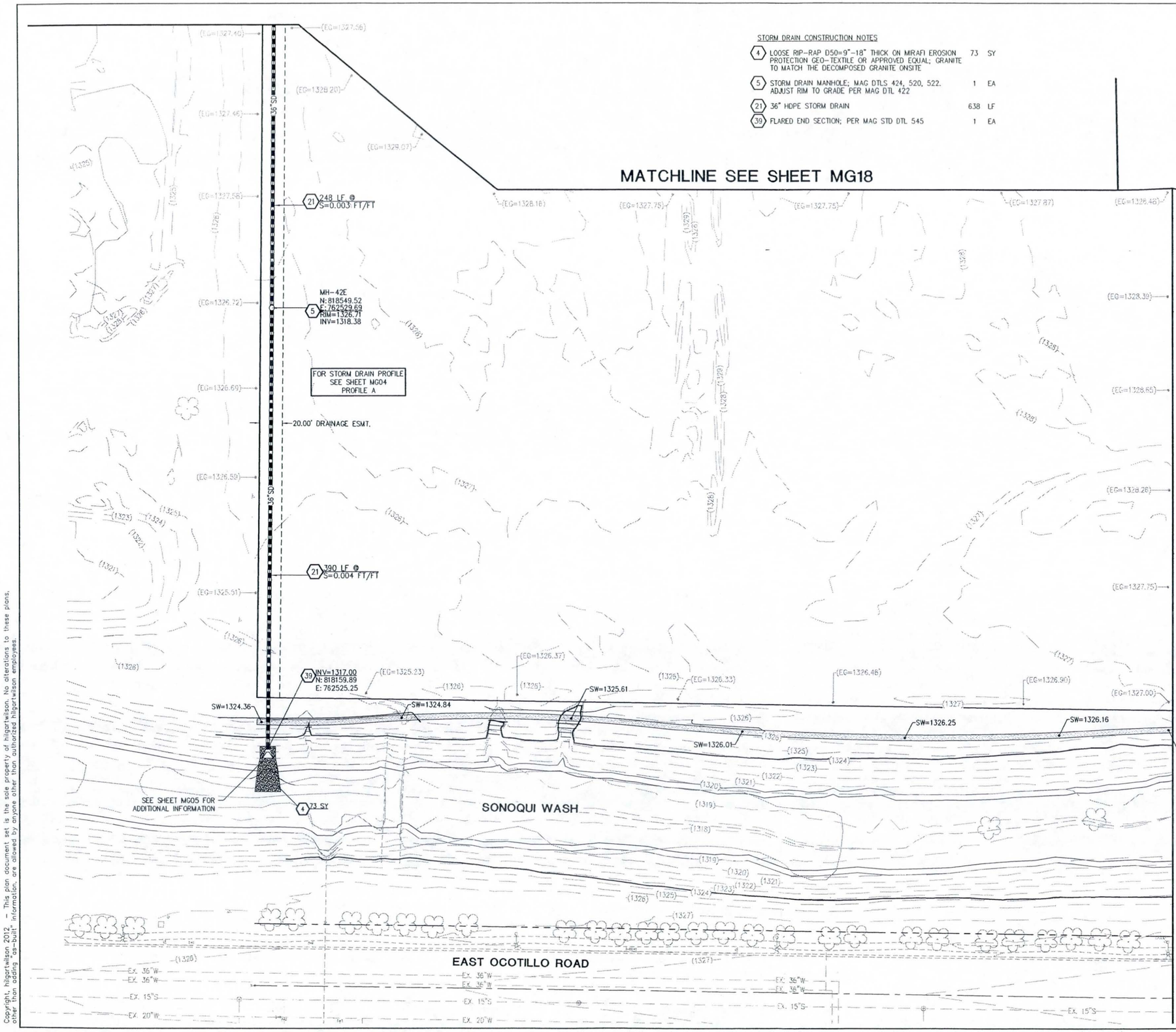
PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: 1"=40'	
DRAWN: JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. MG18
SHT. 18 OF 33

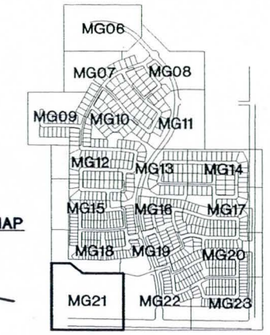
ENG 2012-00116

STORM DRAIN CONSTRUCTION NOTES

4	LOOSE RIP-RAP D50=9"-18" THICK ON MIRAFI EROSION PROTECTION GEO-TEXTILE OR APPROVED EQUAL; GRANITE TO MATCH THE DECOMPOSED GRANITE ONSITE	73	SY
5	STORM DRAIN MANHOLE; MAG DTLS 424, 520, 522. ADJUST RIM TO GRADE PER MAG DTL 422	1	EA
21	36" HDPE STORM DRAIN	638	LF
39	FLARED END SECTION; PER MAG STD DTL 545	1	EA



MATCHLINE SEE SHEET MG22



KEY MAP
NTS

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

LEGEND

(1600)	EXIST. CONTOURS
1600	PROPOSED CONTOURS
	DRYWELL
XX.XX	TOP OF CURB
FF	FINISH FLOOR
FP	FINISH PAD
FG	FINISH GRADE
	SLOPE
	MASS GRADING RETAINING WALLS
	PARCEL RETAINING WALLS (SHOWN FOR REFERENCE ONLY. SEE PARCEL PLANS FOR DETAILS)
HP	HIGH POINT
LP	LOW POINT

40 20 0 40 80
SCALE FEET

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MASS GRADING PLANS

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-29-12
ARIZONA U.S.A.
Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: 1"=40'	
DRAWN: JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. MG21
SHT. 21 OF 33

ENG 2012-00116

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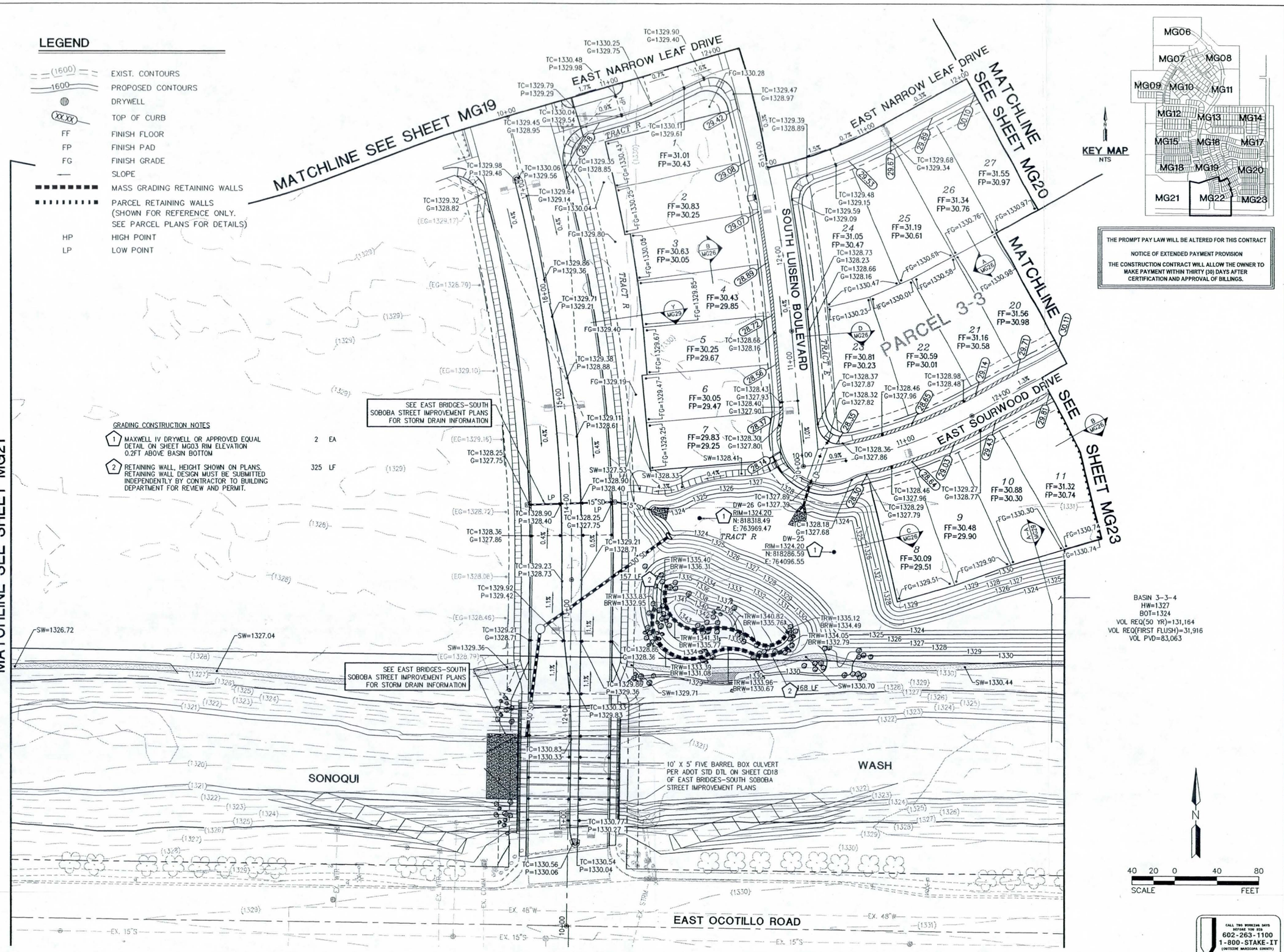
LEGEND

(1600)	EXIST. CONTOURS
1600	PROPOSED CONTOURS
	DRYWELL
XX.XX	TOP OF CURB
FF	FINISH FLOOR
FP	FINISH PAD
FG	FINISH GRADE
	SLOPE
	MASS GRADING RETAINING WALLS
	PARCEL RETAINING WALLS (SHOWN FOR REFERENCE ONLY. SEE PARCEL PLANS FOR DETAILS)
HP	HIGH POINT
LP	LOW POINT



GRADING CONSTRUCTION NOTES

1	MAXWELL IV DRYWELL OR APPROVED EQUAL DETAIL ON SHEET MG03 RIM ELEVATION 0.2FT ABOVE BASIN BOTTOM	2 EA
2	RETAINING WALL, HEIGHT SHOWN ON PLANS. RETAINING WALL DESIGN MUST BE SUBMITTED INDEPENDENTLY BY CONTRACTOR TO BUILDING DEPARTMENT FOR REVIEW AND PERMIT.	325 LF

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

hilgartwilson
ENGINEERS·PLANNERS·SURVEYORS
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PH 602.490.0535 / FAX 602.325.0161
www.hilgartwilson.com

THE BRIDGES EAST

MASS GRADING

GILBERT, ARIZONA

MASS GRADING PLANS

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM ARIZONA U.S.A. Date Signed 6/26/12 Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: 1"=40'	
DRAWN: JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. MG22

SHT. 22 OF 33

ENG 2012-00116

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

U:\1100\1127\ENGR\MASSGRADING\1127-MG22.dwg 7/16/2012 4:12 PM

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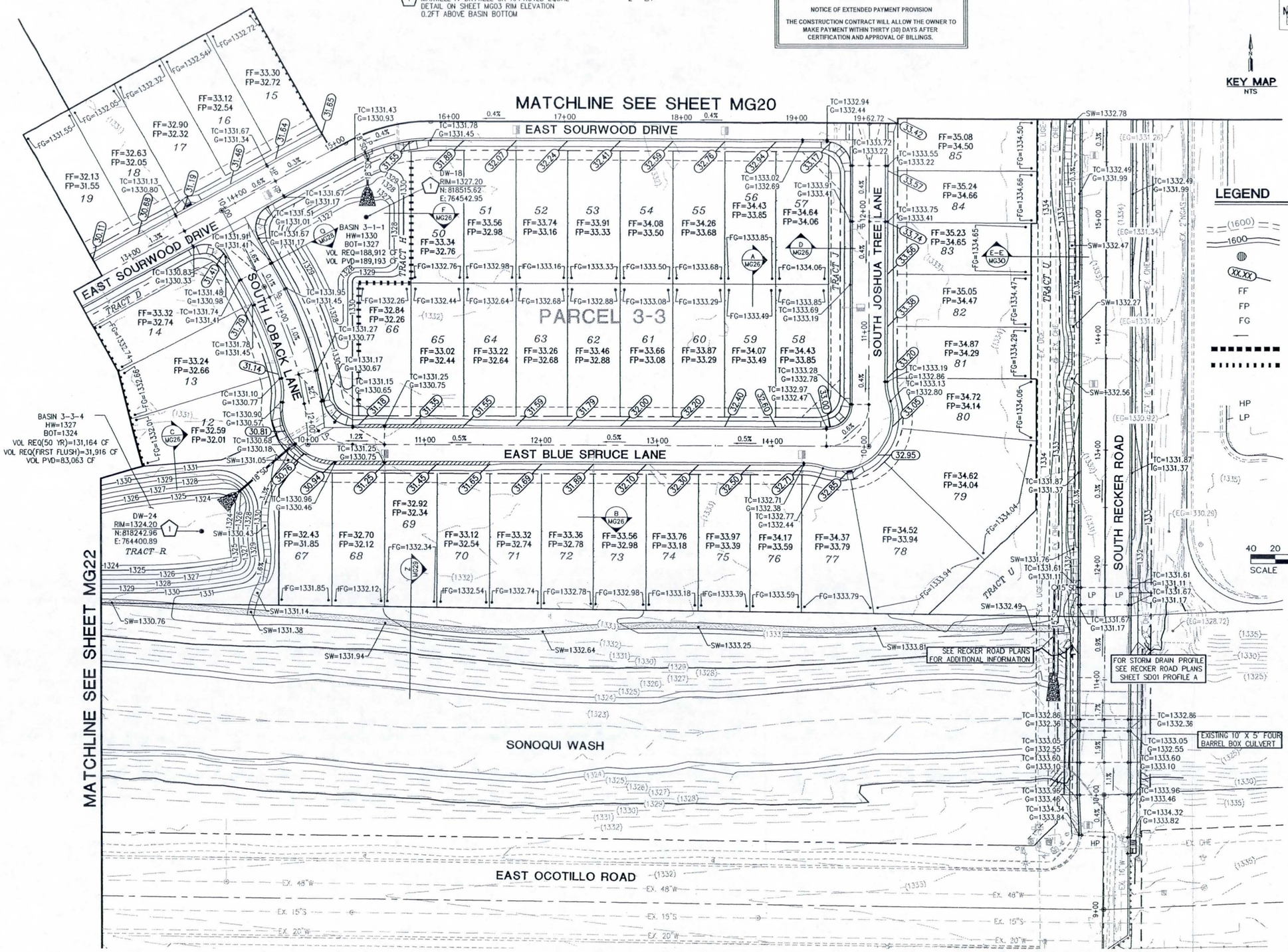
GRADING CONSTRUCTION NOTES

1. MAXWELL IV DRYWELL OR APPROVED EQUAL 2 EA
DETAIL ON SHEET MG03 RIM ELEVATION
0.2FT ABOVE BASIN BOTTOM

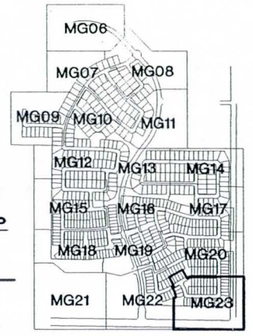
THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.



KEY MAP
NTS



LEGEND

(1600)	EXIST. CONTOURS
1600	PROPOSED CONTOURS
	DRYWELL
XX.XX	TOP OF CURB
FF	FINISH FLOOR
FP	FINISH PAD
FG	FINISH GRADE
—	SLOPE
	MASS GRADING RETAINING WALLS
	PARCEL RETAINING WALLS (SHOWN FOR REFERENCE ONLY. SEE PARCEL PLANS FOR DETAILS)
HP	HIGH POINT
LP	LOW POINT

N

40 20 0 40 80
SCALE FEET

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THE BRIDGES EAST
MASS GRADING
GILBERT, ARIZONA

MASS GRADING PLANS

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-8-12
ARIZONA U.S.A.
Expires 3/31/2013

REV.:

PROJ#: 1127
DATE: JUNE 2012
SCALE: 1"=40'
DRAWN: JF
DESIGNED: CB
APPROVED: NL

DWG. NO. MG23
SHT. 23 OF 33

ENG 2012-00116

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

U:\1100\1127\ENGR\MASSGRADING\1127-MG23.dwg 7/16/2012 4:14 PM

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EXCERPTS OF

EAST BRIDGES BOULEVARD – SOUTH SOBOBA STREET

IMPROVEMENT PLANS

THE BRIDGES EAST
EAST BRIDGES BOULEVARD-SOUTH SOBOBA STREET
IMPROVEMENT PLANS
GILBERT, ARIZONA

A PORTION OF SECTION 11 AND SECTION 14, TOWNSHIP 2
SOUTH RANGE 6 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN
MARICOPA COUNTY, ARIZONA

HILGARTWILSON STANDARD ENGINEERING NOTES

1. THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. ANYONE WHO TAKES IT UPON THEMSELF THE INTERPRETATION OF THE DRAWINGS OR MAKES REVISIONS TO THE SAME WITHOUT CONFERRING WITH THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR THE CONSEQUENCES THEREOF.

2. THE ESTIMATED QUANTITIES SHOWN ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETENESS AND ACCURACY OF A DETAILED ESTIMATE BASED ON THESE PLANS, CURRENT CODES, AND SITE VISITATION.

3. ALL EARTHWORK CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD DETAILS AND/OR SPECIFICATIONS INCLUDING ANY SUPPLEMENTS THERETO, AND ALL ADDENDA. THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATION OF THE SOIL INVESTIGATION REPORT AND LETTER, AS PREPARED BY RICKER ATKINSON MCBEE MORMAN & ASSOCIATES, INC. PHONE NO. (480) 921-8100, PROJECT NO. G19365, DATED MARCH 7, 2012.

4. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL THOROUGHLY SATISFY HIMSELF AS TO THE ACTUAL CONDITIONS, REQUIREMENTS OF THE WORK AND EXCESS OR DEFICIENCY IN QUANTITIES. NO CLAIMS SHALL BE MADE AGAINST THE OWNER/DEVELOPER OR ENGINEER FOR ANY EXCESS OR DEFICIENCY THEREIN, ACTUAL OR RELATIVE.

5. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF UTILITIES, POWER POLES, ETC.

7. THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE SURVEYOR REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES SET BY THE SURVEYOR UNLESS ALL SURVEY STAKES SET BY THE ENGINEER ARE MAINTAINED INTACT AND CAN BE VERIFIED AS TO THEIR ORIGIN. IF, IN THE OPINION OF THE SURVEYOR, THE STAKES ARE NOT MAINTAINED INTACT AND CANNOT BE VERIFIED AS TO THEIR ORIGIN, ANY REMEDIAL WORK REQUIRED TO CORRECT ANY ITEM OF IMPROPER CONSTRUCTION WORK SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.

8. THE SURVEYOR WILL MAKE FIELD AS-BUILT MEASUREMENTS OF THE WORK UPON NOTIFICATION BY THE CLIENT OR HIS REPRESENTATIVE THAT THE WORK IS COMPLETE AND READY FOR AS-BUILT SURVEY. FOR PIPE WORK, THE CONTRACTOR IS RESPONSIBLE FOR LEAVING TRENCHES OPEN SO THAT AS-BUILTS CAN BE PERFORMED TO COMPLY WITH THE AGENCY'S REQUIREMENTS. (IF THE TRENCHES ARE BACKFILLED AND OBSCURED TO THE POINT THAT AS-BUILT MEASUREMENTS CANNOT BE PERFORMED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POTHOLE UTILITY TRENCHES AS NECESSARY TO COMPLETE AN AS-BUILT SURVEY.)

9. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITIONS, OR PAVEMENT CROSS-SLOPES DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT BEING ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.

10. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED ACCORDING TO INFORMATION PROVIDED BY THE AGENCY OPERATING EACH UTILITY. LOCATIONS SHOWN ARE APPROXIMATE ONLY, AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CALL BLUE STAKE FOR FIELD LOCATION AT (602) 263-1100. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWING, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN LIKE KIND.

11. PRIOR TO CONSTRUCTION, THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE ANY ALTERATION, OR VARIANCE FROM THESE PLANS. ANY VARIATIONS FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER.

12. ANY INSPECTION BY THE CITY, COUNTY, ENGINEER, OR OTHER JURISDICTIONAL AGENCY, SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH APPLICABLE CODES AND AGENCY REQUIREMENTS.

13. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL STORM DRAIN PIPES, STORM WATER RETENTION PIPES AND DRAINAGE FACILITIES FROM DAMAGE DURING ALL STAGES OF CONSTRUCTION. THE DEPTH OF COVER ON THE STORM DRAIN PIPE IS DESIGNED FOR FINAL GRADE. THEREFORE, EXTRA CARE SUCH AS BERMING OVER PIPES, FLAGGING OR SIGNAGE SHOULD BE USED DURING CONSTRUCTION TO MAINTAIN COVER OR PROTECT THE PIPES.

14. THE ENGINEER MAKES NO REPRESENTATION OR GUARANTEE REGARDING EARTHWORK QUANTITIES OR THAT THE EARTHWORK FOR THIS PROJECT WILL BALANCE DUE TO THE VARYING FIELD CONDITIONS, CHANGING SOIL TYPES, ALLOWABLE CONSTRUCTION TOLERANCES AND CONSTRUCTION METHODS THAT ARE BEYOND THE CONTROL OF THE ENGINEER.

15. IF PAD CERTIFICATIONS ARE PERFORMED, IT IS UNDERSTOOD THAT THE CERTIFICATION PROVIDES ONLY A REPRESENTATIVE ELEVATION OF THE AVERAGE GRADE OF EACH LOT, BUILDINGS OR UNIT PAD, AND SHALL NOT BE CONSTRUED TO INCLUDE YARD AND STREET SUB-GRADE CERTIFICATION OR CERTIFICATION THAT THE ENTIRE PAD IS LEVEL, THAT IT WAS CONSTRUCTED IN THE DESIGNED LOCATION OR WAS GRADED TO THE CROSS-SECTION SET FORTH ON THE PLANS OR AS DESIGNATED IN THE SOILS REPORT.

16. FINISH GRADES SHOWN ON THESE PLANS ARE THE FINAL FINISH GRADES. CONTRACTOR IS RESPONSIBLE FOR OVER-EXCAVATING LANDSCAPE AREAS TO ALLOW FOR PLANTING AND UTILITY TRENCHING SPOILS AND FOR THE FINAL LANDSCAPE TREATMENT (DECOMPOSED GRANITE, LAWN, ETC.).

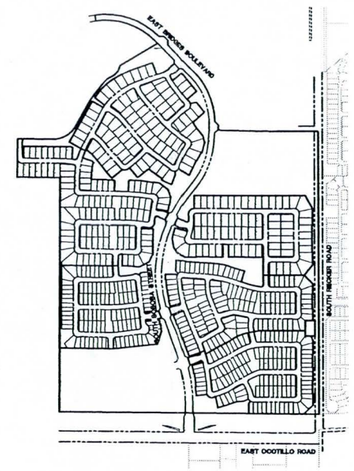
17. UNDERGROUND UTILITIES SHALL BE MARKED IN ACCORDANCE WITH SECTION 40-360 OF THE ARIZONA REVISED STATUTES AND LOCAL MUNICIPALITY REQUIREMENTS.

MARICOPA COUNTY ENVIRONMENTAL SERVICES NOTE

ALL MATERIAL THAT COMES INTO CONTACT WITH POTABLE WATER SHALL CONFORM TO ANSI/NSF STANDARD 61 PER A.R.S. R18-4-213.

THIS SET OF CONSTRUCTION PLANS HAS BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES FOR REVIEW AND TO DETERMINE ANY POTENTIAL CONFLICTS.

UTILITY COMPANY	COMPANY CONTACT	DATE SUBMITTED
CENTURYLINK	DANNY YOUNG	04/03/2012
SALT RIVER PROJECT	BRETT GRUENDLER	04/03/2012
COX COMMUNICATIONS	KEN DEGRAFFENREID	04/03/2012
SOUTHWEST GAS COMPANY	ZACH STEVENSON	04/03/2012
		04/03/2012



N

LOCATION MAP
N.T.S.

VICINITY MAP
N.T.S.

LEGEND

- RIGHT OF WAY
- CENTERLINE
- FIRE HYDRANT & MARKER
- EX. 8"S — EX. SEWER LINE & MANHOLE
- EX. 8"W — EX. WATER LINE & VALVE
- NEW A.C.PAVEMENT
- (1600) EXIST. CONTOURS
- 1600 PROPOSED CONTOURS
- (1) CONSTRUCTION NOTES
- GRADE BREAK
- BRASS CAP TYPE "B"
- 6" VERTICAL CURB
- STREET LIGHT
- STREET SIGN

SHEET INDEX

CD01	COVER SHEET
CD02-04	NOTES AND DETAILS
CD05-17	PAVING, UTILITY PLAN AND PROFILE
CD18-20	MEDIAN CONTROL PLAN
CD21-22	SEWER PROFILES
SD01-SD02	STORM DRAIN DETAILS AND PROFILES
CD25	NOTES AND DETAILS
SS01-04	SIGNING AND STRIPING PLANS
SP01	STORM WATER MANAGEMENT POLLUTION PREVENTION COVER
SP02	STORM WATER MANAGEMENT POLLUTION PREVENTION PLAN
ST01-04	STRUCTURAL DETAILS
SL-7.1-SL-7.5	STREET LIGHT DESIGN
L1-L22	LANDSCAPE PLANS

BUILDING DEPARTMENT NOTICE:

ALTHOUGH SOME PLANS AND DETAILING FOR SCHEMATIC PURPOSES WERE PROVIDED, THE SUBDIVISION SUBMITTAL PACKAGE REVIEWED DID NOT INCLUDE ALL SITE AMENITY/IMPROVEMENT PLANS AND DETAILS NECESSARY FOR FULL BUILDING DEPARTMENT APPROVAL. COMPLETE PLANS AND DETAILING INCLUDING STRUCTURAL AND ELECTRICAL PLANS AND DETAILS ARE BEING DEFERRED UNTIL THE FIRST BUILDING PERMIT FOR AN AMENITY IS REQUESTED FROM DEVELOPMENT SERVICES. ALL COMPLETE PLANS AND DETAILS MUST BE SUBMITTED FOR ALL SITE AMENITIES REQUIRING A BUILDING DEPARTMENT PERMIT WHEN THE FIRST BUILDING PERMIT IS REQUESTED. PERMITS WILL NOT BE ISSUED FOR ANY SINGLE AMENITY WITHOUT APPROVAL OF THE OVERALL SITE PLAN AND ALL RELATED AND NECESSARY DETAILS.

PARTIAL PLANS SUBMITTED FOR REVIEW THROUGHOUT THE SUBDIVISION REVIEW PROCESS WILL NEED TO BE RESUBMITTED AS PART OF THE BUILDING PERMIT REQUESTED PROCESS.

AMENITIES OR IMPROVEMENTS THAT REQUIRE BUILDING PERMITS INCLUDE, HOWEVER ARE NOT LIMITED TO: FENCES, RETAINING WALLS, MONUMENT WALLS, RAMADAS, ELECTRICAL PEDESTALS, SITE LIGHTING ADA ACCESS (WHERE NOT SHOWN ON PRIOR DRAWINGS), WATER METERS (BOTH IRRIGATION AND DOMESTIC), DRINKING FOUNTAINS, WATER PUMPING STATIONS, SWIMMING POOLS, BATH HOUSES, AND BACKFLOW ASSEMBLIES.

ENGINEER

HILGARTWILSON
1661 E. CAMELBACK RD., STE. 275
PHOENIX, ARIZONA 85016
CONTACT: NGUYEN LAM
PHONE: (602) 490-0535
FAX: (602) 325-0161

OWNER/DEVELOPER

BRIDGES NORTH LP
3820 W. HAPPY VALLEY RD
#141-246
GLENDALE, AZ 85310

BRIDGES SOUTH LP
3820 W. HAPPY VALLEY RD
#141-246
GLENDALE, AZ 85310

LANDSCAPE ARCHITECT

ANDERSON BARON
88 SOUTH SAN MARCOS PLACE
SUITE 101
PHOENIX, AZ 85028
(480) 699-7956
FAX: (480) 699-7986
CONTACT: THOMAS DURANT

LIGHTING

WRIGHT ENGINEERING CORPORATION
165 E. CHILTON DRIVE
CHANDLER, ARIZONA 85225
PHONE: (480) 497-5829
FAX: (480) 497-5807
CONTACT: AARON KUTCHINSKY

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN OR NOTED HEREON WERE MADE BY MYSELF OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SIGNATURE_____ DATE_____

APPROVALS

THE AUTHORIZED REPRESENTATIVES OF THE FOLLOWING AGENCIES HEREBY ACKNOWLEDGE OR HAVE ACKNOWLEDGED THEY HAVE REVIEWED AND APPROVED THEN DESIGN SHOWN BY THESE DRAWINGS. CONSTRUCTION MAY BEGIN AFTER ALL APPROPRIATE PERMITS HAVE BEEN OBTAINED.

MARICOPA COUNTY_____ DATE_____
ENVIRONMENTAL SERVICES DEPARTMENT

TOWN OF GILBERT _____ DATE_____
TOWN ENGINEER

TOWN OF GILBERT _____ DATE_____
FIRE DEPT.

BASIS OF BEARING

BASIS OF BEARING IS S00°16'16"W ALONG THE EAST LINE OF SECTION 14, TOWNSHIP 2 SOUTH, RANGE 6 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

BENCHMARK NOTE: 1320.20' (NAVD88)

DESCRIBED AS THE NW CORNER OF SCTION 14 T2S, R6E, BEING A TOWN OF GILBERT BRASS CAP HANDHOLE, 0.55 DOWN AT THE INTERSECTION OF QUEEN CREEK ROAD AND HIGLEY ROAD.

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT
NOTICE OF EXTENDED PAYMENT PROVISION
THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

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PH 602.490.0535 / FAX 602.325.0161
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EAST BRIDGES BOULEVARD-SOUTH SOBOBA STREET
OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

COVER SHEET

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM ARIZONA U.S.A. Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JULY 2012	
SCALE: NTS	
DRAWN: MR,JR,CR,JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. CD01
SHT. 1 OF 63

ENG 2012-00116

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CURVE TABLE			
CURVE #	RADIUS	DELTA	LENGTH
C1	1474.58'	21°27'41"	552.34'
C2	1435.58'	14°41'50"	368.25'
C3	1513.58'	14°57'01"	394.94'

NOTE: ALL CURVES ARE MEASURED FROM BACK OF CURB OR CENTER LINE.

