

APPENDIX 1
DESCRIPTION OF THE PLANT SITE

APPENDIX 1

DESCRIPTION OF THE PLANT SITE

I. Real Property Description.

The real property described in this Appendix is located in the City of Carlsbad, California and leased to the Project Company under the Cabrillo Ground Lease.

EXHIBIT "A*":	Legal Description of the Leased Premises
EXHIBIT "A-1*":	Map Generally Depicting the Leased Premises
EXHIBIT "B":	Intentionally Omitted
EXHIBIT "C*":	Legal Description of the Water Plant Intake/Discharge Easement Area
EXHIBIT "C-1*":	Map Generally Depicting the Water Plant Intake/Discharge Easement Area
EXHIBIT "D*":	Legal Description of the Connection Easement
EXHIBIT "D-1*":	Map Generally Depicting the Connection Easement Area
EXHIBIT "E*":	Legal Description of the Product Water Pipeline Easement Area
EXHIBIT "E-1*":	Map Generally Depicting the Product Water Pipeline Easement Area
EXHIBIT "F*":	Legal Description of the Sewer/Domestic Water Easement Area
EXHIBIT "F-1*":	Map Generally Depicting the Sewer/Domestic Water Easement Area
EXHIBIT "G*":	Map Generally Depicting the Ingress/Egress Easement Areas
EXHIBIT "H*":	Legal Description of the Seawater Intake/Outfall Easement Area
EXHIBIT "H-1*":	Map Generally Depicting the Seawater Intake/Outfall Easement Area

II. Subsurface Conditions.

Appendix 20.2 (Subsurface Conditions) of the Plant EPC Agreement to be inserted.

(Documents available upon request from Water Authority)

EXHIBIT 'A*'

LEGAL DESCRIPTION

FOR

THE LEASED PREMISES

THAT PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST SOUTHEASTERLY CORNER OF THAT PORTION OF SAID PARCEL 4 LYING WESTERLY OF THE 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD, ALSO BEING A POINT ON THE WESTERLY LINE OF SAID 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID WESTERLY LINE, NORTH 22°30'13" WEST, 1319.08 FEET; THENCE LEAVING SAID WESTERLY LINE, SOUTH 67°29'47" WEST, 58.72 FEET TO THE **TRUE POINT OF BEGINNING**; THENCE SOUTH 67°31'21" WEST, 229.72 FEET; THENCE NORTH 40°03'53" WEST, 199.13 FEET; THENCE SOUTH 66°28'49" WEST, 45.93 FEET; THENCE NORTH 22°28'46" WEST, 587.13 FEET; THENCE NORTH 67°31'14" EAST, 338.82 FEET; THENCE SOUTH 22°37'35" EAST, 536.65 FEET; THENCE SOUTH 20°08'20" EAST, 115.20 FEET; THENCE SOUTH 22°37'35" EAST, 124.38 FEET TO THE **TRUE POINT OF BEGINNING**.

ATTACHED HERETO IS A PLAT LABELED EXHIBIT 'A-1*' AND BY THIS REFERENCE MADE A PART THEREOF. ALL DISTANCES SHOWN HEREON ARE GRID DISTANCES. TO COMPUTE GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.999963440. ALL BEARINGS SHOWN HEREON ARE GRID, BASED UPON CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD-83, AND EPOCH 1991.35.

SAID PARCEL OF LAND CONTAINS 5.703 ACRES, MORE OR LESS


GARY L. HUS

10-01-2009
DATE

L.S. 7019

EXPIRATION DATE 6/30/2010



LEGAL DESCRIPTION:

A PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

ASSESSORS PARCEL NO:

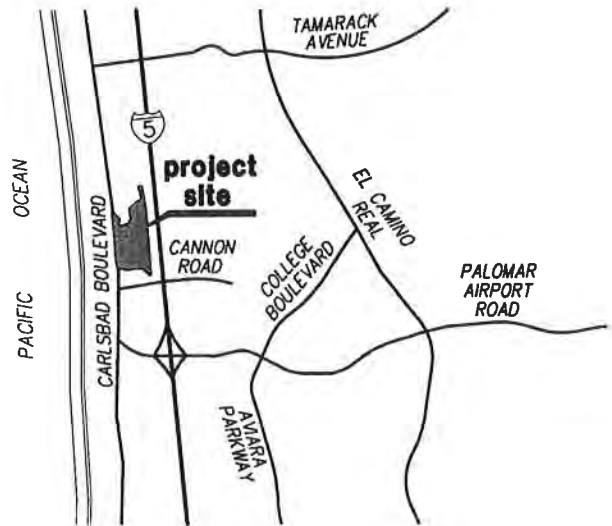
210-010-43

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS DRAWING IS THE HORIZONTAL CONTROL BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD 83, AS DETERMINED LOCALLY BY THE LINE BETWEEN FIRST ORDER CONTROL POINTS 057 AND 141 PER RECORD OF SURVEY NO. 17271, I.E. N40°39'21"W.

LEGEND:

- _____ INDICATES EXISTING PROPERTY LINE
- P.O.C. _____ INDICATES POINT OF COMMENCEMENT
- T.P.O.B. _____ INDICATES TRUE POINT OF BEGINNING
-  _____ INDICATES THE LEASED PREMISES AREA = 5.703 ACRES, MORE OR LESS



OWNER:

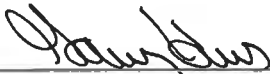
CABRILLO POWER I LLC
4600 CARLSBAD BOULEVARD
CARLSBAD, CALIFORNIA 92008
PHONE: (760) 268-4011



VICINITY MAP
NO SCALE

SURVEYOR OF WORK:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 235-6471


GARY L. HUS, L.S. 7019

DATE

REGISTRATION EXPIRES 6/30/2010



THE LEASED
PREMISES
EXHIBIT
'A-1*'

SHEET 1 OF 2

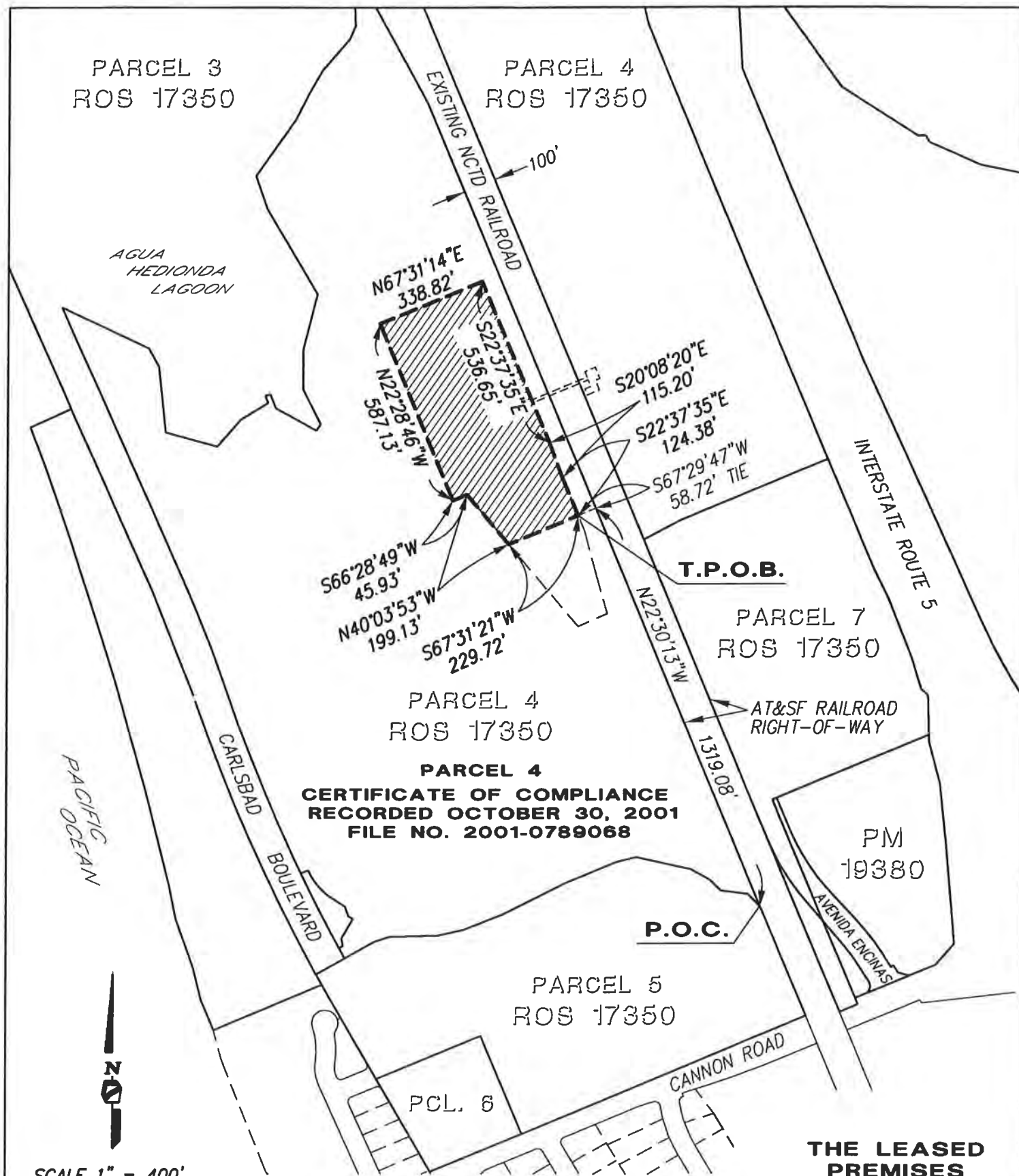
A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101



PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

**THE LEASED
 PREMISES
 EXHIBIT
 'A-1*'**

SHEET 2 OF 2

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

EXHIBIT 'C*'

LEGAL DESCRIPTION

FOR

WATER PLANT INTAKE/DISCHARGE EASEMENT AREA

THAT PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST SOUTHEASTERLY CORNER OF SAID PARCEL 4, ALSO BEING A POINT ON THE WESTERLY LINE OF THE 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID WESTERLY LINE, NORTH 22°30'13" WEST, 1490.22 FEET; THENCE LEAVING SAID WESTERLY LINE, SOUTH 66°28'49" WEST, 340.71 FEET TO THE **TRUE POINT OF BEGINNING**; THENCE SOUTH 66°28'49" WEST, 439.94 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 70.00 FEET; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 81°26'18", 99.50 FEET; THENCE TANGENT TO SAID CURVE, NORTH 32°04'53" WEST, 93.96 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 45.00 FEET; THENCE NORTHERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 10°50'13", 8.51 FEET; THENCE TANGENT TO SAID CURVE, NORTH 42°55'06" WEST, 37.86 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 52.50 FEET; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 69°07'13", 63.33 FEET; THENCE TANGENT TO SAID CURVE, SOUTH 67°57'41" WEST, 325.78 FEET TO A POINT ON THE EASTERLY LINE OF CARLSBAD BOULEVARD (FORMERLY XI-SD-23), BEING 100.00 FEET WIDE AS SHOWN ON RECORD OF SURVEY NO. 17350; THENCE NORTH 24°07'36" WEST, 41.25 FEET; THENCE LEAVING SAID EASTERLY LINE, NORTH 34°28'03" EAST, 161.11 FEET; THENCE NORTH 67°05'54" EAST, 142.26 FEET; THENCE SOUTH 76°03'09" EAST, 74.70 FEET; THENCE SOUTH 67°18'36" EAST, 174.25 FEET THENCE SOUTH 22°23'45" EAST, 151.01 FEET; THENCE NORTH 66°31'12" EAST, 403.04 FEET; THENCE SOUTH 22°28'46" EAST, 17.56 FEET; THENCE NORTH 66°28'49" EAST, 45.93 FEET; THENCE SOUTH 40°03'53" EAST, 26.08 FEET TO THE **TRUE POINT OF BEGINNING**.

ATTACHED HERETO IS A PLAT LABELED EXHIBIT 'C-1*' AND BY THIS REFERENCE MADE A PART THEREOF. ALL DISTANCES SHOWN HEREON ARE

GRID DISTANCES. TO COMPUTE GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.999963440. ALL BEARINGS SHOWN HEREON ARE GRID, BASED UPON CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD-83, AND EPOCH 1991.35.

SAID PARCEL OF LAND CONTAINS 1.678 ACRES, MORE OR LESS

 8-20-2009
GARY L. HUS DATE
L.S. 7019
EXPIRATION DATE 6/30/2010



LEGAL DESCRIPTION:

A PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

ASSESSORS PARCEL NO:

210-010-43

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS DRAWING IS THE HORIZONTAL CONTROL BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD 83, AS DETERMINED LOCALLY BY THE LINE BETWEEN FIRST ORDER CONTROL POINTS 057 AND 141 PER RECORD OF SURVEY NO. 17271, I.E. N40°39'21"W.

LEGEND:

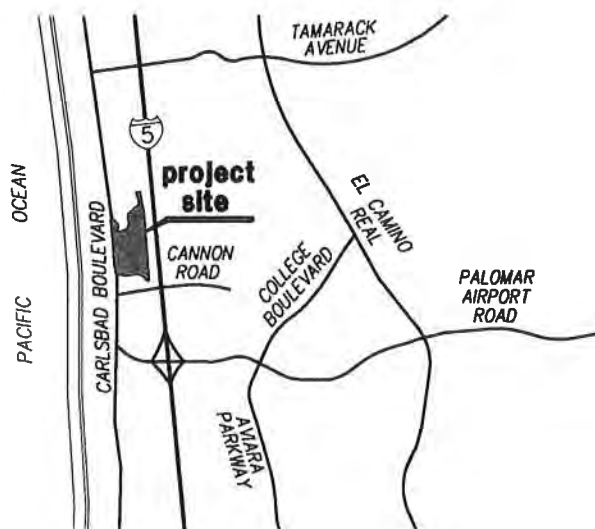
_____ INDICATES EXISTING PROPERTY LINE

P.O.C. _____ INDICATES POINT OF COMMENCEMENT

T.P.O.B. _____ INDICATES TRUE POINT OF BEGINNING



_____ INDICATES INTAKE/DISCHARGE EASEMENT AREA = 1.678 ACRES, MORE OR LESS



VICINITY MAP
NO SCALE

OWNER:

CABRILLO POWER I LLC
4600 CARLSBAD BOULEVARD
CARLSBAD, CALIFORNIA 92008
PHONE: (760) 268-4011

SURVEYOR OF WORK:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 235-6471

GARY L. HUS, L.S. 7019
REGISTRATION EXPIRES 6/30/2010

DATE



WATER PLANT
INTAKE/DISCHARGE
EASEMENT AREA

**EXHIBIT
'C-1*'**

SHEET 1 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

PARCEL 3
ROS 17350

PARCEL 4
ROS 17350

AGUA
HEDIONDA
LAGOON

CARLSBAD
BOULEVARD

EXISTING NCTD RAILROAD

100'

INTERSTATE ROUTE 5

S66°28'49"W
340.71' TIE

T.P.O.B.

PARCEL 4
ROS 17350

PARCEL 7
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

AT&SF RAILROAD
RIGHT-OF-WAY

N22°30'13"W

1490.22'

PM
19380

P.O.C.

