FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
DELINEATED		

RICK ENGINEERING
5620 FRIARS RD.
SAN DIEGO, CA. 92110
619-291-0707

REGISTERED PROFESSIONAL ENGINEER — John D. Goddard Jr. — No. 33037 — Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

REGISTERED CIVIL ENGINEER — DATE 4-17-06

COUNTY OF SAN DIEGO, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

PLANS FOR CONSTRUCTION OF UNDERGROUND DETENTION BASIN AT McCLELLAN-PALOMAR AIRPORT In The Vicinity of Carlsbad

INDEX OF SHEETS

No.	Description
1	TITLE SHEET
2	TYPICAL SECTIONS/ABBREVIATIONS
3	EX. CONDITIONS/CONSTRAINTS
4	PLAN & PROFILE
5	DETENTION VAULT DETAILS / NOTES
6	DETENTION VAULT DETAILS / NOTES
7	DETENTION VAULT DETAILS / NOTES
8	HYDRODYNAMIC SEPARATOR DETAILS / NOTES

REGIONAL STANDARD DRAWINGS, April 2003

D-9
D-11A
D-11B
D-60
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M-1
M-3
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S-4
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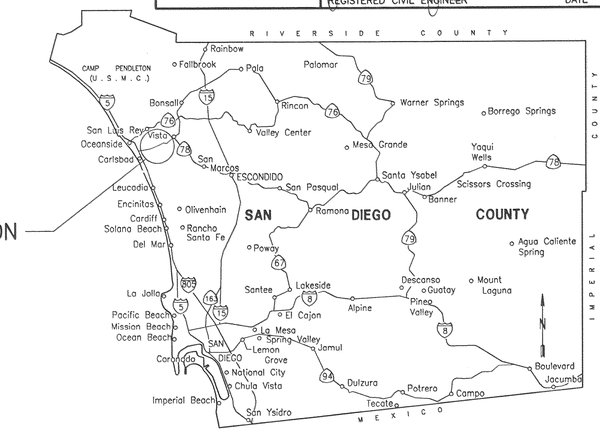
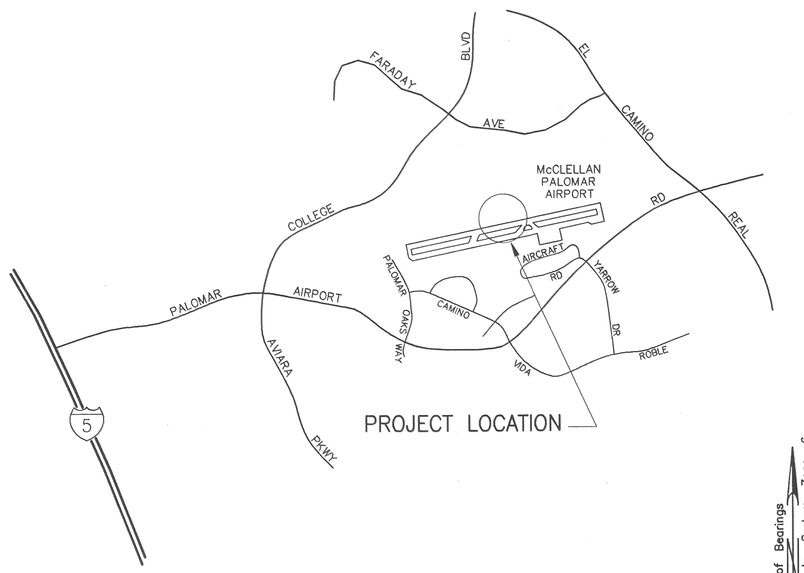




VICINITY MAP
NO SCALE

Basis of Bearings
California Coordinate System Zone 6
NAD 83

GENERAL NOTES:

ATTENTION IS DIRECTED TO THE POSSIBLE EXISTENCE OF UNDERGROUND UTILITY FACILITIES NOT KNOWN OR IN A LOCATION DIFFERENT FROM THAT WHICH IS SHOWN ON THE PLANS OR IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO PERFORMING WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICE. FORTY-EIGHT HOURS BEFORE EXCAVATING, THE CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND FACILITIES BY CONTACTING UNDERGROUND SERVICE ALERT AT TELEPHONE 1-800-422-4133.

OPERATORS OF GRAVITY SEWER SYSTEMS AND CERTAIN OTHER UTILITIES, WHO ARE NOT MEMBERS OF UNDERGROUND SERVICE ALERT, MUST BE INDIVIDUALLY CONTACTED.

RECORD DRAWINGS
S. M. L. — 04/28/06 DATE
SARITA LEMONS, P.E.
RCE 63255 EXP 06/30/06
THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS.

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
5555 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295

RECOMMENDED BY: M. Khoury — DATE 4/20/06
DATE 4/20/06
APPROVED BY: Mohamad — DATE 4/24/06
MOHAMAD FAKHRRIDDINE, COUNTY ENGINEER

REVISIONS	BY	APPROVED	DATE
1 RECORD DRAWINGS	RLG	SML	4-06

COORDINATE INDEX: 350 N. 1683 E.
CONST. COMPL.
FIELD REVISIONS

UNDERGROUND DETENTION BASIN AT McCLELLAN-PALOMAR AIRPORT
In the Vicinity of Carlsbad
TITLE SHEET