FOR HORIZONTAL AND VERTICAL MEDIAN CONTROL SEE SHEET CD18-CD20

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

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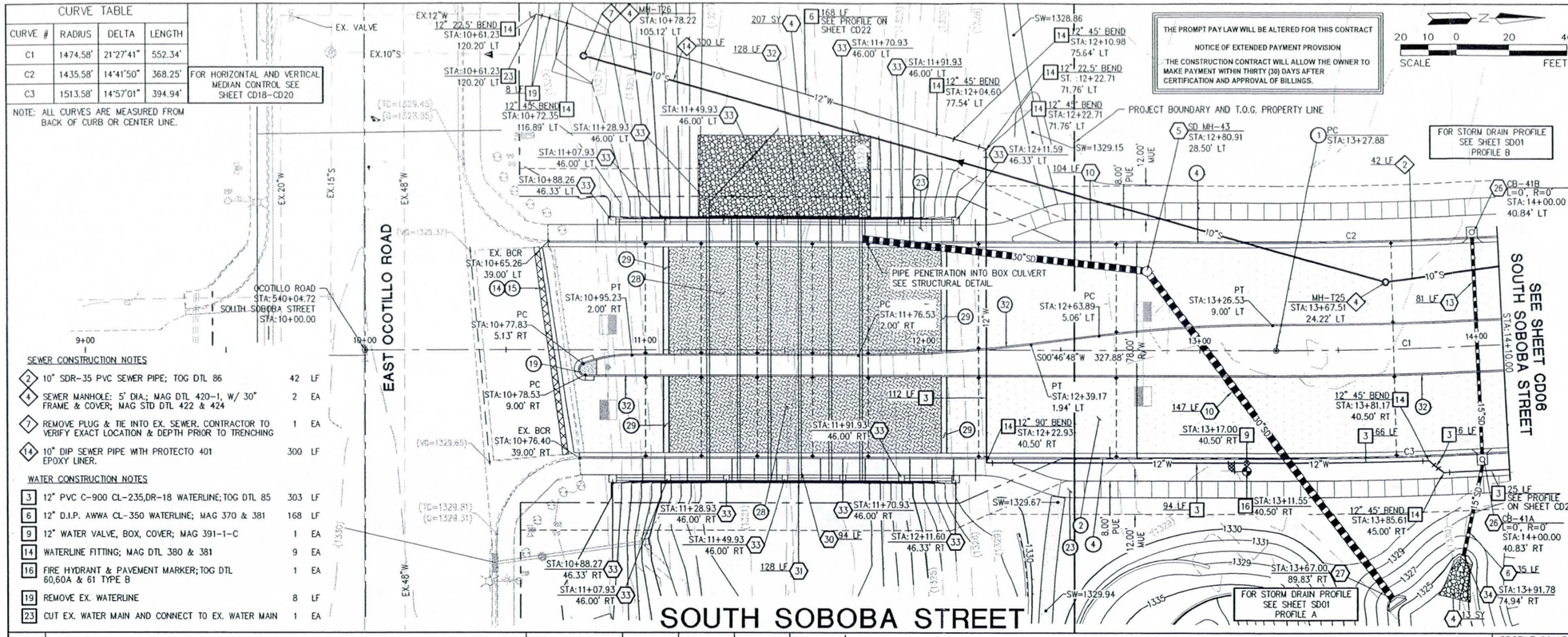


SEWER CONSTRUCTION NOTES

2	10" SDR-35 PVC SEWER PIPE; TOG DTL 86	42	LF
4	SEWER MANHOLE: 5' DIA.; MAG DTL 420-1, W/ 30" FRAME & COVER; MAG STD DTL 422 & 424	2	EA
7	REMOVE PLUG & TIE INTO EX. SEWER. CONTRACTOR TO VERIFY EXACT LOCATION & DEPTH PRIOR TO TRENCHING	1	EA
14	10" DIP SEWER PIPE WITH PROTECTO 401 EPOXY LINER.	300	LF

WATER CONSTRUCTION NOTES

3	12" PVC C-900 CL-235,DR-18 WATERLINE; TOG DTL 85	303	LF
6	12" D.I.P. AWWA CL-350 WATERLINE; MAG 370 & 381	168	LF
9	12" WATER VALVE, BOX, COVER; MAG 391-1-C	1	EA
14	WATERLINE FITTING; MAG DTL 380 & 381	9	EA
16	FIRE HYDRANT & PAVEMENT MARKER; TOG DTL 60,60A & 61 TYPE B	1	EA
19	REMOVE EX. WATERLINE	8	LF
23	CUT EX. WATER MAIN AND CONNECT TO EX. WATER MAIN	1	EA

PAVING CONSTRUCTION NOTES

1	SURVEY MONUMENT; MAG DTL 120-1-B	1	EA
2	PAVEMENT: 2.5" AC OVER 9" ABC; SEE TYP. SECTION ON SHEET CD03	2328	SY
4	6" VERTICAL CURB & GUTTER; MAG DTL 220-A	669	LF
14	REMOVE EXISTING BARRICADE		NP
15	SAWCUT & REMOVE EXISTING PAVEMENT TO A NEAT, CLEAN EDGE; MATCH WITH NEW PAVEMENT 2' MINIMUM	16	SY
19	MEDIAN NOSE MODIFIED WITH DEPRESSED LIP; MAG 223 AND TOG DTL 304	1	EA
23	6' SIDEWALK; MAG DTL 230	3969	SF
28	DECORATIVE STAMPED PAVEMENT; 2.5" AC/9" ABC PER TOG DTL 402 & MAG SPEC 702.2 & 710.	717	SY
29	DECORATIVE PAVEMENT; 2.5" AC/9" ABC; COLOR ADDED TO AC TO SIMULATE CONCRETE GRAY PER TOG DTL 401A,B,C	29	SY
32	6" VERTICAL SINGLE CURB; MAG DTL 222 TYPE "A".	680	LF

STORM DRAIN CONSTRUCTION NOTES

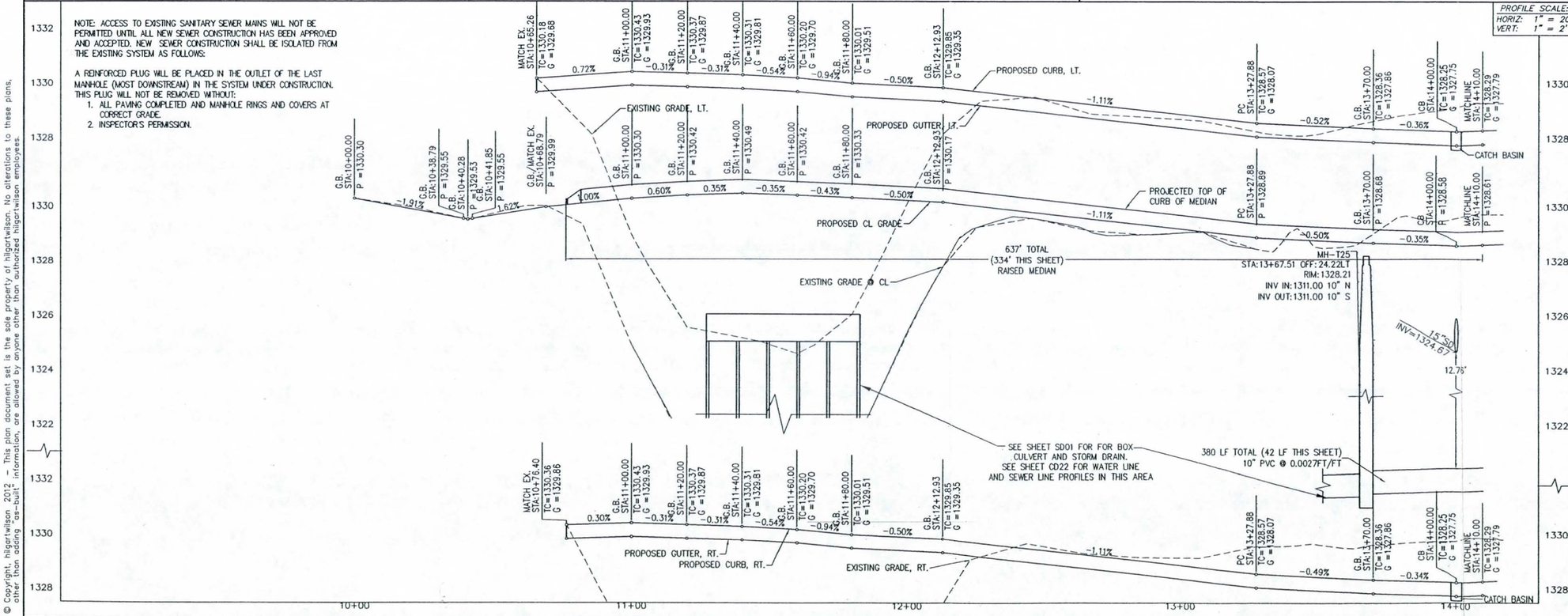
4	LOOSE RIP-RAP D50=9"-18" THICK ON MIRAFI EROSION PROTECTION GEO-TEXTILE OR APPROVED EQUAL; GRANITE TO MATCH THE DECOMPOSED GRANITE ONSITE	220	SY
5	STORM DRAIN MANHOLE; MAG DTLS 424, 520, 522. ADJUST RIM TO GRADE PER MAG DTL 422	1	EA
6	15" RGRCP, CLASS IV; TOG DTL 84	35	LF
10	30" RGRCP, CLASS III; TOG DTL 84	251	LF
13	15" RGRCP, CLASS V; TOG DTL 84	81	LF
26	CATCH BASIN; COP DTL P-1569-1; SIZE PER PLAN; SEE SHEET CD04 FOR DETAIL	2	EA
27	DROP INLET HEADWALL; MAG DTL 501-5, WITH TRASH RACK; MAG DTL 502-2, WITH HANDRAIL; MAG DTL 145	1	EA
30	CONSTRUCT 10'x5' FIVE BARREL BOX CULVERT PER ADOT STD DTL ON SHEET SD03.	94	LF
31	CONSTRUCT INLET HEADWALL/RETAINING WALL SEE LANDSCAPE ARCH. PLANS FOR AESTHETIC TREATMENT. STRUCTURAL DESIGN BY OTHERS.	128	LF
32	CONSTRUCT OUTLET HEADWALL/RETAINING WALL SEE LANDSCAPE ARCH. PLANS FOR AESTHETIC TREATMENT. STRUCTURAL DESIGN BY OTHERS.	128	LF
33	CONSTRUCT GUARD RAIL PER STRUCTURAL AND LANDSCAPE ARCH. DETAILS AND DESIGN.	14	EA
34	FLARED END SECTION WITH ACCESS BARRIER ATTACHED; SEE DETAILS ON SHEET CD03	1	EA

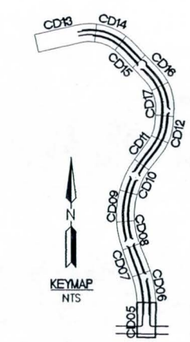
NOTE: ACCESS TO EXISTING SANITARY SEWER MAINS WILL NOT BE PERMITTED UNTIL ALL NEW SEWER CONSTRUCTION HAS BEEN APPROVED AND ACCEPTED. NEW SEWER CONSTRUCTION SHALL BE ISOLATED FROM THE EXISTING SYSTEM AS FOLLOWS:

A REINFORCED PLUG WILL BE PLACED IN THE OUTLET OF THE LAST MANHOLE (MOST DOWNSTREAM) IN THE SYSTEM UNDER CONSTRUCTION. THIS PLUG WILL NOT BE REMOVED WITHOUT:

1. ALL PAVING COMPLETED AND MANHOLE RINGS AND COVERS AT CORRECT GRADE.
2. INSPECTOR'S PERMISSION.

PROFILE SCALE:
HORIZ: 1" = 20'
VERT: 1" = 2'





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ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-29-12
ARIZONA U.S.A.
Expires 3/31/2013

EAST BRIDGES BOULEVARD-SOUTH SOBOBA STREET

OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

PAVING & UTILITY PLAN AND PROFILE

PROJ.#	1127	hilgartwilson ENGINEERS-PLANNERS-SURVEYORS	
DATE:	JULY 2012		
SCALE:	1"=20'		
DESIGNED: CB	DRAWN: MR,JR,CR	APPROVED: NL	
REV.		DWG. NO. CD05	
		SHT. 5 OF 63	

ENG 2012-00116

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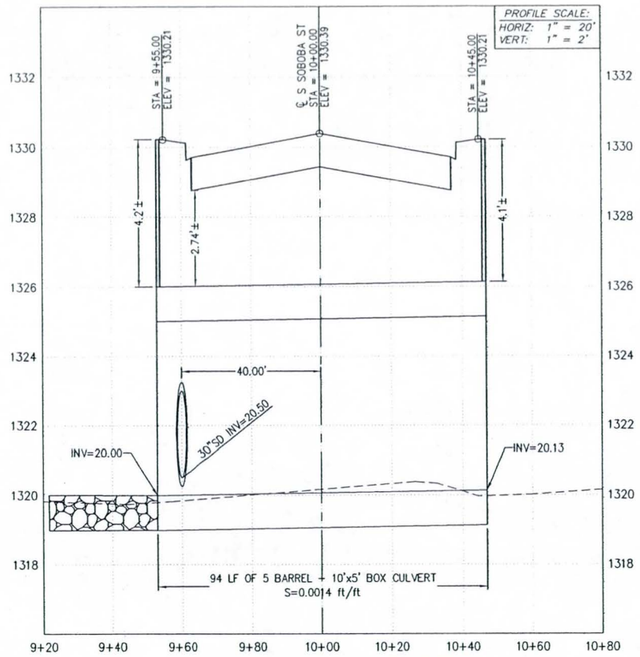
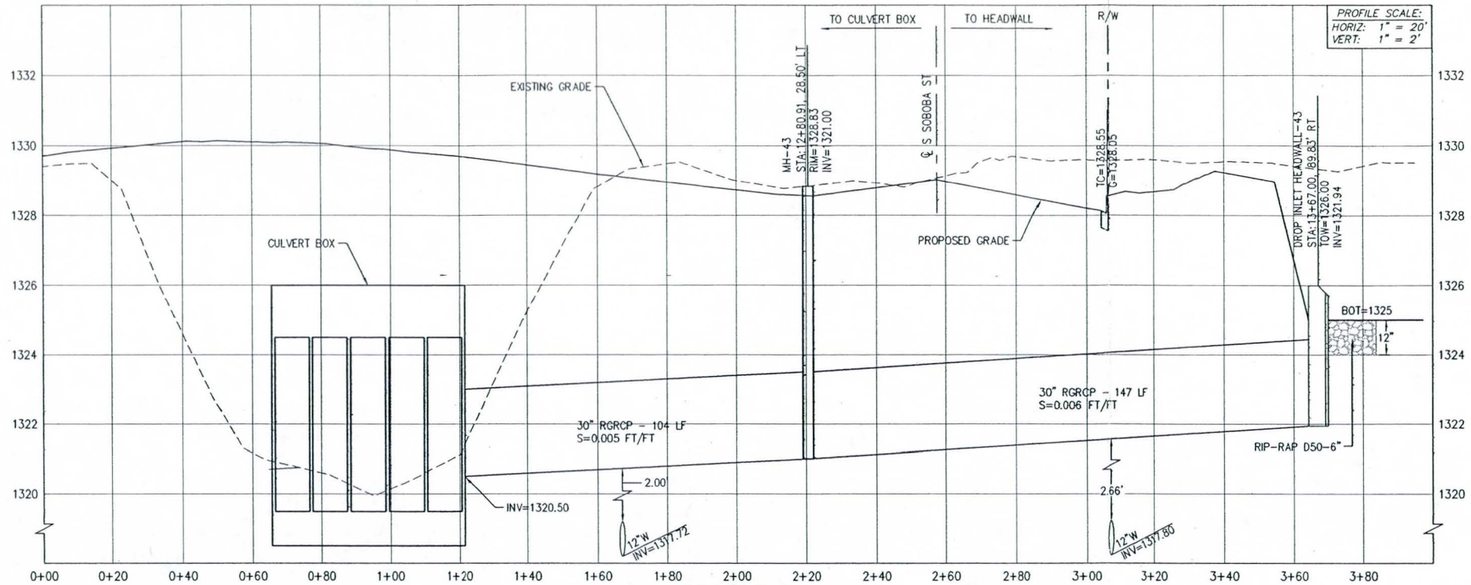
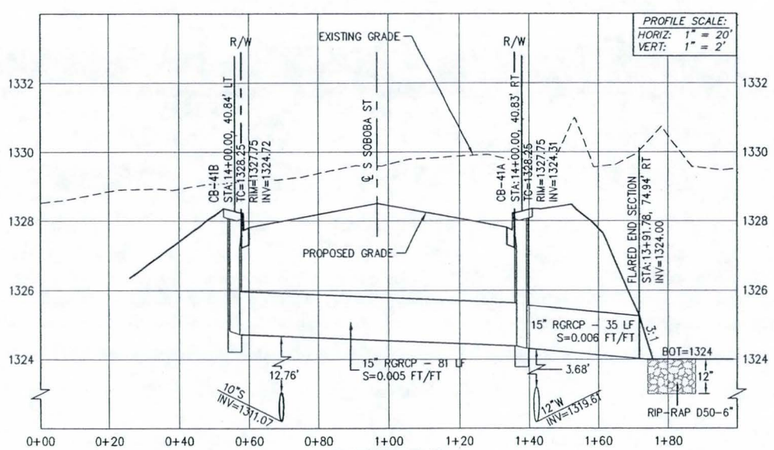


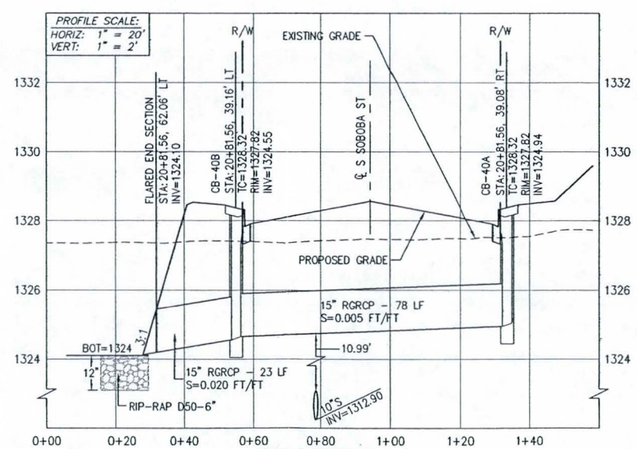
SOUTH SOBOBA STREET
LOOKING NORTH
SEE SHEET CD05



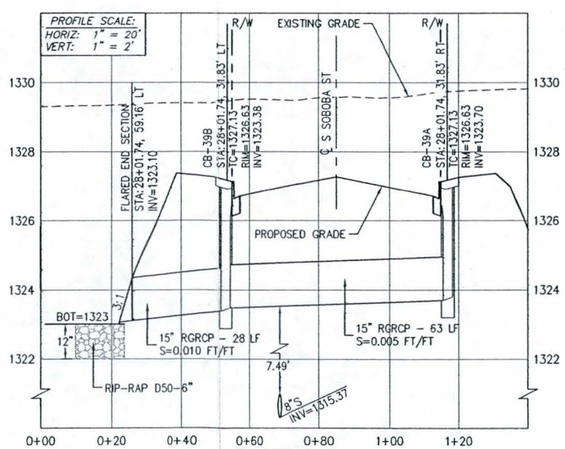
PROFILE A
SOUTH SOBOBA STREET
LOOKING NORTHWEST
SEE SHEET CD05



PROFILE B
SOUTH SOBOBA STREET
LOOKING NORTH
SEE SHEET CD05



PROFILE C
SOUTH SOBOBA STREET
LOOKING NORTHWEST
SEE SHEET CD07



PROFILE D
SOUTH SOBOBA STREET
LOOKING NORTH
SEE SHEET CD09

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PH 602.490.0535 / FAX 602.325.0161
www.hilgartwilson.com

EAST BRIDGES BOULEVARD-SOUTH SOBOBA STREET
OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

STORM DRAIN PROFILES

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6-14-12
ARIZONA U.S.A.
Expires 3/31/2013

PROJ#: 1127	REV.:
DATE: JULY 2012	
SCALE: 1"=20'	
DRAWN: MR,JR,CR,JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. SD01
SHT. 23 OF 63

ENG 2012-00116

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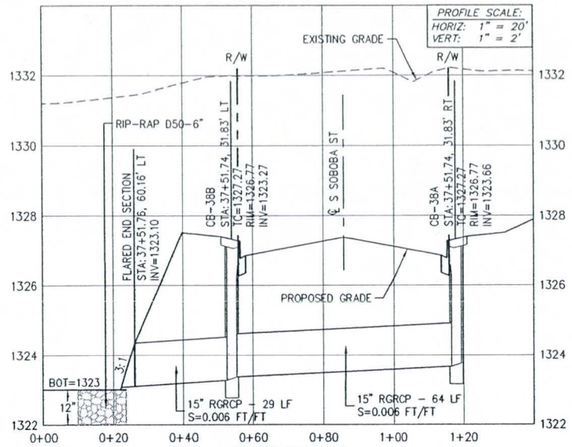
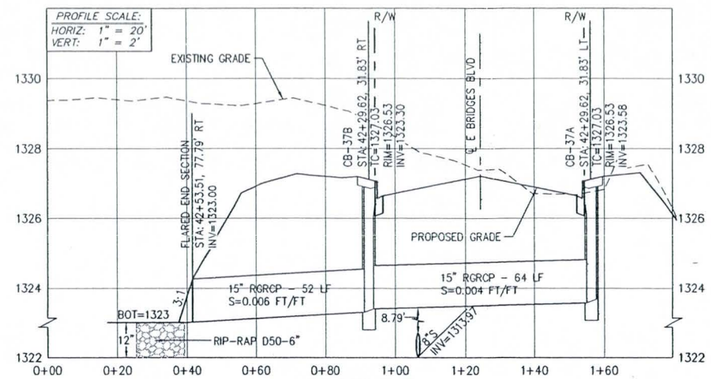
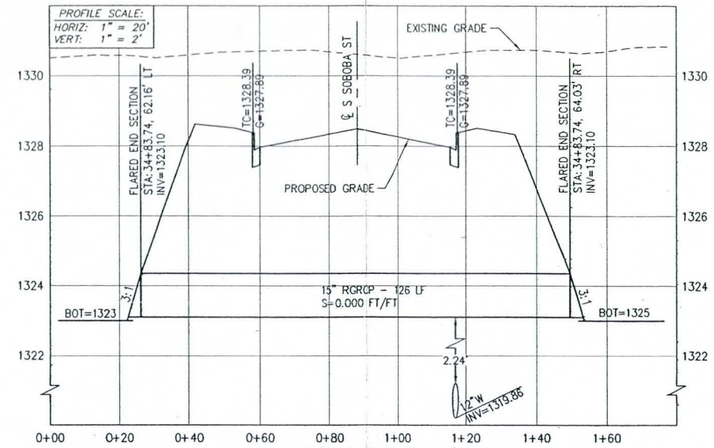


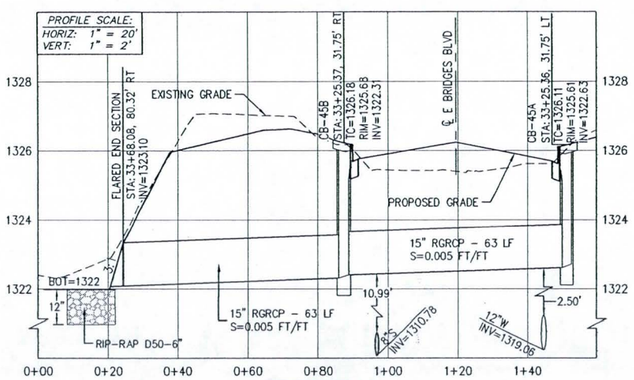
PROFILE E
SOUTH SOBOBA STREET
LOOKING NORTHEAST
SEE SHEET CD11



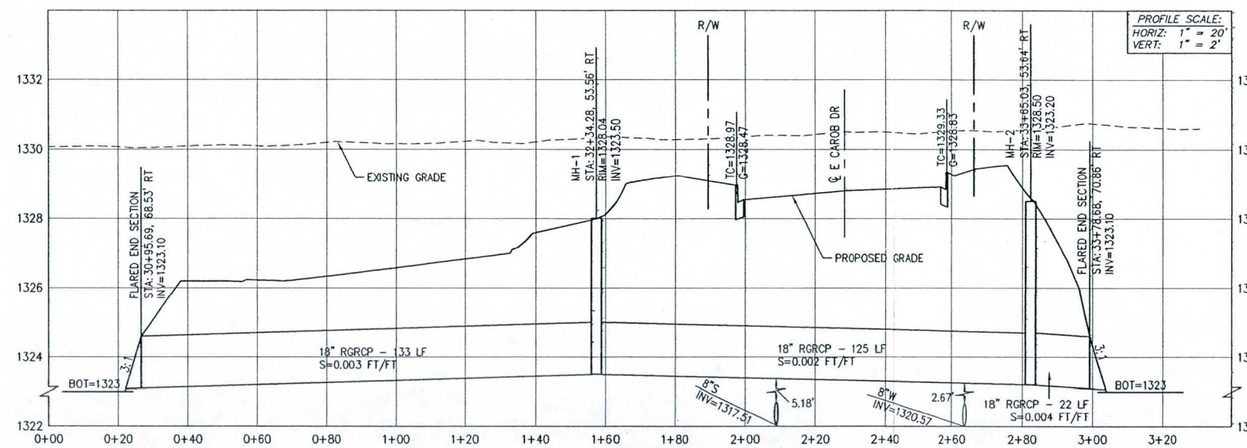
PROFILE F
EAST BRIDGES BOULEVARD
LOOKING NORTHWEST
SEE SHEET CD15



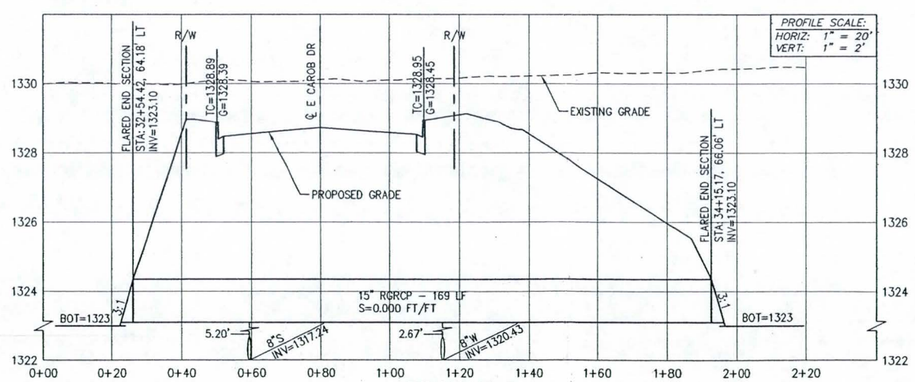
PROFILE G
SOUTH SOBOBA STREET
LOOKING NORTHEAST
SEE SHEET CD10



PROFILE H
EAST BRIDGES BOULEVARD
LOOKING SOUTHWEST
SEE SHEET CD13



PROFILE I
SOUTH SOBOBA STREET
LOOKING WEST
SEE SHEET CD10



PROFILE J
SOUTH SOBOBA STREET
LOOKING NORTHWEST
SEE SHEET CD10

hilgartwilson
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EAST BRIDGES BOULEVARD-SOUTH SOBOBA STREET
OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

STORM DRAIN PROFILES

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 6/6/12
ARIZONA U.S.A.
Expires 3/31/2013

REV.:	
PROJ#: 1127	
DATE: JULY 2012	
SCALE: 1"=20'	
DRAWN: MR,JR,CR,JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. **SD02**
SHT. 24 OF 63

ENG 2012-0116

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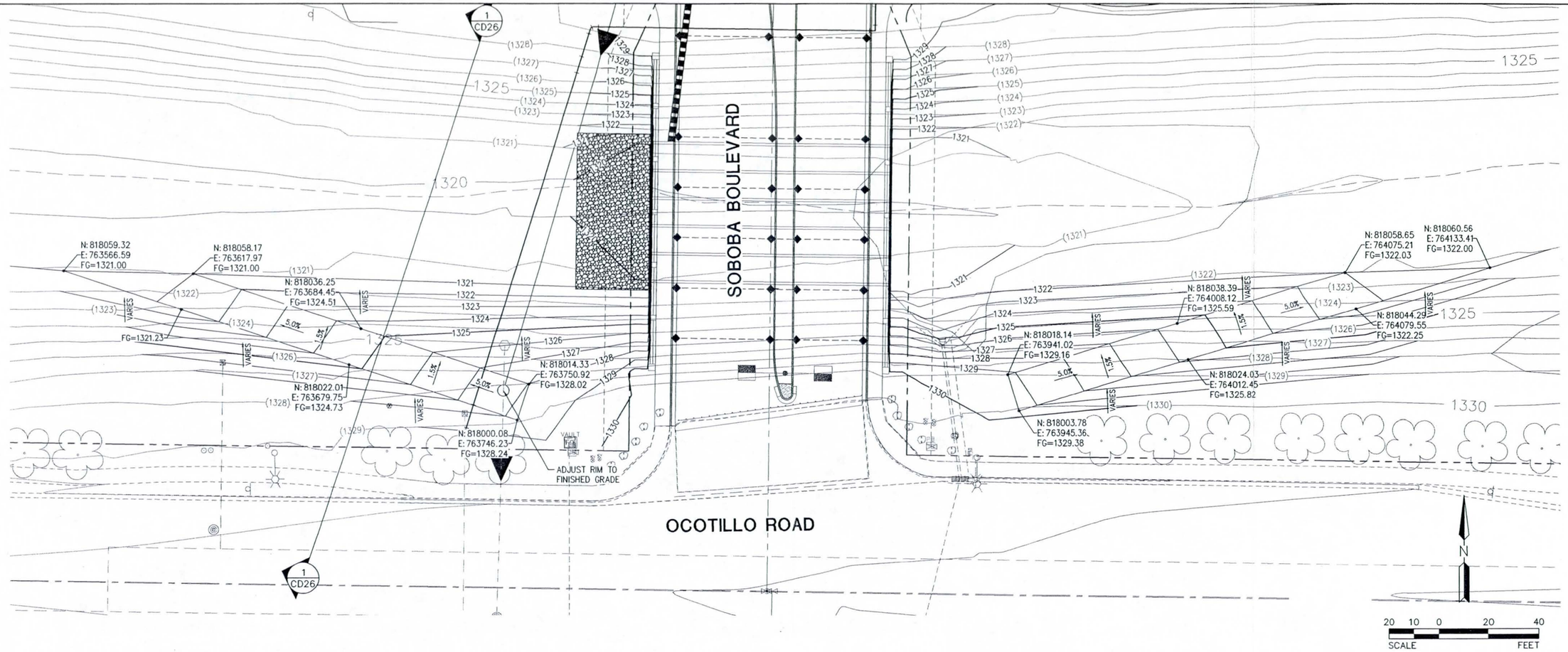

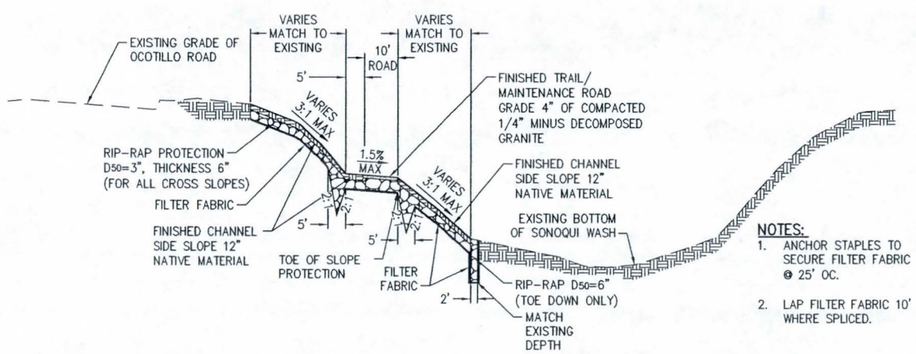

NOTES:

1. ANCHOR STAPLES TO SECURE FILTER FABRIC @ 25' OC.
2. LAP FILTER FABRIC 10' WHERE SPLICED.

SECTION 1 - DETAIL OF TRAIL/MAINTENANCE ACCESS RAMP INTO SONOQUI WASH

N.T.S.