PARCEL 5
ROS 17350

PCL. 6

CANNON ROAD

**WATER PLANT
INTAKE/DISCHARGE
EASEMENT AREA**

**EXHIBIT
'C-1*'**

SHEET 2 OF 3

A.P.N. 210-010-43

PACIFIC
OCEAN



SCALE 1" = 400'

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

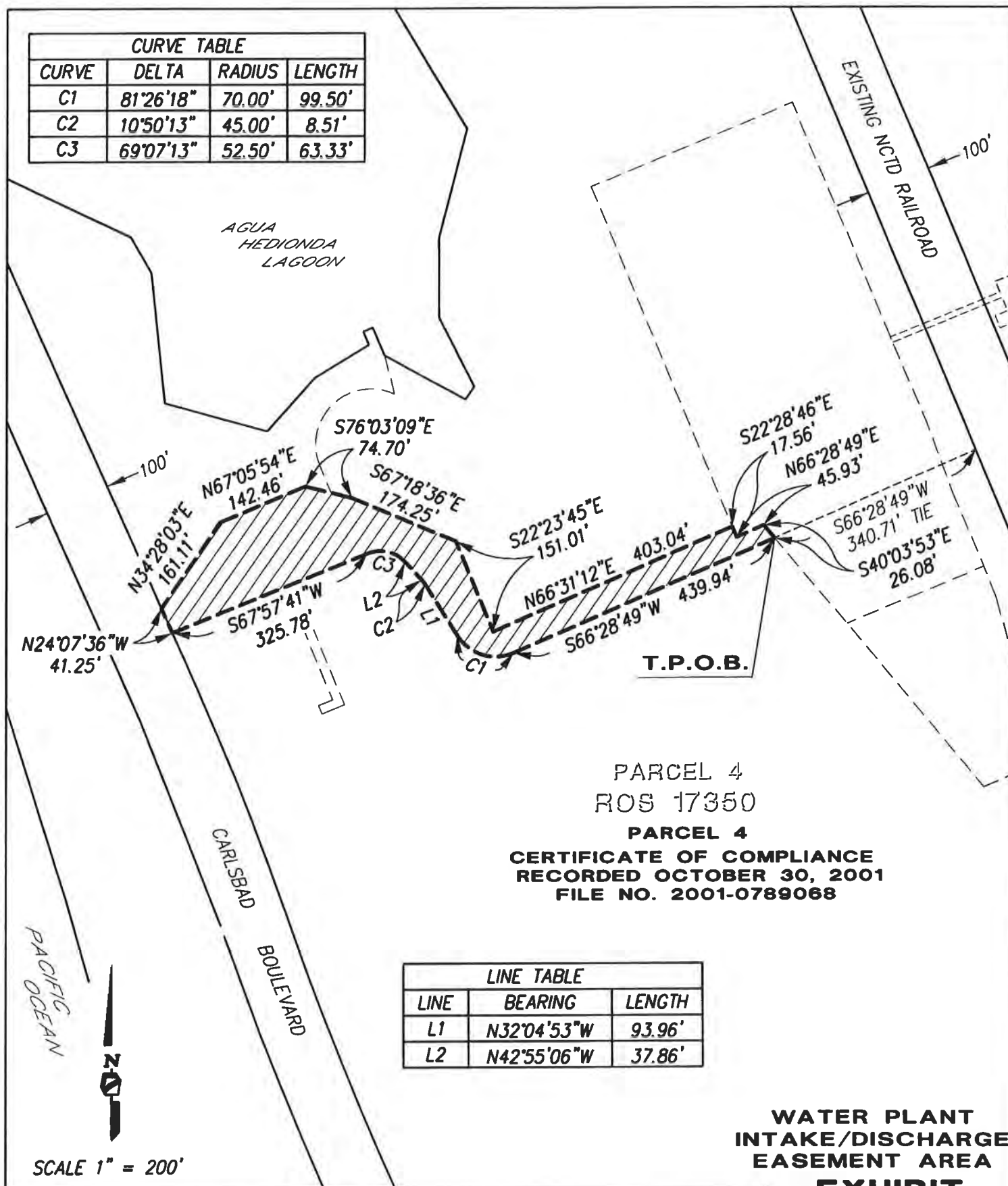
PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	81°26'18"	70.00'	99.50'
C2	10°50'13"	45.00'	8.51'
C3	69°07'13"	52.50'	63.33'



LINE TABLE		
LINE	BEARING	LENGTH
L1	N32°04'53"W	93.96'
L2	N42°55'06"W	37.86'

**WATER PLANT
INTAKE/DISCHARGE
EASEMENT AREA**

**EXHIBIT
'C-1*'**

SHEET 3 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

EXHIBIT 'D*'

LEGAL DESCRIPTION

FOR

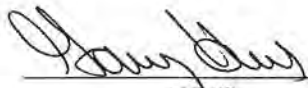
CONNECTION EASEMENT AREA

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SAID PARCEL OF LAND CONTAINS 0.073 ACRES, MORE OR LESS

 8-28-2009
GARY L. HUS DATE
L.S. 7019
EXPIRATION DATE 6/30/2010



LEGAL DESCRIPTION:

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ASSESSORS PARCEL NO:

210-010-43

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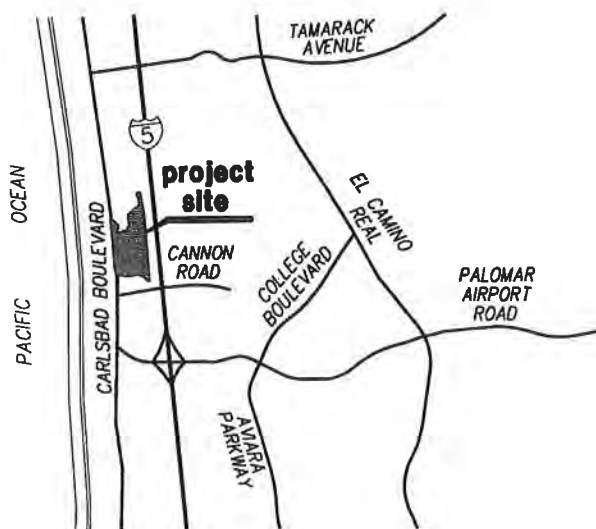
_____ INDICATES EXISTING PROPERTY LINE

P.O.C. _____ INDICATES POINT OF COMMENCEMENT

T.P.O.B. _____ INDICATES TRUE POINT OF BEGINNING



_____ INDICATES CONNECTION EASEMENT
AREA = 0.073 ACRES, MORE OR LESS



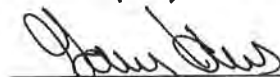
VICINITY MAP
NO SCALE

OWNER:

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PHONE: (619) 235-6471



GARY L. HUS, L.S. 7019
REGISTRATION EXPIRES 6/30/2010

8-28-2009

DATE



CONNECTION
EASEMENT AREA
EXHIBIT
'D-1*'

SHEET 1 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

PARCEL 3
ROS 17350

PARCEL 4
ROS 17350

AGUA
HEDIONDA
LAGOON

CARLSBAD BOULEVARD

EXISTING NCTD RAILROAD

100'

INTERSTATE ROUTE 5

S66°28'49"W
340.71' TIE

N22°30'13"W

T.P.O.B.

PARCEL 4
ROS 17350

PARCEL 7
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

AT&SF RAILROAD
RIGHT-OF-WAY

1490.22'

PACIFIC
OCEAN

PM
19380

P.O.C.

