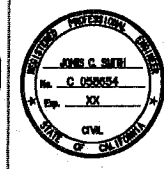


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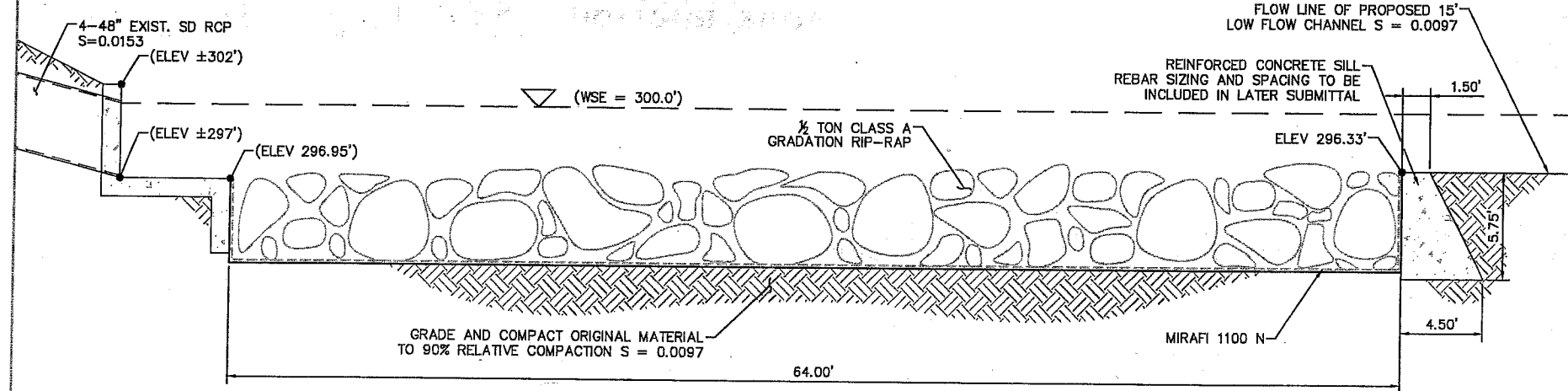
FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

**30% SUBMITTAL**  
**NOT FOR CONSTRUCTION**

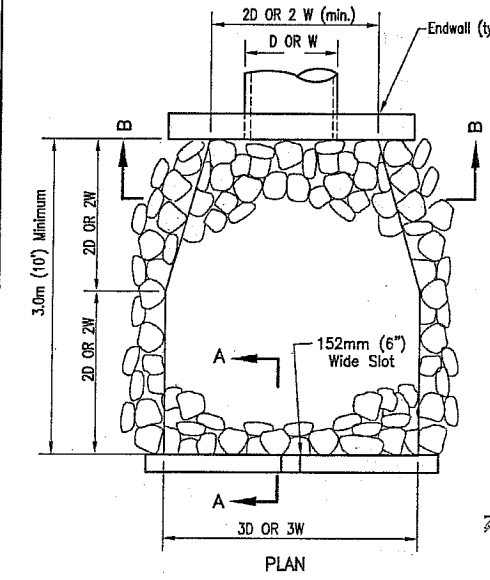


PLANS	BY	DATE
DESIGNED	B. BAIR	
CHECKED	J. SMITH, P.E.	
DATE		

**DUDEK**  
31878 CAMINO CAPISTRANO #200,  
SAN JUAN CAPISTRANO, CA 92675  
949.450.2525  
(NOT RELEASED FOR CONSTRUCTION)  
REGISTERED CIVIL ENGINEER DATE



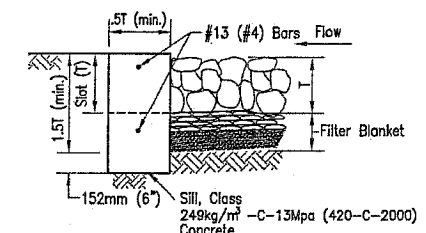
**DETAIL 1: RIP RAP ENERGY DISSIPATOR SECTION**  
NTS



Design Velocity m/sec (ft/sec)*	Rock Classification	T (min)
1.8-3 (6-10)	No. 2 Backing	320mm (1.1ft)
3-3.7 (10-12)	220 kg (1/4 ton)	823mm (2.7ft)
3.7-4.3 (12-14)	450 kg (1/2 ton)	1.1m (3.5ft)
4.3-4.9 (14-16)	900 kg (1 ton)	1.3m (4.4ft)
4.9-5.5 (16-18)	1.8 tonne (2 ton)	1.6m (5.4ft)