SCALE: HOR. N/A VERT. N/A
W.A. – R.S. –
SHEET 1 OF 8

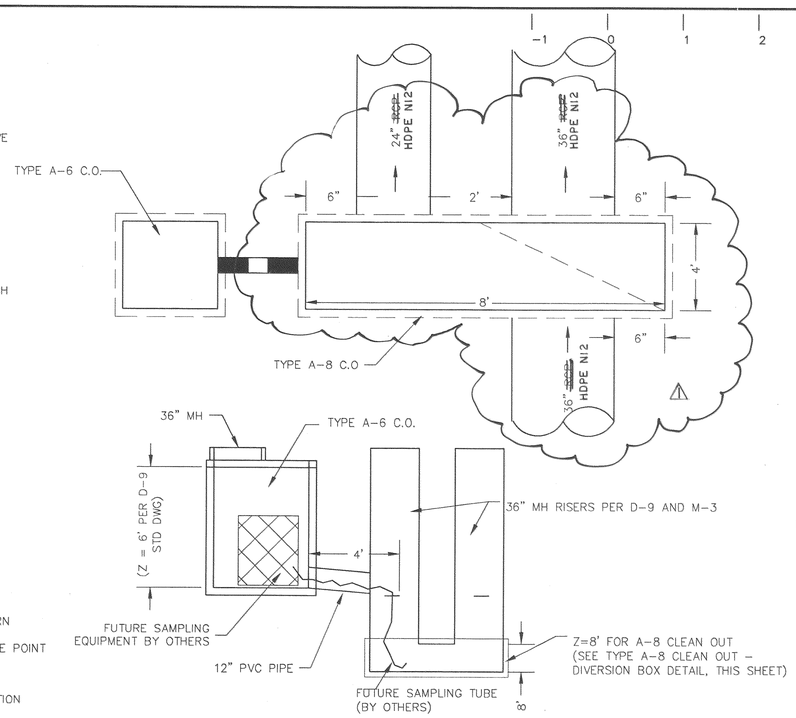
ABBREVIATIONS

ABBREVIATION	DESCRIPTION
&	AND
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
BC	BEGINNING OF CURVE
BVC	BEGINNING OF VERTICAL CURVE
C&G	CURB AND GUTTER
CFS	CUBIC FEET PER SECOND
CI	CAST IRON PIPE
CIP	CAST-IN-PLACE
C	CENTERLINE
CL	CLASS
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCT
CONST'N	CONSTRUCTION
CSP	CORRUGATED STEEL PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CTSP	CALTRANS STANDARD PLANS
DE	DEAD END
Δ	DELTA
DRAIN	DRAINAGE
DWY	DRIVEWAY
EC	END OF CURVE
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EVC	END OF VERTICAL CURVE
EXIST	EXISTING
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
HH	HANDHOLE
HWY	HIGHWAY
IE	INVERT ELEVATION
L	ARC LENGTH
LF	LINEAR FOOT
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
NAD	NORTH AMERICAN DATUM
OG	ORIGINAL GROUND
OHD	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PCR	POINT OF CURB/CURVE RETURN
PED	PEDESTRIAN
PI	POINT OF INTERSECTION/ANGLE POINT
PL	PLACE
P	PROPERTY LINE
PROF	PROFILE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
Q	RATE OF FLOW
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RS	ROAD SURVEY
RSD	REGIONAL STANDARD DRAWING
RT	RIGHT
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SDCDS	SAN DIEGO COUNTY DESIGN STANDARD
S/W	SIDEWALK
S	SLOPE
ST	STREET
STA	STATION
SWR	SANITARY SEWER
T	TANGENT LENGTH
TC	TOP OF CURB
TELE	TELEPHONE
TW	TOP OF WALL
USC&GS	UNITED STATES COASTAL & GEODETIC SURVEY
VC	VERTICAL CURVE LENGTH
VCP	VITRIFIED CLAY PIPE
WTR	WATER
HDPE	HIGH DENSITY POLYETHYLENE ⚠1

HORIZONTAL CONTROL & BENCHMARKS

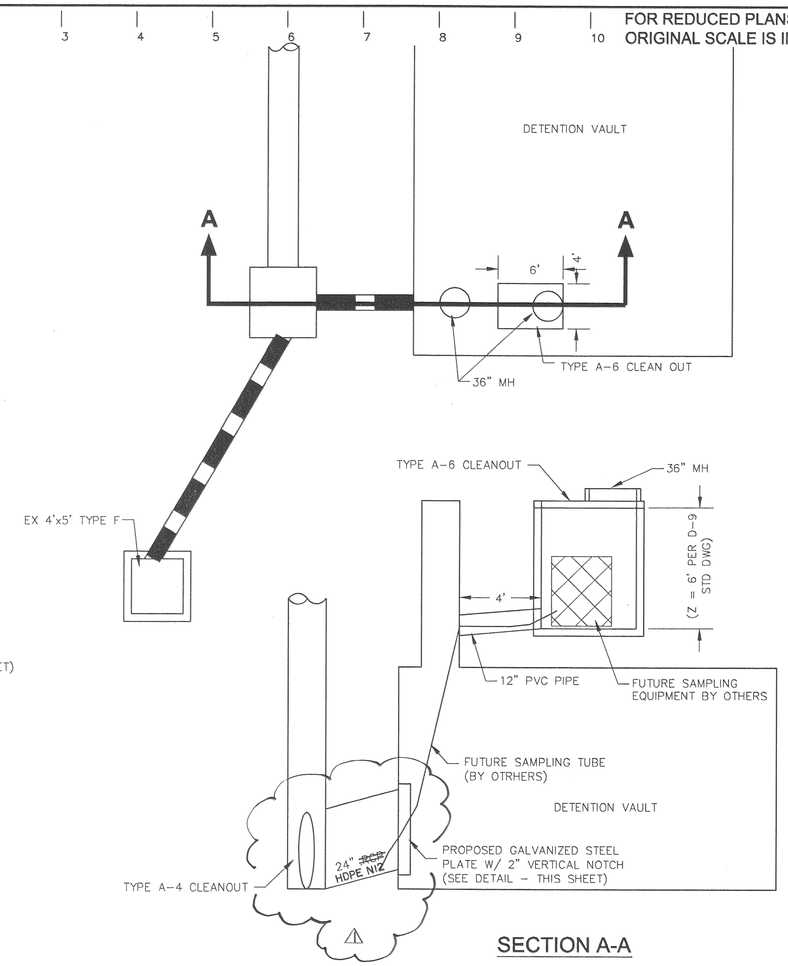
FOR HORIZONTAL CONTROL AND BENCHMARK INFORMATION, REFER TO SHEET 4 OF 63 ON THE McCLELLAN–PALOMAR AIRPORT RUNWAY SAFETY AREA – PHASE 1 PLANS.'

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES



STORMWATER SAMPLING INFLOW LOCATION - TYPE A6 CLEAN OUT

(NO SCALE)



SECTION A-A

STORMWATER SAMPLING OUTFLOW LOCATION - TYPE A6 CLEAN OUT

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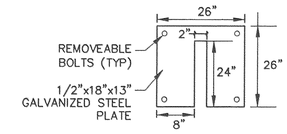
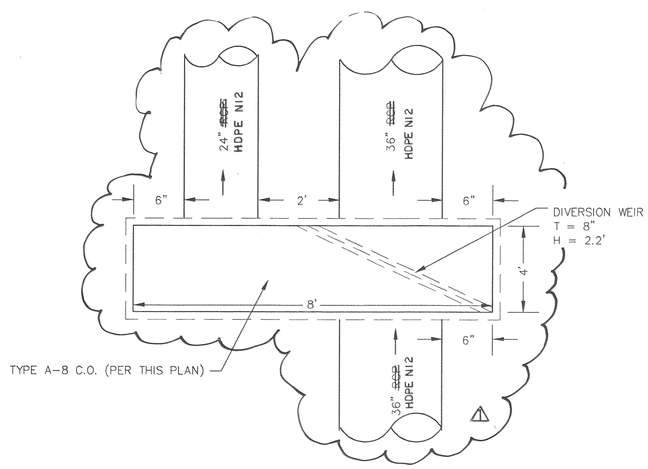


LOW-FLOW RESTRICTOR PLATE (GALVANIZED STEEL PLATE)



TYPE A-8 CLEAN OUT - DIVERSION BOX DETAIL

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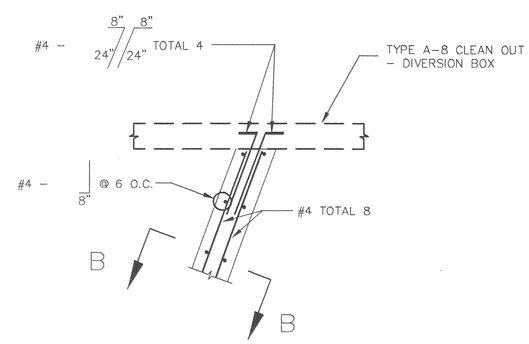
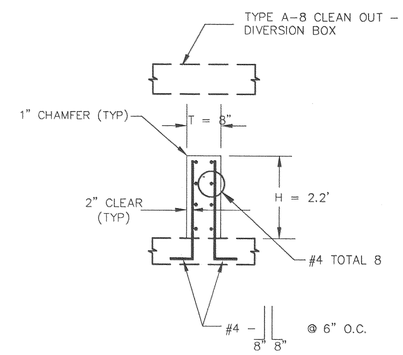


DIVERSION WEIR DETAIL

(NO SCALE)



SECTION B-B

(NO SCALE)

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
DELINEATED		

REGISTERED PROFESSIONAL ENGINEER — John D. Goodbread — No. 33037 — Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

RICK ENGINEERING
5620 FRIARS RD.
SAN DIEGO, CA. 92110
619-291-0707

REGISTERED CIVIL ENGINEER — DATE 4-17-06

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
5555 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295