PARCEL 5
ROS 17350

PCL. 6

CANNON ROAD

AVENIDA ENCINAS



SCALE 1" = 400'

**CONNECTION
EASEMENT AREA**
**EXHIBIT
'D-1*'**

SHEET 2 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

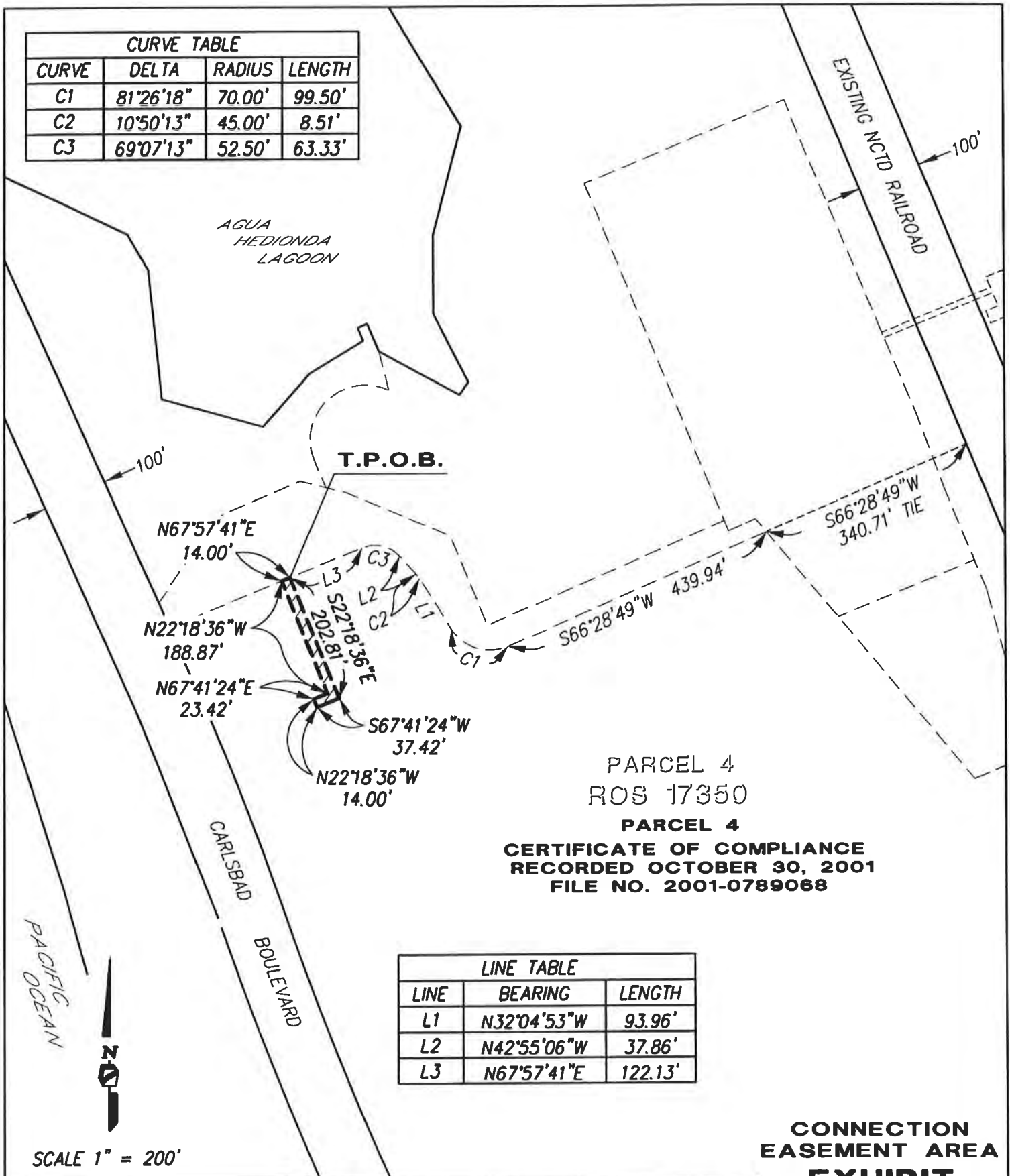
PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

CURVE TABLE			
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PARCEL 4
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

LINE TABLE		
LINE	BEARING	LENGTH
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L2	N42°55'06"W	37.86'
L3	N67°57'41"E	122.13'

CONNECTION
EASEMENT AREA
**EXHIBIT
'D-1*'**

SHEET 3 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

EXHIBIT 'E'

LEGAL DESCRIPTION

FOR

PRODUCT WATER PIPELINE EASEMENT AREA

THAT PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, TOGETHER WITH THAT PORTION OF A 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD, WITHIN LOT "H" OF RANCHO AGUA HEDIONDA, ACCORDING TO MAP THEREOF NO. 823, ALL BEING IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST SOUTHEASTERLY CORNER OF SAID PARCEL 4, ALSO BEING A POINT ON THE WESTERLY LINE OF SAID ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL 4, NORTH 44°29'52" WEST, 52.55 FEET; THENCE NORTH 82°40'44" WEST, 56.01 FEET; THENCE LEAVING SAID SOUTHERLY LINE, NORTH 19°02'22" WEST, 79.55 FEET TO THE BEGINNING OF A NON-TANGENT CURVE, CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 553.00 FEET, A RADIAL LINE TO SAID POINT BEARS NORTH 31°37'17" EAST; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 11°46'22", 113.63 FEET; THENCE NORTH 67°28'02" EAST, 83.57 FEET; THENCE NORTH 09°39'03" WEST, 32.20 FEET; THENCE NORTH 22°32'58" WEST, 186.83 FEET; THENCE NORTH 29°58'25" WEST, 434.98 FEET; THENCE NORTH 16°01'06" WEST, 234.09 FEET; THENCE NORTH 14°45'12" WEST, 147.72 FEET; THENCE NORTH 22°37'35" WEST, 174.35 FEET; THENCE NORTH 20°08'20" WEST, 115.20 FEET; THENCE NORTH 22°37'35" WEST, 536.65 FEET; THENCE NORTH 67°31'14" EAST, 45.00 FEET; THENCE SOUTH 22°37'35" EAST, 829.42 FEET; THENCE SOUTH 23°07'35" EAST, 791.70 FEET TO A POINT ON SAID WESTERLY LINE OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID WESTERLY LINE, SOUTH 22°30'13" EAST, 252.87 FEET; THENCE LEAVING SAID WESTERLY LINE NORTH 67°29'47" EAST, 100.00 FEET TO A POINT ON THE EASTERLY LINE OF SAID ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID EASTERLY LINE, SOUTH 22°30'13" EAST, 69.27 FEET; THENCE LEAVING SAID EASTERLY LINE, SOUTH 67°29'47" WEST, 100.00 FEET TO SAID WESTERLY LINE OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID WESTERLY LINE SOUTH 22°30'13" EAST, 151.99 FEET **THE POINT OF BEGINNING.**

ATTACHED HERETO IS A PLAT LABELED EXHIBIT 'E-1*' AND BY THIS REFERENCE MADE A PART THEREOF. ALL DISTANCES SHOWN HEREON ARE GRID DISTANCES. TO COMPUTE GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.999963440. ALL BEARINGS SHOWN HEREON ARE GRID, BASED UPON CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD-83, AND EPOCH 1991.35.

SAID PARCEL OF LAND CONTAINS 3.036 ACRES, MORE OR LESS.

 8-28-2009
GARY L. HUS DATE
L.S. 7019
EXPIRATION DATE 6/30/2010



LEGAL DESCRIPTION:

A PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, TOGETHER WITH THAT PORTION OF A 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHINSON TOPEKA AND SANTA FE RAILROAD, WITHIN LOT "H" OF RANCHO AGUA HEDIONDA, ACCORDING TO MAP THEREOF NO. 823, ALL BEING IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

ASSESSORS PARCEL NO:

210-010-43 & 210-010-10

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS DRAWING IS THE HORIZONTAL CONTROL BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD 83, AS DETERMINED LOCALLY BY THE LINE BETWEEN FIRST ORDER CONTROL POINTS 057 AND 141 PER RECORD OF SURVEY NO. 17271, I.E. N40°39'21"W.