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM DATE SIGNED 7/16/12 ARIZONA U.S.A. Expires 3/31/2013

EAST BRIDGES BOULEVARD-SOUTH SOBOBA STREET
OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

ACCESS RAMP GRADING AND DETAILS

PROJ.#	1127	hilgartwilson ENGINEERS•PLANNERS•SURVEYORS	
DATE:	JULY 2012		
SCALE:	1"=40'		
DESIGNED: CB	DRAWN: MR,JR,CR	APPROVED: NL	
REV.		DWG. NO. CD26	
		SHT. 26 OF 63	

ENG 2012-00116

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

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EXCERPTS OF

RECKER ROAD

IMPROVEMENT PLANS

THE BRIDGES EAST
RECKER ROAD
IMPROVEMENT PLANS

GILBERT, ARIZONA

A PORTION OF SECTION 11 AND SECTION 14, TOWNSHIP 2
SOUTH RANGE 6 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN
MARICOPA COUNTY, ARIZONA

HILGARTWILSON STANDARD ENGINEERING NOTES

1. THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. ANYONE WHO TAKES IT UPON THEMSELF THE INTERPRETATION OF THE DRAWINGS OR MAKES REVISIONS TO THE SAME WITHOUT CONFERRING WITH THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR THE CONSEQUENCES THEREOF.

2. THE ESTIMATED QUANTITIES SHOWN ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETENESS AND ACCURACY OF A DETAILED ESTIMATE BASED ON THESE PLANS, CURRENT CODES, AND SITE VISITATION.

3. ALL EARTHWORK CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD DETAILS AND/OR SPECIFICATIONS INCLUDING ANY SUPPLEMENTS THERETO, AND ALL ADDENDA. THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATION OF THE SOIL INVESTIGATION REPORT AND LETTER, AS PREPARED BY RICKER ATKINSON MCBEE MORMAN & ASSOCIATES, INC. PHONE NO. (480) 921-8100, PROJECT NO. G19365, DATED MARCH 7, 2012.

4. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL THOROUGHLY SATISFY HIMSELF AS TO THE ACTUAL CONDITIONS, REQUIREMENTS OF THE WORK AND EXCESS OR DEFICIENCY IN QUANTITIES. NO CLAIMS SHALL BE MADE AGAINST THE OWNER/DEVELOPER OR ENGINEER FOR ANY EXCESS OR DEFICIENCY THEREIN, ACTUAL OR RELATIVE.

5. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF UTILITIES, POWER POLES, ETC.

7. THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE SURVEYOR REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES SET BY THE SURVEYOR UNLESS ALL SURVEY STAKES SET BY THE ENGINEER ARE MAINTAINED INTACT AND CAN BE VERIFIED AS TO THEIR ORIGIN. IF, IN THE OPINION OF THE SURVEYOR, THE STAKES ARE NOT MAINTAINED INTACT AND CANNOT BE VERIFIED AS TO THEIR ORIGIN, ANY REMEDIAL WORK REQUIRED TO CORRECT ANY ITEM OF IMPROPER CONSTRUCTION WORK SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.

8. THE SURVEYOR WILL MAKE FIELD AS-BUILT MEASUREMENTS OF THE WORK UPON NOTIFICATION BY THE CLIENT OR HIS REPRESENTATIVE THAT THE WORK IS COMPLETE AND READY FOR AS-BUILT SURVEY. FOR PIPE WORK, THE CONTRACTOR IS RESPONSIBLE FOR LEAVING TRENCHES OPEN SO THAT AS-BUILTS CAN BE PERFORMED TO COMPLY WITH THE AGENCY'S REQUIREMENTS. (IF THE TRENCHES ARE BACKFILLED AND OBSCURED TO THE POINT THAT AS-BUILT MEASUREMENTS CANNOT BE PERFORMED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POTHOLE UTILITY TRENCHES AS NECESSARY TO COMPLETE AN AS-BUILT SURVEY.)

9. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITIONS, OR PAVEMENT CROSS-SLOPES DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT BEING ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.

10. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED ACCORDING TO INFORMATION PROVIDED BY THE AGENCY OPERATING EACH UTILITY. LOCATIONS SHOWN ARE APPROXIMATE ONLY, AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CALL BLUE STAKE FOR FIELD LOCATION AT (602) 263-1100. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWING, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN LIKE KIND.

11. PRIOR TO CONSTRUCTION, THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE ANY ALTERATION, OR VARIANCE FROM THESE PLANS. ANY VARIATIONS FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER.

12. ANY INSPECTION BY THE CITY, COUNTY, ENGINEER, OR OTHER JURISDICTIONAL AGENCY, SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH APPLICABLE CODES AND AGENCY REQUIREMENTS.

13. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL STORM DRAIN PIPES, STORM WATER RETENTION PIPES AND DRAINAGE FACILITIES FROM DAMAGE DURING ALL STAGES OF CONSTRUCTION. THE DEPTH OF COVER ON THE STORM DRAIN PIPE IS DESIGNED FOR FINAL GRADE. THEREFORE, EXTRA CARE SUCH AS BERMING OVER PIPES, FLAGGING OR SIGNAGE SHOULD BE USED DURING CONSTRUCTION TO MAINTAIN COVER OR PROTECT THE PIPES.

14. THE ENGINEER MAKES NO REPRESENTATION OR GUARANTEE REGARDING EARTHWORK QUANTITIES OR THAT THE EARTHWORK FOR THIS PROJECT WILL BALANCE DUE TO THE VARYING FIELD CONDITIONS, CHANGING SOIL TYPES, ALLOWABLE CONSTRUCTION TOLERANCES AND CONSTRUCTION METHODS THAT ARE BEYOND THE CONTROL OF THE ENGINEER.

15. IF PAD CERTIFICATIONS ARE PERFORMED, IT IS UNDERSTOOD THAT THE CERTIFICATION PROVIDES ONLY A REPRESENTATIVE ELEVATION OF THE AVERAGE GRADE OF EACH LOT, BUILDINGS OR UNIT PAD, AND SHALL NOT BE CONSTRUED TO INCLUDE YARD AND STREET SUB-GRADE CERTIFICATION OR CERTIFICATION THAT THE ENTIRE PAD IS LEVEL, THAT IT WAS CONSTRUCTED IN THE DESIGNED LOCATION OR WAS GRADED TO THE CROSS-SECTION SET FORTH ON THE PLANS OR AS DESIGNATED IN THE SOILS REPORT.

16. FINISH GRADES SHOWN ON THESE PLANS ARE THE FINAL FINISH GRADES. CONTRACTOR IS RESPONSIBLE FOR OVER-EXCAVATING LANDSCAPE AREAS TO ALLOW FOR PLANTING AND UTILITY TRENCHING SPOILS AND FOR THE FINAL LANDSCAPE TREATMENT (DECOMPOSED GRANITE, LAWN, ETC.).

17. UNDERGROUND UTILITIES SHALL BE MARKED IN ACCORDANCE WITH SECTION 40-360 OF THE ARIZONA REVISED STATUTES AND LOCAL MUNICIPALITY REQUIREMENTS.

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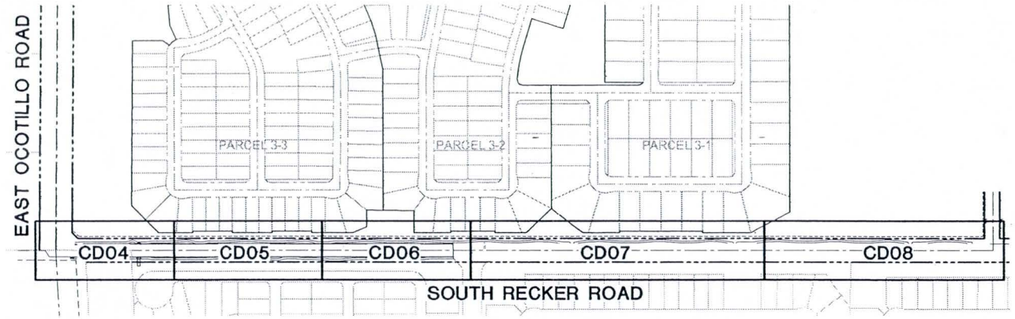

LOCATION MAP
N.T.S.

VICINITY MAP
N.T.S.

ENGINEERS ESTIMATED QUANTITIES

NOTE: ENGINEERS ESTIMATED QUANTITIES ARE NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL BASE THEIR BID ON THEIR OWN QUANTITY TAKEOFFS.

PAVING CONSTRUCTION NOTES

2	PAVEMENT: 4" AC OVER 12" ABC; SEE TYP. SECTION ON SHEET CD03	6138	SY
3	SURVEY MONUMENT; MAG DTL 120-1-A	1	EA
4	6" VERTICAL CURB & GUTTER; MAG DTL 220-A	2602	LF
12	BARRICADE; MAG DTL 130-B	94	LF
15	SAWCUT & REMOVE EXISTING PAVEMENT TO A NEAT, CLEAN EDGE; MATCH WITH NEW PAVEMENT 2' MINIMUM	38	SY
23	6' SIDEWALK; MAG DTL 230	26160	SF
31	PEDESTRIAN RAMP PER DETAIL ON SHEET CD03.	1	EA
33	MASONRY RETAINING WALL AND RAIL DESIGN BY OTHERS	256	LF
34	EXISTING OVERHEAD POWER LINE	0	NPI
35	EXISTING 69kv POWER POLE	0	NPI
36	ADJUST MANHOLE FRAME & COVER PER MAG STD DTL 422, 424.	1	EA

STORM DRAIN CONSTRUCTION NOTES

4	LOOSE RIP-RAP D50=9"-18" THICK ON MIRAFI EROSION PROTECTION GEO-TEXTILE OR APPROVED EQUAL; GRANITE TO MATCH THE DECOMPOSED GRANITE ONSITE.	90	SY
25	SCUPPER; MAG DTL 206.1, 206.2, 206.3; WIDTH PER PLAN; SEE SHEET CD03 FOR DETAIL; SEE LANDSCAPE PLANS FOR AESTHETIC TREATMENT FOR SPILLWAY.	1	EA
26	CATCH BASIN; COP DTL P-1569-1; SIZE PER PLAN; SEE SHEET CD03 FOR DETAIL	1	EA
36	INSTALL PRECAST CONCRETE WATER QUALITY SYSTEM CDS2020 PER CONTECH STD DETAIL ON SHEET CD03 OR APPROVED EQUAL	1	EA
37	15" RGRCP, CLASS III; TOG DTL 84	96	LF
38	FLARED END SECTION; PER MAG STD DTL 545 SEE DETAIL ON SHEET SD01	1	EA

WATER CONSTRUCTION NOTES

16	FIRE HYDRANT & PAVEMENT MARKER; TOG DTL 60,60A & 61 TYPE B	1	EA

LEGEND

	RIGHT OF WAY
	CENTERLINE
	FIRE HYDRANT & MARKER
EX. 8"S	EX. SEWER LINE & MANHOLE
EX. 8"W	EX. WATER LINE & VALVE
	NEW A.C.PAVEMENT
(1600)	EXIST. CONTOURS
1600	PROPOSED CONTOURS
1	CONSTRUCTION NOTES
	GRADE BREAK
	BRASS CAP TYPE "B"
	6" VERTICAL CURB
	STREET LIGHT
	STREET SIGN

BUILDING DEPARTMENT NOTICE:

ALTHOUGH SOME PLANS AND DETAILING FOR SCHEMATIC PURPOSES WERE PROVIDED, THE SUBDIVISION SUBMITTAL PACKAGE REVIEWED DID NOT INCLUDE ALL SITE AMENITY/IMPROVEMENT PLANS AND DETAILS NECESSARY FOR FULL BUILDING DEPARTMENT APPROVAL. COMPLETE PLANS AND DETAILING INCLUDING STRUCTURAL AND ELECTRICAL PLANS AND DETAILS ARE BEING DEFERRED UNTIL THE FIRST BUILDING PERMIT FOR AN AMENITY IS REQUESTED FROM DEVELOPMENT SERVICES. ALL COMPLETE PLANS AND DETAILS MUST BE SUBMITTED FOR ALL SITE AMENITIES REQUIRING A BUILDING DEPARTMENT PERMIT WHEN THE FIRST BUILDING PERMIT IS REQUESTED. PERMITS WILL NOT BE ISSUED FOR ANY SINGLE AMENITY WITHOUT APPROVAL OF THE OVERALL SITE PLAN AND ALL RELATED AND NECESSARY DETAILS.

PARTIAL PLANS SUBMITTED FOR REVIEW THROUGHOUT THE SUBDIVISION REVIEW PROCESS WILL NEED TO BE RESUBMITTED AS PART OF THE BUILDING PERMIT REQUESTED PROCESS.

AMENITIES OR IMPROVEMENTS THAT REQUIRE BUILDING PERMITS INCLUDE, HOWEVER ARE NOT LIMITED TO: FENCES, RETAINING WALLS, MONUMENT WALLS, RAMADAS, ELECTRICAL PEDESTALS, SITE LIGHTING ADA ACCESS (WHERE NOT SHOWN ON PRIOR DRAWINGS), WATER METERS (BOTH IRRIGATION AND DOMESTIC), DRINKING FOUNTAINS, WATER PUMPING STATIONS, SWIMMING POOLS, BATH HOUSES, AND BACKFLOW ASSEMBLIES.

THIS SET OF CONSTRUCTION PLANS HAS BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES FOR REVIEW AND TO DETERMINE ANY POTENTIAL CONFLICTS.

UTILITY COMPANY	COMPANY CONTACT	DATE SUBMITTED
CENTURYLINK	DANNY YOUNG	04/03/2012
SALT RIVER PROJECT	BRETT GRUENDLER	04/03/2012
COX COMMUNICATIONS	KEN DEGRAFFENREID	04/03/2012
SOUTHWEST GAS COMPANY	ZACH STEVENSON	04/03/2012
		04/03/2012

ENGINEER
HILGARTWILSON
1661 E. CAMELBACK RD., STE. 275
PHOENIX, ARIZONA 85016
CONTACT: NGUYEN LAM
PHONE: (602) 490-0535
FAX: (602) 325-0161

OWNER/DEVELOPER
BRIDGES NORTH LP
3820 W. HAPPY VALLEY RD
#141-246
GLENDALE, AZ 85310

BRIDGES SOUTH LP
3820 W. HAPPY VALLEY RD
#141-246
GLENDALE, AZ 85310

LANDSCAPE ARCHITECT
ANDERSON BARON
88 SOUTH SAN MARCOS PLACE
SUITE 101
PHOENIX, AZ 85028
(480) 699-7956
FAX: (480) 699-7986
CONTACT: THOMAS DURANT

LIGHTING
WRIGHT ENGINEERING CORPORATION
165 E. CHILTON DRIVE
CHANDLER, AZ 85225
PHONE: (480) 497-5829
FAX: (480) 497-5807
CONTACT: AARON KUTCHINSKY

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN OR NOTED HEREON WERE MADE BY MYSELF OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SIGNATURE_____ DATE_____

SHEET INDEX

CD01	COVER SHEET
CD02-03	NOTES AND DETAILS
CD04-08	PAVING PLANS
CD09	HEADWALL DETAILS
SD01	STORM DRAIN PROFILES
SP01	STORM WATER MANAGEMENT POLLUTION PREVENTION COVER
SP02	STORM WATER MANAGEMENT POLLUTION PREVENTION PLAN
SS01-02	SIGNING AND STRIPING PLANS
ST01-03	STRUCTURAL DETAILS
SL-1-SL-3	STREET LIGHT DESIGN
L1-L16	LANDSCAPE PLANS

APPROVALS

THE AUTHORIZED REPRESENTATIVES OF THE FOLLOWING AGENCIES HEREBY ACKNOWLEDGE OR HAVE ACKNOWLEDGED THEY HAVE REVIEWED AND APPROVED THEN DESIGN SHOWN BY THESE DRAWINGS. CONSTRUCTION MAY BEGIN AFTER ALL APPROPRIATE PERMITS HAVE BEEN OBTAINED.

TOWN OF GILBERT _____ DATE_____
TOWN ENGINEER

TOWN OF GILBERT _____ DATE_____
FIRE DEPT.

BASIS OF BEARING

BASIS OF BEARING IS S00°16'16"W ALONG THE EAST LINE OF SECTION 14, TOWNSHIP 2 SOUTH, RANGE 6 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

BENCHMARK NOTE: 1320.20' (NAVD88)

DESCRIBED AS THE NW CORNER OF SCTION 14 T2S, R6E, BEING A TOWN OF GILBERT BRASS CAP HANDHOLE, 0.55 DOWN AT THE INTERSECTION OF QUEEN CREEK ROAD AND HIGLEY ROAD.

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800 -STAKE IT (782-5348) In Maricopa County: (602) 263-1100

hilgartwilson
ENGINEERS•PLANNERS•SURVEYORS
1661 E. CAMELBACK RD., STE. 275 / PHOENIX, AZ 85016
PH 602.490.0535 / FAX 602.325.0161
www.hilgartwilson.com

RECKER ROAD
OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

COVER SHEET

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM DATE SIGNED 6-27-12 ARIZONA U.S.A. Expires 3/31/2013

REV.:	
PROJ#: 1127	
DATE: JUNE 2012	
SCALE: NTS	
DRAWN: MR, JR, JF	
DESIGNED: CB	
APPROVED: NL	

DWG. NO. CD01
SHT. 1 OF 36

ENG 2012-00116

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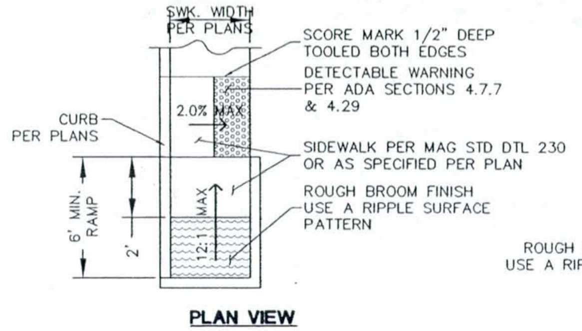
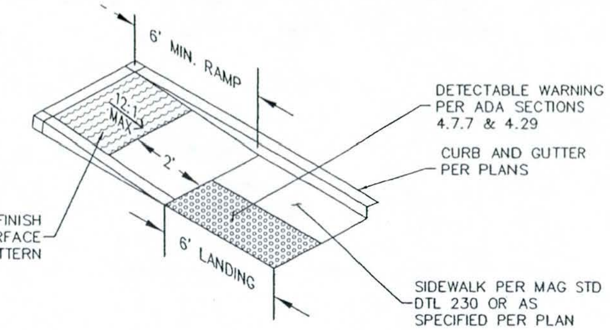
ABBREVIATIONS

ABC	AGGREGATE BASE COURSE
AC	ASPHALTIC CEMENT OR CONCRETE
AHD	AHEAD SEWER STATION
ARCH	ARCHITECTURAL
B/C	BACK OF CURB
BCR	BEGIN CURB RETURN
BK	BACK SEWER STATION
BOT	BOTTOM OF BASIN
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL AT FINISH GRADE
C&G	CURB AND GUTTER
C/L or CL	CENTERLINE
CB	CATCH BASIN
DE	DRAINAGE EASEMENT
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DTL	DETAIL
E	EAST OR EASTING
EA	EACH
ECR	END CURB RETURN
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLOW LINE GRADE
FP	FINISH PAD
FS	FINISH SURFACE
FT	FOOT OR FEET
G	GUTTER
GB	GRADE BREAK
GFF	GARAGE FINISH FLOOR
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HIGH POINT
HWL	HIGH WATER ELEVATION
INV	INVERT OR INVERSE
LF	LINEAR FEET
L.P.	LOW POINT
L/S	LANDSCAPE
L.E.	LANDSCAPE EASEMENT
LT or L	LEFT
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MH	MANHOLE
ML or M/L	MONUMENT LINE
MIN	MINIMUM
MUE	MULTI-USE EASEMENT
MUTE	MULTI-USE TRAIL EASEMENT
N	NORTH OR NORTHING
NPI	NON-PAYABLE ITEMS
NTS	NOT TO SCALE
P	PAVEMENT
PAE	PEDESTRIAN ACCESS EASEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PH	PHASE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R/W OR ROW	RIGHT OF WAY
RGRCP	RUBBER GASKET REINFORCED CONCRETE PIPE
RT or R	RIGHT
S	SOUTH, SLOPE OR SEWER LINE
S/W or SW	SIDEWALK
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SPEC	SPECIFICATIONS
STA	STATION
STD	STANDARD
TC	TOP OF CURB
TRANS	TRANSMISSION OR TRANSITION
TF	TOP OF FOOTING
TG	TOP OF GRATE
TL	TRUE LENGTH
TRW	TOP OF RETAINING WALL
TS	TRUE SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VC	VERTICAL CURVE
VERT	VERTICAL
VG	VALLEY GUTTER
Vprov	VOLUME PROVIDED
Vreq	VOLUME REQUIRED
V.T.	VISIBILITY TRIANGLE
W	WEST OR WATER LINE
W/	WITH
W/L	WATERLINE

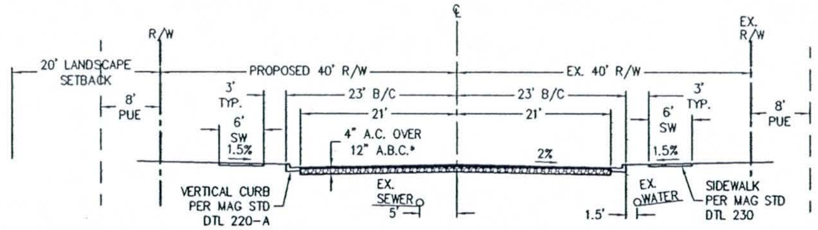


PLAN VIEW

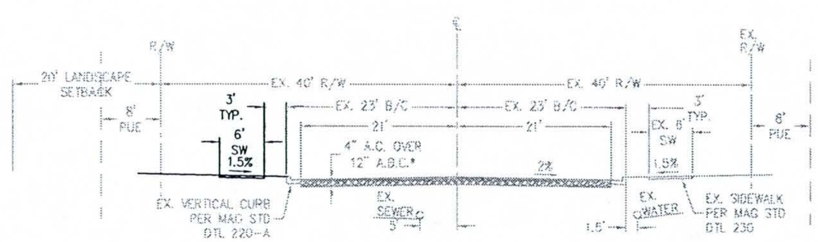


PEDESTRIAN RAMP
N.T.S.

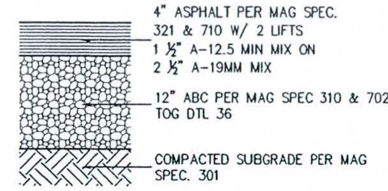
ISOMETRIC VIEW



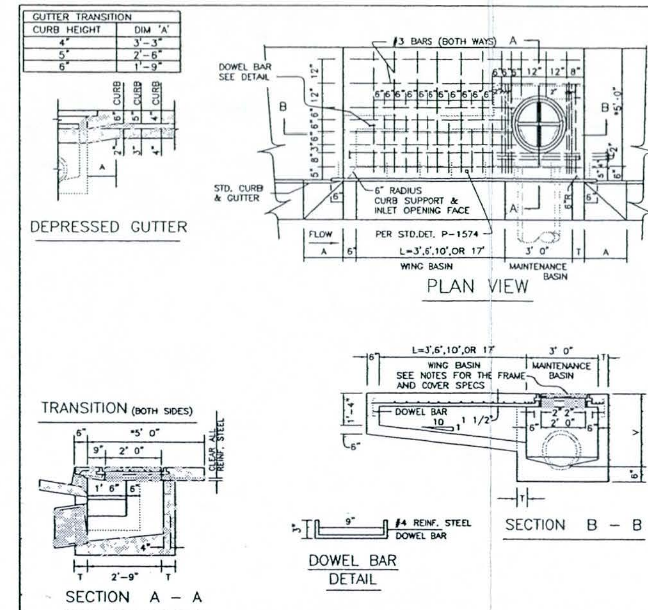
RECKER ROAD
(SOUTH OF FICUS WAY)
N.T.S.



RECKER ROAD
(NORTH OF FICUS WAY)
(STA: 22+46.11 – STA: 40+08.58)
N.T.S.



SOUTH RECKER ROAD
PAVING SECTION PER TOG DTL 23
N.T.S.



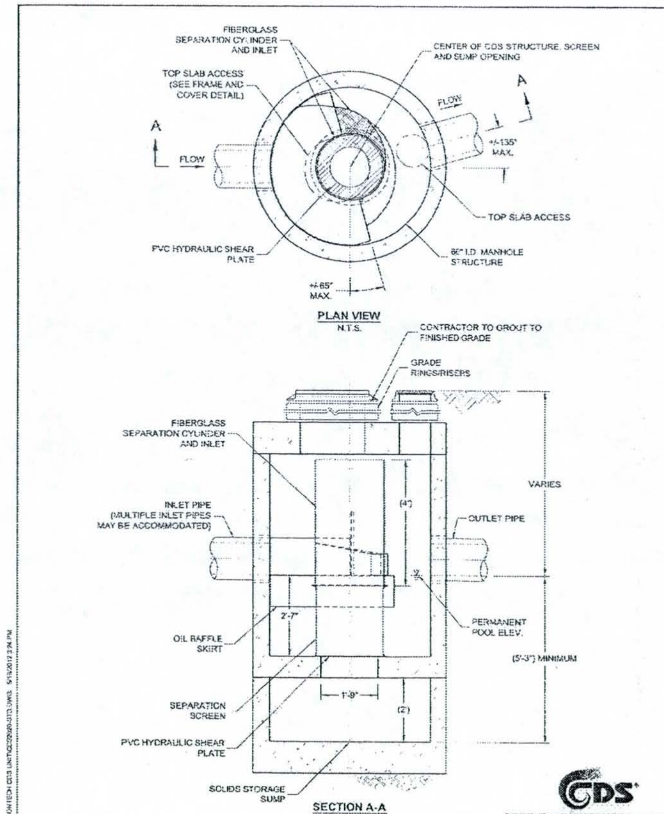
NOTES

1. TYPES ARE DESIGNATED AS FOLLOWS: 'M'.. NO WING, 'M-1'.. ONE WING, 'M-2'.. TWO WINGS.
2. ALL CONCRETE SHALL BE CLASS 'A'.
3. ALL REINFORCING STEEL SHALL BE DEFORMED BARS AND SHALL CONFORM TO A.S.T.M. SPECIFICATION 615.
4. CONNECTOR PIPES SHALL BE PLACED IN THE APPROPRIATE WALL OF THE MAINTENANCE BASIN.
5. FLOOR OF BASIN SHALL BE TROWELLED TO A HARD, SMOOTH SURFACE AND SHALL SLOPE FROM ALL DIRECTIONS TO OUTLET.
6. CONSTRUCTION DRAINS SHALL BE INSTALLED IN WHEN NOTED. (SEE DET. P-1575.)
7. LOCATE WING BASIN ON UPSTREAM SIDE OF MAINTENANCE BASIN FOR TYPE M-1. WING BASINS FOR TYPE M-2 SHALL BE BOTH SIDES OF MAINTENANCE BASIN.
8. ACCESS FRAME AND COVER PER DET. P-1561

CATCH BASIN WALL THICKNESS
T = 6" IF V = 4' OR LESS T = 8" IF V = 4' TO 8' (IF V EXCEEDS 8', SPECIAL DESIGN IS REQUIRED.)
L = 0' UNLESS SPECIFIED ON THE PLANS V = 4'-0" MIN. UNLESS OTHERWISE NOTED

*4'-0" IN LOCATIONS WHERE 4' SIDEWALK IS REQ'D.
REVISED 4/14/08

DETAIL NO. P1569-1	City of Phoenix STANDARD DETAIL	CATCH BASIN TYPE "M"		DETAIL NO. P1569-1



CDS2020 DESIGN NOTES

CDS2020 RATED TREATMENT CAPACITY IS 1.1 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 14.0 CFS. IF THE SITE CONDITIONS EXCEED 14.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2020 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL SUFFIX)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES
B	SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
W	SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS)			*
PEAK FLOW RATE (CFS)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CDS

CONTECH STORMWATER SOLUTIONS

CDS2020
PRECAST CONCRETE WATER QUALITY SYSTEM
STANDARD DETAIL

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

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OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

NOTES AND DETAILS

PROJ#: 1127	REV.:
DATE: JUNE 2012	
SCALE: NTS	
DRAWN: MR, JR, JF	
DESIGNED: CB	
APPROVED: NL	
DWG. NO. CD03	SHT. 3 OF 36

ENG 2012-00116

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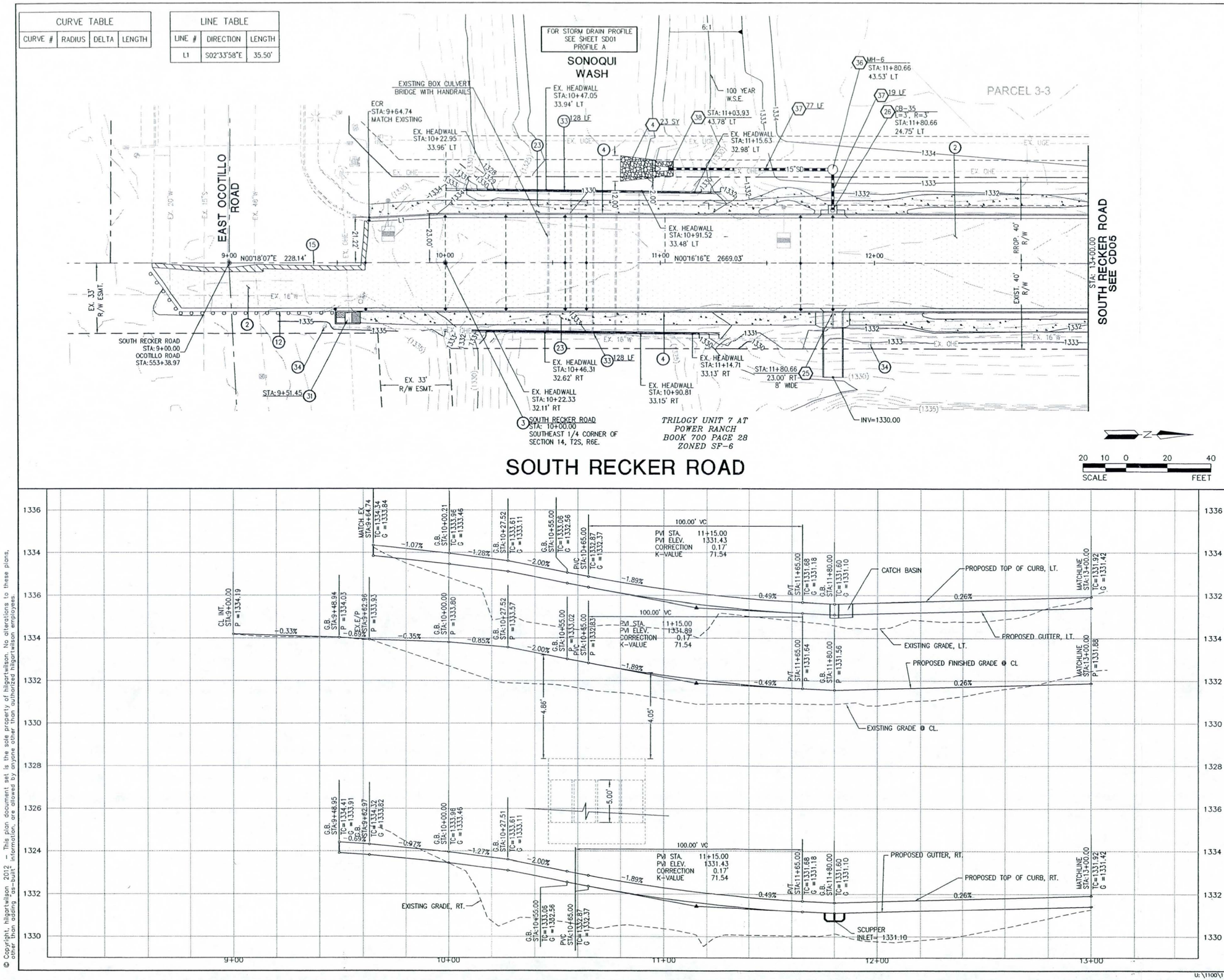
CURVE TABLE			
CURVE #	RADIUS	DELTA	LENGTH