RICK ENGINEERING COMPANY — 5620 FRIARS ROAD, SAN DIEGO, CA 92110, 619.291.0707, (FAX)619.291.4165 — rickengineering.com — San Diego, Riverside, Sacramento, Orange, Phoenix, Tucson

REVISIONS	BY	APPROVED	DATE
⚠1 RECORD DRAWINGS	RLG	SML	4-06

COORDINATE INDEX: 350 N. 1683 E.
CONST. COMPL.
FIELD REVISIONS

UNDERGROUND DETENTION BASIN AT McCLELLAN–PALOMAR AIRPORT
In the Vicinity of Carlsbad

TYPICAL SECTIONS/ ABBREVIATIONS

SCALE: HOR. N/A VERT. N/A
W.A. – R.S. –
SHEET 2 OF 8

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
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CHECKED	CARL HEWINGS	
DELINEATED		

REGISTERED PROFESSIONAL ENGINEER
John D. Goddard Jr.
No. 33037
Exp. 6/30/06
CIVIL
STATE OF CALIFORNIA

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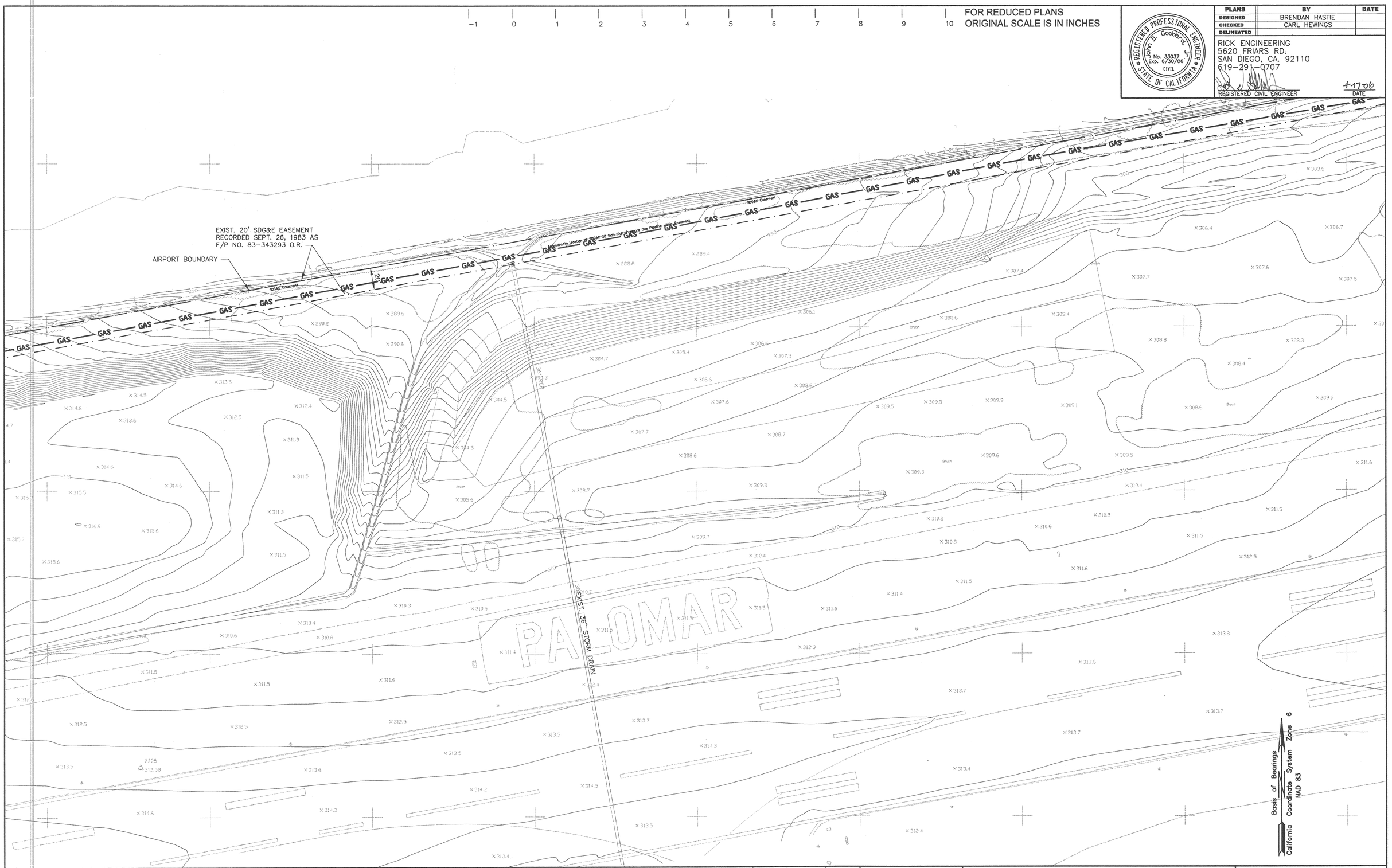

COUNTY OF SAN DIEGO
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REVISIONS	BY	APPROVED	DATE
1 RECORD DRAWINGS	RLG	SML	4-06

COORDINATE INDEX
350 N. 1683 E.
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UNDERGROUND DETENTION BASIN AT
McCLELLAN-PALOMAR AIRPORT
In the Vicinity of Carlsbad

EX. CONDITIONS / CONSTRAINTS

SCALE: HOR. 1"=40' VERT. N/A
W.A. – R.S. –
SHEET 3 OF 8

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
DELINEATED		

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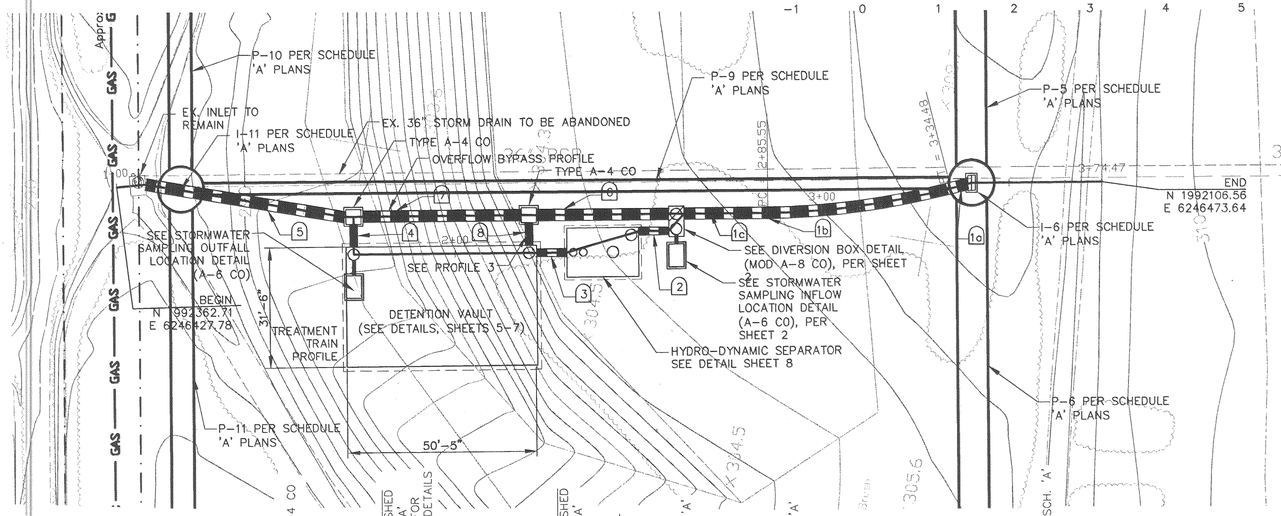
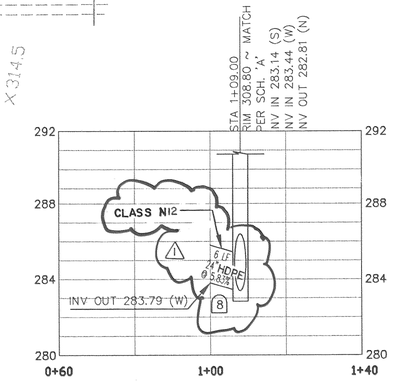
REGISTERED CIVIL ENGINEER — DATE 4-17-06