\*over 5.5 mps (18 fps) requires special design

D = Pipe Diameter  
W = Bottom Width of Channel



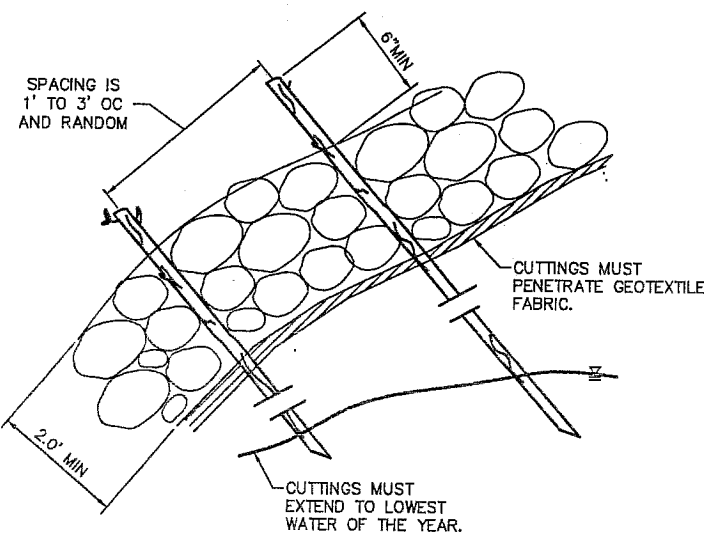
- NOTES**
- Plans shall specify:  
A) Rock Class and thickness (T).  
B) Filter material, number of layers and thickness.
  - Rip rap shall be either quarry stone or broken concrete (if shown on the plans.) Cobbles are not acceptable.
  - Rip rap shall be placed over filter blanket which may be either granular material or filter fabric (woven filter silt film fabric shall not be used).
  - See Regional Supplement Amendments for selection of filter blanket.
  - Rip rap energy dissipators shall be designated as either type 1 or type 2. Type 1 shall be with concrete sill; type 2 shall be without sill.

Revision	By	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		
Add Metric		T. Stanton	03/03		
Rev Rip Rap Table		S. Brady	04/06		

**RIP RAP ENERGY DISSIPATOR**

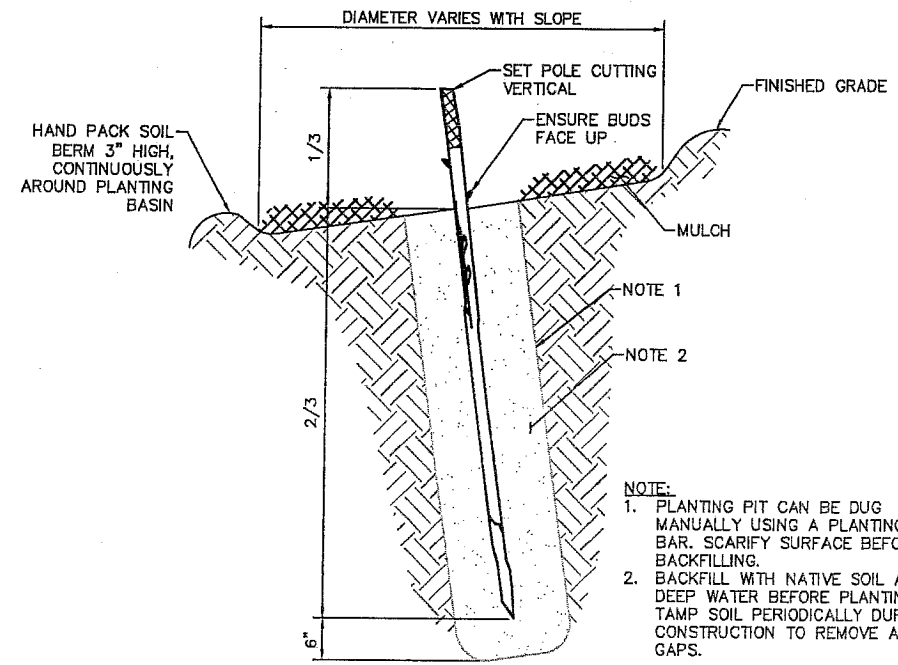
Chairperson R.C.E. 19246 Date  
DRAWING NUMBER **D-40**