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S02°33'58"E	35.50'



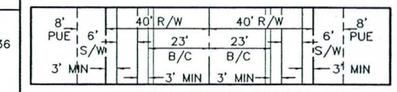
SOUTH RECKER ROAD

PAVING CONSTRUCTION NOTES

2	PAVEMENT: 4" AC OVER 12" ABC; SEE TYP. SECTION ON SHEET CD03	1746	SY
3	SURVEY MONUMENT; MAG DTL 120-1-A	1	EA
4	6" VERTICAL CURB & GUTTER; MAG DTL 220-A	716	LF
12	BARRICADE; MAG DTL 130-B	94	LF
15	SAWCUT & REMOVE EXISTING PAVEMENT TO A NEAT, CLEAN EDGE; MATCH WITH NEW PAVEMENT 2' MINIMUM	27	SY
23	6' SIDEWALK; MAG DTL 230	409.3	SF
31	PEDESTRIAN RAMP PER DETAIL ON SHEET CD03.	1	EA
33	MASONRY RETAINING WALL AND RAIL DESIGN BY OTHERS	256	LF
34	EXISTING OVERHEAD POWER LINE		NP

STORM DRAIN CONSTRUCTION NOTES

4	LOOSE RIP-RAP D50=9"-18" THICK ON MIRAFI EROSION PROTECTION GEO-TEXTILE OR APPROVED EQUAL; GRANITE TO MATCH THE DECOMPOSED GRANITE ONSITE.	23	SY
25	SCUPPER; MAG DTL 206.1, 206.2, 206.3; WIDTH PER PLAN; SEE SHEET CD03 FOR DETAIL; SEE LANDSCAPE PLANS FOR AESTHETIC TREATMENT FOR SPILLWAY.	1	EA
26	CATCH BASIN; COP DTL P-1569-1; SIZE PER PLAN; SEE SHEET CD03 FOR DETAIL	1	EA
36	INSTALL PRECAST CONCRETE WATER QUALITY SYSTEM CDS2020 PER CONTECH STD DETAIL ON SHEET CD03 OR APPROVED EQUAL	1	EA
37	15" RGRCP, CLASS III; TOG DTL 84	96	LF
38	FLARED END SECTION; PER MAG STD DTL 545 SEE DETAIL ON SHEET SD01	1	EA



TYPICAL STREET SECTION
UNLESS NOTED OTHERWISE
SCALE: NTS

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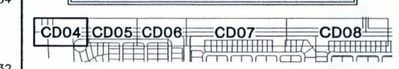

KEY MAP
NTS

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REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 38783 NGUYEN LAM ARIZONA U.S.A. Expires 3/31/2013

RECKER ROAD

OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

PAVING & UTILITY PLAN AND PROFILE

PROJ.#	1127	hilgartwilson ENGINEERS•PLANNERS•SURVEYORS	
DATE:	JUNE 2012		
SCALE:	1"=20'		
DESIGNED: CB	DRAWN: MR, JR	APPROVED: NL	
REV.		DWG. NO. CD04	
		SHT. 4 OF 36	

ENG 2012-00116

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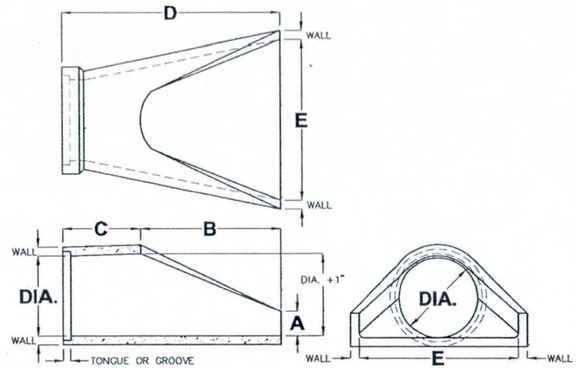
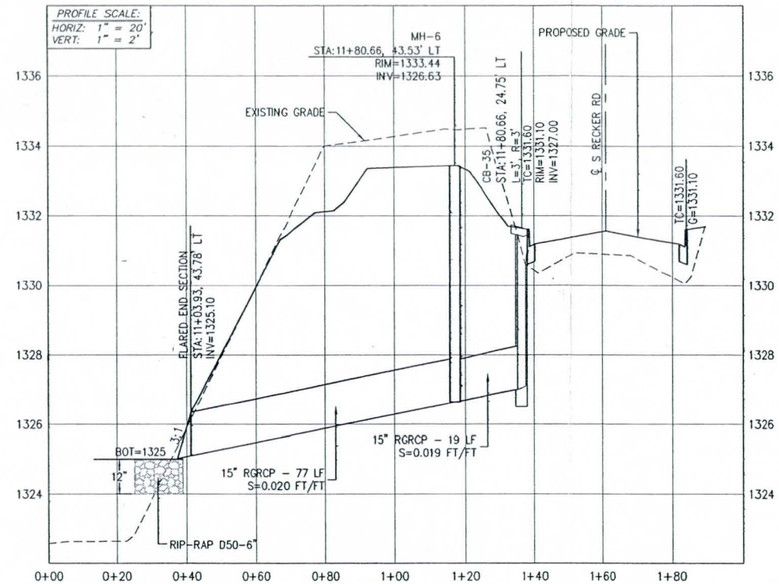


DIA.	WALL	TONGUE OR GROOVE	WEIGHT	A	B	C	D	E
15"	2-1/4"	1-3/4"	970	6"	27"	46"	73"	30"
18"	2-1/2"	1-3/4"	1340	9"	27"	46"	73"	36"
24"	3"	1-3/4"	1820	9-1/2"	43-1/2"	30"	73-1/2"	48"
30"	4-1/4"	3-7/8"	2400	12"	54"	19-3/4"	73-3/4"	60"
36"	4-3/4"	3-7/8"	5500	15"	63"	34-3/4"	97-3/4"	72"

REINFORCED CONCRETE PIPE CONFORMS TO ASTM C-76, ASTM-C-443, AASHTO M-170, AND AASHTO M-198.

REINFORCED CONCRETE PIPE FLARED END SECTIONS

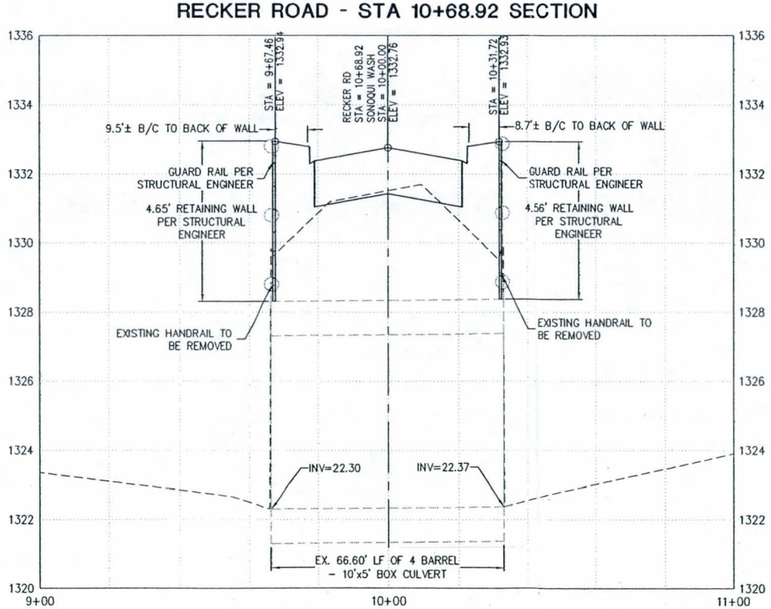
(15" TO 36" I.D.) MODIFIED MAG STD DTL 545
(NTS)



PROFILE A
SOUTH RECKER ROAD

LOOKING NORTHWEST
SEE SHEET CD04

RECKER ROAD - STA 10+68.92 SECTION



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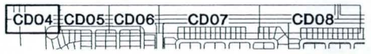

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REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 38783
NGUYEN LAM
Date Signed 7/16/12
ARIZONA U.S.A.
Expires 3/31/2013

RECKER ROAD

OCOTILLO ROAD & RECKER ROAD
GILBERT, ARIZONA

PROJ.#	1127	hilgartwilson ENGINEERS•PLANNERS•SURVEYORS	
DATE:	JUNE 2012		
SCALE:	1"=20'		
DESIGNED: CB	DRAWN: MR, JR	APPROVED: NL	
REV.		DWG. NO. SD01	
		SHT. 10 OF 36	

ENG 2012-00116

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EXCERPTS OF

OCOTILLO ROAD

IMPROVEMENT PLANS
(BY OTHERS- FOR REFERENCE ONLY)

TO ACCOMPANY ADDENDUM NO. 1

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	ST061	1	160	8/14/08

AZTEC

TOWN OF GILBERT
IMPROVEMENT PLANS
FOR
OCOTILLO ROAD
HIGLEY ROAD TO RECKER ROAD
ROADWAY IMPROVEMENTS
ST061, WA051, WW038

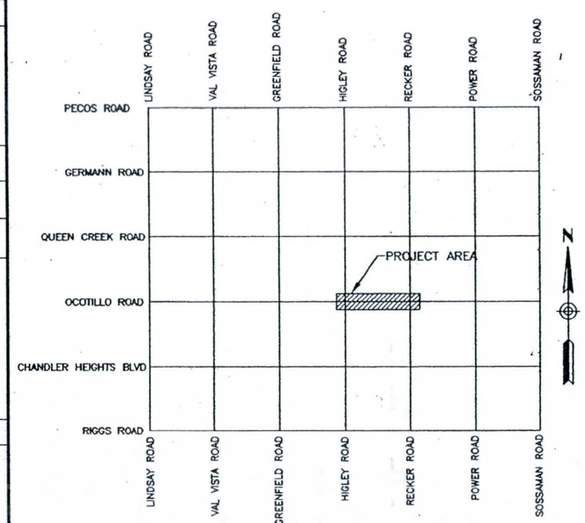
GILBERT
ARIZONA

MAYOR
STEVEN M. BERMAN

VICE MAYOR
DAVE CROZIER

TOWN COUNCIL
LES PRESMYK
JOAN KRUEGER
DON SKOUSEN
LARRY MORRISON
STEVE URIE

TOWN ENGINEER
RICHARD ALLRED, P.E.



VICINITY MAP
N.T.S.

APPROVALS

TOWN OF GILBERT ENGINEERING _____ DATE 4-27-07

AS-BUILT CERTIFICATION

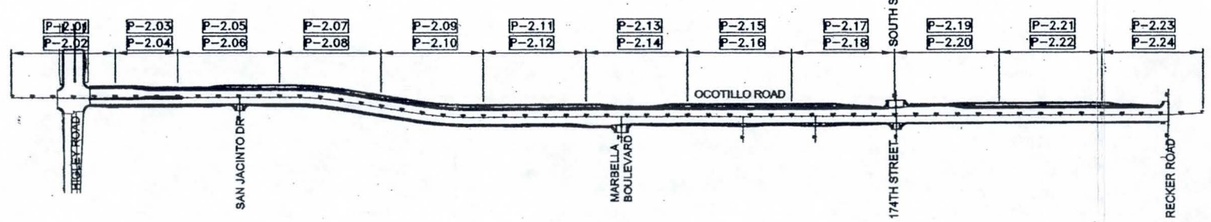
I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN OR NOTED HEREON WERE MADE BY MYSELF OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SIGNATURE: Evan N. Leander DATE 8/14/08

BENCHMARKS

BM - MCDOT TOP OF BRASS CAP (20570-IM) AT THE INTERSECTION OF THE SECTION LINES ALONG OCOTILLO ROAD & RECKER ROAD
SE COR ~~S5~~ 6 14 T2S,R6E
ELEV=~~1335.77~~ 1334.24 (T.O.G. DATUM = NAVD 88)

BM - MCDOT TOP OF ALUMINUM CAP (569-IM) AT THE MID-SECTION LINE ON OCOTILLO ROAD BETWEEN HIGLEY ROAD & RECKER ROAD
1/4 COR S14 ~~S23~~
ELEV=1324.74 (T.O.G. DATUM = NAVD 88)



KEY MAP

AZTEC
4561 E. McDowell Road
Phoenix, AZ 85008-4505
Tel(602)454-0402
Fax(602)454-0403
www.aztec.us

22007 EVAN N. LEANDER ARIZONA, U.S.A.
Evan N. Leander
EXPIRES 6/30/09

32279 SCOTT F. McKENZIE ARIZONA, U.S.A.

602-263-1100
1-800-STAKE-IT

COVER SHEET

GILBERT
ARIZONA

OCOTILLO RD
HIGLEY RD TO RECKER RD

ST061

DR: ASR	DES: JLC	CK: CCW	DWG. NO. A-1.01
DATE: 4/07	DATE: 4/07	DATE: 4/07	
		SCALE:	___ OF ___

Revision No. 1

NO.	DESCRIPTION	REV BY	CKD BY	DATE
1	15/16 GH ELEVATIONS	JLC	AS	7-07

REVISION BY TOWN OF GILBERT

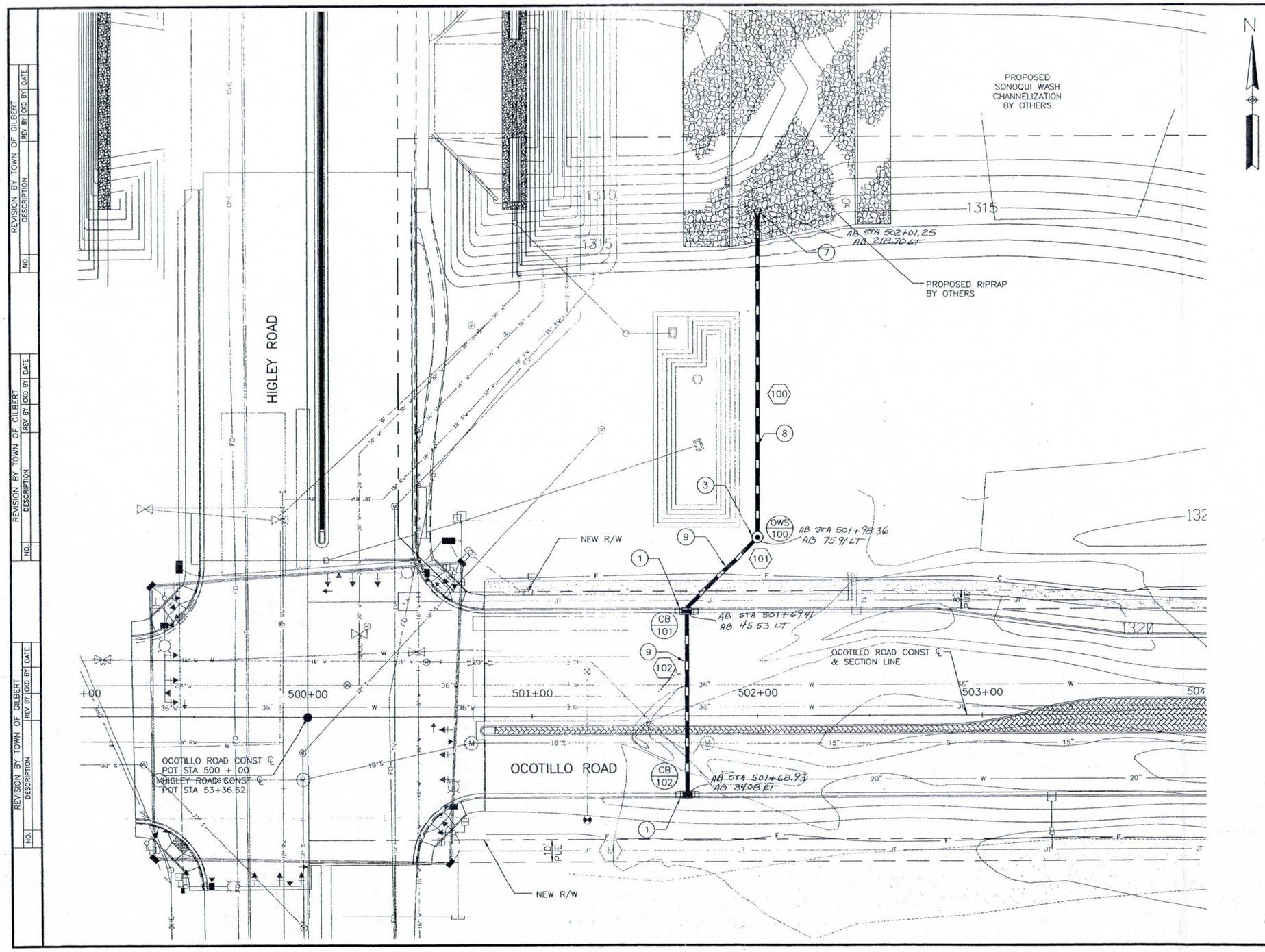
NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

Apr 26, 2007 - 9:14am
ARlordan
R:\Phoenix\Projects\05102 Ocotillo\CADD\Sheets\Roadway\61102CV01-ST061.dwg

AS-BUILT JUN 02 2008



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	ST061	35	160	~~AUG 04 2008~~

J2 Engineering & Environmental Design, LLC
4649 East Cotton Gin Loop, Suite B2
Phoenix, AZ 85040
ph.: (602) 438-2231
fax.: (602) 438-2225

14

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
1	CATCH BASIN, M.A.G. DET 534, TYPE 'E'	EACH	2
3	IN-LINE OIL/SEDIMENT SEPARATOR UNIT (SEE SPECIAL PROVISIONS)	EACH	1
7	END SECTION FOR 18" PIPE, SEE DETAIL SHT D-1.08	EA	1
8	18" RCP, CLASS III FOR PROFILE, SEE D-1.05	LF	140
9	18" RGRCP, CLASS IV FOR PROFILE, SEE D-1.05	LF	123

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

28178 ANTHONY J. PEGG REGIS. ARIZONA, U.S.A.

CALL TWO WORKING DAYS BEFORE YOU DIG
CALL FOR THE BLUE STAKES
602-263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

DRAINAGE PLAN

GILBERT ARIZONA

OCOTILLO RD
HIGLEY RD TO RECKER RD
STA 499+00 TO 504+00
ST061

DR: JW	DES: AR	CK: AA	DWG. NO. D-1.01
DATE:5/07	DATE:5/07	DATE:5/07	
SCALE:1"=20' HORIZONTAL			35 OF 160

Apr 25, 2007 - 7:51am jwatring

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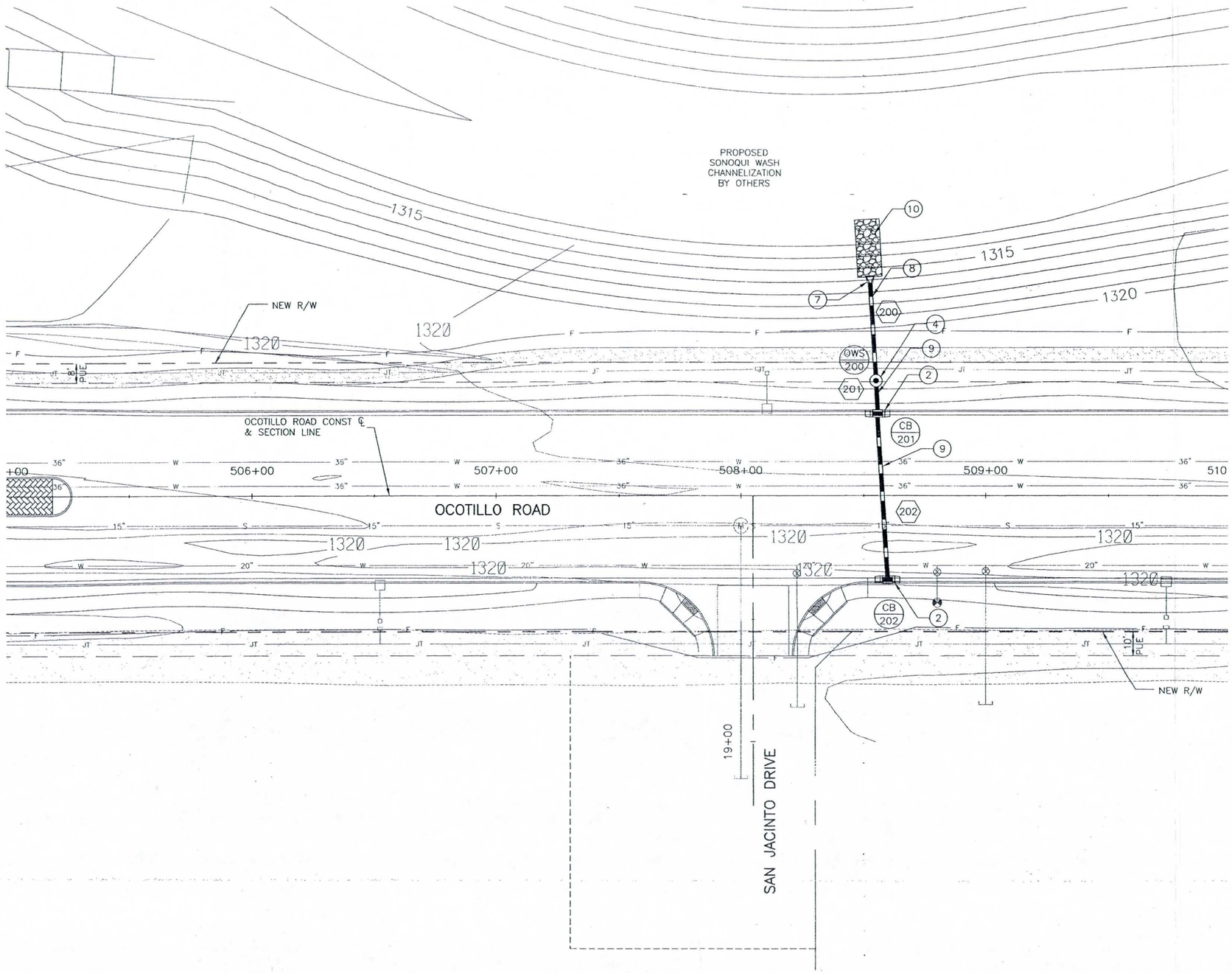
AS-BUILT: ~~JUN 04 2008~~



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	ST061	36	160	AUG 06 2008

J2 Engineering & Environmental Design, LLC
4849 East Cotton Gin Loop, Suite B2
Phoenix, AZ 85040
phn.: (602) 438-2221
fax.: (602) 438-2225

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
2	CATCH BASIN, MESA DETAIL M-64	EACH	2
4	IN-LINE OIL/SEDIMENT SEPARATOR UNIT (SEE SPECIAL PROVISIONS)	EACH	1
7	END SECTION FOR 18" PIPE SEE DETAIL SHEET D-1.08	EA	1
8	18" RCP, CLASS III FOR PROFILE, SEE D-1.05	LF	37
9	18" RGRCP, CLASS IV FOR PROFILE, SEE D-1.05	LF	81
10	PLAIN RIPRAP, D50=6" SEE DETAIL SHT D-1.07	CY	7

As-Built

Apr 25, 2007 - 7:52am jwatring

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

28178 ANTHONY J. REGIS
Date Signed 8/15/07
ARIZONA, U.S.A.

CALL TWO WORKING DAYS BEFORE YOU DIG
CALL FOR THE BLUE STAKES
602-263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

DRAINAGE PLAN

GILBERT ARIZONA

OCOTILLO RD
HIGLEY RD TO RECKER RD
STA 505+00 TO 510+00
ST061

DR: JW	DES: AR	CK: AA	DWG. NO. D-1.02
DATE: 5/07	DATE: 5/07	DATE: 5/07	
SCALE: 1"=20' HORIZONTAL			36 OF 160

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F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	ST061	37	160	AUG 04 2008 14

J2 Engineering & Environmental Design, LLC
4649 East Cotton Gin Loop, Suite 82
Phoenix, AZ 85040
phn.: (602) 436-2221
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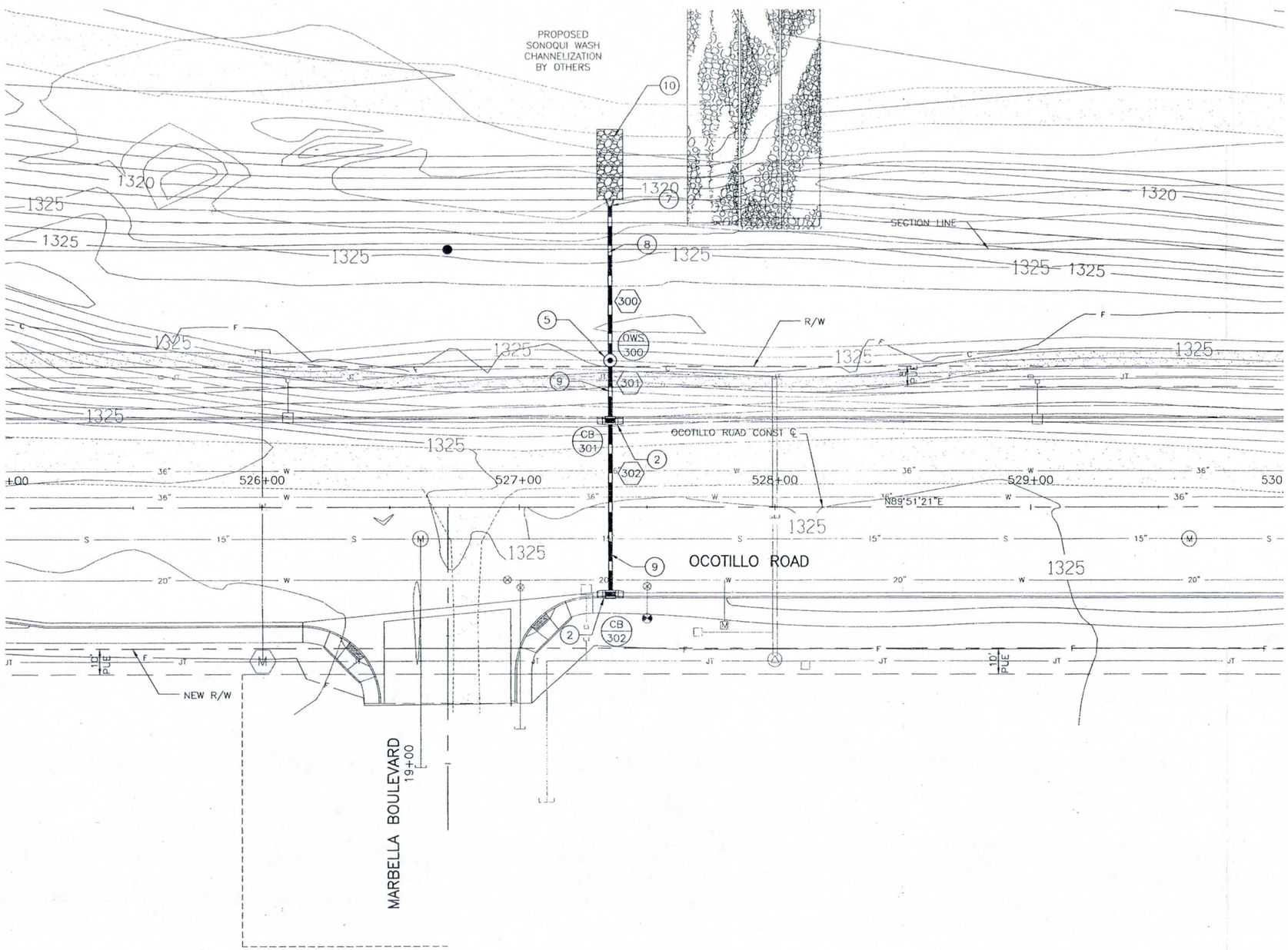

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
2	CATCH BASIN, MESA DETAIL M-64	EACH	2
5	IN-LINE OIL/SEDIMENT SEPARATOR UNIT (SEE SPECIAL PROVISIONS)	EACH	1
7	END SECTION FOR 18" PIPE SEE DETAIL SHT D-1.08	EA	1
8	18" RCP, CLASS III FOR PROFILE, SEE D-1.06	LF	57
9	18" RGRCP, CLASS IV FOR PROFILE, SEE D-1.06	LF	88
10	PLAIN RIPRAP, D50=6" SEE DETAIL SHT D-1.07	CY	8

As-Built

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

28178 ANTHONY J. REGIS
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
ARIZONA, U.S.A.
4/25/07

CALL TWO WORKING DAYS BEFORE YOU DIG
CALL FOR THE BLUE STAKES
602-263-1100
1-800-STAKE-IT
WITHIN MARICOPA COUNTY

DRAINAGE PLAN

GILBERT ARIZONA

OCOTILLO RD
HIGLEY RD TO RECKER RD
STA 525+00 TO 530+00
ST061

DR: JW	DES: AR	CK: AA	DWG. NO. D-1.03
DATE: 5/07	DATE: 5/07	DATE: 5/07	
SCALE: 1"=20' HORIZONTAL			37 OF 160

Apr 25, 2007 - 7:52am jwebring

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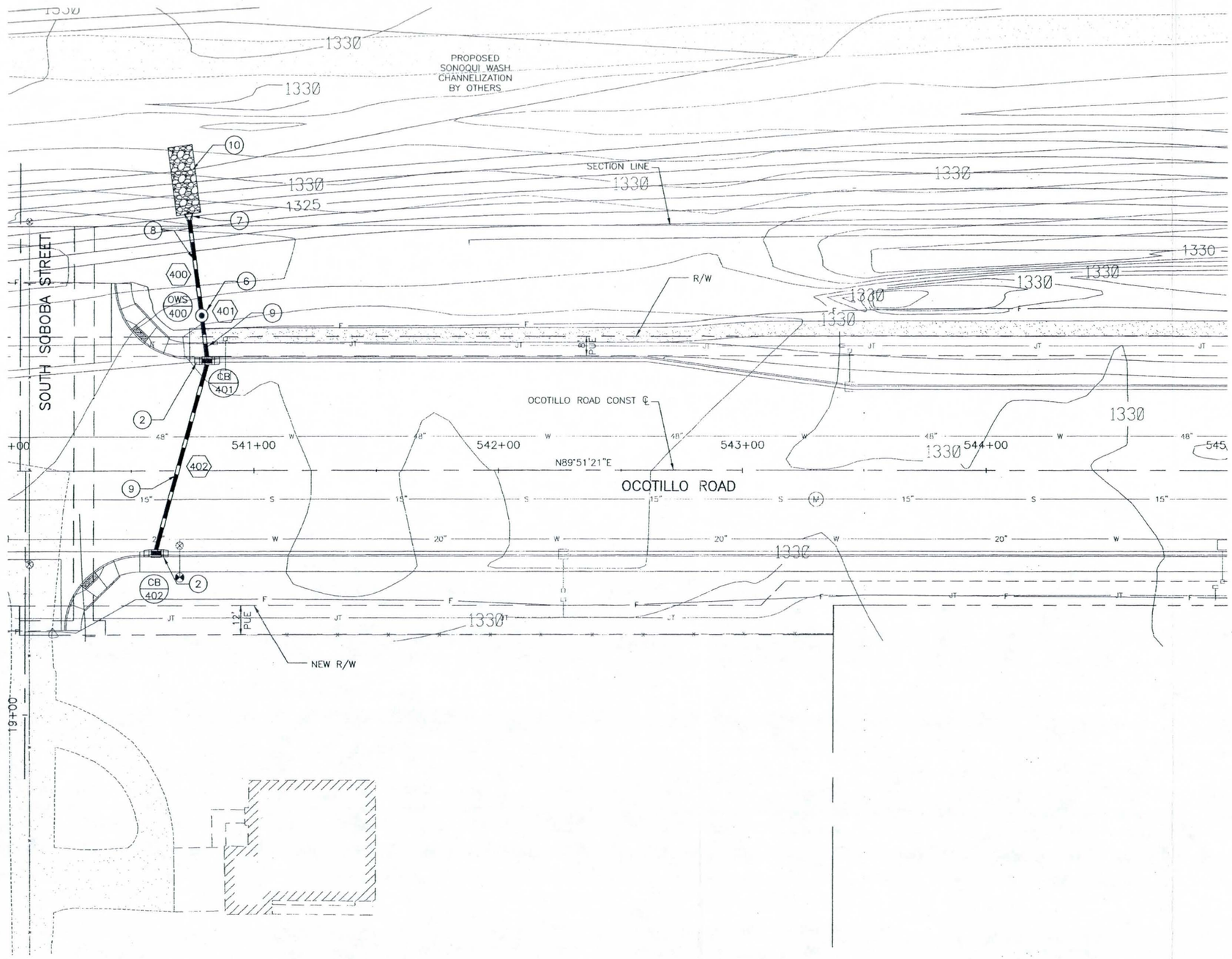

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	ST061	38	160	~~AUG 05 2008~~ 14

J2 Engineering & Environmental Design, LLC
4649 East Cotton Gin Loop, Suite 102
Phoenix, AZ 85040
phn.: (602) 438-2221
fax.: (602) 438-2225

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
2	CATCH BASIN, MESA DETAIL M-64	EACH	2
6	IN-LINE OIL/SEDIMENT SEPARATOR UNIT (SEE SPECIAL PROVISIONS)	EACH	1
7	END SECTION FOR 18" PIPE SEE DETAIL SHT D-1.08	EA	1
8	18" RCP, CLASS III FOR PROFILE, SEE D-1.06	LF	36
9	18" RGRCP, CLASS IV FOR PROFILE, SEE D-1.06	LF	97
10	PLAIN RIPRAP, D50=6" SEE DETAIL SHT D-1.07	CY	8

As-Built

REVISION BY TOWN OF GILBERT

NO.	DESCRIPTION	REV BY	CKD BY	DATE

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602-263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

DRAINAGE PLAN

GILBERT ARIZONA

OCOTILLO RD
HIGLEY RD TO RECKER RD
STA 540+00 TO 545+00
ST061

DR: JW	DES: AR	CK: AA	DWG. NO. D-1.04
DATE: 5/07	DATE: 5/07	DATE: 5/07	
SCALE: 1"=20' HORIZONTAL			38 OF 160

Apr 25, 2007 – 7:52am jwatring

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ITEM 626.10202 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 100)
ITEM 626.10203 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 200)
ITEM 626.10204 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 300)
ITEM 626.10205 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 400)

Description:

The work under this item shall consist of furnishing all materials, equipment and labor for installing structures designated in the storm drain details as follows:

ALIGNMENT	STATION	OFFSET	PLAN REF. NO.	DWG. NO.
Ocotillo Road Cst CL	502+00.30	78.78' Lt	OWS 100	D-1.01
Ocotillo Road Cst CL	508+54.91	49.32' Lt	OWS 200	D-1.02
Ocotillo Road Cst CL	527+35.84	57.30' Lt	OWS 300	D-1.03
Ocotillo Road Cst CL	540+79.19	63.51' Lt	OWS 400	D-1.04

The structures serve as an in-line oil/sediment separator units to treat the "first flush" of stormwater runoff (first 0.5 inches of excess rainfall depth) before the storm drains discharge into Sonoqui Wash. The treatment method must be capable of removing sediment, free-floating pollutants, and oil particles from stormwater runoff.