PLAN VIEW

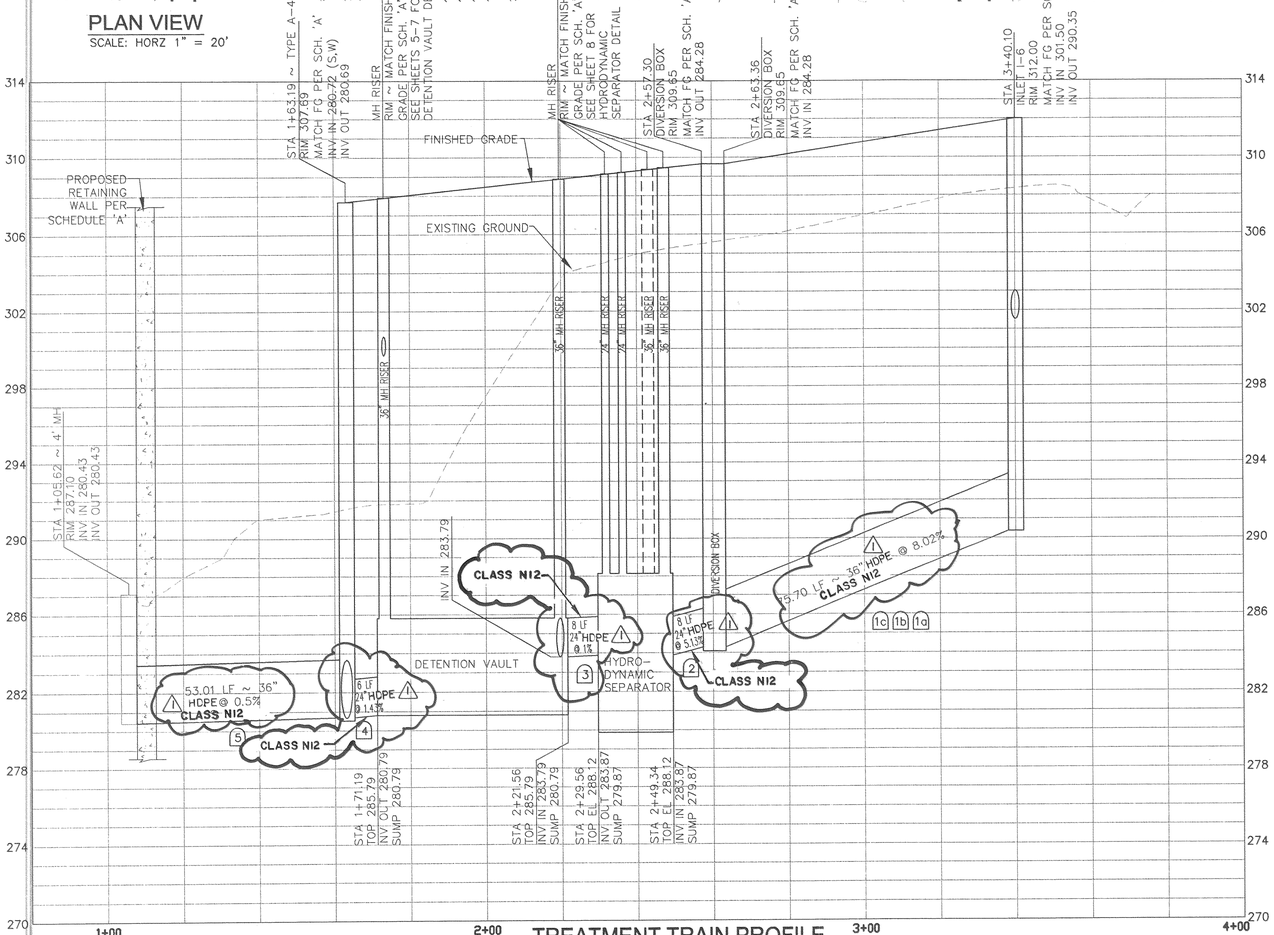
SCALE: HORZ 1" = 20'

STORM DRAIN DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1a	N24°26'10"W		4.59'	36" HDPE N12 △1
1b	Δ14°00'55"	200.00'	48.92'	36"
1c	N10°25'15"W		22.19'	36"
2	N10°25'13"W		8.00'	24"
3	N10°25'13"W		8.00'	24"
△1 4	N79°34'47"E	53.01'	6.00'	24"
5	N00°32'22"W		53.01'	36"
△1 6	N10°25'13"W	41.88'	35.00'	36"
7	N10°25'13"W		41.88'	36"
8	N79°34'47"E		6.00'	24"



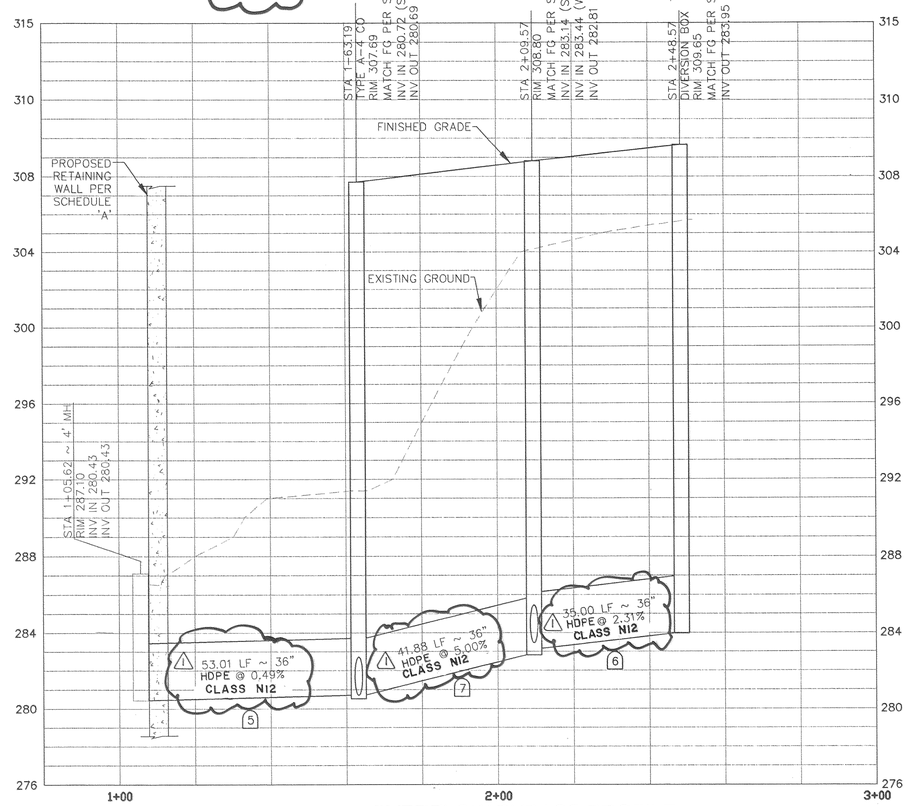
PROFILE 3

SCALE: HORZ 1' = 20'
VERT 1' = 4'



TREATMENT TRAIN PROFILE

SCALE: HORZ 1' = 20'
VERT 1' = 4'