**DETAIL 4: RIP RAP ENERGY DISSIPATOR**  
NTS



**NOTE:**  
1. HORIZONTAL SPACING OF WILLOW STAKES SHALL VARY FROM 5' TO 10' OC RANDOMLY.

**DETAIL 2: LOW FLOW WILLOW STAKE IN RIP RAP**  
NTS



- NOTE:**
- PLANTING PIT CAN BE DUG MANUALLY USING A PLANTING BAR. SCARIFY SURFACE BEFORE BACKFILLING.
  - BACKFILL WITH NATIVE SOIL AND DEEP WATER BEFORE PLANTING. TAMP SOIL PERIODICALLY DURING CONSTRUCTION TO REMOVE AIR GAPS.

**DETAIL 3: LOW FLOW WILLOW STAKE IN GRADE**  
NTS

**COUNTY OF SAN DIEGO**  
**DEPARTMENT OF PUBLIC WORKS**  
5500 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295



REVISIONS	BY	APPROVED	DATE

COORDINATE INDEX	210 N 1731 E
CONST. COMPL.	
FIELD REVISIONS	

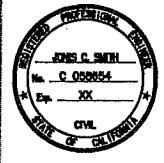
VECTOR HABITAT REMEDIATION  
In the Vicinity of Antigua Blvd.  
CIVIL DETAILS

SCALE: HOR. NONE VERT. NONE
WA. R.S. -
CIVIL PLAN
SHEET 08 OF 08 SHEETS

P:\01-Engineering\HRS\0369 Antigua Blvd. Drainage\08-Design\CAO\Improvement Plans\C10 - Civil Details.dwg Wednesday, Apr. 20 2016 12:06pm job:rian

FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

**30% SUBMITTAL**  
**NOT FOR CONSTRUCTION**

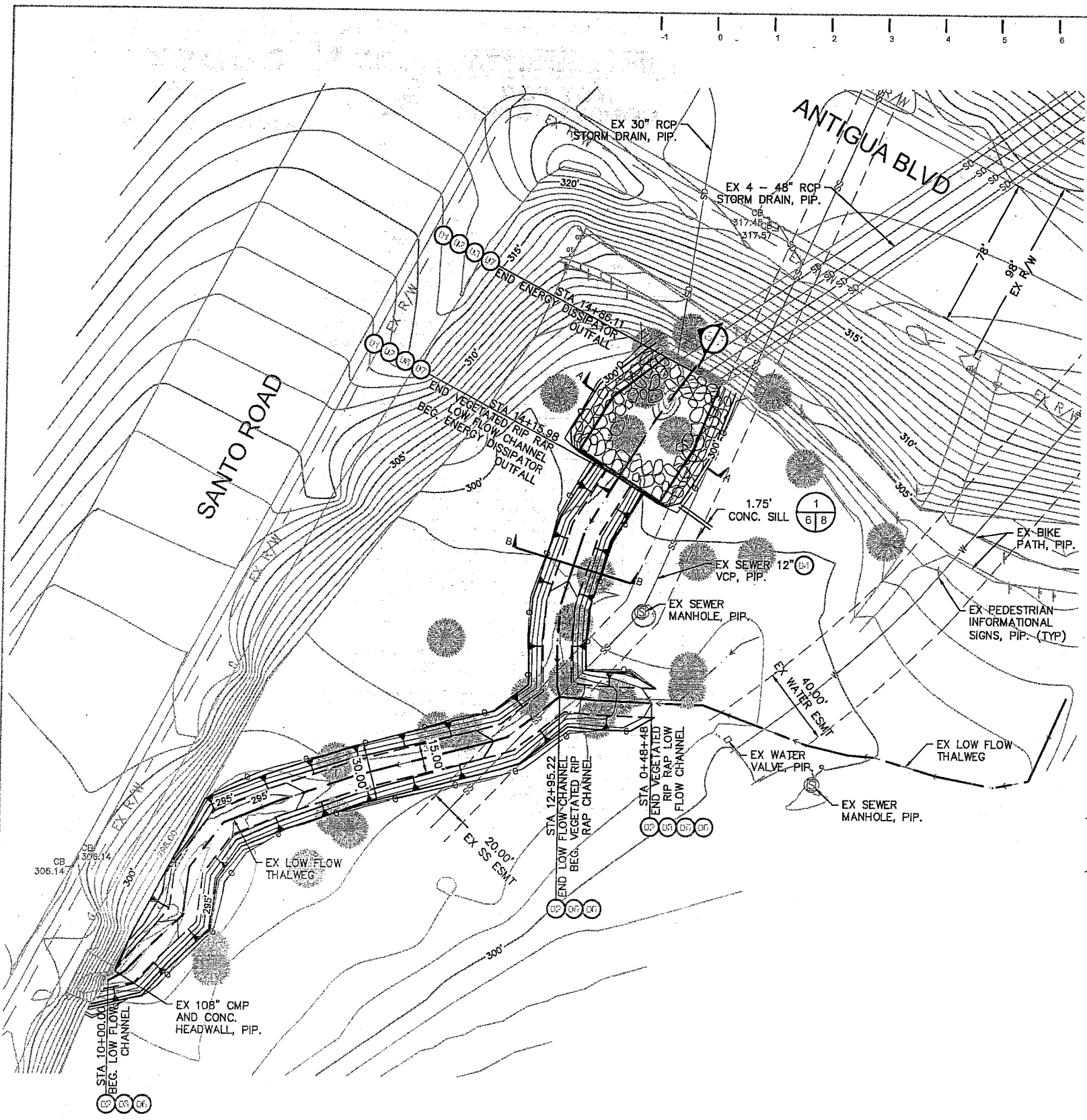
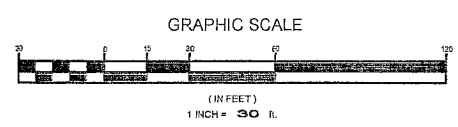
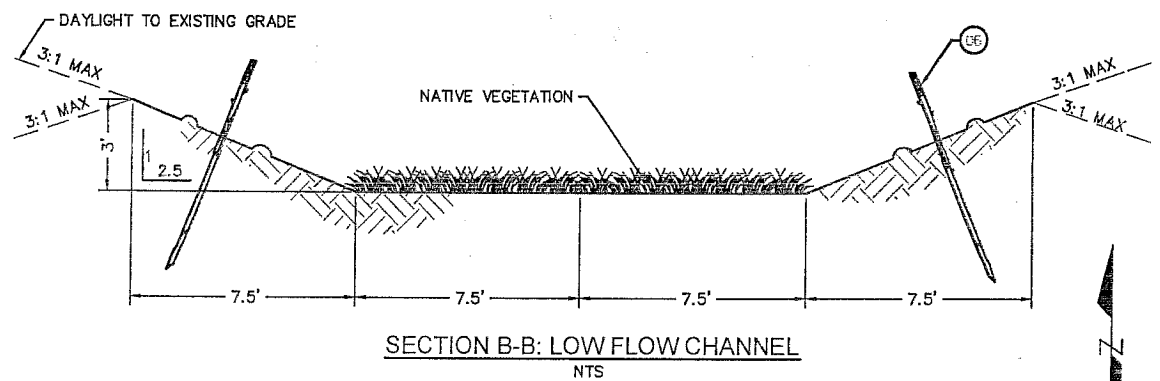
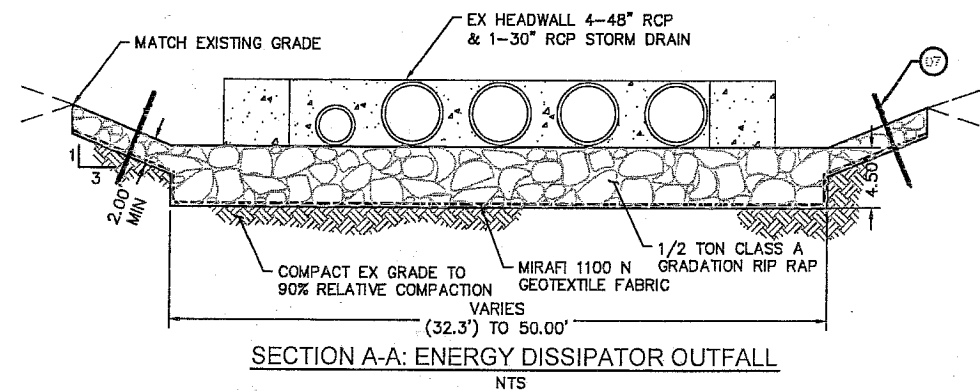