The work shall consist of excavation and backfill; concrete and reinforcing steel; temporary shoring; and all necessary framing, pipe connections, non-structural concrete fill, and all work included in the plans and specified herein.

Quality Control & Shop Drawings:

The separators shall be installed as part of the storm drain systems as shown in the plans and be structurally designed for HS-20 vehicular loading. The contractor shall submit to the engineer for review and approval four weeks prior to the installation of the units, detailed shop drawings and structural calculations for the units that incorporates an at-rest earthwork pressure of 60 pounds per square foot and a soil unit weight of 125 pounds per cubic foot into the design.

The quality of materials, the process of manufacture, and the finished sections shall be subject to inspection by the Engineer. Such inspection may be made at the place of manufacture, or on the work site after delivery, or at both places, and the sections shall be subject to rejection at any time if material conditions fail to meet any of the specification requirements, even though sample sections may have been accepted as satisfactory at the place of manufacture. Sections rejected after delivery to the site shall be marked for identification and shall be removed from the site at once. All sections that have been damaged beyond repair during delivery will be rejected and, if already installed, shall be repaired to the Engineer's acceptance level, if permitted, or removed and replaced, entirely at the Contractor's expense.

Design Requirements:

The separators shall be designed to remove sediment, free-floating pollutants, and oil particles from the "first flush" pavement runoff based on the following criteria:

Targeted Suspended Sediment Load Removal Efficiency	80%
Targeted Floatable Free Oil/Grease Removal Efficiency	90%

The separators shall be capable of trapping silt, clay, and sand size particles, in addition to larger particles.

The separators shall be sized to accept the inlet and outlet storm drain pipes, adequately treat the "first flush", and bypass the peak flow:

PLAN REF. NO.	MINIMUM TREATMENT VOLUME	MINIMUM TREATMENT FLOWRATE	PAVEMENT DRAINAGE AREA	INLET/OUTLET STORM DRAIN DIA.
OWS 100	1,749,800 cu ft	1.1 cfs	2.0 Acres	18 inches
OWS 200	2,016,500 cu ft	2.5 cfs	4.1 Acres	18 inches
OWS 300	1,932,100 cu ft	1.8 cfs	2.9 Acres	18 inches
OWS 400	1,932,100 cu ft	1.8 cfs	2.8 Acres	18 inches

The units must be capable of partitioning flows, causing all runoff to be directed into the treatment chamber during low flow conditions. Flows exceeding the treatment capacity of the units shall divert the excess flow directly to the outlet to avoid re-suspension and washout of material previously collected in the treatment chamber. Head loss through the unit shall not exceed $1.3V^2/2g$. External bypasses are not acceptable. The bypass area must be physically separated from the treatment chamber to prevent mixing with the separator circular and be constructed from fiberglass or other inert, non-permeable material which prevents hydrocarbons from migrating out of the treatment chamber. A minimum of 12 inches of the oil storage area should be lined with fiberglass or other inert, non-permeable material to provide secondary containment of any hydrocarbon materials.

The separators shall be maintained from the surface via cast-iron manhole(s) rated for highway loading. Any manhole(s) shall consist of a manhole rim and cover that measure 30 inches in diameter. The access cover(s) for the separator should clearly indicate that it is an oil/sediment separator.

The capabilities of the selected separators must be documented with scientific studies and reports. Preference will be given to devices that have been verified by a state or federal storm water verification program.

Materials:

Reinforcing Steel shall conform to the requirements of Section 727 of the MAG Standard Specifications.

Concrete shall conform to the requirements of Section 725 of the MAG Standard Specifications.

Precast manholes shall conform to the requirements of AASHTO M 199 except that the compressive strength of each unit will be determined and accepted in accordance with Subsection 725.11 of the MAG Standard Specifications.

Grates, frames, and covers shall conform to the requirements of Section 770 of the MAG Standard Specifications.

Construction Requirements:

Forms shall be placed in accordance with the requirements of Section 505 of the MAG Standard Specifications.

Cast-in-place concrete shall be placed in accordance with the requirements of Section 505 of the MAG Standard Specifications.

Joints for precast manhole sections shall be made with Portland cement mortar, rubber gaskets, mastic joint fillers or by a combination of these types, or other approved type. The completed mortar joint shall be formed with a bead on the outside and finished smooth on the inside of the sections and suitably cured so as to form a oil/watertight seal. The rubber ring gaskets shall be installed so as to form a flexible oil/watertight seal. The mastic joint filler shall conform to the requirements of AASHTO M 198 and shall be applied in accordance with the manufacturer's recommendations so as to form a oil/watertight seal.

The manufacturer(s) of the selected units shall provide the Owner the following items:
1) an operation and maintenance manual for each unit and
2) a recommended maintenance plan for each unit.
This documentation shall include recommendations for a custom inspection program as well as procedures for monitoring and testing for each unit.

Method of Measurement:

ITEM 626.10202 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 100), ITEM 626.10203 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 200), ITEM 626.10204 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 300), and ITEM 626.10205 –IN-LINE OIL/SEDIMENT SEPARATOR OWS 400) will be measured as a unit for each separator unit constructed and installed.

Basis of Payment:

ITEM 626.10202 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 100), ITEM 626.10203 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 200), ITEM 626.10204 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 300), and ITEM 626.10205 –IN-LINE OIL/SEDIMENT SEPARATOR (OWS 400) will be paid at the contract price per each, complete in place and shall be considered full compensation for all labor, materials, equipment, and all other items included and specified herein, and as indicated on the Project Plans and as directed by the Engineer, and as required by the contractor for the complete construction of the unit and ancillary features.

EXCERPTS OF LANDSCAPE PLANS

- SONOQUI WASH LANDSCAPE PLANS

The Bridges East

Sonoqui Wash
gilbert, arizona

05.29.12

The Bridges East
Sonoqui Wash
Final Town Submittal 05.29.12

andersonbaron
plan · design · achieve
88 s. san marcos pl, ste 101
chandler, arizona 85225
ph. 480.699.7956 F.480.699.7986

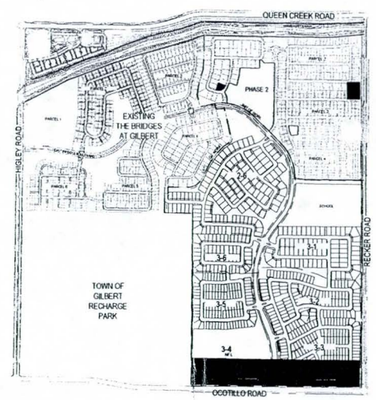
45440
ANDREW D. BARON
05.29.12
EXP. 12-31-12

client
Terra West Management Company
3820 W. Happy Valley Road
Suite 141-246
Glendale, Arizona 85310
p. 602.374.2777
contact: Tom Cheney

consultant team
landscape architect:
andersonbaron landscape architecture, llc
88 s. san marcos place, suite 101
chandler, arizona 85225
p. 480.699.7956
f. 480.699.7986
contact: Andy Baron

civil engineer:
Hilgartwilson
1661 East Camelback Road, Suite 275
Phoenix, AZ 85016
p. 602.490.0535
f. 602.325.0161
contact: Nguyen Lam

key map



site data:
shown for submittal purposes only

All quantities shown are for the landscape architect's estimating purposes only and therefore are not guaranteed. The contractor shall calculate quantities based on this drawing set.

onsite landscape area	157,752 s.f.
off-site landscape area	- s.f.
total turf area	- s.f.
total landscape	157,752 s.f.

sheet index
cover sheet	
general notes	LA0.1
planting plans	LA3.1 - LA3.6
irrigation master plan	LA4.0
irrigation plans	LA4.1 - LA4.6
planting details	LA7.1
irrigation details	LA7.2 - LA7.4
planting specifications	LA8.1
irrigation specifications	LA8.2

TOWN OF GILBERT NOTES:

1. A Town of Gilbert permit is required for the installation of any landscape or irrigation system. A CD with pdf format "AS-BUILTS" of the landscape and irrigation plans is also required.
2. Before the Town of Gilbert will accept an installed backflow device for approval, the following must be accomplished: The device must be tested by a State Certified Backflow Tester and the test results forwarded to the Town of Gilbert Backflow Specialist. The Town will provide a current list of Certified Testers from which to select. Tester fees will be at the expense of the installer.
3. Design of any walls, entry monument signage or ramadas that may be presented herein have been reviewed as conceptual only and will require a separate review and permit from the Building Department. In no case shall the depicted walls, entry monument signage or ramadas be considered final. Approval by the Planning Department is required prior to the issuance of a Building Permit for said walls, entry monuments and ramadas.
4. No plant material shall come within 3 feet of fire hydrants or any Fire Department equipment.
5. No planting or objects within the Town of Gilbert sight visibility triangles shall exceed 2 feet. Trees shall have a 7 feet minimum clear canopy.
6. All trees, shrubs and groundcover shall meet or exceed Arizona Nursery Association (ANA) specifications.
7. Construction may begin after all permits have been obtained.

MAINTENANCE NOTE:
All landscape areas and materials shall be maintained in a healthy, neat, clean and weed-free condition. This shall be the responsibility of the **HOMEOWNER'S ASSOCIATION**.

CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THESE PLANS AND ANY DEVIATIONS WILL REQUIRE REAPPROVAL. LANDSCAPE INSTALLATIONS SHALL BE APPROVED BY TOWN OF GILBERT INSPECTION SERVICES BEFORE A CERTIFICATE OF OCCUPANCY CAN BE ISSUED.

revisions
1
2
3
4

ENG 2012-00___

GENERAL PROJECT NOTES:

1. THESE NOTES ARE TO BE USED AS A GENERAL REFERENCE IN CONJUNCTION WITH AND AS A SUPPLEMENT TO WRITTEN SPECIFICATIONS, APPROVED ADDENDUMS, AND CHANGE ORDERS ASSOCIATED WITH THIS DOCUMENT SET.
2. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS (THIS DOCUMENT SET) AND PER LOCAL OR STATE GOVERNING CODES AND/OR ORDINANCES, WHICHEVER IS APPLICABLE.
3. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL REVIEW THE PROJECT WITH THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE.
4. THE CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH THE PROJECT SITE AND LOCATIONS OF EXISTING AND FUTURE UNDERGROUND SERVICES AND IMPROVEMENTS WHICH MAY CONFLICT WITH THE WORK TO BE DONE. THE CONTRACTOR SHALL UTILIZE A UNDERGROUND UTILITY COORDINATION SERVICE TO MARK EXISTING UTILITIES 48 HOURS PRIOR TO START OF CONSTRUCTION. NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY SHOULD ANY CONFLICT ARISE.
5. THE CONTRACTOR SHALL PROVIDE MATERIALS OR EQUIPMENT AND PERFORM REQUIRED INCIDENTAL PROCEDURES THAT MAY BE NECESSARY TO COMPLETE THE PROJECT TO SATISFACTORY CONDITION AS DIRECTED BY THE DESIGN INTENT OF THIS DOCUMENT SET AND THEREFORE SHALL MEET MINIMUM CONSTRUCTION REQUIREMENTS AND INDUSTRY STANDARDS NOTWITHSTANDING MENTION OR REFERENCE IN THIS DOCUMENT SET.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND SHALL NOTIFY ALL UTILITY COMPANIES WITH UTILITIES ON SITE PRIOR TO THE CONSTRUCTION OF THE PROJECT.
7. INTERPRETATION OF THIS DOCUMENT SET IN ITS ENTIRETY SHALL BE MADE BY THE LANDSCAPE ARCHITECT OF RECORD AND SHALL BE CONSIDERED FINAL. DISCREPANCIES SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR PRIOR TO SUBMITTING FORMAL BIDS. ALL CLARIFICATIONS SHALL BE PREPARED IN WRITING BY THE LANDSCAPE ARCHITECT OF RECORD PRIOR TO BIDDING. THE CONTRACTOR SHALL ACCEPT THE INTERPRETATION OF THE LANDSCAPE ARCHITECT OF RECORD AS THE CORRECT AND FINAL INTERPRETATION.
8. THIS DOCUMENT SET, INCLUDING ALL PLAN SHEETS, NOTES, DETAILS AND SPECIFICATIONS SHALL BE UTILIZED BY THE CONTRACTOR PERFORMING INSTALLATION AS GENERAL GUIDELINES FOR THE PROJECT DESIGN INTENT. QUANTITIES SHOWN IN THIS DOCUMENT SET ARE ESTIMATES ONLY AND ARE NOT THEREFORE GUARANTEED; THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, LABOR AND EQUIPMENT IN ORDER COMPLETE PROJECT AS SPECIFIED IN THESE DOCUMENTS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPORT ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO THE START OF WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND COORDINATING EXISTING SITE CONDITIONS.
11. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONARY MEASURES TO PROTECT EXISTING IMPROVEMENTS AND THE PUBLIC FROM DAMAGE THROUGHOUT THE CONSTRUCTION PROCESS.
12. SHOULD THE CONTRACTOR HAVE ANY QUESTIONS REGARDING THIS DOCUMENT SET OR SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING.
13. CONTRACTOR SHALL PROPERLY COORDINATE WORK TO BE PERFORMED WITH OTHER CONTRACTOR'S WORK PRIOR TO INSTALLATION.
14. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGES IMPOSED, UNINTENTIONALLY OR ACCIDENTALLY TO EXISTING UTILITIES, STRUCTURES, WALLS, OR OTHER AMENITIES, DUE TO THE ACTION OF THE CONTRACTOR, CONTRACTOR'S EMPLOYEES AND/OR THE CONTRACTOR'S SUBCONTRACTORS. DAMAGE INCURRED DURING THE CONTRACTOR'S OPERATION SHALL BE REPAIRED, AT THE EXPENSE OF THE CONTRACTOR, TO THE SATISFACTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE.
15. EXISTING SITE CONDITIONS AND THE DOCUMENT SET BASE INFORMATION HAVE BEEN PROVIDED BY THE PROJECT CIVIL ENGINEER.
16. CONTRACTOR SHALL MATCH GRADES, LAYOUT AND ELEVATIONS OF ADJOINING LANDSCAPE WORK BY OTHERS. NOTIFY THE LANDSCAPE ARCHITECT OF CONFLICTS BEFORE PROCEEDING WITH CONSTRUCTION.
17. THE CONTRACTOR SHALL PROVIDE BARRICADES AND TRAFFIC CONTROL ALONG PUBLIC STREETS, IF REQUIRED, DURING INSTALLATION AND SHALL BE RESPONSIBLE FOR SECURING APPROVAL AND PERMIT FOR THE PROCESS.
18. DETAILS SHOWN ON SHEETS 6.1 AND 6.2 ARE FOR THE ENTIRE EASTMARK DU7 SOUTH AND MAY NOT BE APPLICABLE FOR EVERY PARCEL.

PLANTING GENERAL NOTES:

1. IN DISTURBED AREAS INDICATED TO RECEIVE REVEGETATION HYDROSEED AND/OR PLANTING, THE CONTRACTOR SHALL MATCH EXISTING NATURAL DESERT FLOOR GROUND COVER CONDITIONS ADJACENT TO THE PROJECT.
2. NATIVE REVEGETATION AREAS AND PLANTER BEDS NOTED IN THIS DOCUMENT SET SHALL BE TREATED WITH PRE-EMERGENT AS PER MANUFACTURER'S INSTRUCTIONS. RE-APPLY AS NECESSARY TO ELIMINATE INVASIVE WEEDS. REMOVE ALL DEAD DEBRIS.
3. THE CONTRACTOR SHALL PROVIDE A 50'-0" BY 50'-0" TYPICAL MOCKUP OF NATIVE REVEGETATION AREAS NOTED IN THIS DOCUMENT SET FOR REVIEW BY THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE.
4. CONTRACTOR SHALL REVIEW PLANTING PLAN WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
5. CONTRACTOR SHALL REVIEW SITE SOILS REPORT PRIOR TO PLANTING. WATER TEST ALL TREE PLANTING HOLES PRIOR TO PLANTING. IF TREE HOLE DOES NOT DRAIN, DO NOT PLANT, SEE HARDPAN DETAIL.
6. PLANTING AND IRRIGATION DESIGN MAY BE MODIFIED TO ADAPT TO HARDSCAPE CONFIGURATIONS THAT DIFFER FROM THESE PLANS, OR BECAUSE OF GRADE LIMITATIONS ON SITE. SUBSTANTIAL DEVIATION FROM THIS DOCUMENT SET WILL REQUIRE REVIEW AND APPROVAL FROM OWNER'S AUTHORIZED REPRESENTATIVE.
7. LANDSCAPE ARCHITECT AND/OR OWNER'S AUTHORIZED REPRESENTATIVE RESERVE THE RIGHT TO REFUSE ANY PLANT MATERIALS DEEMED UNACCEPTABLE. SEE SPECIFICATIONS AND THIS DOCUMENT SET FOR MINIMUM REQUIREMENTS.
8. THE CONTRACTOR SHALL SUBMIT IN WRITING REQUESTS FOR ANY AND ALL SUBSTITUTIONS TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
9. CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON DRAWINGS.
10. ALL PLANT MATERIAL SHALL BE IN COMPLIANCE WITH THE AMERICAN STANDARDS FOR NURSERY STOCK, LATEST EDITION.
11. PLANT MATERIAL MARKED 'SALVAGE' SHALL BE SELECTED FROM FROM ON-SITE SALVAGE INVENTORY OR LOCATED BY THE LANDSCAPE ARCHITECT FROM ANOTHER SOURCE. ALL MATERIAL SELECTIONS SHALL BE APPROVED BY LANDSCAPE ARCHITECT AND/OR OWNER'S AUTHORIZED REPRESENTATIVE.
12. FINAL LOCATION OF PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE.
13. ALL SPECIMEN TREES, SHRUBS AND CACTI SHALL BE FIELD LOCATED BY LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE.
14. LOCATE PLANTS AWAY FROM SPRINKLER HEADS, LIGHT FIXTURES AND OTHER OBSTRUCTIONS. CONTRACTOR SHALL OBSERVE MINIMUM OFFSETS FROM THE FOLLOWING STRUCTURES; TREES SHALL BE PLANTED A MINIMUM OF 10'-0" FROM STREET LIGHTS (MEASURED FROM MATERIAL MATURITY), 6'-0" FROM EDGE OF UNDERGROUND PIPELINES AND A MINIMUM OF 4'-0" FROM HARDSCAPE , CURBS AND WALLS (MEASURED FROM CENTER OF PLANT MATERIAL). SHRUBS SHALL BE PLANTED A MINIMUM OF 2'-0" FROM CURB AND WALKS AND 3'-0" FROM FIRE SUPPRESSION DEVICES (MEASURED FROM MATERIAL MATURITY). LOCAL OR STATE GOVERNING CODES AND/OR ORDINANCES SHALL SUPERCEDE SPECIFIED DISTANCES SO LONG AS THEY SURPASS STATED REQUIREMENTS.
15. CONTRACTOR SHALL INSTALL "SHAWTOWN ROOT BARRIER PANELS" (OR APPROVED EQUAL) AT ALL TREES WITHIN 6'-0" FEET OF HARDSCAPE ELEMENTS INCLUDING (BUT NOT LIMITED TO) SIDEWALKS, ASPHALT, CONCRETE SLABS / FOOTINGS AND STRUCTURES. CONTRACTOR SHALL SUBMIT SPECIFICATION SHEETS OF PROPOSED ROOT BARRIER PANELS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
16. THE CONTRACTOR SHALL INSTALL ARBOR GUARDS AT ALL TREES LOCATED IN TURF AREAS.
17. ON-SITE AND OFF-SITE TOPSOIL SHALL CONFORM TO CONTENT REQUIREMENTS AS SPECIFIED IN PART 2 OF THE PLANTING SPECIFICATIONS. AGRONOMY TEST SUBMITTALS ARE REQUIRED FOR ALL MATERIAL USED FOR TOPSOIL AND BACKFILL. SUBMIT REPORT TO LANDSCAPE ARCHITECT FOR REVIEW.
18. CACTI SHALL BE PLANTED A MINIMUM OF 3'-0" AWAY FROM ALL PEDESTRIAN ROUTES.
19. CACTI SHALL BE WELL ROOTED AND NON-SCARRED.
20. ALL TREE STAKING SHALL CONFORM TO THE PLANTING DETAILS OR AS NOTED IN THE SPECIFICATIONS. THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE SHALL REVIEW TYPICAL TREE STAKING PRIOR TO FINAL ACCEPTANCE.
20. CONTRACTOR SHALL INSTALL ANGULAR GRANITE RIP-RAP IN ALL DRAINAGE SWALES, AND WHERE INDICATED ON PLANS. REFER TO MATERIALS SCHEDULE / PLANTING LEGEND FOR COLOR AND SIZE OF ANGULAR GRANITE RIP-RAP. CONTRACTOR SHALL SUBMIT SAMPLES TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR ADDITIONAL INFORMATION.
21. DECOMPOSED GRANITE IS REQUIRED IN ALL PLANTING AREAS EXCEPT AREAS OF TURF AND ANGULAR GRANITE RIP-RAP AND SHALL EXTEND UNDER PLANT MATERIAL UNLESS NOTED OTHERWISE ON PLANS. ALL PLANTING AREAS SHALL RECEIVE A 2" MINIMUM LAYER OF DECOMPOSED GRANITE THROUGHOUT. REFER TO MATERIALS SCHEDULE / PLANTING LEGEND FOR SIZE AND COLOR OF DECOMPOSED GRANITE. CONTRACTOR SHALL SUBMIT SAMPLES TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
22. THE CONTRACTOR SHALL PROVIDE MAINTENANCE FOR ALL PLANT MATERIAL FROM THE TIME OF INSTALLATION THROUGH SUBSTANTIAL COMPLETION.

IRRIGATION GENERAL NOTES:

1. THE CONTRACTOR SHALL INSTALL THE SPECIFIED SYSTEM IN ACCORDANCE WITH THE ATTACHED SCHEDULES, NOTES, DETAILS, AND SPECIFICATIONS.
2. CONTRACTOR TO VERIFY PRESSURE ON-SITE AND NOTIFY LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO INSTALLATION OR ORDERING OF MATERIALS. IF CONTRACTOR FAILS TO NOTIFY THE PROPER PARTY, THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ALL NECESSARY SYSTEM ALTERATIONS REQUIRED TO FACILITATE AN EFFICIENT AND OPERATIONAL SYSTEM. THIS IRRIGATION SYSTEM REQUIRES A MINIMUM OF 65 TO 75 PSI WATER PRESSURE AT WATER METER.
3. THE CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING ON PROJECT TO VERIFY INSTALLATION CONDITIONS.
4. THE CONTRACTOR SHALL FIELD VERIFY EXISTING TAP LOCATIONS. ALL NEW METERS SHALL BE INSTALLED PER THE IRRIGATION SCHEDULE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL IRRIGATION COVERAGE OF ALL PLANT MATERIAL INCLUDING TURF.
6. WORK SHALL CONFORM TO ALL CONSTRUCTION CODES AND REGULATIONS.
7. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL CONTACT AN UNDERGROUND UTILITY COORDINATION SERVICE TO VERIFY LOCATIONS AND DEPTHS OF EXISITNG UTILITIES THAT MAY BE AFFECTED BY DESCRIBED WORK, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO SUCH UTILITIES CAUSED AS A RESULT OF THE IRRIGATION INSTALLATION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPENSATING THE OWNER AND/OR THE OWNER'S REPRESENTATIVE FOR ANY DESIGN CHANGES MADE AS A RESULT OF DEVIATION BY THE CONTRACTOR FROM THE PLANS AND SPECIFICATIONS OR DUE TO ERRORS, FAULTY MATERIAL OR FAULTY WORKMANSHIP.
9. ALL VALVES SHALL NOT EXCEED MANUFACTURES SPECIFICATIONS.
10. SUPPLY THE FOLLOWING MATERIAL TO THE OWNER:
    - 10.1. TWO WRENCHES FOR DISASSEMBLY AND ADJUSTING OF EACH TYPE OF SPRINKLER HEAD AND VALVE SUPPLIED.
    - 10.2. TWO KEYS FOR EACH OF THE CONTROLLERS.
    - 10.3. TWO COUPLERS WITH MATCHING HOSE BIBBS AND SHUT-OFF VALVE.
    - 10.4. TWO VALVE BOX KEYS.
11. INSTALL PVC MAINLINE AND LATERALS ACCORDING TO THE IRRIGATION AND PIPING SCHEDULES.
12. ALL VALVES SHALL NOT EXCEED MANUFACTURERS DESIGN SPECIFICATIONS.
13. VALVE BOXES SHALL BE SQUARE TO ADJACENT WALKS OR CURBS AND FLUSH WITH THE FINAL GRADE.
14. CONTRACTOR SHALL INSTALL GREEN VALVE BOXES IN TURF AREAS AND TAN VALVE BOXES IN DECOMPOSED GRANITE AREAS.
15. INSTALL ALL MAINLINES WITH A MINIMUM OF 20" OF COVER.
16. INSTALL ALL LATERALS WITH A MINIMUM OF 12" OF COVER.
17. ALL PIPE TO BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND ASTM STANDARD D 2774.
18. FLUSHING OF ALL LINES PRIOR TO INSTALLATION OF SPRINKLERS AND EMITTERS IS REQUIRED.
19. INSTALL ALL SPRINKLERS, EMITTERS, AND RELATED MATERIAL PER IRRIGATION SYSTEM SPECIFICATIONS AND DETAILS.
20. CONTROLLER TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS. CONTROLLER SIZE AND QUANTITIES TO BE DETERMINED BY THE VALVE REQUIREMENTS AND POINT OF CONNECTIONS. INSTALL ONE (1) CONTROLLER AT EACH POINT OF CONNECTION.
21. ALL ELECTRICAL CONNECTIONS SHALL BE MADE AT THE REMOTE CONTROL VALVE BOXES, CONTROLLER ENCLOSURES AND VALVE BOXES SPECIFICALLY FOR ELECTRICAL CONNECTIONS.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL WIRING FROM THE CIRCUIT BREAKER AT THE 120 VOLT SOURCE LOCATION TO AUTOMATIC CONTROLLER.
23. CONTROLLER WIRES THAT ARE DIRECT BURIED SHALL BE #14 OR BETTER, BUNDLED OR WRAPPED A MINIMUM OF EVERY TWELVE (12') FEET. DURING INSTALLATION WIRES SHALL HAVE A 24" LOOP TIED IN ALL DIRECTION CHANGES GREATER THAT 30 DEGREES AND BE UNTIED PRIOR TO TRENCH FILL IN.
24. INSTALL ALL VALVE WIRING IN MAINLINE TRENCH AS DETAILED.
25. INSTALL ALL MAINLINE GATE VALVES IN A ROUND PLASTIC VALVE BOX PER DETAILS.
26. THE MAINLINE, LATERAL PIPE, AND VALVES ARE SHOWN SCHEMATICALLY AND SHALL BE INSTALLED WITHIN THE LANDSCAPE AREA, ADJACENT TO HARDSCAPE WITHIN DESCRIBED LIMIT OF WORK.
27. ALL MAINLINE PIPE SHALL BE A MINIMUM OF SCHEDULE 40.
28. ALL MAINLINE AND IRRIGATION EQUIPMENT SHALL BE PLACED IN THE LANDSCAPED AREAS.
29. SLEEVES SHALL BE A MINIMUM OF TWO TIMES THE DIAMETER OF THE LINE SIZE AND INSTALLED AS SCHEDULE 40 PVC MINIMUM.
30. ALL PVC SOLVENT WELD FITTINGS SHALL BE LASCO OR APPROVED EQUAL.
31. FLUSH CAPS SHALL BE PLACED IN A VALVE BOX AT THE END OF ALL LATERALS.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING OF ASPHALT AND CONCRETE AS REQUIRED FOR SLEEVE INSTALLATION ACCORDING TO THE IRRIGATION SCHEDULE.
33. ALL THREADED JOINTS TO BE COATED WITH TEFLON TAPE UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. USE LIQUID TEFLON ON METAL PIPE THREADS ONLY.
34. INSTALL ALL ELECTRICAL JOINTS WITH 3-M WATERPROOF CONNECTORS.
35. ALL 120 VOLT VOLT POWER WIRE TO BE INSTALLED PER LOCAL CODE.
36. INSTALL ALL REMOTE CONTROL VALVES AT HEIGHT INDICATED ON DETAILS, AS HIGH AS POSSIBLE BUT ALLOWING CLEARANCE BETWEEN VALVE BOX LID AND FLOW CONTROL HANDLE ON REMOTE CONTROL VALVE.
37. ALL VALVES, PRESSURE REGULATORS AND OTHER DEVICES SHALL BE PLACED IN AN APPROPRIATELY SIZED VALVE BOX WITH A MINIMUM OF TWO (2") INCHES OF PEA GRAVEL.
38. ALL PIPE CROSSINGS IN THE RIGHT-OF-WAY SHALL BE MARKED ON EACH SIDE OF THE CURB WITH A NON-DESTRUCTIBLE MARKING.
39. ALL BACKFLOW PREVENTION DEVICES SHALL HAVE A MINIMUM 24"x36"x4" CLASS B CONCRETE SLAB WITH PIPE SLEEVES. IF A SECURITY CAGE IS INSTALLED, CONCRETE SHALL BE SIX (6") INCHES LARGER ON ALL SIDES THAN THE SECURITY CAGE.
40. BACKFLOW DEVICES SHALL BE A MINIMUM OF TWO (2') FEET FROM THE WATER METER AND BE THE SAME SIZE AS THE METER SERVICE LINE.
41. AFTER INITIAL TESTING, ALL BACKFLOW DEVICES SHALL BE TESTED ANNUALLY.
42. PRIOR TO PLACING ANY IRRIGATION SYSTEM IN SERVICE, AN ARIZONA CERTIFIED BACKFLOW DEVICE TESTER SHALL TEST THE BACKFLOW PREVENTION DEVICE AND GIVE A COPY OF THE PASSED TEST RESULTS TO THE PROPER GOVERNING AGENCIES.