OVERFLOW BYPASS PROFILE

SCALE: HORZ 1' = 20'
VERT 1' = 4'

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
5555 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295

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REVISIONS	BY	APPROVED	DATE
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COORDINATE INDEX: 350 N. 1683 E.
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UNDERGROUND DETENTION BASIN AT
McCLELLAN–PALOMAR AIRPORT
In the Vicinity of Carlsbad

PLAN & PROFILE

SCALE: HOR. 1'=20' VERT. 1'=4'
W.A. – R.S. –
SHEET 4 OF 8

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
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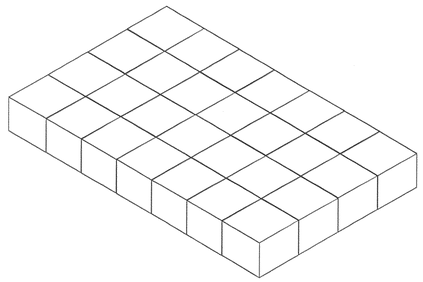
REGISTERED PROFESSIONAL ENGINEER — Kevin D. Goodbread — No. 33037 — Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

RICK ENGINEERING
5620 FRIARS RD.
SAN DIEGO, CA. 92110
619-291-0707

REGISTERED CIVIL ENGINEER — DATE 4-17-06

NOTE:

THIS SHEET IS PROVIDED BY THE VENDOR FOR INFORMATION ONLY. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SIGNED AND STAMPED BY A CALIFORNIA REGISTERED CIVIL ENGINEER.



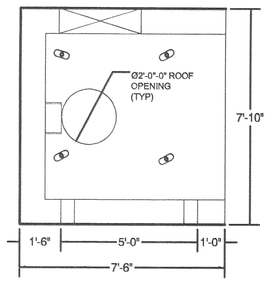
SHEET 1

RECOMMENDED ACCESS OPENING SPECIFICATION

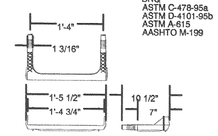
1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM RANGES FROM 2'-0" TO 3'-0" IN DIAMETER. HOWEVER, STORMTRAP IS CAPABLE OF HAVING OPENINGS LARGER THAN 3'-0" IN DIAMETER.
2. PLASTIC COASTED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC (SEE DETAIL TO THE RIGHT) ARE TO BE PLACED INSIDE ANY UNIT WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE UNIT IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP UNITS. ALL ENSUING STEPS SHALL BE PLACE WITH A MINIMUM DISTANCE OF 1'-4" BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE UNIT.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO COINCIDE WITH THE ACCESS OPENING OR THE CENTER OF GRAVITY OF THE UNIT AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY NOT INTERFERE WITH WITH INLET AND/OR OUTLET OPENINGS.
5. STORMTRAP ACCESS OPENINGS MAY NOT EXCEED A DISTANCE OF 50'-0" INBETWEEN WITHOUT A CONSECUTIVE CORRESPONDING ACCESS OPENING.

RECOMMENDED PIPE OPENING SPECIFICATION

1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
2. MINIMUM DISTANCE FROM THE BASE OF THE ROOF SLAB SHALL BE NO LESS THAN 1'-0".
3. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE IN ALL DIRECTIONS FROM THE EDGE OF THE STORMTRAP UNITS.
4. OPENING SIZE SHALL NOT EXCEED Ø26" OR 1'-6" LESS THEN THE INSIDE HEIGHT OF THE UNIT. EXAMPLE: 3'-0" UNIT MAXIMUM OPENING = Ø1'-6".
5. OPENINGS ARE NOT LIMITED TO THE ABOVE PARAMETERS BUT ARE RECOMMENDED. ANY OPENING NEEDED THAT DOES NOT FIT THE CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.

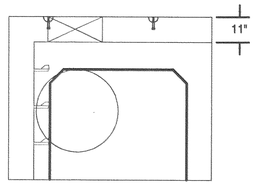


PLAN VIEW

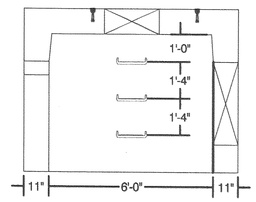


MEETS:
OPSS 1351.08.02
BNQ
ASTM C-478-95a
ASTM D-4101-95b
ASTM A-615
AASHTO M-199

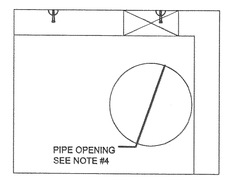
STAIR DETAIL



ELEVATION VIEW



SIDE VIEW



OUTSIDE WALL

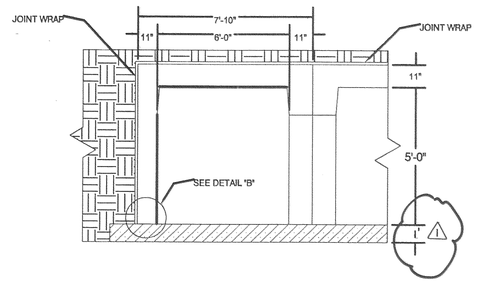
SHEET 2.2

STORMTRAP INSTALLATION SPECIFICATION

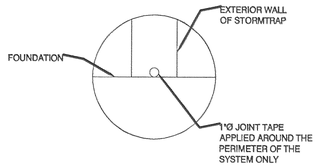
1. STORMTRAP MODULES SHALL BE MANUFACTURED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE OPENINGS.
2. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891-90, STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRE-CAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
   - A. SPECIFICATIONS ON THE ENGINEER'S DRAWINGS SHALL TAKE PRECEDENT.
   - B. STORMTRAP MODULES SHALL BE PLACED ON LEVEL FOUNDATION (SEE DETAIL "A") WITH A 1'-0" OVERHANG ON ALL SIDES THAT SHALL BE POURED IN A PLACE BY INSTALLING CONTRACTOR.
   - C. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/4". IF THE SPACE EXCEEDS 3/4", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
   - D. THE PERIMETER HORIZONTAL JOINT OF THE STORMTRAP MODULES SHALL BE SEALED TO THE FOOTINGS WITH PREFORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891-90, 8.8 AND 8.12.
   - E. ALL EXTERIOR JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 1'-0" EXTERNAL SEALING BANDS CONFORMING TO ASTM C891-90 AND SHALL BE 1'-0" RUBBER BUTYL SEALANT AS APPROVED BY STORMTRAP. THE JOINT WRAP BUTYL EXTERIOR WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
     1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
     2. A RELEASE PAPER PROTECTS THE BUTYL SEALANT SIDE OF THE JOINT WRAP. WRAP THE BUTYL TAPE (BUTYL SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
   - F. THE FILL PLACED AROUND THE STORMTRAP UNITS MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES BOUNDING OR WITHIN THE AREA TO BE BACK FILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGE ACTION. (REFERENCE ARTICLE 502.10 I.D.O.T. S.S.R.B.C.) CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACK FILL PROCESS.

STORMTRAP SPECIFICATION

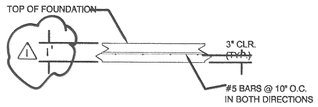
1. CONCRETE: 6,000 p.s.i. @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRADE 60.
3. DESIGN CRITERIA:
   - A. ASTM C858
   - B. LOADING PER ASTM C857, INCLUDING:
     1. TOTAL COVER: MIN. 6" MAX. 20'-0"
     2. CONCRETE CHAMBER DESIGNED FOR AASHTO HS-20 WHEEL LOAD & APPLICABLE IMPACT.
     3. VERTICAL & LATERAL SOIL PRESSURES DETERMINED USING - GROUNDWATER AT 3'-0" BELOW GRADE. - REINFORCING COVER PER ACI 318.
4. WATERTIGHT SOLUTION: MEMBRANE PLACED IN PCC SLAB AND WRAPPED AROUND ENTIRE UNIT.