PLANS	BY	DATE
DESIGNED	B. BAIR	
CHECKED	J. SMITH, P.E.	
DELIMITED		

**DUDEK**  
31678 CAMINO CAPISTRANO #200,  
SAN JUAN CAPISTRANO, CA 92675  
949.450.2525  
(NOT RELEASED FOR CONSTRUCTION)  
REGISTERED CIVIL ENGINEER DATE

**CONSTRUCTION NOTES**

- 01: FURNISH AND INSTALL 1/2 TON, CLASS A GRADATION, RIP RAP ENERGY DISSIPATOR PER DETAIL 4, SHEET C-10.
- 02: DAYLIGHT TO EXISTING GRADE AT A MINIMUM SLOPE OF 3:1 (H:V).
- 03: CONTRACTOR TO MAINTAIN EXISTING FLOW PATTERN AT ALL POINTS OF CONNECTION, ENSURING POSITIVE DRAINAGE AND NO PONDING OCCUR.
- 04: CONTRACTOR TO FIELD VERIFY THE LOCATION AND DEPTH OF EXISTING 12" SANITARY SEWER LINE. MUST MAINTAIN 12" OF COVER OVER EXISTING PIPE, UNLESS APPROVED BY ENGINEER.
- 05: INSTALL LOW FLOW CHANNEL PER SECTION A-A. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE, ENSURING NO PONDING ALONG FLOW PATH.
- 06: FURNISH AND INSTALL WILLOW STAKES PER DETAIL 2, SHEET C-10.
- 07: FURNISH AND INSTALL WILLOW STAKES IN RIP RAP PER DETAIL 3, SHEET C-10.



**COUNTY OF SAN DIEGO**  
**DEPARTMENT OF PUBLIC WORKS**  
5500 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295



REVISIONS	BY	APPROVED	DATE

VECTOR HABITAT REMEDIATION  
In the Vicinity of Antigua Blvd.  
IMPROVEMENT PLAN - SOUTH

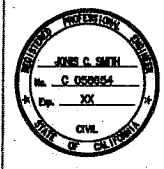
COORDINATE INDEX	SCALE HOR. 1"=30'	VERT. NONE
210 N 1731 E	W.A.	R.S.
CONST. COMPL.	CIVIL PLAN	
FIELD REVISIONS	SHEET 06 OF 06 SHEETS	