GRADING GENERAL NOTES:

1. CONTRACTOR SHALL GRADE TO MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES AND MAINTAIN AND/OR CREATE DRAINAGE SPECIFIED ON THE PROJECT CIVIL ENGINEERS CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL KEEP DRAINAGE WAYS AND NATURAL FLOW CHANNELS SPECIFIED FREE FROM OBSTRUCTIONS THAT MAY IMPAIR FLOW.
2. FINISH GRADING SHALL BE BY THE DIRECTION OF THE LANDSCAPE ARCHITECT. ALL GRADING SHALL BE APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO PLANTING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY CALICHE ENCOUNTERED ON SITE AT NO ADDITIONAL COST TO THE OWNER.
4. FINISH GRADE OF ALL PLANTING AREAS IS TO BE 1" BELOW ADJACENT HARDSCAPE UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING A NATURAL UNDULATING GROUNDPLANE IN ALL PLANTING AREAS THE DIRECTION OF THE LANDSCAPE ARCHITECT.

TOWN OF GILBERT GENERAL NOTES

PAVING NOTES
SUBGRADE MUST MEET ALL TOWN OF GILBERT TESTING REQUIREMENTS AND HAVE APPROVAL OF THE ENGINEERING DEPARTMENT 24 HOURS PRIOR TO PLACING BASE COURSE MATERIAL. STOCKPILING OF BASE MATERIAL ON THE SUBGRADE WILL NOT BE PERMITTED. THE FINISHED BASE COURSE MUST MEET ALL TOWN OF GILBERT TESTING REQUIREMENTS AND HAVE APPROVAL OF THE ENGINEERING DEPARTMENT 24 HOURS PRIOR TO THE PLACEMENT OF ASPHALT.

CONCRETE NOTES
ALL SUBGRADE MUST MEET ALL TOWN OF GILBERT TESTING REQUIREMENTS AND HAVE APPROVAL OF THE ENGINEERING DEPARTMENT 24 HOURS PRIOR TO ANY CONCRETE PLACEMENT FOR SIDEWALK, CURB AND/OR GUTTER, VALLEY GUTTER, APRONS, SCUPPERS, THRUST BLOCKS, MANHOLE BASES, DRIVEWAY, DRIVEWAY ENTRANCES, RIBBON CURBS AND INLETS.

WATER AND SEWER MAIN CONSTRUCTION NOTE
BEDDING MATERIAL AND THE PLACEMENT OF THE BEDDING MATERIAL MUST MEET ALL TOWN OF GILBERT TESTING REQUIREMENTS AND HAVE APPROVAL OF THE ENGINEERING DEPARTMENT 24 HOURS PRIOR TO ANY PIPE INSTALLATION. HAUNCHING AND INITIAL BACKFILL MUST BE APPROVED BY THE ENGINEERING DEPARTMENT PRIOR TO FINAL BACKFILL.

LANDSCAPE IRRIGATION NOTE
ALL LANDSCAPE AND IRRIGATION INSTALLATIONS ARE TO BE IN ACCORDANCE WITH ALL TOWN OF GILBERT STANDARDS, STREETSCAPE GUIDELINES, AND APPROVED PLANS. THE ENTIRE SYSTEM INCLUDING ALL FITTINGS AND CONNECTIONS MUST BE INSPECTED AND/OR TESTED BEFORE BACKFILLING BY THE TOWN OF GILBERT OFF-SITE INSPECTOR. THE TOWN OF GILBERT WATER DEPARTMENT REQUIRES AN INSPECTION OF ALL BACKFLOW PREVENTION DEVICES. PLANTING MATERIALS ARE TO BE INSPECTED BY THE PLANNING DEPARTMENT. THE OFF-SITE INSPECTOR WILL COORDINATE AND/OR SCHEDULE ALL INSPECTIONS. ALL WORKMANSHIP AND MATERIALS MUST BE UNDER WARRANTY FOR A PERIOD OF ONE YEAR, BY THE CONTRACTOR AND/OR DEVELOPER. ALL PLANT MATERIAL MUST BE WARRANTED AS SPECIFIED ON THE APPROVED PLANS.

MAINTENANCE NOTE
ALL LANDSCAPE AREAS AND MATERIALS SHALL BE MAINTAINED IN A HEALTHY, NEAT, CLEAN, AND WEED-FREE CONDITION. THIS SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS' ASSOCIATION.

EFFLUENT NOTE
ALL IRRIGATION MUST COMPLY WITH TOWN OF GILBERT RECLAIMED WATER MANUAL. MAG SECTION 616.

GENERAL NOTES
EXCAVATION AND CONSTRUCTION WORK WILL NOT BE PERMITTED IN PUBLIC RIGHT-OF-WAY OR PUBLIC UTILITY EASEMENTS ON SATURDAY, SUNDAY OR LEGAL HOLIDAYS.

ALL IMPROVEMENTS WITHIN THE RETENTION BASIN AND/OR ROADWAY PARKWAYS SHALL BE IN ACCORDANCE WITH THE LATEST TOWN OF GILBERT PROCEDURES FOR DEVELOPERS AND ENGINEERS.

CONTRACTOR IS ADVISED THAT AN EXCAVATION AND DIRT MOVING PERMIT IS REQUIRED BY THE MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT AND THE TOWN OF GILBERT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THIS PERMIT AND COMPLY WITH ITS REQUIREMENTS. DURING CONSTRUCTION OF THIS PROJECT THE CONTRACTOR WILL BE REQUIRED TO PERFORM DAILY CLEAN-UP AND MAINTENANCE OF ALL ADJACENT (OFF-SITE) ROADWAYS USED DURING THE COURSE OF THIS CONSTRUCTION.

ALL SPRINKLER AND LANDSCAPE WORK MUST BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE TOWN OF GILBERT PROCEDURE MANUAL. SEPARATE PERMIT REQUIRED FOR LANDSCAPE/IRRIGATION INSTALLATIONS.

NO WALLS, BUILDINGS, OR OTHER VIEW OBSTRUCTIONS IN EXCESS OF TWO (2) FEET IN HEIGHT SHALL BE PLACED ON ANY CORNER LOT WITHIN A TRIANGULAR AREA FORMED BY THE CURB LINES AND A LINE CONNECTING THEM AT POINTS 33 FEET FROM THE INTERSECTION OF THE CURB LINES. TREES MAY BE LOCATED WITHIN THE TRIANGLE PROVIDED THEY ARE PRUNED HIGH ENOUGH TO PERMIT UNOBSTRUCTED VISION (7'-0" CLEAR MINIMUM).

CALL THE BLUE STAKE CENTER (263-1100) 48 HOURS BEFORE DIGGING FOR LOCATION OF UNDERGROUND UTILITIES.

TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH MAG SPECIFICATION 401, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE CURRENT CITY OF PHOENIX TRAFFIC CONTROL MANUAL.

ALL TRAFFIC CONTROL, INCLUDING STRIPING AND REQUIRED SIGNAGE, SHALL BE INSTALLED WITHIN ONE (1) WEEK OF THE INSTALLATION OF THE "FIRST LIFT" OF PAVING.

ALL SIGHT LINES SHALL BE DESIGNED AND BE MAINTAINABLE PER TOWN OF GILBERT STANDARD DETAILS 92 AND 93.

A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE TOWN TRAFFIC ENGINEER 48 HOURS PRIOR TO PERFORMING ANY WORK IN THE TRAVELED RIGHT-OF-WAY.

THE CONTRACTOR SHALL ADHERE TO ALL THE TOWN OF GILBERT ORDINANCES FOR TRAFFIC CONTROL.

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chandler, arizona 85225
ph. 480.699.7956 F.480.699.7986

REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 45140
ANDREW D. BARON
Date Signed 05.29.12
ARIZONA U.S.A.
EXP. 12-31-12
PRELIMINARY
NOT FOR CONSTRUCTION

TerraWest COMMUNITIES

Bridges East
Sonoqui Wash
gilbert, arizona

general notes

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revisions
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- ☐ design dev.
- ☐ progress set
- ☐ city submittal
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- ☐ construction

title	general notes
date issued	05.29.12
scale	na
drawn by	staff
checked by	AB
project number	64-001-11
review number	
sheet number	LA0.1

REFER TO ENGINEERING PLANS FOR ALL UTILITIES.

48" WIDE NATIVE GRANULAR TRAIL TO BE FIELD STAKED. SOIL TO BE RAKE TO REMOVE ALL ROCK LARGER THEN 6" FROM TRAIL SURFACE

Parcel
3-4

limit of work

Limit of Work

Sonoqui Wash

Limit of Work

limit of work

limit of work

ROW

Ocotillo Road

ex.

matchline AA see sheet LA3.2

EXISTING GRANULAR TRAIL, SIDEWALK AND PLANT MATERIAL TO REMAIN UNDISTURBED ALONG THE OCOTILLO ROAD FRONTAGE.

20 40 60

PLANT MATERIALS LEGEND

	Plant Name	Size	Qty.
	Trees		
	Acacia smallii Sweet Acacia	24" Box Multi	27
	Chilopsis linearis Desert Willow	24" Box Multi	35
	Chilalpa tashkinensis Chitalpa	24" Box -	5
	Lysiloma microphylla Desert Fern	15 Gal -	11
	Parkinsonia florida Blue Palo Verde	24" Box Multi	26
	Parkinsonia microphylla Foothills Palo Verde	24" Box Multi	7
	Prosopis chilensis Chilean Mesquite	15 Gal. Multi	23
	Prosopis velutina Velvet Mesquite	24" Box Multi	14
	Large Shrubs		
D	Calliandra californica Red Fairy Duster	5 gal.	291
Lt	Larrea tridentata Creosote	5 gal.	415
Sc	Simmondsia chinensis (from MSN) Jojoba	5 gal.	136
Ve	Viguiera deltoidea Goldeneye	5 gal.	236
	Medium Shrubs		
Er	Encelia farinosa Brittlebush	5 gal.	79
Lh	Leucophyllum candidum 'Thunder Cloud' Thunder Cloud Sage	5 gal.	14
	Ground Covers		
A	Ambrosia deltoides Triangle Leaf Bursage	1 gal.	829
Pc	Pallostrophe cooperi Paper Flower	1 gal.	105
Pa	Acacia redolens Prostrate Acacia	1 gal.	16
P	Lantana montevidensis Purple Trailing Lantana	1 gal.	192
R	Rosmarinus officinalis 'Prostratus' Trailing Rosemary	1 gal.	29
B	Melampodium leucanthum Blackfoot Daisy	1 gal.	30
	Accents		
*	Dasylirion wheeleri Desert Spoon	5 gal.	136
	Inerts		
	Decomposed Granite 2" deep, 1/2" Minus Gila Brown-detail 13, sheet LA7.1		157,752 SF.
	48" Native Granular Trail Raked native granular soil		10,144 SF.
	Stabilized Granular Pad 3" deep 1/4" Minus, see detail sheet LA3.4		278 SF.

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OUTSIDE MARICOPA COUNTY

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REGISTERED LANDSCAPE ARCHITECT CERTIFICATE NO. 22140 ANTHONY MICHAEL BARON
EXP. 12-31-12

Bridges East
Sonoqui Wash
gilbert, arizona
planting plans

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checked by: AB
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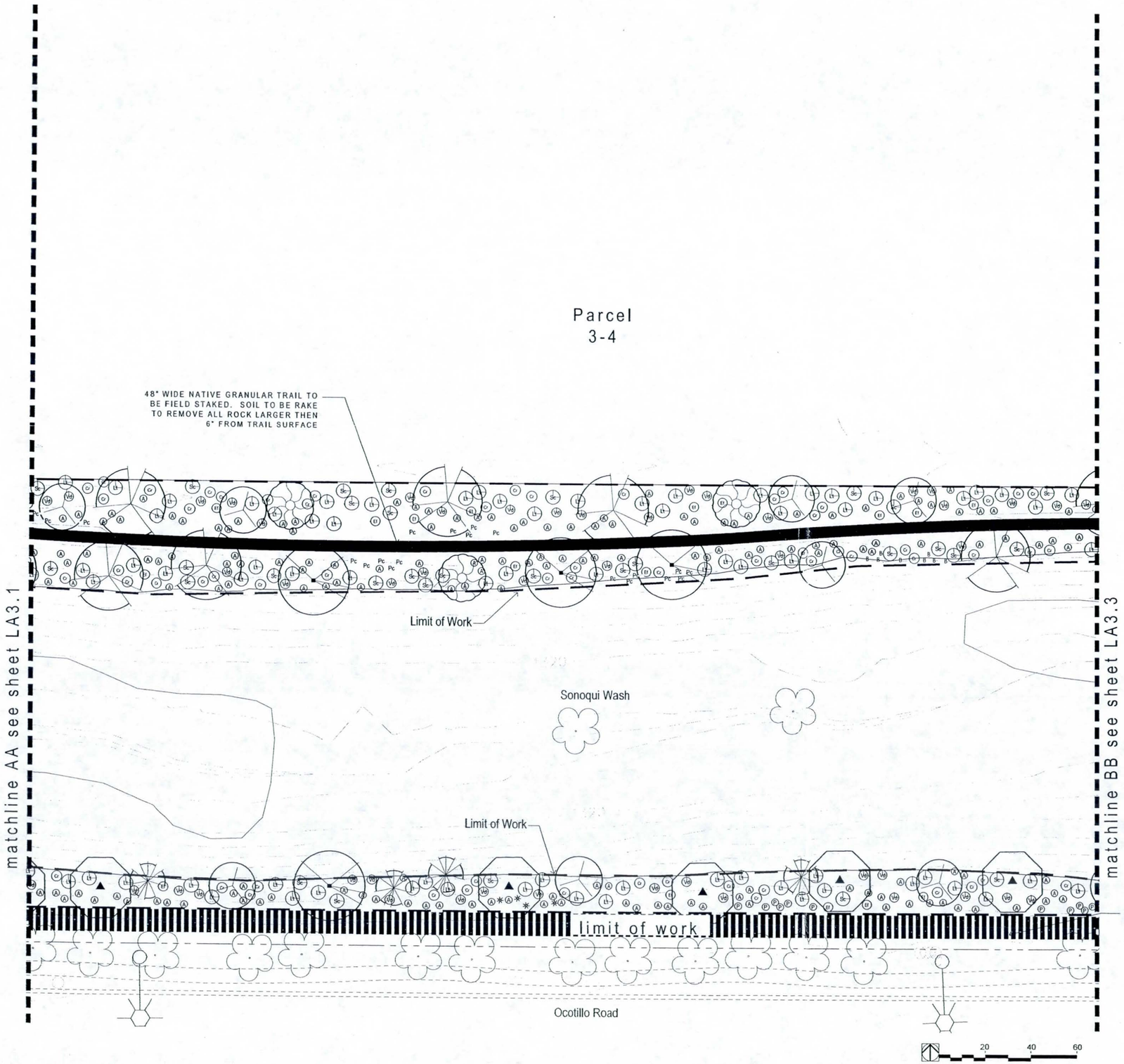

EXISTING GRANULAR TRAIL, SIDEWALK AND PLANT MATERIAL TO REMAIN UNDISTURBED ALONG THE OCOTILLO ROAD FRONTAGE.

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	Prosopis chilensis Chilean Mesquite	15 Gal. Multi	23
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Large Shrubs			
Cv	Calliandra californica Red Fairy Duster	5 gal.	291
Lt	Larrea tridentata Creosote	5 gal.	415
Sc	Simmondsia chinensis (from MSN) Jojoba	5 gal.	136
Vd	Viguiera deltoidea Goldeneye	5 gal.	236
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	Decomposed Granite 2" deep, 1/2" Minus Gila Brown-detail 13, sheet LA7.1		157,752 SF.
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SHOWN FOR REFERENCE ONLY REFER TO SOUTH SOBOBA STREET PLANS, UNDER SEPARATE SUBMITTAL AND PERMIT

Parcel
3-4

48" WIDE NATIVE GRANULAR TRAIL TO BE FIELD STAKED. SOIL TO BE RAKE TO REMOVE ALL ROCK LARGER THEN 6" FROM TRAIL SURFACE

REFER TO ENGINEERING DRAWINGS FOR BRIDGE CROSSING, RAILINGS, PILASTERS AND STAMPED ASPHALT PAVEMENT.

limit of work

Limit of Work

Sonoqui Wash

1320

1325

Limit of Work

limit of work

Ocotillo Road

South Soboba Street

matchline BB see sheet LA3.2

matchline CC see sheet LA3.4

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chandler, arizona 85225
ph. 480.699.7956 F.480.699.7986

REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 46510
NOT FOR CONSTRUCTION UNLESS SEALED
PRELIMINARY
ANTHONY R. BARON
05.29.12
EXP. 12-31-12

Bridges East
Sonoqui Wash
gilbert, arizona

TerraWest COMMUNITIES

planting plans

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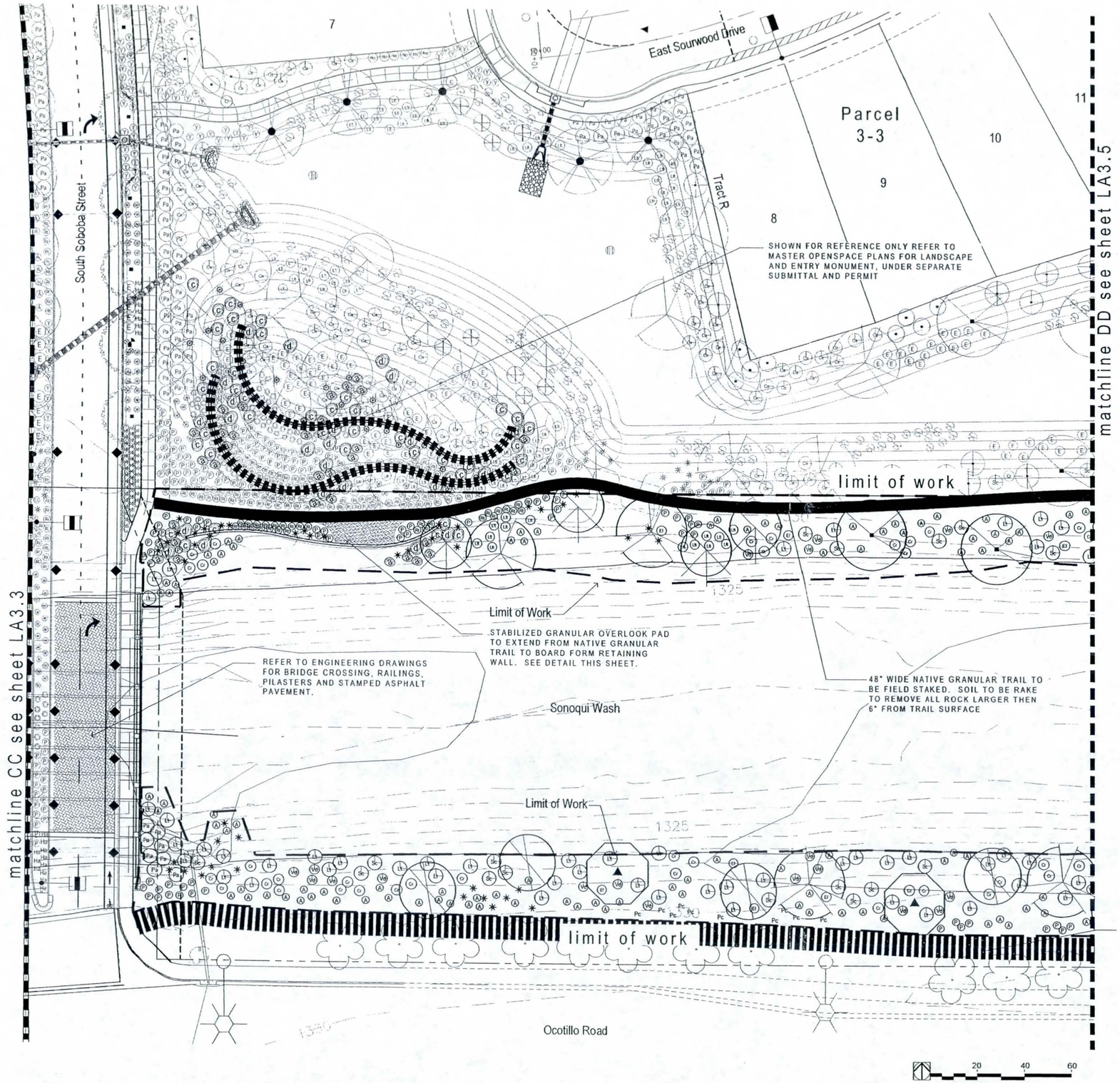
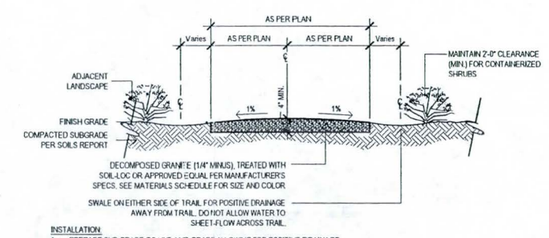
title	planting plans
date issued	05.29.12
scale	1" = 20'-0"
drawn by	staff
checked by	AB
project number	64-001-11
review number	
sheet number	LA3.3



EXISTING GRANULAR TRAIL, SIDEWALK AND PLANT MATERIAL TO REMAIN UNDISTURBED ALONG THE OCOTILLO ROAD FRONTAGE.

PLANT MATERIALS LEGEND

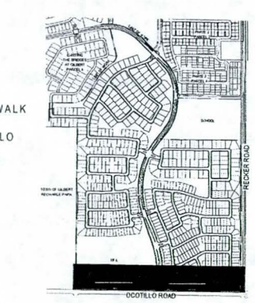
	Plant Name	Size	Qty.
	Trees		
	Acacia smallii	24" Box	27
	Sweet Acacia	Multi	
	Chilopsis linearis	24" Box	35
	Desert Willow	Multi	
	Chitalpa tashkinensis	24" Box	5
	Chitalpa	-	
	Lysiloma microphylla	15 Gal	11
	Desert Fern	-	
	Parkinsonia florida	24" Box	26
	Blue Palo Verde	Multi	
	Parkinsonia microphylla	24" Box	7
	Foothills Palo Verde	Multi	
	Prosopis chilensis	15 Gal.	23
	Chilean Mesquite	Multi	
	Prosopis velutina	24" Box	14
	Velvet Mesquite	Multi	
	Large Shrubs		
Cr	Calliandra californica Red Fairy Duster	5 gal.	291
Lt	Larrea tridentata Creosote	5 gal.	415
Sc	Simmondsia chinensis (from MSN) Jojoba	5 gal.	136
Vd	Viguiera deltoidea Goldeneye	5 gal.	236
	Medium Shrubs		
Ef	Encelia farinosa Brittlebush	5 gal.	79
Lh	Leucophyllum candidum 'Thunder Cloud' Thunder Cloud Sage	5 gal.	14
	Ground Covers		
A	Ambrosia deltoides Triangle Leaf Bursage	1 gal.	829
Pc	Psilostrophe cooperi Paper Flower	1 gal.	105
Pa	Acacia redolens Prostrate Acacia	1 gal.	16
P	Lantana montevidensis Purple Trailing Lantana	1 gal.	192
Ro	Rosmarinus officinalis 'Prostratus' Trailing Rosemary	1 gal.	29
B	Melampodium leucanthum Blackfoot Daisy	1 gal.	30
	Accents		
*	Dasylirion wheeleri Desert Spoon	5 gal.	136
	Inerts		
	Decomposed Granite 2" deep, 1/2" Minus Gila Brown-detail 13, sheet LA7.1		157,752 SF.
	48" Native Granular Trail Raked native granular soil		10,144 SF.
	Stabilized Granular Pad 3" deep 1/4" Minus, see detail sheet LA3.4		278 SF.



INSTALLATION:

1. PREPARE SUB-GRADE TO LINE AND GRADE ALLOWING FOR POSITIVE DRAINAGE.
2. SUB-GRADE SHALL BE COMPACTED AS SPECIFIED PRIOR TO PLACEMENT OF PRE-STABILIZED GRANITE COMPACT BASE MATERIAL (AS SPECIFIED) PRIOR TO PLACEMENT OF PRE-STABILIZED GRANITE.
3. SPREAD PRE-STABILIZED GRANITE OVER PREPARED SUB-BASE/BASE MATERIAL TO SPECIFIED DEPTH.
4. AFTER SPREADING AND LEVELING PRE-STABILIZED GRANITE, THOROUGHLY SATURATE THE ENTIRE DEPTH OF PRE-STABILIZED GRANITE WITH WATER TO ACTIVATE STABILIZING COMPOUND. *(RANDOM CORE SAMPLING SHOULD BE DONE TO ENSURE FULL DEPTH PENETRATION.)*
5. AFTER THE PRE-STABILIZED GRANITE HAS BEEN SATURATED, ALLOW TO DRY TO A COMPACTABLE CONSISTENCY" (OPTIMUM MOISTURE) AND COMPACT WITH A VIBRATORY COMPACTOR OR 3 1/2 TON STEEL DRUM ROLLER. *(DRY TIME CAN RANGE FROM 2 TO 24 HOURS DEPENDING ON WEATHER CONDITIONS.)*
6. PROTECT FROM TRAFFIC UNTIL ENTIRE DEPTH OF PRE-STABILIZED GRANITE HAS COMPLETELY DRIED. *(THIS COULD BE 48 TO 72 HOURS DEPENDING ON*

Stabilized Granular Pad



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LANDSCAPE ARCHITECT CERTIFICATE NO. 45140 PRELIMINARY NOT FOR CONSTRUCTION LAURENS BARON 05.29.12 ARIZONA U.S.A. EXP. 12-31-12

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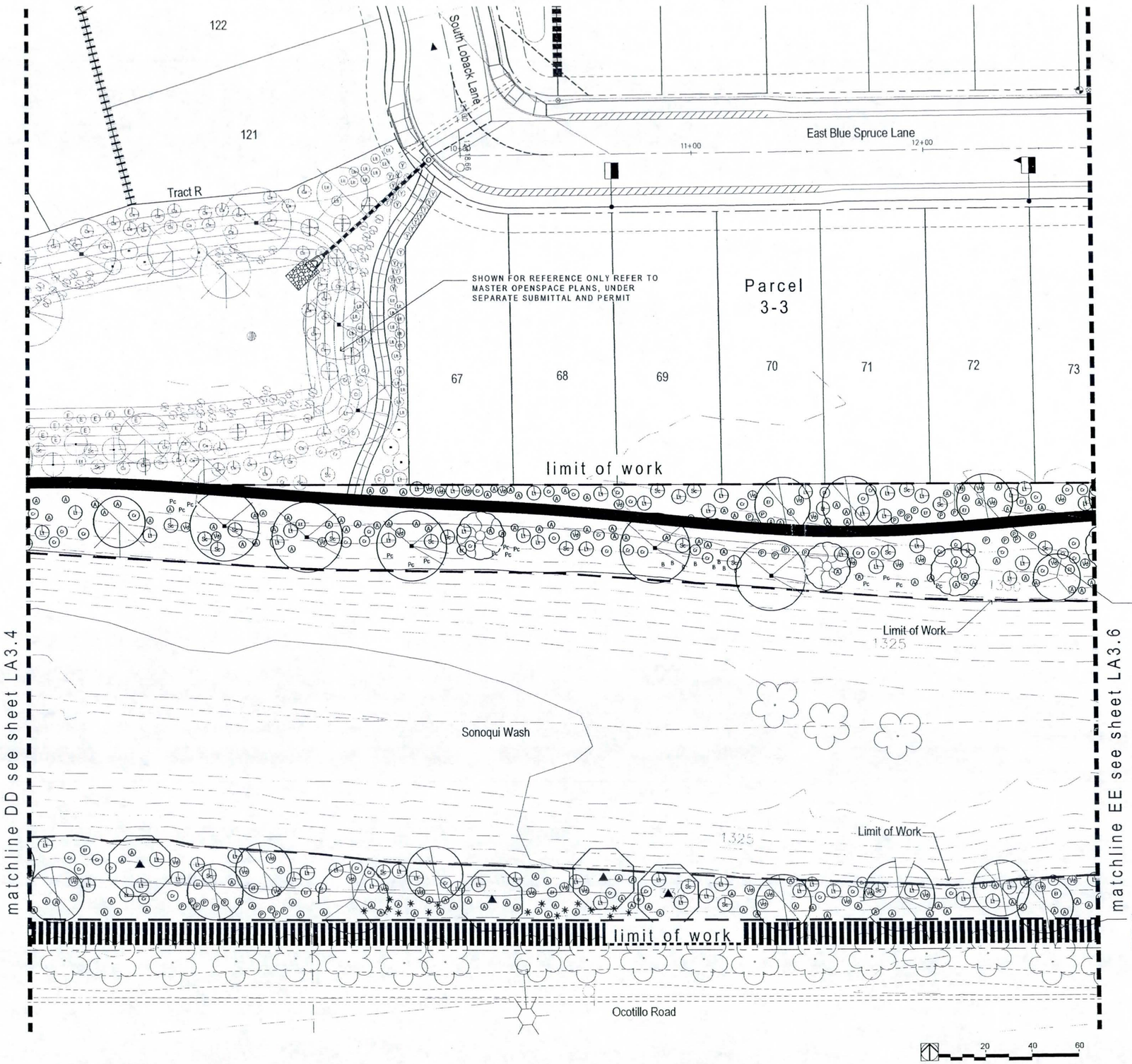

48" WIDE NATIVE GRANULAR TRAIL TO BE FIELD STAKED. SOIL TO BE RAKE TO REMOVE ALL ROCK LARGER THEN 6" FROM TRAIL SURFACE

EXISTING GRANULAR TRAIL, SIDEWALK AND PLANT MATERIAL TO REMAIN UNDISTURBED ALONG THE OCOTILLO ROAD FRONTAGE.