OWNER:

CABRILLO POWER I LLC
4600 CARLSBAD BOULEVARD
CARLSBAD, CALIFORNIA 92008
PHONE: (760) 268-4011

SURVEYOR OF WORK:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 235-6471


GARY L. HUS, L.S. 7019
REGISTRATION EXPIRES 6/30/2010

8-28-2009
DATE



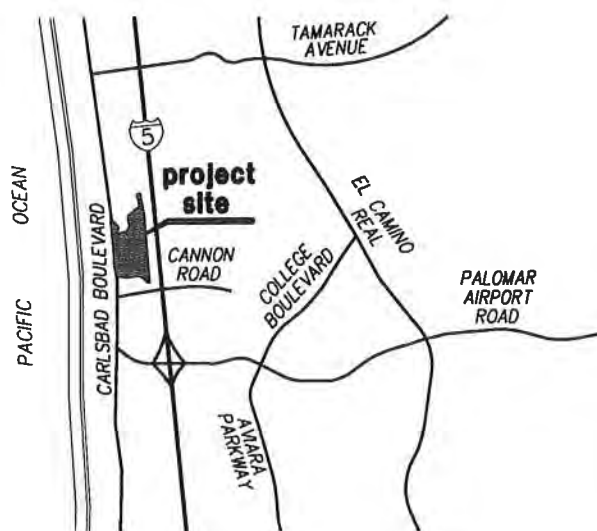
LEGEND:

_____ INDICATES EXISTING PROPERTY LINE

P.O.B. _____ INDICATES POINT OF BEGINNING



_____ INDICATES
PRODUCT WATER PIPELINE EASEMENT
AREA = 3.036 ACRES, MORE OR LESS



VICINITY MAP
NO SCALE

PRODUCT
WATER PIPELINE
EASEMENT AREA

EXHIBIT
'E-1*'

SHEET 1 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

PARCEL 3
ROS 17350

PARCEL 4
ROS 17350

AGUA
HEDIONDA
LAGOON

EXISTING NCTD RAILROAD
100'

AT&SF RAILROAD
RIGHT-OF-WAY

INTERSTATE ROUTE 5

PARCEL 4
ROS 17350

PARCEL 7
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

PACIFIC
OCEAN

CARLSBAD
BOULEVARD

PM
19380

P.O.B.

PARCEL 5
ROS 17350

PCL. 6

CANNON ROAD

**PRODUCT
WATER PIPELINE
EASEMENT AREA**

**EXHIBIT
'E-1*'**

SHEET 2 OF 3

A.P.N. 210-010-43

SCALE 1" = 400'

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

AGUA
HEDIONDA
LAGOON

N67°31'14"E
45.00'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	11°46'22"	553.00'	113.63'

LINE TABLE		
LINE	BEARING	LENGTH
L1	N67°29'47"E	100.00'

PARCEL 4
ROS 17350

INTERSTATE ROUTE 5

AT&SF RAILROAD
RIGHT-OF-WAY

PARCEL 7
ROS 17350

PARCEL 4
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

CARLSBAD

BOULEVARD

N
0

SCALE 1" = 300'

PCL. 6

PARCEL 5
ROS 17350

P.O.B.

**PRODUCT
WATER PIPELINE
EASEMENT AREA**

**EXHIBIT
'E-1*'**

SHEET 3 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

EXHIBIT 'F*'

LEGAL DESCRIPTION

FOR

SEWER/DOMESTIC WATER EASEMENT AREA

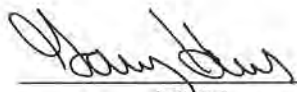
THAT PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, TOGETHER WITH THAT PORTION OF A 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD, WITHIN LOT "H" OF RANCHO AGUA HEDIONDA, ACCORDING TO MAP THEREOF NO. 823, ALL BEING IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST SOUTHEASTERLY CORNER OF SAID PARCEL 4, ALSO BEING A POINT ON THE WESTERLY LINE OF SAID ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID WESTERLY LINE, NORTH 22°30'13" WEST, 1692.10 FEET TO THE **TRUE POINT OF BEGINNING**, SAID POINT BEING ON THE SOUTHERLY LINE OF THAT CERTAIN "PIPE LINE LICENSE" DATED MARCH 1, 1971, BY AND BETWEEN THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY AND SAN DIEGO GAS AND ELECTRIC COMPANY, WHICH LICENSE GRANTS THE RIGHT TO CONSTRUCT AND MAINTAIN A TUNNEL, PIPE AND PEDESTRIAN WALKWAY AND VARIOUS SIZES OF CARRIER PIPE; THENCE ALONG SAID SOUTHERLY LINE, SOUTH 67°38'26" WEST, 54.52 FEET; THENCE LEAVING SAID SOUTHERLY LINE, NORTH 22°37'35" WEST, 9.00 FEET TO A POINT ON THE NORTHERLY LINE OF SAID "PIPE LINE LICENSE"; THENCE ALONG SAID NORTHERLY LINE, NORTH 67°38'26" EAST, 183.15 FEET; THENCE LEAVING SAID NORTHERLY LINE, NORTH 22°21'34" WEST, 18.01 FEET; THENCE NORTH 67°38'26" EAST, 35.00 FEET; THENCE SOUTH 22°21'34" EAST, 37.01 FEET; THENCE SOUTH 67°38'26" WEST, 15.00 FEET; THENCE SOUTH 22°21'34" EAST, 32.16 FEET; THENCE SOUTH 67°38'26" WEST, 40.78 FEET; THENCE NORTH 22°21'34" WEST, 20.00 FEET; THENCE NORTH 67°38'26" EAST, 20.78 FEET; THENCE NORTH 22°21'34" WEST, 22.16 FEET TO A POINT ON THE SOUTHERLY LINE OF SAID "PIPE LINE LICENSE"; THENCE ALONG SAID SOUTHERLY LINE, SOUTH 67°38'26" WEST, 128.59 FEET TO THE **TRUE POINT OF BEGINNING**.

ATTACHED HERETO IS A PLAT LABELED EXHIBIT 'F-1*' AND BY THIS REFERENCE MADE A PART THEREOF. ALL DISTANCES SHOWN HEREON ARE GRID DISTANCES. TO COMPUTE GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.999963440. ALL BEARINGS SHOWN HEREON ARE GRID,

BASED UPON CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD-83, AND EPOCH 1991.35.

SAID PARCEL OF LAND CONTAINS 0.092 ACRES, MORE OR LESS.

 8-26-2009
GARY L. HUS DATE
L.S. 7019
EXPIRATION DATE 6/30/2010



LEGAL DESCRIPTION:

A PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, TOGETHER WITH THAT PORTION OF A 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHINSON TOPEKA AND SANTA FE RAILROAD, WITHIN LOT "H" OF RANCHO AGUA HEDIONDA, ACCORDING TO MAP THEREOF NO. 823, ALL BEING IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

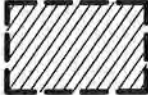
ASSESSORS PARCEL NO:

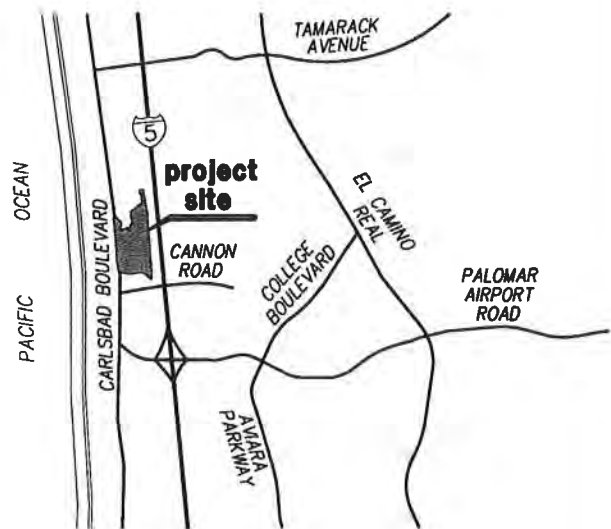
210-010-43, 10 & 41

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS DRAWING IS THE HORIZONTAL CONTROL BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD 83, AS DETERMINED LOCALLY BY THE LINE BETWEEN FIRST ORDER CONTROL POINTS 057 AND 141 PER RECORD OF SURVEY NO. 17271, I.E. N40°39'21"W.