5'-0" SINGLETRAP



DETAIL "B"
JOINT TAPE INSTALLATION



DETAIL "A"
STORM TRAP FOUNDATION

NOTES:
1. 4,000 p.s.i. @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. NET ALLOWABLE SOIL PRESSURE GREATER THAN OR EQUAL TO 2,000 p.s.f.
3. SOIL CONDITIONS TO BE VERIFIED ON SITE BY OTHERS.
4. 1'-0" OVERHANG AROUND OUTSIDE OF SYSTEM.
5. 4,000 p.s.i. MUST BE REACHED BEFORE STORMTRAP UNITS CAN BE INSTALLED.

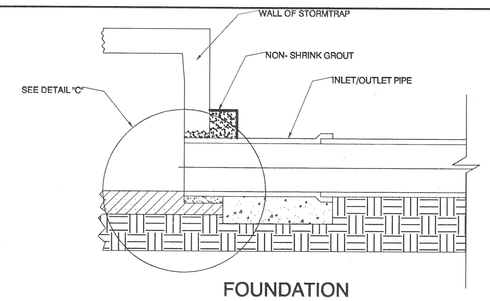
SHEET 2

RECOMMENDED PIPE/RISER SPECIFICATION

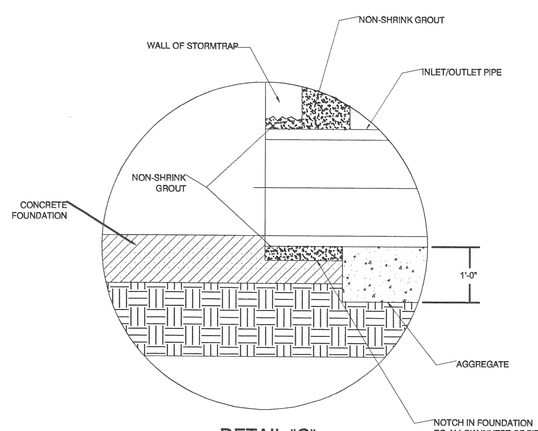
1. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND A CONCRETE CRADLE FOR AT LEAST ONE PIPE LENGTH, AS SHOWN. A STRUCTURAL GRADE CONCRETE OR GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 p.s.i. SHALL BE USED.
2. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH NON-SHRINK GROUT.

RECOMMENDED INSTALLATION INSTRUCTIONS

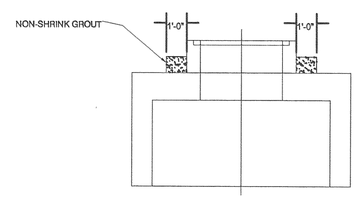
1. CLEAN AND LIGHTLY LUBRICATE ALL OF PIPE TO BE INSETED INTO STORMTRAP.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.



FOUNDATION
PIPE CONNECTION



DETAIL "C"
CONNECTION DETAIL
(NOT TO SCALE)



RISER DETAIL

SHEET 2.1

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
5555 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295

RICK ENGINEERING COMPANY — San Diego, Riverside, Sacramento, Orange, Phoenix, Tucson
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619.291.0707
(FAX)619.291.4165
rickengineering.com

	REVISIONS	BY	APPROVED	DATE
1	RECORD DRAWINGS	RLG	SML	4-06

COORDINATE INDEX: 350 N. 1683 E.
CONST. COMPL.
FIELD REVISIONS

UNDERGROUND DETENTION BASIN AT McCLELLAN–PALOMAR AIRPORT
In the Vicinity of Carlsbad
DETENTION VAULT DETAILS & NOTES

SCALE: HOR. N/A VERT. N/A
W.A. – R.S. –
SHEET 5 OF 8

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
DELINEATED		

REGISTERED PROFESSIONAL ENGINEER — John D. Goldberg — No. 33037 — Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

RICK ENGINEERING
5620 FRIARS RD.
SAN DIEGO, CA. 92110
619-291-0707

REGISTERED CIVIL ENGINEER — DATE 4-17-06

NOTE:

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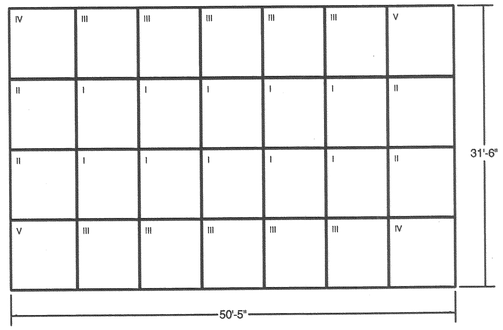
BILL OF MATERIALS

QTY.	PART NO.	DESCRIPTION
10	TYPE I	5'-0" SINGLETRAP TYPE I
4	TYPE II	5'-0" SINGLETRAP TYPE II
10	TYPE III	5'-0" SINGLETRAP TYPE III
2	TYPE IV	5'-0" SINGLETRAP TYPE IV
2	TYPE V	5'-0" SINGLETRAP TYPE V
15	JOINT TAPE	JOINT TAPE - 14.5' PER ROLL
5	JOINT WRAP	JOINT WRAP - 150' PER ROLL



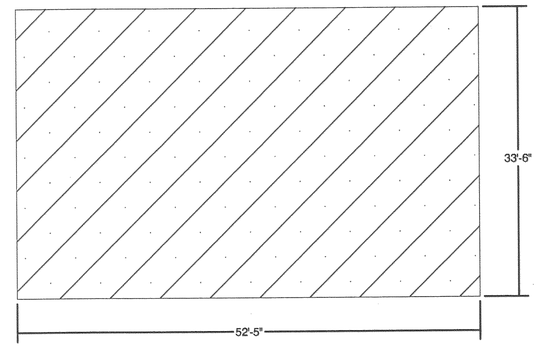
NOTES:

1. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.

5'-0" SINGLETRAP UNITS
6523 C.F. OF STORAGE
SEE SHEET 2 FOR INSTALLATION SPECIFICATIONS

LAYOUT DETAIL

SHEET 3

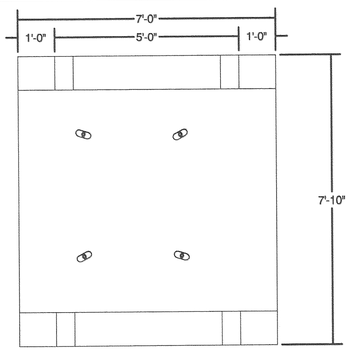


NOTES:

1. DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOUND EXTERNAL FACE OF UNITS.
2. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
3. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
4. SEE SHEET 2 FOR INSTALLATION SPECIFICATIONS.