PLANT MATERIALS LEGEND

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	Prosopis chilensis Chilean Mesquite	15 Gal. Multi	23
	Prosopis velutina Velvet Mesquite	24" Box Multi	14
Large Shrubs			
Cv	Callisindra californica Red Fairy Duster	5 gal.	291
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Sc	Simmondsia chinensis (from MSN) Jojoba	5 gal.	136
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Medium Shrubs			
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Lh	Leucophyllum candidum 'Thunder Cloud' Thunder Cloud Sage	5 gal.	14
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B	Melampodium leucanthum Blackfoot Daisy	1 gal.	30
Accents			
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Inerts			
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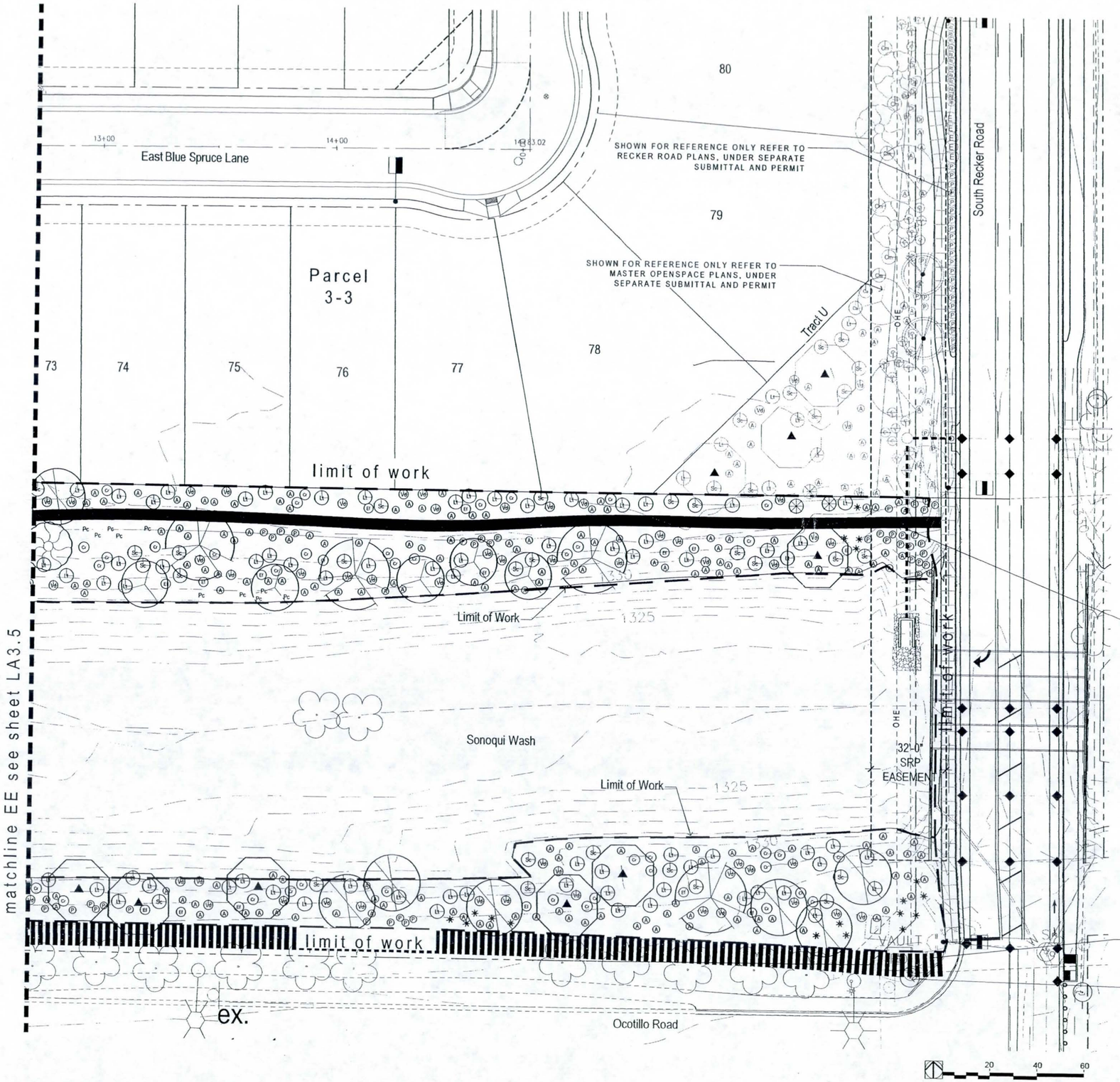
sheet number	LA3.5



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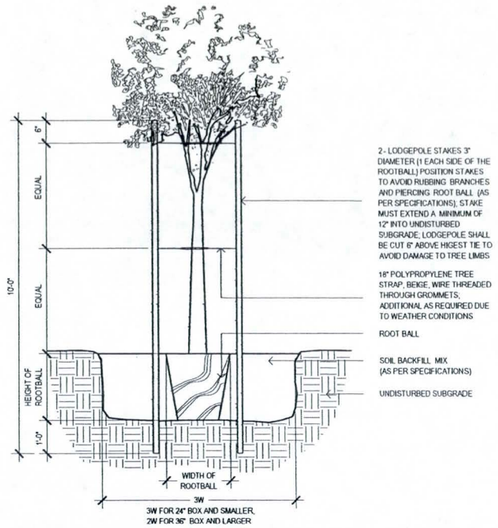
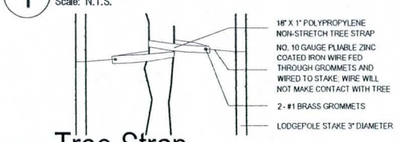


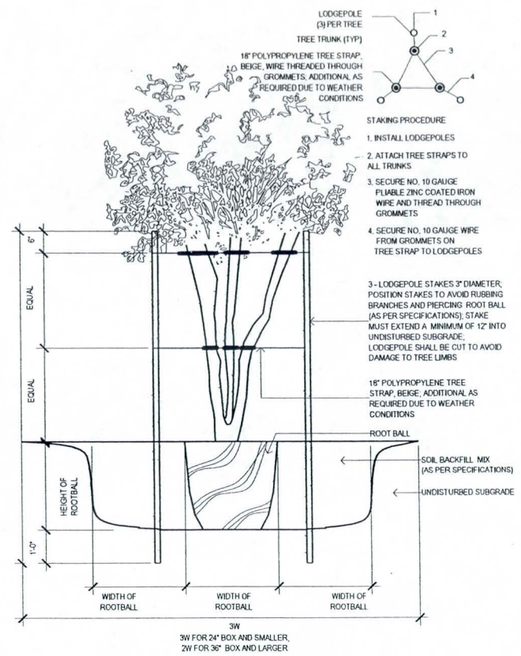
1 Tree Planting Detail

Scale: N.T.S.



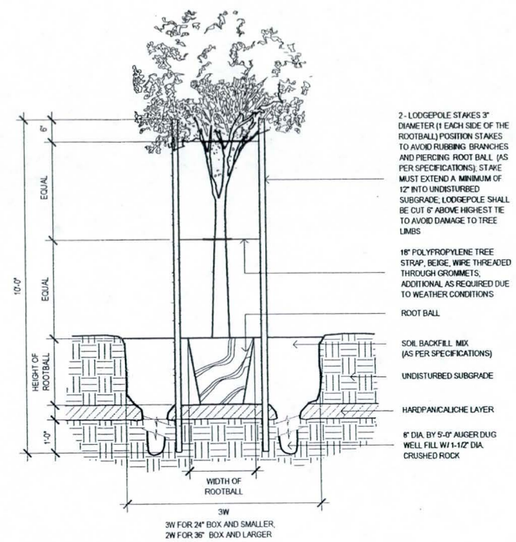
2 Tree Strap

Scale: N.T.S.



3 Multi-Trunk Tree Detail

Scale: N.T.S.



4 HardPan Planting Detail

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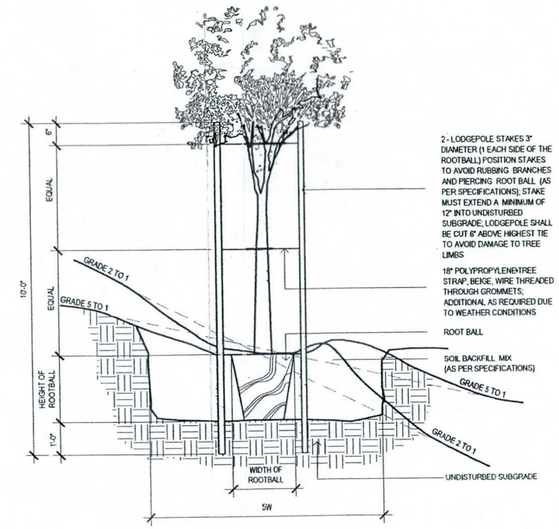

5 Tree Planting on Slope

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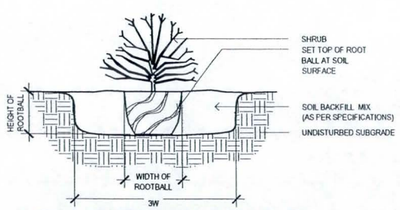
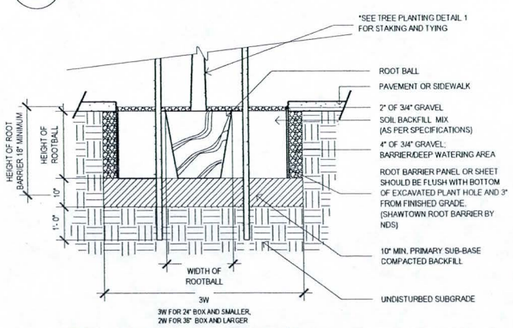


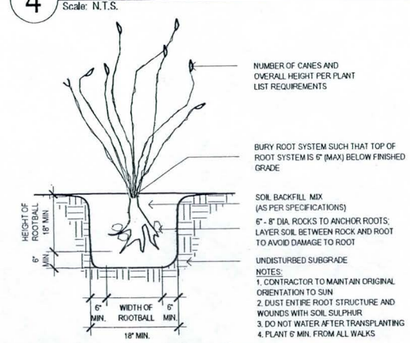
6 Shrub Planting Detail

Scale: N.T.S.



7 Root Barrier Detail

Scale: N.T.S.



8 Ocotillo Planting

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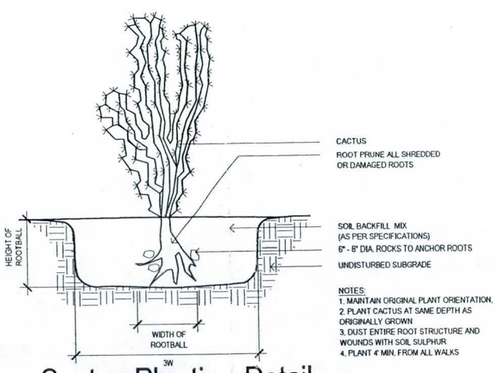

12 Cactus Planting Detail

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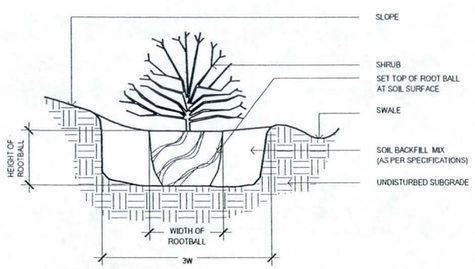
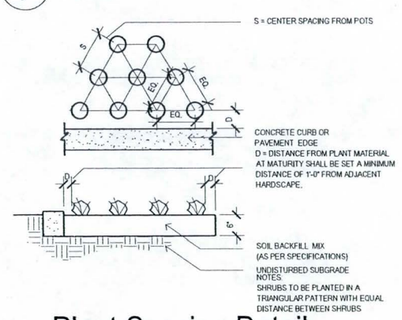


9 Shrub Planting on Slope

Scale: N.T.S.

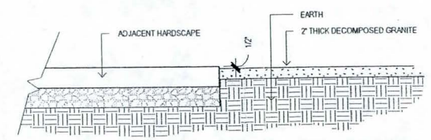


10 Plant Spacing Detail

Scale: N.T.S.

11 Boulder Detail

Scale: N.T.S.



13 Decomposed Granite Detail

Scale: N.T.S.

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checked by	AB
project number	64-001-11
review number	
sheet number	LA7.1

SECTION 02900 - LANDSCAPE

PART 1 - GENERAL

1.01 WORK INCLUDED
1. LANDSCAPE FINE GRADING
2. SOIL PREPARATION
3. TREE SUPPORTS AND HEADERS
4. PLANTING
5. WATERING
6. MAINTENANCE

1.02 DEFINITIONS:
PLANTS - ALL SHRUBS AND CACTI OTHER THAN TREES, AND TURF.
PLANT MATERIAL - ALL TREES, SHRUBS, SUCCULENTS, CACTI, GROUND COVER, AND OTHER PLANTS.

1.03 RELATED WORK
CONTRACTOR: MINIMUM 5 YEARS EXPERIENCE IN SUPPLY AND INSTALLATION OF LANDSCAPE MATERIALS.

1.04 SOURCE QUALITY CONTROL
PROVIDE CERTIFICATES OF INSPECTION FOR ALL MATERIALS AS REQUIRED BY THIS SPECIFICATION AND/OR PREVAILING LAW OR REGULATION.

DEVELOPER'S REPRESENTATIVE SHALL REVIEW PLANT MATERIAL PRIOR TO PLANTING. ANY MATERIAL DEEMED UNACCEPTABLE SHALL BE REMOVED FROM THE SITE AND NOT PLANTED.

PROVIDE TREES AND SHRUBS GROWN IN A RECOGNIZED NURSERY IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. PROVIDE HEALTHY, UNDAMAGED, VIGOROUS STOCK GROWN UNDER CLIMACTIC CONDITIONS SIMILAR TO CONDITIONS AT PROJECT SITE AND FREE OF DISEASE, INSECTS, EGGS, LARVAE AND DEFECTS SUCH AS SUN-SCALD, KNOTS, INJURIES, ABRASIONS OR DISFIGUREMENTS. PROVIDE TREES AND SHRUBS OF THE SIZES INDICATED. TREES AND SHRUBS OF SIZES LARGER THAN THOSE INDICATED MAY BE USED PROVIDED ROOTS, ROOT BALL, STAKING AND PLANTING PITS ARE INCREASED PROPORTIONATELY.

1.05 REFERENCE STANDARDS
ANSI 60.1 - AMERICAN STANDARDS FOR NURSERY STOCK, INTERNATIONAL SOCIETY OF ARBORICULTURE.

1.06 SAMPLES
SUBMIT SAMPLES TO DEVELOPER'S REPRESENTATIVE A MINIMUM OF 2 WEEKS PRIOR TO START OF WORK FOR THE FOLLOWING MATERIAL:
1. TOPSOIL FOR BACKFILL MIX
2. MULCHES
3. TREE SUPPORTS
4. INERT GROUNDCOVERS
5. BOULDERS
6. STEEL EDGING - 6" SAMPLE LENGTH

THE DEVELOPER'S REPRESENTATIVE RESERVES THE RIGHT TO TAKE AND ANALYZE SAMPLES OF MATERIALS FOR CONFORMITY TO SPECIFICATION AT ANY TIME. FURNISH SAMPLES UPON REQUEST BY DEVELOPER'S REPRESENTATIVE.

1.07 PRODUCTS
SUBMIT TO DEVELOPER'S REPRESENTATIVE A MINIMUM OF 2 WEEKS PRIOR TO START OF WORK MANUFACTURER'S COMPREHENSIVE PRODUCT DESCRIPTION, INCLUDING SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.

1.08 CERTIFICATES AND TEST REPORTS
PROVIDE AND PAY FOR ALL MATERIALS TESTING. TESTING AGENCY SHALL BE ACCEPTABLE TO THE DEVELOPER'S REPRESENTATIVE.

SUBMIT TO DEVELOPER'S REPRESENTATIVE A MINIMUM OF 2 WEEKS PRIOR TO START OF WORK 2 COPIES OF CERTIFICATES OF INSPECTION AS REQUIRED BY THESE SPECIFICATIONS, JURISDICTIONAL AUTHORITIES, AND VENDOR'S CERTIFIED ANALYSIS FOR SOIL AMENDMENTS, FERTILIZER MATERIALS, AND CHEMICALS. SUBMIT OTHER DATA SUBSTANTIATION THAT MATERIALS COMPLY WITH SPECIFIED REQUIREMENTS. CERTIFICATES ARE REQUIRED TO DETERMINE THE QUALITY AND QUANTITY OF ALL SPECIFIED SOIL AMENDMENTS.

MATERIALS CERTIFICATION TO BE SUBMITTED INCLUDE, BUT ARE NOT LIMITED TO:
- TOPSOIL SOURCE AND NUTRIENT ANALYSIS
- MULCH
- FERTILIZERS/SOIL AMENDMENTS/CHEMICALS

TEST REPRESENTATIVE MATERIAL SAMPLES PROPOSED FOR USE. PROVIDE THE FOLLOWING DATA
- TOPSOIL AND PLANTING BACKFILL
- SOIL PH
- PARTICLE SIZE. PERCENTAGE SOIL TEXTURE
- PERCENTAGE ORGANIC MATERIAL
- NUTRIENT LEVEL ANALYSIS
- ALL MACRO, SECONDARY AND MICRONUTRIENTS
- SALINITY
- PERCOLATION RATE

RECOMMENDATIONS ON TYPE AND QUANTITY OF AMENDMENTS REQUIRED TO BRING LEVELS INTO ACCEPTABLE RANGES AS DETAILED IN PART 2 - PRODUCTS OF MATERIALS OF THESE SPECIFICATIONS.

SEPARATE RECOMMENDATIONS TO BE SUBMITTED FOR EACH CROP. CROP TO BE IDENTIFIED AS:
- IRRIGATED TREES, SHRUBS, AND GROUNDCOVERS
- TURF OR LAWN

1.09 MAINTENANCE DATA
SUBMIT TO DEVELOPER'S REPRESENTATIVE 2 COPIES OF WRITTEN INSTRUCTIONS, PRIOR TO EXPIRATION OF THE INITIAL MAINTENANCE PERIOD, RECOMMENDING PROCEDURES TO BE FOLLOWED BY THE DEVELOPER FOR THE MAINTENANCE OF LANDSCAPE WORK FOR ONE FULL YEAR.

1.10 PRODUCT DELIVERY, STORAGE AND HANDLING
DELIVER PACKAGED MATERIALS IN CONTAINERS SHOWING WEIGHT, ANALYSIS AND IDENTIFICATION OF MANUFACTURER. PROTECT MATERIALS FROM ENVIRONMENTAL CONDITIONS AND DETERIORATION AT ALL TIMES.

PROVIDE PROTECTIVE COVERS TO PLANT LIFE AND TREES DURING DELIVERY. DO NOT PRUNE TREES PRIOR TO DELIVERY. DO NOT BEND TREES OR SHRUBS IN SUCH A MANNER AS TO CAUSE DAMAGE OR DESTROY SHAPE.

DELIVER MATERIALS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED. IF PLANTING IS DELAYED FOR MORE THAN 8 HOURS AFTER DELIVERY, SET PLANT MATERIAL IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST.

DO NOT REMOVE CONTAINER GROWN STOCK FROM CONTAINERS UNTIL PLANTING TIME.

1.11 SITE CONDITIONS
DETERMINE LOCATION OF UNDERGROUND UTILITIES. USE PROFESSIONAL SERVICES TO DETERMINE LOCATIONS. EXECUTE WORK AS REQUIRED TO PREVENT DAMAGE.

MAINTAIN GRADE STAKES SET BY OTHERS UNTIL DIRECTED OTHERWISE.

PROTECT OF ALL EXISTING PLANTS TO REMAIN:
1. DO NOT STORE MATERIALS OR EQUIPMENT, PERMIT BURNING, OR OPERATE OR PARK EQUIPMENT UNDER THE BRANCH OF ANY EXISTING PLANT OR PLANT MATERIAL TO REMAIN EXCEPT AS ACTUALLY REQUIRED FOR CONSTRUCTION IN THOSE AREAS
2. PROVIDE BARRICADES, FENCES OR OTHER BARRIERS AS NECESSARY AT THE DRIP LINE TO PROTECT EXISTING PLANTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION
3. NOTIFY OWNER'S REPRESENTATIVE IN ANY CASE WHERE CONTRACTOR FEELS GRADING OR OTHER CONSTRUCTION CALLED FOR BY CONTRACT DOCUMENTS MAY DAMAGE EXISTING PLANTS TO REMAIN
4. IF EXISTING PLANTS TO REMAIN ARE DAMAGE DURING CONSTRUCTION, CONTRACTOR SHALL REPLACE SUCH PLANTS OF THE SAME SPECIES AND SIZE AS THOSE DAMAGED AT NO COST TO OWNER. DETERMINATION OF EXTENT OF DAMAGE AND VALUE OF DAMAGED PLANT SHALL REST SOLELY WITH OWNER'S REPRESENTATIVE

1.12 WARRANTY
SUBMIT WARRANTY TO DEVELOPER'S REPRESENTATIVE.

TREES, SAGUAROS, YUCCAS, AND OCOTILLOS
WARRANT THAT TREES, SAGUAROS, YUCCAS AND OCOTILLOS WILL BE ALIVE AND IN GOOD HEALTH FOR A PERIOD OF 1 YEAR AFTER ACCEPTANCE EXCEPT FOR DEFECTS RESULTING FROM NEGLECT BY DEVELOPER OR ABUSE BY OTHERS.

DEVELOPER MUST FOLLOW CONTRACTOR'S MAINTENANCE SCHEDULE AND PROVIDE CURRENT MAINTENANCE LOG TO DEVELOPER'S REPRESENTATIVE.

REMOVE AND REPLACE DEAD, UNHEALTHY OR GIRDLED TREES, YUCCAS AND OCOTILLOS THAT LOSE ORIGINAL FORM AND SIZE DURING WARRANTY PERIOD WITH MATERIAL EQUAL TO THAT SPECIFIED. REPLACE ANY MATERIAL WHICH DOES NOT MEET REQUIREMENTS WITHIN THIRTY DAYS OF NOTIFICATION. ALL REPLACEMENT MATERIAL SHALL BE SUBJECT TO AN ADDITIONAL ONE YEAR MAINTENANCE PERIOD.

SHRUBS AND OTHER PLANTINGS
GUARANTEE ALL OTHER PLANTING WILL BE ALIVE AND IN SATISFACTORY CONDITION FOR A PERIOD OF 90 DAYS FROM DATE OF ACCEPTANCE OR WILL BE REPLACED AT NO ADDITIONAL COST TO THE DEVELOPER.

ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY, STURDY CONDITION DURING THE WARRANTY PERIOD BY THE CONTRACTOR. TURF SHALL BE MOWED AND TRIMMED WEEKLY AFTER ROOT ESTABLISHMENT.

ALL REPLACEMENT PLANTS, INCLUDING SHRUBS, CACTI, GROUNDCOVERS, VINES AND PERENNIALS SHALL BE SUBJECT TO AN ADDITIONAL 90 DAY MAINTENANCE PERIOD.

PART 2 - PRODUCTS

2.01 FILL MATERIALS
PROVIDE DRY, LOOSE MATERIAL FOR FILL, BACKFILL, PLANTING BACKFILL AND TOPSOIL FOR PLANTER BEDS. FROZEN OR MUDDY SOILS ARE NOT ACCEPTABLE. SALTS ARE NOT TO EXCEED 1500 PPM, AND SOILS SHALL BE FREE OF DEBRIS, NOXIOUS WEEDS, INGREDIENTS OR OBJECTS DETRIMENTAL TO HEALTHY PLANT GROWTH.

TOPSOIL - SCREENED, FERTILE, FRIABLE, FROM WELL DRAINED ARABLE LAND, FREE OF NOXIOUS WEEDS, REFUSE, ROOTS, HEAVY CLAY OR ANY MATERIAL TOXIC TO PLANT GROWTH; CONTENTS SHALL BE AS FOLLOWS:
- SILT: 20-45%
- CLAY: 15-20%
- SAND: 30-60%
- PH: 7.0-8.3
- SOLUBLE SALTS: 1,500 PPM
- ORGANIC MATERIAL (NATURAL OR OTHERWISE): 2% MINIMUM
- NUTRIENTS: ENOUGH TO BRING LEVELS OF ACCEPTABLE PLANT GROWTH.

PERCOLATION RATE SHALL BE BETWEEN 3 TO 4 INCHES PER HOUR. EXISTING TOPSOIL MAY BE USED PROVIDED IT MEETS THESE REQUIREMENTS. IMPORTED TOPSOIL MUST BE PROVEN TO MEET THESE REQUIREMENTS.

2.02 COMMERCIAL GRADE FERTILIZERS
AGRI-SUL, DISPERSAL - USE ONLY FOR SULFUR AGRICULTURE GRADE GYPSUM, OSMACOTE, 'SIERRA-BLEN', APPLY AT MFG. RECOMMENDED RATE FOR EACH PLANTING TYPE.

2.03 SOIL AMENDMENTS
WOOD SHAVINGS: NITROGEN STABILIZED FIR OR PINE SHAVINGS CONTAINING 0.75% TOTAL NITROGEN AND 0.1 TO 0.15% TOTAL IRON, AND UNDER 60 PPM TOTAL MANGANESE; COMPOSTED, LEACHED AND AGED FOR A MINIMUM OF 10 TO 12 MONTHS; PH FACTOR, 4.0 TO 4.5. NO SOIL AMENDMENTS ARE REQUIRED FOR SALVAGED PLANT MATERIAL AND CACTI UNLESS OTHERWISE SPECIFIED.

2.04 TREE SUPPORTS
TREE STAKES: COPPER NAPTHENATE IMPREGNATED LODGE POLE 12 FEET IN LENGTH FOR TREES 5 GALLON TO 36" BOX, 2 LODGE POLES PER TREE, 3 POLES FOR MULTI-TRUNK TREES. TREE STAKES ARE NOT REQUIRED FOR SALVAGED PLANT MATERIAL OR 48" BOX TREES OR LARGER, UNLESS DETERMINED OTHERWISE BY LANDSCAPE ARCHITECT DUE TO HIGH WIND CONDITIONS.

TREE TIES: PROVIDE A MINIMUM OF TWO PER TREE, 18" TREE STRAP BY STAR NURSERY (WWW.STARNURSERY.COM) OR APPROVED EQUAL, BEIGE, WITH GROMMETS. NO. 10 GAUGE PLIABLE ZINC COATED IRON WIRE TO BE THREADED THROUGH GROMMETS AND CONNECTED TO TREE STAKES. WIRE WILL NOT MAKE CONTACT WITH TREE.

2.05 HERBICIDES
PRE-EMERGENT HERBICIDE SHALL BE SURFLAN AS MANUFACTURED BY DOW/ELANCO CHEMICAL COMPANY OR EQUAL.

2.06 PESTICIDES
SHALL BE ORTHO "LINDANE BORER AND LEAF MINER SPRAY" BY ORTHO, CONSUMER PRODUCTS DIVISION, CHEVRON CHEMICAL COMPANY, SAN FRANCISCO, CA 94119, or "BORER KILLER ,BY GREENLIGHT COMPANY, SAN ANTONIO, TX 78217

CONTACT HERBICIDE SHALL BE SUBMITTED BY CONTRACTOR TO DEVELOPER'S REPRESENTATIVE.

2.07 PLANT MATERIAL
HEALTHY, SHAPELY AND WELL ROOTED. ROOTS SHALL SHOW NO EVIDENCE OF HAVING BEEN RESTRICTED OR DEFORMED AT ANY TIME. ALL PLANTS SHALL HAVE NORMALLY DEVELOPED BRANCHING. PLANTS SHALL BE FREE FROM DISFIGURING KNOTS, SUN SCALD INJURIES AND ABRASIONS OF BARK. PLANTS NOT MEETING THESE REQUIREMENTS SHALL BE CONSIDERED DEFECTIVE AND SHALL BE REPLACED IMMEDIATELY. ALL PLANTS SHALL BE TRUE TO NAME AND SHALL BE TAGGED, ONE OF EACH VARIETY. ALL PLANT MATERIAL SHALL BE GROWN IN NURSERIES INSPECTED BY THE STATE DEPARTMENT OF AGRICULTURE.

SPECIMEN PLANT MATERIAL SHALL BE SELECTED AND TAGGED AT THE GROWERS NURSERY PRIOR TO SHIPMENT.

PLANTS SHALL BE MEASURED WHEN BRANCHES ARE IN THEIR NORMAL POSITION. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH TIP TO TIP. CALIPER MEASUREMENT SHALL BE TAKEN AT A POINT ON THE TRUNK 6" ABOVE NATURAL GROUND LINE FOR TREES UP TO 4" IN CALIPER AND AT A POINT 12" ABOVE THE NATURAL GROUND LINE FOR TREES OVER 4" IN CALIPER. IF A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND NOT LESS THAN 40% OF THE PLANTS SHALL BE LARGE AS THE MAXIMUM SIZE SPECIFIED. THE MEASUREMENTS SPECIFIED ARE THE MINIMUM SIZE ACCEPTABLE AND ARE THE MEASUREMENTS AFTER PRUNING, WHERE PRUNING IS REQUIRED. PLANTS THAT MEET THE MEASUREMENTS SPECIFIED, BUT DO NOT POSSESS A NORMAL BALANCE BETWEEN HEIGHT AND SPREAD SHALL BE REJECTED.

CONTAINER STOCK, WHEN SPECIFIED, SHALL HAVE GROWN IN THE CONTAINERS IN WHICH DELIVERED FOR AT LEAST 6 MONTHS, BUT NOT OVER 2 YEARS. SAMPLES MUST PROVE NO ROOTBOUND CONDITIONS EXIST. NO CONTAINER PLANTS THAT HAVE CRACKED OR BROKEN BALLS OF EARTH WHEN TAKEN FROM CONTAINER SHALL BE PLANTED EXCEPT UPON SPECIAL APPROVAL BY OWNER'S REPRESENTATIVE. CONTAINER STOCK SHALL NOT BE PRUNED BEFORE DELIVERY. FIELD GROWN PLANTS RECENTLY TRANSPLANTED INTO CONTAINERS WILL NOT BE ACCEPTED.

SOD SHALL BE DENSE WITH THE GRASS HAVING BEEN MOWED AT A HEIGHT OF 1" PRIOR TO REMOVAL FROM FIELD. ALL GRASS SHALL BE GROWN ON FUMIGATED FIELDS. SOD SHALL NOT BE STACKED FOR MORE THAN 234 HOURS BETWEEN TIME OF CUTTING AND TIME OF DELIVERY

2.08 INERT GROUNDCOVER
INERT GROUNDCOVERS, INCLUDING BUT NOT LIMITED TO, DECOMPOSED GRANITE (D.G.), CRUSHED ROCK, AND RIVER ROCK SHALL HAVE A MINIMUM 2" THICK COVERAGE, UNLESS NOTED OTHERWISE ON PLANS. INERTS SHALL BE THE SIZE AND COLOR AS PER PLAN, AND SHALL BE TAKEN FROM A SINGLE QUARRY.