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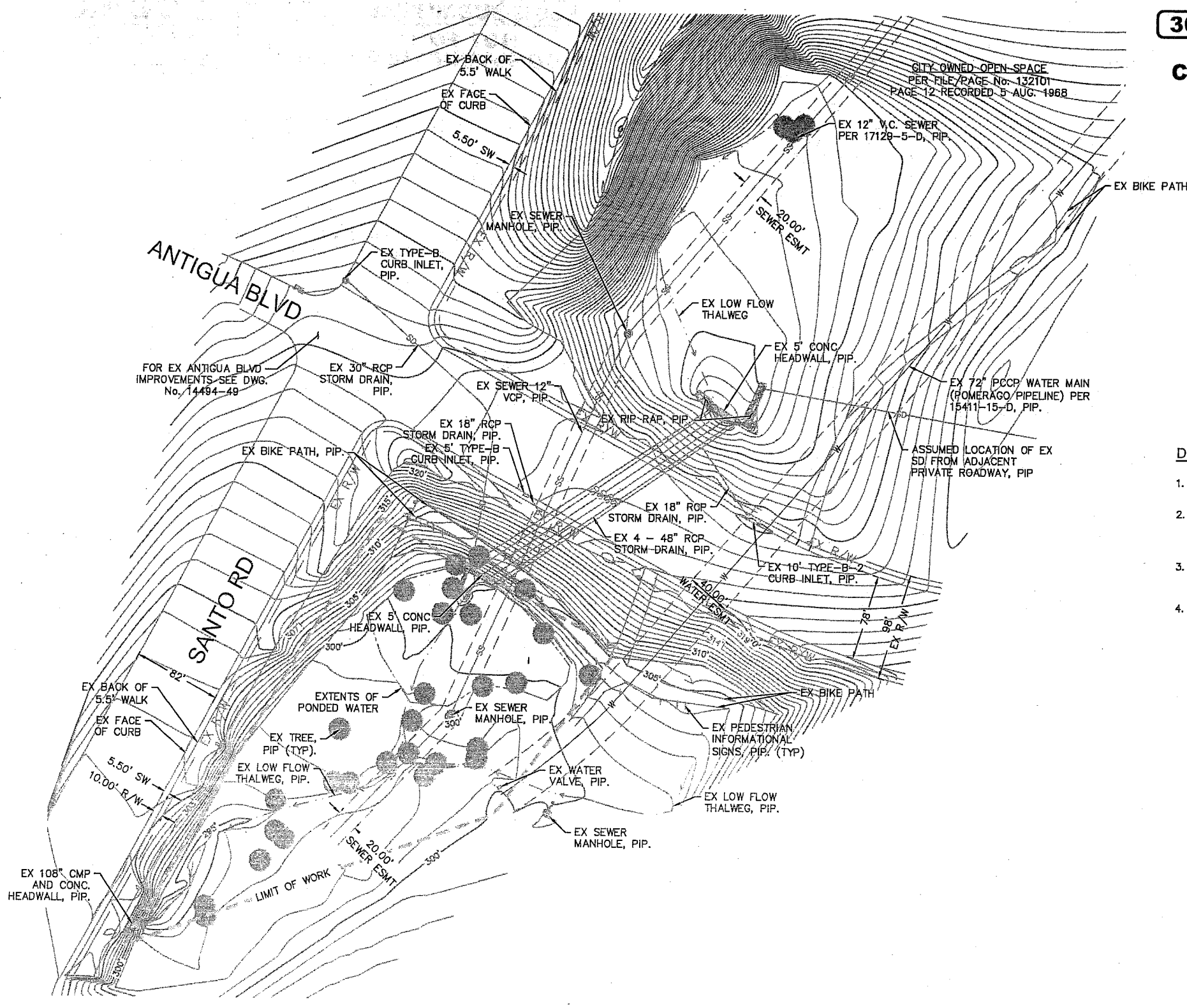
FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

**30% SUBMITTAL**  
**NOT FOR CONSTRUCTION**



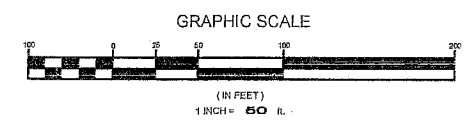
PLANS	BY	DATE
DESIGNED	B. BAIR	
CHECKED	J. SMITH, P.E.	
DELEGATED		

**DUDEK**  
31878 CAMINO CAPISTRANO #200,  
SAN JUAN CAPISTRANO, CA 92075  
949.450.2625  
(NOT RELEASED FOR CONSTRUCTION)  
REGISTERED CIVIL ENGINEER DATE