CONCRETE
FOUNDATION PLAN

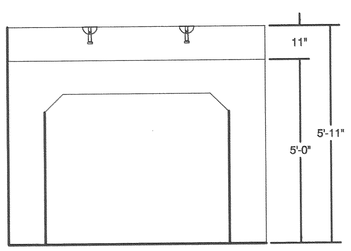
SHEET 3.1



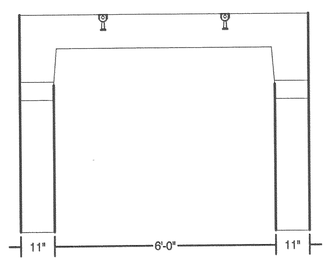
PLAN VIEW

TYPE I UNITS

UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)
60	245.7	11821

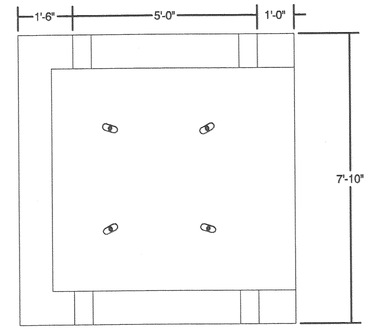


ELEVATION VIEW



SIDE VIEW

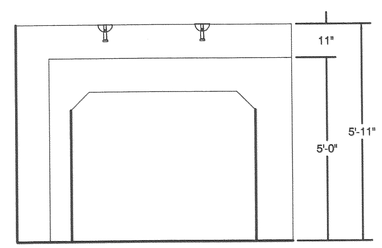
SHEET 4



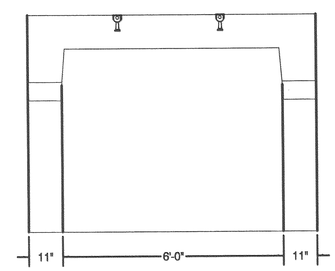
PLAN VIEW

TYPE II UNITS

UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)
60	232.9	17204



ELEVATION VIEW



SIDE VIEW

SHEET 5

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
5555 OVERLAND AVENUE, SAN DIEGO, CA 92123-1295

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REVISIONS	BY	APPROVED	DATE
1 RECORD DRAWINGS	RLG	SML	4-06

COORDINATE INDEX: 350 N. 1683 E.
CONST. COMPL.
FIELD REVISIONS

UNDERGROUND DETENTION BASIN AT
McCLELLAN-PALOMAR AIRPORT
In the Vicinity of Carlsbad

DETENTION VAULT DETAILS & NOTES

SCALE: HOR. N/A VERT. N/A
W.A. – R.S. –
SHEET 6 OF 8

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
DELINEATED		

RICK ENGINEERING
5620 FRIARS RD.
SAN DIEGO, CA. 92110
619-291-0707

REGISTERED PROFESSIONAL ENGINEER — John D. Goddard, Jr. — No. 33037 — Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

REGISTERED CIVIL ENGINEER — DATE 4-17-06

NOTE:

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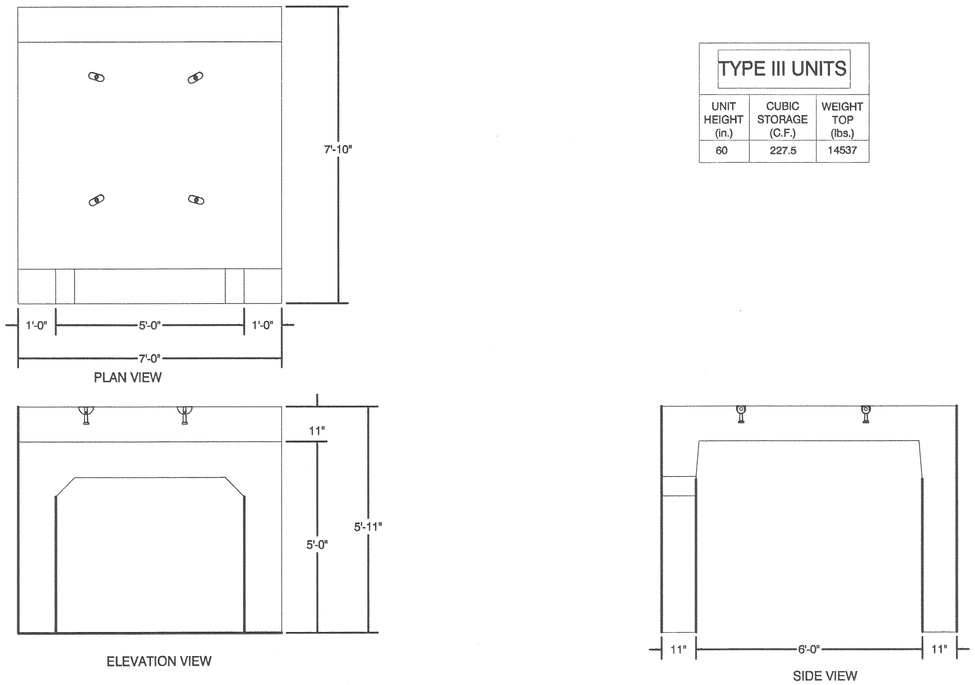
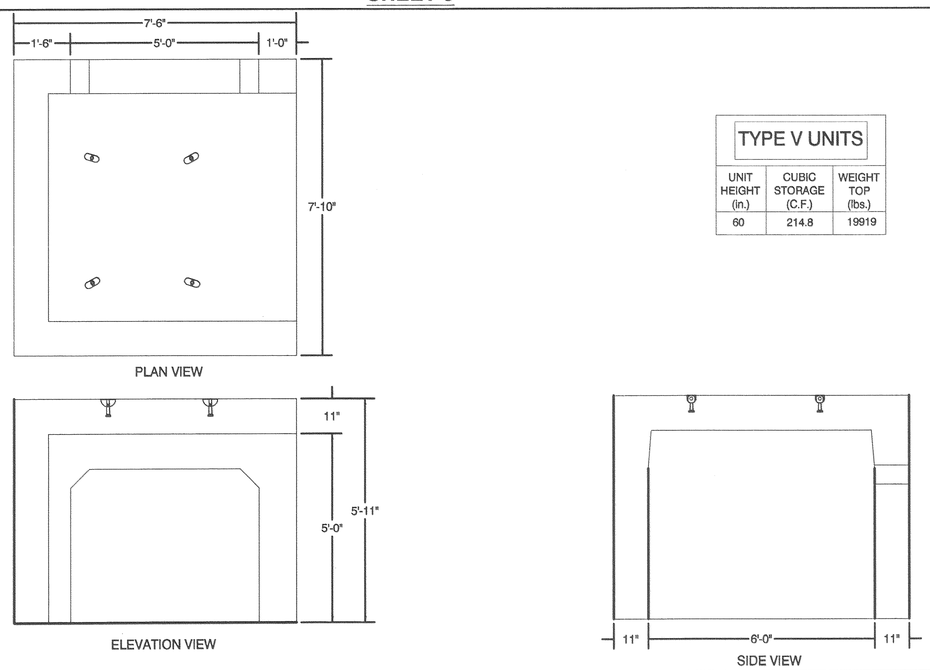