2.09 EDGING
EDGING, INCLUDING BUT NOT LIMITED TO, POLY OR STEEL PRODUCT, SHALL BE OF THE SIZE (GAUGE AND DEPTH) SPECIFIED ON PLANS AND DRAWINGS. SAMPLES SHALL BE SUBMITTED BY CONTRACTOR FOR APPROVAL.

PART 3 - EXECUTION

3.01 GENERAL
INSTALL ALL MATERIAL IN ACCORDANCE WITH THE METHODS, TECHNIQUES AND SPECIFICATIONS OF EACH MANUFACTURER AND THESE SPECIFICATIONS.
DO NOT BEGIN PLANTING UNTIL COMPLETION OF THE SITE GRADING AND INSTALLATION OF A FULLY FUNCTIONAL UNDERGROUND IRRIGATION SYSTEM IS IN PLACE.

3.02 BACKFILL, IMPORTED FILL OR ARTIFICIAL SOIL AND GRAVEL
INSPECT THE INTEGRITY OF ALL DAMP-PROOFING AND WATER PROOFING MEMBRANES WHICH OCCUR OVER, ON OR AGAINST ANY CONSTRUCTION TO BE FULLY OR PARTIALLY CONCEALED BY EARTHWORK PRIOR TO THE PLACEMENT OF ANY IMPORTED SOIL, BACKFILL, GRAVEL FILL OR SUB-BASE.

3.03 TOPSOIL
IMPORT ADDITIONAL TOPSOIL ONLY AS REQUIRED TO BRING PLANTING AREAS UP TO FINISH GRADE OR PER TURF OR PLANTING BED REQUIREMENTS. SPREAD AND CULTIVATE SOIL SO THAT NO SETTLING TAKES PLACE AT ANY TIME.

3.04 LANDSCAPE FINE GRADING
ALLOW FOR THE ADDITION OF SOIL AMENDMENTS, CONDITIONERS AND ANY SPECIFIED TOP DRESSING WHEN DETERMINING AND EXECUTING FINISH GRADE.
SET FINISH GRADE 2 1/2 INCHES BELOW ADJACENT PAVING, CURB AND HEADERS TO ALLOW FOR DECOMPOSED GRANITE, GROUNDCOVER MULCH OR TURF SOD.

COMPLETE ALL FINISH GRADING PRIOR TO PLANTING. CULTIVATE ALL AREAS SO THAT THERE ARE NO HUMPS OR HOLLOWS, AND THE AREA DRAINS AS DESIGNED. GRADE AND MAINTAIN ALL FLOW LINES, DESIGNATED OR NOT, TO ALLOW FREE FLOW OF SURFACE WATER. CULTIVATE ENTIRE AREA TO A DEPTH OF 6 INCHES MINIMUM AND REMOVE ALL ROCK IN EXCESS IF 1-1/2 INCHES, ALL BUILDING RUBBLE, BUILDING CONSTRUCTION MATERIAL, WASTE AND ANY OTHER MATERIAL THAT MAY IMPAIR SATISFACTORY GROWTH.

3.05 INERT GROUNDCOVERS
APPLY INERT GROUNDCOVERS TO A 2 INCH DEPTH WITHIN 1/2 INCH OF THE TOP OF ADJACENT CURB OR SIDEWALK.

3.06 HERBICIDE APPLICATION
ALL AREAS SHALL BE MAINTAINED WEED-FREE AT ALL TIMES DURING CONSTRUCTION.

DO NOT APPLY PRE-EMERGENT HERBICIDES AT LOCATIONS OF REVEGETATION SEEDING. THE CONTRACTOR SHALL MANUALLY REMOVE INVASIVE WEEDS WITHIN THESE AREAS.

3.07 TREE SUPPORT
INSTALL TREE SUPPORTS AS SHOWN ON THE DRAWINGS WITHIN 48 HOURS OF PLANTING.

TREE SUPPORTS SHALL BE INSTALLED TO PREVENT RUBBING AND GIRDLING, YET ALLOW FOR TRUNK MOVEMENT. TREE TIES THAT ENCIRCLE TRUNKS SHALL BE LARGE ENOUGH TO ALLOW FOR NORMAL GROWTH OF THE TRUNK DURING THE FIRST YEAR WITHOUT GIRDLING.

3.08 TREES, SHRUBS, AND VINES
LAYOUT PLANT LOCATIONS WITH STAKES OR FLAGS PRIOR TO PLANTING. COORDINATE WITH DEVELOPER'S REPRESENTATIVE TO ASSURE APPROPRIATE LOCATION.

TEST DRAINAGE OF PLANT BEDS AND PITS BY FILLING WITH WATER. NOTIFY DEVELOPER'S REPRESENTATIVE OF AREAS WHERE WATER IS RETAINED MORE THAN 24 HOURS AND REQUEST A HARDPAN PLANTING DETAIL.

WHERE ROCK, UNDERGROUND CONSTRUCTION OR OTHER DETRIMENTAL CONDITIONS ARE ENCOUNTERED AT PLANT PITS, DEVELOPER'S REPRESENTATIVE MAY SELECTIVE ALTERNATE LOCATION.

DO NOT EXPOSE ROOTS TO AIR EXCEPT DURING TRANSPLANTING. SET TOP OF PLANTS AT SAME LEVEL WHEN PLANTED AS IN THE CONTAINER

DIG PITS WITH PERPENDICULAR SIDES TO A MINIMUM OF 2 TO 3 TIMES THE WIDTH (SEE DETAILS) OF THE ROOT BALL FOR CONTAINERIZED TREES AND SHRUBS. DIG PITS ONLY AS DEEP AS THE ROOT BALL TO PREVENT SETTLING OF THE TREE OR SHRUB.

3.09 BACKFILLING
BACKFILL PLANT PITS AND FORM A TEMPORARY SHALLOW BASIN AROUND THE PLANT TO HOLD ENOUGH WATER TO SATURATE THE ROOT BALL AND BACKFILL. WATER PLANTS IMMEDIATELY AFTER PLANTING AND ALLOW BACKFILL TO SETTLE IN PLANT PIT. DO NOT WATER OCOTILLOS AFTER PLANTING. REMOVE BASIN PRIOR TO INSTALLATION OF INERT GROUNDCOVERS OR TURF.

TREAT ALL PLANTING AREAS WITH A PRE-EMERGENT, WITH THE EXCEPTION OF THE REVEGETATED SEED AREAS.

3.10 ANNUALS
AT TIME OF TRANSPLANTING, SOIL IN FLATS SHALL BE SUFFICIENTLY MOIST SO AS NOT TO FALL APART WHEN LIFTING PLANTS. PLANT EACH PLANT WITH ITS PROPORTIONATE AMOUNT OF THE FLAT SOIL IN A MANNER THAT WILL ENSURE A MINIMUM DISTURBANCE TO THE ROOT STRUCTURE.

PLANT FLAT MATERIAL SUFFICIENTLY DEEP TO COVER ALL ROOTS. FIRMLY TAMP THE EARTH AROUND EACH PLANT TO FORCE OUT LARGE AIR POCKETS.

3.11 SOD
SOIL PREPARATION
PROVIDE SOIL WITH AN ORGANIC MATTER CONTENT OF 25 PERCENT TO 30 PERCENT.
INCORPORATE INTO SOIL BY TILLING THE SOIL TO A DEPTH OF 6 INCHES THOROUGHLY REMOVE DEBRIS, WEEDS AND ROCKS FROM SOIL.

SOIL AMENDMENTS
PRIOR TO TILLING, APPLY GYPSUM AT A RATE OF 100 POUNDS PER 1000 SQUARE FEET, PHOSPHATE AT A RATE OF TWO POUNDS PER 1000 SQUARE FEET AND SOIL SULFUR AT FIVE POUNDS PER 1000 SQUARE FEET.

SOD INSTALLATION
INSTALL SOD ALONG THE STRAIGHTEST EDGE OF TURF AREA. STAGGER JOINTS IN A BRICK- LIKE PATTERN. AVOID GAPS AND OVERLAPPING. PLACE SOD DIAGONALLY ACROSS SLOPES, SO IT CANNOT SLIDE, AND SO THAT IT PROVIDES COMPLETE COVER WITH NO BROWN SECTIONS OR CRACKS SHOWING. WATER SOD AT LEAST EVERY THIRTY MINUTES. AFTER INSTALLATION, WATER LIGHTLY AND ROLL IN TWO DIRECTIONS WITH A SOD ROLLER.

3.12 WATERING
WATER ALL PLANTS IMMEDIATELY AFTER PLANTING TO AVOID DRYING OUT , TO THE FULL DEPTH, SATURATING THE ROOT BALL OF EACH PLANT HOLE

REPEAT WATERING AS OFTEN AS NECESSARY TO KEEP THE GROUND MOIST BUT NOT SOAKED, WELL BELOW THE ROOT SYSTEM OF THE PLANTS.

3.13 CLEAN UP
KEEP ALL AREAS CLEAN AND ORDERLY DURING AND AFTER EXECUTION OF WORK.

3.14 PRUNING
PRUNE SHRUBS AND TREES UPON COMPLETION OF THE WORK, ACCORDING TO STANDARD HORTICULTURAL PRACTICES TO PRESERVE THE NATURAL CHARACTER OF THE SPECIES AND TO REPAIR OR REPLACE INJURED PLANTS AT DIRECTED. LIMIT PRUNING ONLY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR LOSS OF ROOTS AS A RESULT OF PLANTING OPERATIONS.

3.15 MAINTENANCE PERIOD
UPON SUBSTANTIAL COMPLETION, AS DETERMINED BY THE DEVELOPER'S REPRESENTATIVE, IN ACCORDANCE WITH THE CONDITIONS OF THE CONTRACT, THE CONTRACTOR SHALL BE NOTIFIED IN WRITING THAT THE MAINTENANCE PERIOD IS TO BEGIN.

LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF LANDSCAPED AREAS FOR A PERIOD OF 90 DAYS. MAINTENANCE INCLUDES WATERING TREES AND GRASSES, MONITORING AND ADJUSTING THE IRRIGATION SYSTEM AS NECESSARY. MOWING AND TRIMMING LAWN AREAS, PRUNING AND TRIMMING PLANT MATERIAL, WEED REMOVAL, AND CULTIVATING PLANT BEDS.

LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE SPRINKLER IRRIGATION SYSTEM, INCLUDING MONITORING AND ADJUSTING THE DURATION AND FRQUENCY OF THE WATERING SCHEDULE, ADJUSTMENT OF HEADS FOR COVERAGE AND ELEVATION, REPAIR OF LEAKS IN BOTH MAIN AND LATERAL LINES, AND ALL OTHER WORK REQUIRED TO ESTABILSH A COMPLETE WORKING SPRINKLER IRRIGATION SYSTEM.

LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF NEW PLANTING, INCLUDING WATERING, CULTIVATING, WEEDING, MULCHING, RE-STAKING, TIGHTENING AND REPAIRING GUYS, RESETTING PLANTS TO PROPER GRADES AND POSITION, MAINTENANCE OF TEMPORARY TREE WELLS, AND FURNISHING AND SUPPLYING ALL FERTILIZERS, HERBICIDES, AND PESTICIDES TO MAINTAIN A THRIVING LANDSCAPE.

LANDSCAPE CONTRACTOR, IN ORDER TO PROTECT HIS GUARANTEE, SHALL GIVE TYPEWRITTEN TO DEVELOPER, A COMPLETE MAINTENANCE INSTRUCTION BOOKLET IN THE CARE AND FEEDING OF THE LANDSCAPE.

LANDSCAPE CONTRACTOR SHALL REQUEST, IN WRITING, A FINAL INSPECTION AT THE COMPLETION OF THE MAINTENANCE PERIOD. IF THE DEVELOPER'S REPRESENTATIVE DETERMINES THE WORK IS SATISFACTORY, THE MAINTENANCE PERIOD WILL END ON THE DATE OF THE FINAL INSPECTION. IF THE MAINTENANCE IS UNSATISFACTORY, THE MAINTENANCE PERIOD WILL BE EXTENDED, AT THE CONTRACTOR'S EXPENSE, UNTIL SUCH TIME AS ALL CORRECTIONS ARE MADE AND THE WORK IS INSPECTED AND APPROVED BY THE DEVELOPER'S REPRESENTATIVE. RETENTION WILL NOT BE RELEASED UNTIL FINAL INSPECTION IS MADE AND APPROVAL ISSUED BY THE DEVELOPER'S REPRESENTATIVE.

3.16 FIELD QUALITY CONTROL
NOTIFY DEVELOPER'S REPRESENTATIVE OF THE REQUIREMENT FOR INSPECTIONS AT LEAST 48 HOURS IN ADVANCE. INSPECTIONS ARE REQUIRED, BUT NOT LIMITED TO, THE FOLLOWING:
- INSPECTION AND ACCEPTANCE OF PLANT MATERIAL PRIOR TO SHIPPING.
- AT COMPLETION OF ROUGH GRADE PRIOR TO BOULDER PLACEMENT.
- AT COMPLETION OF LANDSCAPE FINISH GRADING AND SOIL PREPARATION, PRIOR TO PLANTING.
- AT LAYOUT OF IRRIGATION SYSTEM, PRIOR TO INSTALLATION OF IRRIGATION SYSTEM.
- AT INSTALLATION OF IRRIGATION SYSTEM, PRIOR TO BACKFILLING TRENCHES AND PLANTING
- DURING INSTALLATION OF SPECIMEN TREE, PALM OR OTHER SPECIMEN PLANT MATERIAL.
- AFTER STAKING LOCATIONS FOR PLANT HOLES, BUT PRIOR TO PLANTING.
- DURING THE PLANTING PROCESS.
- DURING THE PLACEMENT AND AIMING OF ALL LIGHT FIXTURES
- AT SUBSTANTIAL COMPLETION OF THE WORK.
- DURING WARRANTY PERIOD TO OBSERVE MAINTENANCE PROCEDURES.
- AT FINAL COMPLETION OF THE WORK.

SECTION 02930 - HYDRO-SEEDING

PART 1 - GENERAL

1.01 WORK INCLUDED
PREPARE SEEDBED AND APPLY HYDROSEED GROUNDCOVER.

1.02 APPLICATOR QUALIFICATION
APPLICATOR: NOT LESS THAN 5 YEARS SUCCESSFUL EXPERIENCE IN HYDRAULIC SEEDING APPLICATION.

1.03 PRODUCT DATA
SUBMIT MANUFACTURER'S BROCHURES FOR FERTILIZER, TACKIFIER AND WOOD FIBER MULCH TO LANDSCAPE ARCHITECT.

1.04 CERTIFICATES
SUBMIT SEED SUPPLIER'S CERTIFICATE FOR REQUIRED SEED MIXTURE AND GERMINATION RATES INDICATING PERCENTAGE BY WEIGHT FOR PURITY, GERMINATION, PLS, AND WEED/SEED PERCENTAGE FOR EACH SEED PERCENTAGE, SEED LABELED IN ACCORDANCE WITH FEDERAL SEED ACT.

1.05 PRODUCT DELIVERY STORAGE AND HANDLING
DELIVER SEED, MULCH AND FERTILIZER MATERIALS IN ORIGINAL, UNOPENED CONTAINERS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER.

STORE TO PREVENT WETTING AND DETERIORATION.

1.06 PROJECT CONDITIONS
NOTIFY SITE DEVELOPER'S REPRESENTATIVE AT LEAST 7 DAYS PRIOR TO SEEDING OPERATION.

PERFORM SEEDING WORK ONLY AFTER PLANTING AND OTHER AFFECTING GROUND SURFACE WORK IS COMPLETE.
PROTECT EXISTING UTILITIES, PAVING, IRRIGATION SYSTEMS AND OTHER FACILITIES FROM DAMAGE CAUSED BY SEEDING OPERATIONS. REPAIR DAMAGE CAUSED DURING SEEDING OPERATIONS.

PART 2 - APPLICATION

2.01 MATERIALS
SEED: FRESH, CLEAN AND LATEST SEASONS CROP; INOCULATE LEGUME SEED WITH APPROPRIATE BACTERIA CULTURES APPROVED BY SITE DEVELOPER'S REPRESENTATIVE.

2.02 ACCESSORY MATERIALS
FERTILIZER: UNIFORM IN COMPOSITION, GRANULAR, FREE FLOWING AND SUITABLE FOR APPLICATION WITH APPROVED EQUIPMENT; GUARANTEED ANALYSIS, 16-20-0, AMMONIUM PHOSPHATE.

WOOD CELLULOSE FIBER: SPECIALLY PREPARED WOOD CELLULOSE FIBER PROCESSED TO CONTAIN NO GROWTH OR GERMINATION INHIBITING FACTORS; MAXIMUM MOISTURE CONTENT, AIR DRY WEIGHT, 12% PLUS OR MINUS 3% AT THE TIME OF MANUFACTURE; PH RANGE, 4.5 TO 6.5.

TACKIFIER: ORGANIC PSILLIUM MUCILOID POWDER AT 70% MIN. PURITY, CONTAINING NO AGENTS TOXIC TO SEED GERMINATION; ADDITION OF FERTILIZER TO THE SLURRY MIX SHALL NOT CHANGE THE PROPERTIES OF THE TACKIFIER, WHEN APPLIED, TACKIFIER SHALL FORM A TRANSPARENT CRUST PERMEABLE BY WATER AND AIR.

WATER: FREE OF SUBSTANCES HARMFUL TO SEEDLING GROWTH; WATER SOURCE TO BE APPROVED BY SITE DEVELOPER'S REPRESENTATIVE PRIOR TO USE.

PART 3 - EXECUTION

3.01 PREPARATION
LIMIT PREPARATION TO AREAS THAT WILL BE IMMEDIATELY SEEDED. DO NOT DISTURB NATURAL AREAS OR NEWLY PLANTED TREES, SHRUBS OR CACTI IN SEED AREAS.

WHERE EQUIPMENT CAN OPERATE, LOOSEN TOPSOIL TO A DEPTH OF 4 INCHES BY DISKING. USE HAND TOOLS WHERE EQUIPMENT CAN NOT OPERATE. REMOVE AND DISPOSE OF ALL STONES 4" OR GREATER, STICKS, ROOTS, RUBBISH OR OTHER DELETERIOUS MATERIAL. REPAIR EROSION DAMAGE, GRADE AND SLOPE AS DIRECTED PRIOR TO SEEDING.

SPREAD 200 LBS./ACRE FERTILIZER AS SPECIFIED.

ROUGH HARROW TO BREAK UP ANY LARGE DIRT CLODS, AND FINE HARROW TO CREATE SUITABLE SEED BED.

3.02 APPLICATION
APPLY SEED IMMEDIATELY UPON COMPLETION OF TILLAGE OPERATION.

SEED INDICATED AREAS WITHIN CONTRACT LIMITS AND AREAS ADJOINING CONTRACT LIMITS DISTURBED DUE TO THE SEEDING PREPARATION PROCESS.

USE A HYDROSEEDER WITH A GEAR TYPE PUMP WITH PADDLE AGITATION. TO NOT PUT SEED INTO WATER UNTIL JUST BEFORE THE START OF SEEDING.

APPLY SEED, MULCH, FERTILIZER AND TACKIFIER IN A ONE STEP PROCESS:
SLURRY MIX OF WATER, SEED, 200 LBS./ACRE OF FERTILIZER, 25 LBS./ACRE TACKIFIER AND 2000 LBS./ACRE OF WOOD FIBER.

SLURRY MIX WHICH HAS NOT BEEN APPLIED WITHIN 4 HOURS OF MIXING SHALL NOT BE USED, AND SHALL BE REMOVED FROM THE SITE

3.03 ESTABLISHMENT
IMMEDIATELY AFTER SEEDING, WATER SEEDBED TO A DEPTH OF 4". APPLY WATER AT SUCH A RATE AS TO PREVENT PUDDLING OR EROSION. WATER AS REQUIRED TO MAINTAIN CONSTANT SOIL MOISTURE TO A 4" DEPTH OF 30 DAYS. THEN WATER TO MAINTAIN ACTIVE GROWTH UNTIL FINAL ACCEPTANCE.

PROVIDE PROTECTIVE DEVICES AS REQUIRED TO PROTECT SEEDED AREAS FROM TRAFFIC FOR 30 DAYS.

REPAIR AND RESEED AREAS DAMAGED BY EROSION OR POOR GERMINATION.

3.04 INSPECTION
SEEDING OPERATIONS AND AREAS ARE SUBJECT TO INSPECTION AT ANY TIME DURING INSTALLATION FOR COMPLIANCE WITH SPECIFIED MATERIALS AND INSTALLATION REQUIREMENTS. ANY METHOD OF INSTALLATION OR USE OF MATERIALS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS WILL BE REINSTALLED, REPAIRED OR REMOVED, AS DIRECTED BY THE SITE DEVELOPER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE SITE DEVELOPER.

FORMAL INSPECTIONS WILL BE CONDUCTED BY THE SITE DEVELOPER'S REPRESENTATIVE AT THE FOLLOWING WORK INTERVALS:

SOIL SCARIFICATION UPON COMPLETION.
SEED CONTAINERS AT TIME OF DELIVERY.
AT TIME OF SEED AND SLURRY MIXING.
DURING APPLICATION OF SEED.
DURING APPLICATION OF MULCH.
WEEKLY FOR SEED AND WEED GERMINATION.
FINAL INSPECTION AND APPROVAL; AT THE END OF LANDSCAPE ESTABLISHMENT.

3.05 ACCEPTANCE
UPON NOTICE OF COMPLETION OF THE WORK FROM THE LANDSCAPE CONTRACTOR, AT THE END OF THE LANDSCAPE ESTABLISHMENT PERIOD, THE SITE DEVELOPER'S REPRESENTATIVE WILL MAKE AN INSPECTION. IF ALL WORK PROVIDED FOR IN THE CONTRACT DOCUMENTS IS FOUND TO BE COMPLETE AND THE PLANTED SEEDS YIELD A MINIMUM STAND AS DETERMINED BY THE SITE DEVELOPER'S REPRESENTATIVE BASED UPON THE SPECIFIED GERMINATION RATES AND SPECIES USED, AND THE SEEDED AREAS ARE FREE OF WEEDS, DISEASE AND INSECTS, THIS INSPECTION WILL CONSTITUTE THE FINAL INSPECTION. THE SITE DEVELOPERS REPRESENTATIVE WILL NOTIFY THE CONTRACTOR IN WRITING OF THIS ACCEPTANCE.

IF THE INSPECTION REVEALS ANY UNSATISFACTORY WORK, THE CONTRACTOR WILL RESEED AS NECESSARY UNTIL THE WORK IS ACCEPTED BY THE SITE DEVELOPER'S REPRESENTATIVE.

NOTE: SLOPES ON ALL BERMING SHALL NOT EXCEED 4:1.

SECTION 02940 - PRUNING

PART 1 - GENERAL

1.01 WORK INCLUDED
1. FINE PRUNING
2. MEDIUM PRUNING
3. COARSE PRUNING
4. DEBRIS DISPOSAL

1.02 DEFINITIONS:
FINE PRUNING - REMOVAL OF DISEASED, DYING, INTERFERING, OBJECTIONABLE, TWISTED, OBSTRUCTING, HAZARDOUS, WEAK AND DEAD BRANCHES, AS WELL AS SELECTIVE THINNING TO LESSEN WIND RESISTANCE. REMOVAL IS TO INCLUDE THOSE ON MAIN TRUNKS AND THOSE IN THE FOLIAGE AREAS.
MEDIUM PRUNING - REMOVAL OF DISEASED, DYING, INTERFERING, OBJECTIONABLE, TWISTED, OBSTRUCTING, HAZARDOUS, WEAK AND DEAD BRANCHES ON THE MAIN TRUNK AND THOSE WITHIN THE FOLIAGE AREA. BRANCHES UP TO 1" IN DIAMETER MAY REMAIN WHEN NOT PRACTICAL TO REMOVE.
COARSE PRUNING - REMOVAL OF DISEASED, DYING, INTERFERING, OBJECTIONABLE, TWISTED, OBSTRUCTING, HAZARDOUS, WEAK AND DEAD BRANCHESO 2" IN DIAMETER OR GREATER.

1.03 RELATED WORK
CONTRACTOR: MINIMUM 5 YEARS EXPERIENCE AND TRAINED IN TREE CARE STANDARDS ACCEPTED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE

1.04 SOURCE QUALITY CONTROL
PROVIDE CERTIFICATE OF ARBORIST ON STAFF, AS ACCREDITED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE.

1.05 REFERENCE STANDARDS
TREE PRUNING SHALL BE PERFORMED ACCORDING TO ANSI A300, INTERNATIONAL SOCIETY OF ARBORICULTURE, NATIONAL ARBORIST ASSOCIATION

PART 2 - PRODUCTS

2.01 TOOLS
ALL TOOLS USED ON A TREE KNOWN TO CONTAIN AN INFECTIOUS TREE DISEASE SHALL BE PROPERLY DISINFECTED IMMEDIATELY BEFORE AND AFTER COMPLETING WORK ON SUCH TREE. ALL MAJOR PEST PROBLEMS SHALL BE DOCUMENTED AND REPORTED TO LANDSCAPE ARCHITECT

ALL CUTTING TOOLS AND SAWS USED IN TREE PRUNING SHALL BE KEPT SHARPENED TO RESULT IN FINAL CUTS WITH AN UNABRASIVE WOOD SURFACE AND SECURE BARK REMAINIG INTACT. ALL TREES 6 INCHES IN DIAMETER OR LESS SHALL BE PRUNED WITH HAND TOOLS ONLY. CHAIN SAWS WILL NOT BE PERMITTED ON ANY TREES 6 INCHES IN DIAMETER OR LESS

THE USE OF CLIMBING SPURS OR SPIKE SHOES IN THEE ACT OF PRUNING TREES IS PROHIBITED.

PART 3 - EXECUTION

3.01 SPECIFIC TREE PRUNING SPECIFICATION
PREVENT BRANCH AND FOLIAGE INTERFERENCE WITH REQUIREMENTS OF SAFE PUBLIC PASSAGE. OVER STREET CLEARANCE SHALL BE KEPT TO A MINIMU OF 16 FEET ABOVE THE PAVED SURFACE OF THE STREET, 15 FEET ABOVE THE CURB, AND 8 FEET ABOVE THE SURFACE OF A PUBLIC SIDEWALK OR PEDESTRIAN WAY. EXCEPTIONS ARE ALLOWED FOR YOUNG TREES, WHICH WOULD BE IRREPARABLY DAMAGED BY SUCH PRUNING ACTION

REMOVE ALL DEAD AND DYING BRANCHES AND BRANCH STUBS THAT ARE 1/2 INCH DIAMETER OR LARGER

REMOVE ALL BROKEN OR LOOSE BRANCHES
REMOVE ANY LIVE BRANCHES , WHICH INTERFERE WITH THE TREES STRUCTURAL STRENGTH AND HEALTHY DEVELOPMENT, WHICH WILL INCLUDE THE FOLLOWING:
- BRANCHES WHICH RUB AND ABRADE A MORE IMPORTANT BRANCH
- BRANCHES OF A WEAK STRUCTURE WHICH ARE NOT IMPORTANT TO THE FRAMEWORK OF THE TREE
- BRANCHES, WHICH IF ALLOWED TO GROW, WOULD WEDGE APART THE JUNCTION OF MORE IMPORTANT BRANCHES
- BRANCHES FORMING MULTIPLE LEADERS IN A SINGLE LEADER TYPE TREE
- BRANCHES NEAR THE END OF A LIMB WHICH WILL PRODUCE MORE WEIGHT OR OFFER MORE RESISTANCE TO WIND THAN THE LIMBS ARE LIKELY TO SUPPORT
- SELECTIVE REMOVAL OF UNDESIRABLE SUCKER AND SPROUT GROWTH PAYING SPECIFIC ATTENTION NOT TO NICK TO DAMAGE THE SPROUT 'BURL'
- REMOVAL OF BRANCHES WHICH PROJECT TOO FAR OUTWARD BEYOND AN OTHERWISE SYMMETRICAL APPEARANCE

CUT BACK END OF BRANCHES AND REDUCE WEIGHT WHERE EXCESSIVE OVERBURDEN APPEARS LIKELY TO RESULT IN BREAKAGE OF SUPPORTING LIMBS

CLEAR TREES OF SPROUT OR SUCKER GROWTH TO A MINIMUM HEIGHT OF 7 FEET ABOVE GROUND LEVEL. EXCEPTIONS ARE FOR YOUNG TREES, WHICH WOULD BE IRREPARABLY DAMAGED BY SUCH PRUNING ACTION.

OBTAIN A BALANCED APPEARANCE WHEN VIEWED FROM THE SIDE OF THE STREET IMMEDIATELY OPPOSITE THE SITE.

CLEAR ALL BRANCHES THAT INTERFERE WITH TELEPHONE, CABLE, AND OTHER UTILITY LINES WITHIN 1 FOOT OF THE LINES, WHEREVER FEASIBLE.

FLUSH CUTTING, WHERE A CUT IS MADE EVEN WITH THE SURFACE OF THE LIMB, REMOVING THE BRANCH COLLAR AND BARK RIDGE, IS PROHIBITED

3.02 SPECIFIC SHRUB AND GROUNDCOVER PRUNING SPECIFICATION
FORMAL PRUNING, SUCH AS TOPPING, POLLARDING, HAT-RACKING, TOPIARIES OF ANY KIND,OR ANY TYPE OF CUT TO CREATE A GEOMETRIC SHAPE IS PROHIBITED

PRUNING SHALL ONLY BE UNDERTAKEN AFTER BLOOMING PERIODS HAVE BEEN COMPLETED

NO INDIVIDUAL TRIMMING IS ALLOWED UNLESS ADJACENT TO STREETS AND SIDEWALKS WITHIN TWO FEET OF AN EDGE OF A CONTINUOUS PLANT GROUPING

PRUNING SHOULD ONLY BE UNDERTAKEN FOR THE FOLLWING CIRCUMSTANCES:
- REMOVAL OF PLANT MATERIAL THAT COULD POTENTIALLY CREATE A SAFETY HAZARD TO PEDESTRIANS AND VEHICULAR TRAFFIC
- REMOVAL OF MALFORMED, DISEASED, WEAKENED, OR DEAD BRANCHES
- REMOVAL OF CROSSING, TWISTED OR CROWDED BRANCHES
- ENCOURAGE, CONTROL, AND DIRECT PLANT GROWTH

3.03 PUBLIC SAFETY
ALL FIRE HYDRANTS, METER VAULTS, WATER AND GAS SHUT-OFF VALVES AND SIMILAR FACILITIES MUST REMAIN ACCESSIBLE DURING THE COURSE OF WORK. CLEAR AND CONVIENENT PASSAGE MUST BE MAINTAINED TO TRAFFIC WAYS, BUSINESSES, AND RESIDENCES.

3.04 CLEAN UP
KEEP ALL AREAS CLEAN AND ORDERLY DURING AND AFTER EXECUTION OF WORK . ALL LAWN AREAS, PARKWAYS, STREETS, AND SIDEWALKS SHALL BE RAKED AND/OR BLOWN CLEAN AND ALL BRUSH, BRANCHES, AND/OR DEBRIS REMOVED FROM THE SITE.

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REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 45140
ANDREW D. BARON
PRELIMINARY NOT FOR CONSTRUCTION
05.29.12
ARIZONA U.S.A.
EXP. 12-31-12

TerraWest COMMUNITIES

Bridges East
Sonoqui Wash
gilbert, arizona

planting specifications

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revisions
1
2
3

issued for
- ☐ design dev.
- ☐ progress set
- ☐ city submittal
- ☐ bid package
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