**DEMOLITION NOTES**

1. CONTRACTOR TO DEWATER AS NECESSARY THE CONSTRUCTION AREA, PRIOR TO INSTALLING RIP RAP APRON.
2. CONTRACTOR SHALL PROTECT IN PLACE THE EXISTING HEADWALL STRUCTURE AND SHORE AS NECESSARY TO PREVENT SLOPE FAILURE, SLIDING OF THE STRUCTURE, AND DAMAGE TO THE HEADWALL STRUCTURE AND STORM DRAINS.
3. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND DEPTH OF EXISTING UTILITIES AND APPURTENANCES, PRIOR TO EXCAVATION OF EXISTING MATERIAL.
4. CONTRACTOR SHALL CLEAR AND GRUB WITHIN PROJECT LIMITS OF WORK ONLY AS NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS AND IN COMPLIANCE WITH PERMIT REQUIREMENTS.



**COUNTY OF SAN DIEGO**  
**DEPARTMENT OF PUBLIC WORKS**  
5500 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295



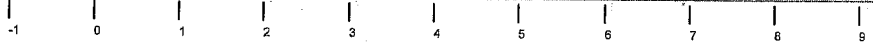
REVISIONS	BY	APPROVED	DATE

COORDINATE INDEX	210	N	1731	E
CONST. COMPL.				
FIELD REVISIONS				

**VECTOR HABITAT REMEDIATION**  
In the Vicinity of Antigua Blvd.  
**EXISTING CONDITIONS AND DEMOLITION**

SCALE HOR	1"=50'	VERT	NONE
W.A.		F.S.	
<b>CIVIL PLAN</b>			
SHEET	04	OF	05 SHEETS

F:\01\Engineering\NRS\9369 Antigua Blvd. Drainage\06-Design\CAD\Improvement Plans\04 - Existing Condition and Demolition.dwg Wednesday, Apr. 20, 2016 12:02pm John



FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

**30% SUBMITTAL**  
**NOT FOR CONSTRUCTION**

PLANS	BY	DATE
DESIGNED	B. BAIR	
CHECKED	J. SMITH, P.E.	
DELINEATED		

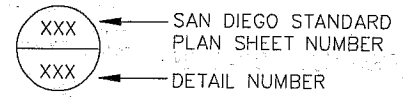
**DUDEK**  
31878 CAMINO CAPISTRANO #200,  
SAN JUAN CAPISTRANO, CA 92675  
949.450.2826  
(NOT RELEASED FOR CONSTRUCTION)  
REGISTERED CIVIL ENGINEER

**PROJECT SPECIFICATIONS & STANDARD PLANS**

**PROJECT STANDARD SPECIFICATIONS**  
CALTRANS STANDARD SPECIFICATIONS, MAY 2006

**PROJECT STANDARD PLANS**  
THE CITY SAN DIEGO STANDARD DRAWINGS, 2016 EDITION

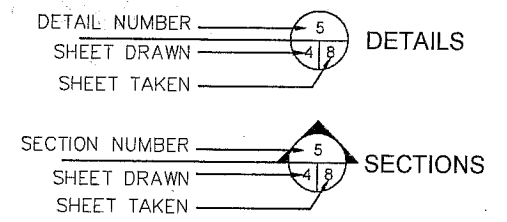
**STORM DRAIN IMPROVEMENTS**  
SDD-104 RIP RAP ENERGY DISSIPATOR



**SYMBOLS**

- ⊙ AT
- % PERCENT
- ' FEET OR MINUTES
- " INCHES OR SECONDS
- / PER OR (BETWEEN WORDS)
- ° DEGREE
- ∅ DIAMETER
- ▭ PROPERTY LINE
- ⊕ CENTERLINE
- ⊖ FLOW LINE