LEGEND:

- _____ INDICATES EXISTING PROPERTY LINE
- P.O.C. _____ INDICATES POINT OF COMMENCEMENT
- T.P.O.B. _____ INDICATES TRUE POINT OF BEGINNING
-  _____ INDICATES SEWER/DOMESTIC WATER EASEMENT AREA = 0.092 ACRE, MORE OR LESS



OWNER:

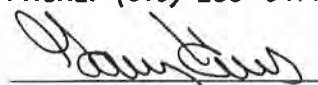
CABRILLO POWER I LLC
4600 CARLSBAD BOULEVARD
CARLSBAD, CALIFORNIA 92008
PHONE: (760) 268-4011



VICINITY MAP
NO SCALE

SURVEYOR OF WORK:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 235-6471



GARY L. HUS, L.S. 7019
REGISTRATION EXPIRES 6/30/2010

DATE

8-28-2009



SEWER/
DOMESTIC WATER
EASEMENT AREA
EXHIBIT
'F-1*'

SHEET 1 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

PARCEL 3
ROS 17350

PARCEL 4
ROS 17350

AGUA
HEDIONDA
LAGOON

EXISTING NCTD RAILROAD
100'

T.P.O.B.

AT&SF RAILROAD
RIGHT-OF-WAY

INTERSTATE ROUTE 5

PARCEL 4
ROS 17350

PARCEL 7
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

PACIFIC
OCEAN

CARLSBAD
BOULEVARD

P.O.C.

PM
19380

AVENIDA ENCINAS

PARCEL 5
ROS 17350

PCL. 6

CANNON ROAD

SEWER/
DOMESTIC WATER
EASEMENT AREA

**EXHIBIT
'F-1*'**

SHEET 2 OF 3

A.P.N. 210-010-43

SCALE 1" = 400'

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

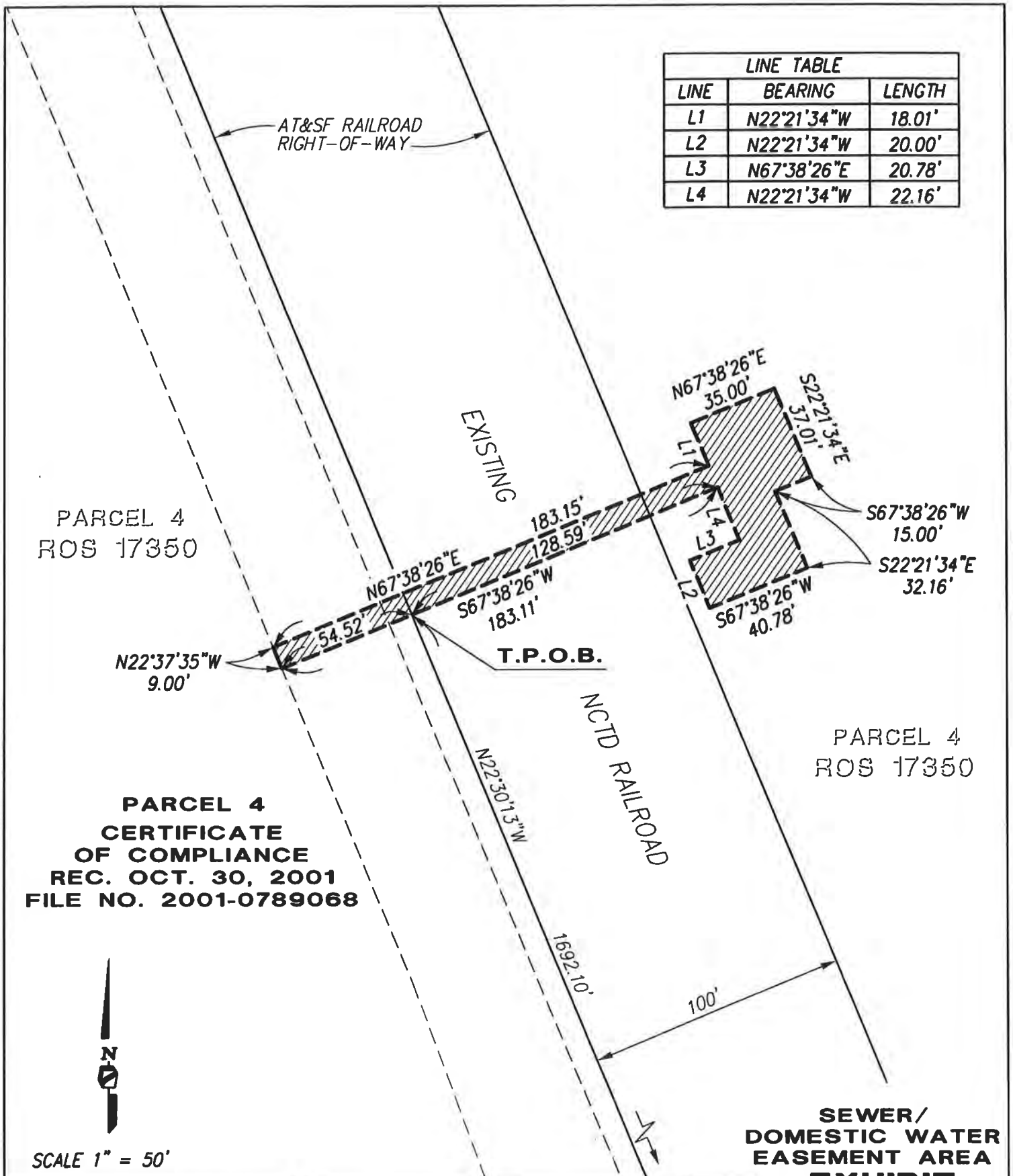
PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

LINE TABLE		
LINE	BEARING	LENGTH
L1	N22°21'34"W	18.01'
L2	N22°21'34"W	20.00'
L3	N67°38'26"E	20.78'
L4	N22°21'34"W	22.16'



APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

SAN DIEGO, CALIFORNIA 92101

EXHIBIT 'G*'

LEGAL DESCRIPTION

FOR

INGRESS/EGRESS EASEMENT

THAT PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL G-1-1

COMMENCING AT THE MOST NORTHWESTERLY CORNER OF SAID PARCEL 4, ALSO BEING A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF CARLSBAD BOULEVARD (FORMERLY XI-SD-23), BEING 100.00 FEET WIDE AS SHOWN ON SAID RECORD OF SURVEY NO. 17350; THENCE ALONG SAID EASTERLY RIGHT-OF-WAY LINE SOUTH 24°07'36" EAST, 778.85 FEET TO THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID EASTERLY RIGHT-OF-WAY LINE, NORTH 67°57'41" EAST, 287.88 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "A"; THENCE CONTINUING NORTH 67°57'41" EAST, 39.00 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 85.00 FEET; THENCE SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 75°57'07", A DISTANCE OF 112.68 FEET; THENCE SOUTH 36°05'12" EAST, 66.60 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "B"; THENCE CONTINUING SOUTH 36°05'12" EAST, 70.40 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 40.00 FEET; THENCE SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 77°25'59", A DISTANCE OF 54.06 FEET; THENCE NORTH 66°28'49" EAST, 386.22 FEET TO THE BEGINNING OF A NON-TANGENT CURVE, CONCAVE EASTERLY AND HAVING A RADIUS OF 26.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 76°28'31" WEST; THENCE NORTHERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 39°25'34", A DISTANCE OF 17.89 FEET; THENCE NORTH 25°54'05" EAST, 6.90 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE WESTERLY AND HAVING A RADIUS OF 26.00 FEET; THENCE NORTHERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 48°23'09", A DISTANCE OF 21.96 FEET; THENCE NORTH 22°29'04" WEST, 530.74 FEET; THENCE NORTH 67°27'27" EAST, 284.61 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 28.00 FEET; THENCE

NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°05'02", A DISTANCE OF 44.02 FEET; THENCE SOUTH 22°37'35" EAST, 68.01 FEET TO THE BEGINNING OF A NON-TANGENT CURVE, CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 20.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH 67°22'25" EAST; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°54'58", A DISTANCE OF 31.39 FEET; THENCE SOUTH 67°27'27" WEST, 227.77 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 40.00 FEET; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°56'31", A DISTANCE OF 62.79 FEET; THENCE SOUTH 22°29'04" EAST, 494.00 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 20.00 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 91°02'07", A DISTANCE OF 31.78 FEET; THENCE NORTH 66°28'49" EAST, 224.44 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 45.00 FEET; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°06'24", A DISTANCE OF 69.98 FEET; THENCE SOUTH 22°37'35" EAST, 115.09 FEET; THENCE NORTH 67°22'25" EAST, 5.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE, CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 45.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH 67°22'25" EAST; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°53'36", A DISTANCE OF 71.39 FEET; THENCE SOUTH 66°28'49" WEST, 671.45 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 70.00 FEET; THENCE NORTHWESTERLY THROUGH A CENTRAL ANGLE OF 77°25'59", A DISTANCE OF 94.60 FEET; THENCE NORTH 36°05'12" WEST, 137.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 55.00 FEET; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 75°57'07", A DISTANCE OF 72.91 FEET; THENCE SOUTH 67°57'41" WEST, 325.78 FEET TO A POINT ON SAID EASTERLY RIGHT-OF-WAY LINE OF CARSLBAD BOULEVARD; THENCE ALONG SAID EASTERLY RIGHT-OF-WAY LINE NORTH 24°07'36" WEST, 30.02 FEET TO THE TRUE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINS 1.407 ACRES, MORE OR LESS.