TYPE III UNITS

UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)
60	227.5	14537

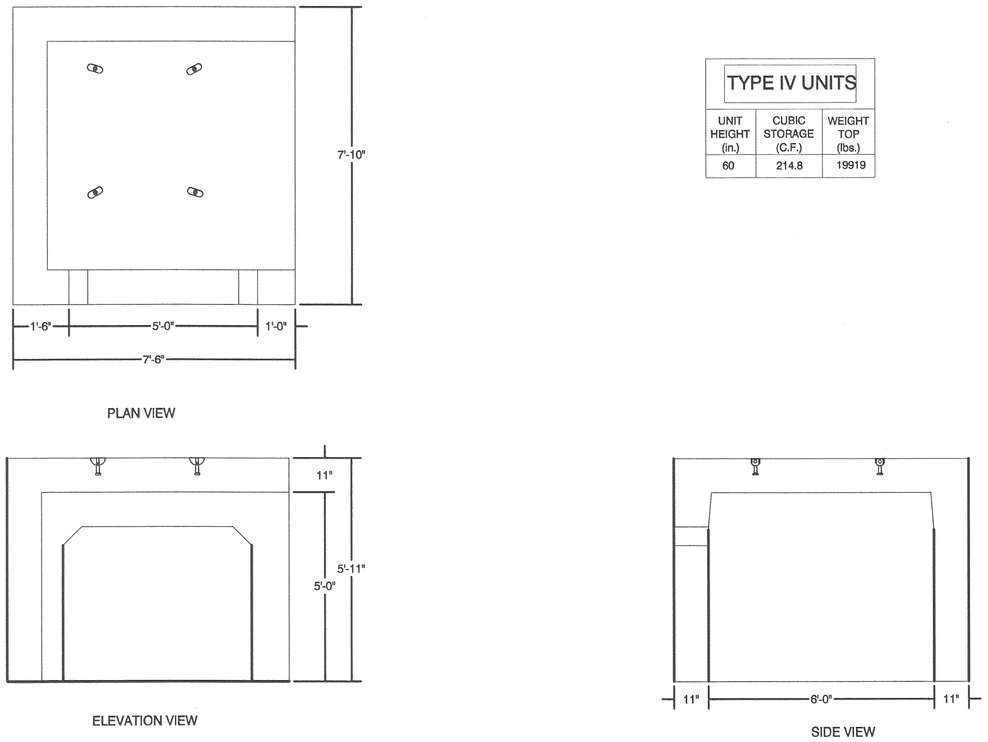
SHEET 6



TYPE V UNITS

UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)
60	214.8	19919

SHEET 8



TYPE IV UNITS

UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)
60	214.8	19919

SHEET 7

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
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COORDINATE INDEX
350 N. 1683 E.
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In the Vicinity of Carlsbad

DETENTION VAULT DETAILS & NOTES

SCALE: HOR. N/A VERT. N/A
W.A. – R.S. –
SHEET 7 OF 8

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PLANS	BY	DATE
DESIGNED	BRENDAN HASTIE	
CHECKED	CARL HEWINGS	
DELINEATED		

REGISTERED PROFESSIONAL ENGINEER John D. Goldberg No. 33037 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

RICK ENGINEERING
5620 FRIARS RD.
SAN DIEGO, CA. 92110
619-291-0707

REGISTERED CIVIL ENGINEER — DATE 4-17-06

NOTE:

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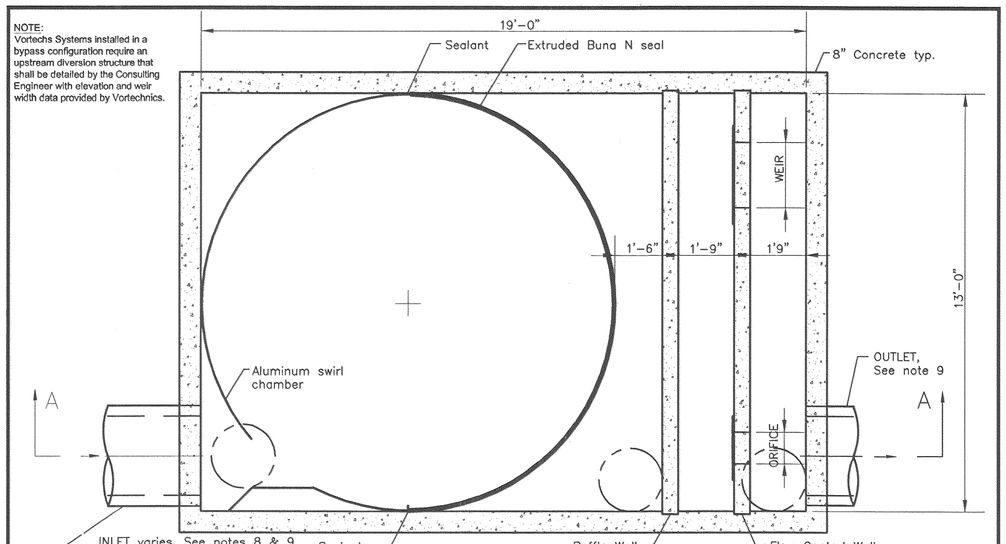
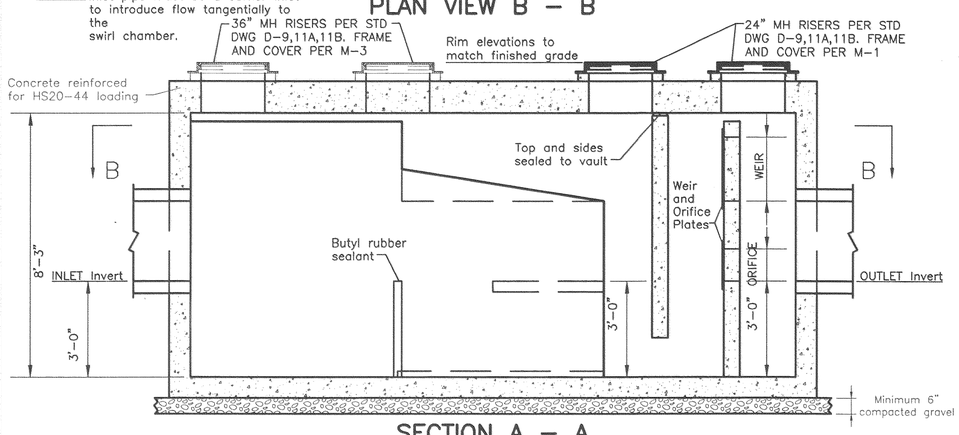
NOTE:
Vortechs Systems installed in a bypass configuration require an upstream diversion structure that shall be detailed by the Consulting Engineer with elevation and weir width data provided by Vortechnics.



PLAN VIEW B – B



SECTION A – A

NOTES:
1. Stormwater Treatment System (SWTS) shall have:
   Peak treatment capacity: 30 cfs
   Sediment storage: 9.0 cu yd
   Sediment chamber dia: 13' min
2. SWTS shall be contained in one rectangular structure
3. SWTS removal efficiency shall be based on a certain particle size
4. SWTS shall retain floatables and trapped sediment up to and including peak treatment capacity
5. SWTS inverts in and out are typically at the same elevation
6. SWTS shall not be compromised by effects of downstream tailwater
7. SWTS shall have no internal components that obstruct maintenance access
8. Inlet pipe must be perpendicular to the structure
9. Pipe orientation may vary; see site plan for size and location
10. Purchaser shall not be responsible for assembly of unit
11. Manhole frames and perforated covers supplied with system, not installed
12. Purchaser to prepare excavation and provide lifting equipment
13. Contact Vortechnics @ (207) 885-9830 for ordering information

This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by Vortechnics, Inc. and may only be transferred to other documents exactly as provided by Vortechnics. Title block information, excluding the Vortechnics logo and the Vortechs Stormwater Treatment System designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with Vortechnics shall be considered unauthorized use of proprietary information.

Vortechnics
200 Enterprise Drive
Scarborough, ME 04074
Tel.: 207-885-9830
Fax: 207-885-9825

STANDARD DETAIL
STORMWATER TREATMENT SYSTEM
VORTECHS® MODEL PC1319-DC U.S. PATENT No. 5,759,415

PROPRIETARY INFORMATION - NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATE: 08/17/04	SCALE: N.T.S.	FILE NAME: STDPC1319	DRAWN BY: REC	CHECKED BY: NDG

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	REVISIONS	BY	APPROVED	DATE
1	RECORD DRAWINGS	RLG	SML	4-06

COORDINATE INDEX: 350 N. 1683 E.
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UNDERGROUND DETENTION BASIN AT
McCLELLAN–PALOMAR AIRPORT
In the Vicinity of Carlsbad

HYDRODYNAMIC SEPARATOR DETAILS & NOTES

SCALE: HOR. N/A VERT. N/A
W.A. – R.S. –
SHEET 8 OF 8