**MISC. LEGEND**



**ABBREVIATIONS**

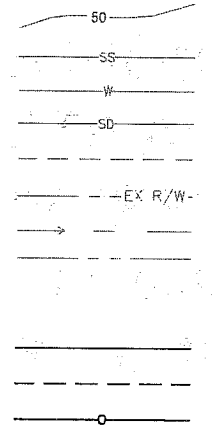
AC	ASPHALT CONCRETE	MAX	MAXIMUM
AGG	AGGREGATES	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	OC	ON CENTER
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION	OD	OUTSIDE DIAMETER
CF	CUBIC FOOT	PCC	PORTLAND CEMENT CONCRETE
CFS	CUBIC FOOT PER SECOND	PIP	PROTECT IN-PLACE
CL	CENTER LINE	PL	PROPERTY LINE OR PLACE
CL R	CLEAR	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	R	RADIUS
CONST	CONSTRUCT, CONSTRUCTION	R/W	RIGHT OF WAY
CY	CUBIC YARD	REINF	REINFORCED OR REINFORCEMENT
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DWG	DRAWING	S	SLOPE OR SECOND
EA.	EACH	SD	STORM DRAIN
ELEV	ELEVATION	SQFT	SQUARE FOOT
EX	EXISTING	SS	SANITARY SEWER
EXP	EXPANSION	STD	STANDARD
FG	FINISHED GRADE	SW	SIDEWALK
FL	FLOW LINE	TOT	TOTAL
H	HIGH OR HEIGHT	TYP	TYPICAL
HORIZ	HORIZONTAL	VERT	VERTICAL
		W	WATER, WIDER OR WIDTH
		W/	WITH

**LEGEND**

**EXISTING CONDITIONS**

- EXISTING CONTOURS
- EXISTING SEWER PIPE
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EXISTING UTILITY EASEMENT
- RIGHT OF WAY
- EXISTING THALWEG
- EXTENTS OF RIPARIAN PONDING

**SYMBOL**



**NEW IMPROVEMENTS**

- TOP OF SLOPE
- TOE OF SLOPE
- DAYLIGHT TO EXISTING

**SURVEY CONTROL**

**BASIS OF COORDINATES**

THE BASIS OF COORDINATES FOR THIS DRAWING IS A WELL MONUMENT IN THE CENTER OF SANTO ROAD APPROXIMATELY 386 FEET IN THE NORTH EASTERLY DIRECTION FROM THE INTERSECTION OF SANTO ROAD AND ANTIGUA BOULEVARD. THE COORDINATES ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (EPOCH 2015.25), CALIFORNIA COORDINATE SYSTEM, ZONE 6, US SURVEY FEET.  
N. 1884360.34 FT  
E. 6300309.32 FT

**BASIS OF BEARINGS**

THE BASIS OF BEARINGS FOR THIS DRAWING IS GEODETIC NORTH AS DERIVED FROM NETWORK RTK SMARTNET, LEICA GEOSYSTEMS. THE GRID BEARING MEASURED BETWEEN THE TWO WELL MONUMENTS IN SANTO ROAD, LOCATED APPROXIMATELY 386 FT AND 2,103 FT RESPECTIVELY IN THE NORTH EASTERLY DIRECTION FROM THE INTERSECTION OF SANTO ROAD AND ANTIGUA BOULEVARD IS:  
NORTH 28°16'04.43"EAST

**BASIS OF ELEVATIONS**

THE BASIS OF ELEVATIONS FOR THIS DRAWING IS FROM THE CITY OF SAN DIEGO VERTICAL CONTROL BENCHBOOK, PAGE 561 OF 674, A BRASS PLUG LOCATED AT SOUTH-WEST CORNER OF CLAIRMONT MESA BOULEVARD AND SANTO ROAD.  
ELEVATION = 328.85 FEET (MSL)

**COUNTY OF SAN DIEGO**  
**DEPARTMENT OF PUBLIC WORKS**  
5600 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295



REVISIONS	BY	APPROVED	DATE

VECTOR HABITAT REMEDIATION  
In the Vicinity of Antigua Blvd.  
GENERAL REFERENCES

SCALE: HOR. NONE VERT. NONE
WA _____ R.S. _____
CIVIL PLAN
SHEET 02 OF 08 SHEETS

P:\01-Engineering\HRS\9369 Antigua Blvd. Drainage\06-Design\CAO\Improvement Plans\CO2 - General Notes and References - 9369.dwg Wednesday, Apr. 20 2016 12:00pm - jobrien