PARCEL G-1-2

BEGINNING AT THE AFOREMENTIONED POINT "A"; THENCE NORTH 22°02'19" WEST, 50.39 FEET; THENCE NORTH 36°06'39" WEST, 60.37 FEET; THENCE NORTH 54°32'13" WEST, 21.07 FEET; THENCE SOUTH 77°34'37" WEST, 61.07 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHERLY AND HAVING A RADIUS OF 200.00 FEET; THENCE WESTERLY ALONG THE ARC

OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20°30'00", A DISTANCE OF 71.56 FEET; THENCE NORTH 81°55'23" WEST, 87.30 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 25.00 FEET; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°22'33", A DISTANCE OF 39.00 FEET; THENCE NORTH 07°27'10" EAST, 90.76 FEET; THENCE SOUTH 82°32'50" EAST, 20.00 FEET; THENCE SOUTH 07°27'10" WEST, 90.76 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 5.00 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°22'33", A DISTANCE OF 7.80 FEET; THENCE SOUTH 81°55'23" EAST, 87.30 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHERLY AND HAVING A RADIUS OF 180.00 FEET; THENCE EASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20°30'00", A DISTANCE OF 64.40 FEET; THENCE NORTH 77°34'37" EAST, 1.29 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 100.00 FEET; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20°56'13", A DISTANCE OF 36.54 FEET TO THE BEGINNING OF A REVERSE CURVE CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 40.00 FEET, A RADIAL TO SAID BEGINNING BEARS NORTH 33°21'36" WEST; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 106°49'27", A DISTANCE OF 74.58 FEET TO THE BEGINNING OF A REVERSE CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 100.00 FEET, A RADIAL TO SAID BEGINNING BEARS NORTH 73°27'51" EAST; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 19°34'30", A DISTANCE OF 34.16 FEET; THENCE SOUTH 36°06'39" EAST, 29.01 FEET; THENCE SOUTH 22°02'19" EAST, 51.88 FEET; THENCE SOUTH 67°57'41" WEST, 12.00 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINS 0.210 ACRES, MORE OR LESS.

PARCEL G-1-3

BEGINNING AT THE AFOREMENTIONED POINT "B"; THENCE NORTH 53°54'48" EAST, 41.39 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 66.00 FEET; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 36°40'08", A DISTANCE OF 42.24 FEET; THENCE SOUTH 89°25'04" EAST, 65.34 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 148.00 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 07°42'08", A DISTANCE OF 19.90 FEET TO THE BEGINNING OF A REVERSE CURVE CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 45.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH 08°17'04" EAST;

THENCE NORTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF
 52°55'14", A DISTANCE OF 41.56 FEET; THENCE NORTH 35°44'04" EAST,
 39.55 FEET; THENCE NORTH 27°10'44" EAST, 61.70 FEET TO THE
 BEGINNING OF A TANGENT CURVE CONCAVE WESTERLY AND HAVING A RADIUS
 OF 95.00 FEET; THENCE NORTHERLY ALONG THE ARC OF SAID CURVE,
 THROUGH A CENTRAL ANGLE OF 60°57'16", A DISTANCE OF 101.07 FEET;
 THENCE NORTH 33°46'32" WEST, 74.15 FEET; THENCE NORTH 23°23'53"
 WEST, 104.88 FEET; THENCE NORTH 10°50'10" WEST, 290.09 FEET; THENCE
 NORTH 22°52'47" WEST, 424.13 FEET TO THE BEGINNING OF A TANGENT
 CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 85.00 FEET;
 THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A
 CENTRAL ANGLE OF 90°06'41", A DISTANCE OF 133.68 FEET; THENCE NORTH
 67°13'54" EAST, 339.95 FEET TO A POINT HEREINAFTER REFERRED TO AS
 POINT "C"; THENCE SOUTH 22°37'35" EAST, 60.12 FEET TO THE BEGINNING
 OF A NON-TANGENT CURVE CONCAVE SOUTHWESTERLY AND HAVING A RADIUS
 OF 50.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH
 67°22'25" EAST; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE,
 THORUGH A CENTRAL ANGLE OF 90°08'31", A DISTANCE OF 78.66 FEET;
 THENCE SOUTH 67°13'54" WEST, 282.79 FEET TO THE BEGINNING OF A
 TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 80.00
 FEET; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THORUGH A
 CENTRAL ANGLE OF 90°06'41", A DISTANCE OF 125.82 FEET; THENCE SOUTH
 22°52'47" EAST, 178.59 FEET TO THE BEGINNING OF A TANGENT CURVE
 CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 35.00 FEET; THENCE
 SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE
 OF 89°26'30", A DISTANCE OF 54.64 FEET; THENCE NORTH 67°40'43"
 EAST, 357.01 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE
 NORTHWESTERLY AND HAVING A RADIUS OF 20.00 FEET; THENCE
 NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE
 OF 90°18'18", A DISTANCE OF 31.52 FEET; THENCE SOUTH 22°37'35"
 EAST, 52.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE
 SOUTHWESTERLY AND HAVING A RADIUS OF 20.00 FEET, A RADIAL LINE TO
 SAID BEGINNING BEARS NORTH 67°22'25" EAST; THENCE NORTHWESTERLY
 ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°41'42",
 A DISTANCE OF 31.31 FEET; THENCE SOUTH 67°40'43" WEST, 356.49 FEET
 TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND
 HAVING A RADIUS OF 35.00 FEET; THENCE SOUTHWESTERLY ALONG THE ARC
 OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°33'30", A DISTANCE OF
 55.32 FEET; THENCE SOUTH 22°52'47" EAST, 237.92 TO THE BEGINNING OF
 A TANGENT CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 25.00
 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A
 CENTRAL ANGLE OF 89°39'46", A DISTANCE OF 39.12 FEET; THENCE NORTH
 67°27'27" EAST, 72.90 FEET; THENCE SOUTH 22°29'04" EAST, 46.03 FEET
 TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE SOUTHEASTERLY AND

HAVING A RADIUS OF 30.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH 67°30'56" EAST; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°03'29", A DISTANCE OF 47.15 FEET; THENCE SOUTH 67°27'27" WEST, 54.21 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 40.00 FEET; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 76°34'45", A DISTANCE OF 53.46 FEET; THENCE SOUTH 09°07'18" EAST, 118.07 FEET; THENCE SOUTH 26°02'01" EAST, 60.70 FEET; THENCE SOUTH 21°35'15" EAST, 87.47 FEET; THENCE SOUTH 43°24'48" EAST, 35.10 FEET; THENCE SOUTH 33°46'32" EAST, 11.40 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE WESTERLY AND HAVING A RADIUS OF 115.00 FEET; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 60°57'16", A DISTANCE OF 122.34 FEET; THENCE SOUTH 27°10'44" WEST, 63.20 FEET; THENCE SOUTH 35°44'04" WEST, 45.85 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 33.00 FEET, THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 68°35'11", A DISTANCE OF 39.50 FEET; THENCE NORTH 75°40'45" WEST, 4.40 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHWESTERLY AND HAVING A RADIUS OF 136.00 FEET, THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 13°44'19", A DISTANCE OF 32.61 FEET; THENCE NORTH 89°25'04" WEST, 65.34 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 54.00 FEET; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 36°40'08", A DISTANCE OF 34.56 FEET; THENCE SOUTH 53°54'48", 41.39 FEET; THENCE NORTH 36°05'12" WEST, 12.00 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINS 0.798 ACRES, MORE OR LESS.

PARCEL G-1-4

BEGINNING AT THE AFOREMENTIONED POINT "C"; THENCE NORTH 67°13'54" EAST, 20.00 FEET; THENCE SOUTH 22°37'35" EAST, 1431.44 FEET; THENCE SOUTH 14°45'12" EAST, 149.17 FEET; THENCE SOUTH 16°01'06" EAST, 230.76 FEET; THENCE SOUTH 29°58'25" EAST, 394.84 FEET; THENCE SOUTH 22°32'58" EAST, 228.36 FEET; THENCE SOUTH 13°47'06" EAST, 63.74 FEET; THENCE SOUTH 19°08'10" EAST, 127.98 FEET; THENCE SOUTH 23°13'34" EAST, 16.38 FEET TO A POINT ON THE SOUTHERLY LINE OF SAID PARCEL 4; THENCE ALONG SAID SOUTHERLY LINE, NORTH 82°40'44" WEST, 26.94 FEET; THENCE LEAVING SAID SOUTHERLY LINE, NORTH 25°32'32" WEST, 46.58 FEET; THENCE NORTH 13°47'06" WEST, 150.48 FEET; THENCE

NORTH 22°32'58" WEST, 186.83 FEET; THENCE NORTH 29°58'25" WEST, 434.98 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "D"; THENCE NORTH 16°01'06" WEST, 234.09 FEET; THENCE NORTH 14°45'12" WEST, 147.72 FEET; THENCE NORTH 22°37'35" WEST, 174.35 FEET; THENCE NORTH 67°22'25" EAST, 5.00 FEET; THENCE NORTH 22°37'35" WEST, 1255.32 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINS 1.337 ACRES, MORE OR LESS.

PARCEL G-1-5

BEGINNING AT THE AFOREMENTIONED POINT "D"; THENCE SOUTH 29°58'25" EAST, 114.32 FEET; THENCE SOUTH 61°25'19" WEST, 40.23 FEET; THENCE SOUTH 31°54'12" WEST, 141.12 FEET; THENCE SOUTH 10°46'24" WEST, 103.89 FEET; THENCE SOUTH 19°30'03" EAST, 219.38 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 30.00 FEET; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 87°08'02", A DISTANCE OF 45.62 FEET; THENCE SOUTH 67°37'59" WEST, 407.97 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHERLY AND HAVING A RADIUS OF 166.00 FEET; THENCE WESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 40°05'20", A DISTANCE OF 116.15 FEET; THENCE NORTH 72°16'41" WEST, 43.29 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 175.00 FEET; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 77°16'24", A DISTANCE OF 236.02 FEET; THENCE SOUTH 30°26'55" WEST, 147.84 FEET TO A POINT ON THE SOUTHERLY LINE OF SAID PARCEL 4; THENCE ALONG SAID SOUTHERLY LINE SOUTH 60°43'42" WEST, 6.24 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL 4, SAID CORNER ALSO BEING A POINT ON SAID EASTERLY RIGHT-OF-WAY LINE OF CARLSBAD BOULEVARD AND A POINT ON A NON-TANGENT CURVE CONCAVE EASTERLY AND HAVING A RADIUS OF 5216.55 FEET, A RADIAL LINE TO SAID POINT BEARS SOUTH 60°55'15" WEST; THENCE NORTHERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE AND THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 00°28'15", A DISTANCE OF 42.87 FEET; THENCE LEAVING SAID EASTERLY RIGHT-OF-WAY LINE, NORTH 30°26'55" EAST, 131.55 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 215.00 FEET; THENCE NORTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 55°44'40", A DISTANCE OF 209.18 FEET; THENCE SOUTH 72°16'41" EAST, 122.19 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHERLY AND HAVING A RADIUS OF 141.00 FEET; THENCE EASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 40°05'20", A DISTANCE OF 98.66 FEET; THENCE NORTH 67°37'59" EAST, 380.53 FEET TO THE BEGINNING OF A TANGENT CURVE

LEGAL DESCRIPTION:

PORTIONS OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

ASSESSORS PARCEL NO:
210-010-43

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS DRAWING IS THE HORIZONTAL CONTROL BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD 83, AS DETERMINED LOCALLY BY THE LINE BETWEEN FIRST ORDER CONTROL POINTS 057 AND 141 PER RECORD OF SURVEY NO. 17271, I.E. N40°39'21"W.

LEGEND:

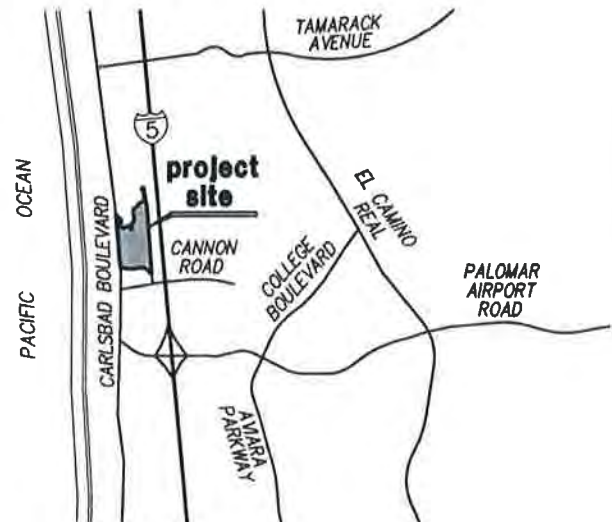
———— INDICATES EXISTING PROPERTY LINE
- - - - - INDICATES PARCEL LINE PER DOCUMENT RECORDED OCT. 28, 2009 AS DOC. NO. 2009-0597945

P.O.C. ——— INDICATES POINT OF COMMENCEMENT

T.P.O.B. ——— INDICATES TRUE POINT OF BEGINNING



———— INDICATES INGRESS/EGRESS EASEMENT
PARCEL G-1-1 AREA = 1.407 ACRES
PARCEL G-1-2 AREA = 0.210 ACRES
PARCEL G-1-3 AREA = 0.798 ACRES
PARCEL G-1-4 AREA = 1.337 ACRES
PARCEL G-1-5 AREA = 1.105 ACRES



VICINITY MAP
NO SCALE

PREPARED FOR:

POSEIDON RESOURCES
501 WEST BROADWAY, SUITE 2020
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 595-7802

SURVEYOR OF WORK:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 235-6471



**INGRESS/
EGRESS
EASEMENT
EXHIBIT
'G-1'**

SHEET 1 OF 6

A.P.N. 210-010-43


REX S. PLUMMER, L.S. 6641 3/29/10 DATE

PARCEL 3
ROS 17350

PARCEL 4
ROS 17350

AGUA
HEDIONDA
LAGOON

P.O.C.

SEE SHEET 5

EXISTING N.C.T.D. RAILROAD

INTERSTATE ROUTE 5

PARCEL F

SEE SHEET 3

PARCEL G-1-2

PARCEL G-1-3

PARCEL A

100'

PARCEL J

PARCEL G-1-1

PARCEL I

PARCEL 7
ROS 17350

PARCEL D

SEE SHEET 4

PARCEL 4 ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

N.C.T.D. RAILROAD
RIGHT-OF-WAY

PM 10380

PARCEL K

PARCEL G-1-5

PARCEL 5
ROS 17350

AVENIDA ENCINAS

PCL. 8

CANNON ROAD

INGRESS/
EGRESS
EASEMENT
**EXHIBIT
'G-1'**

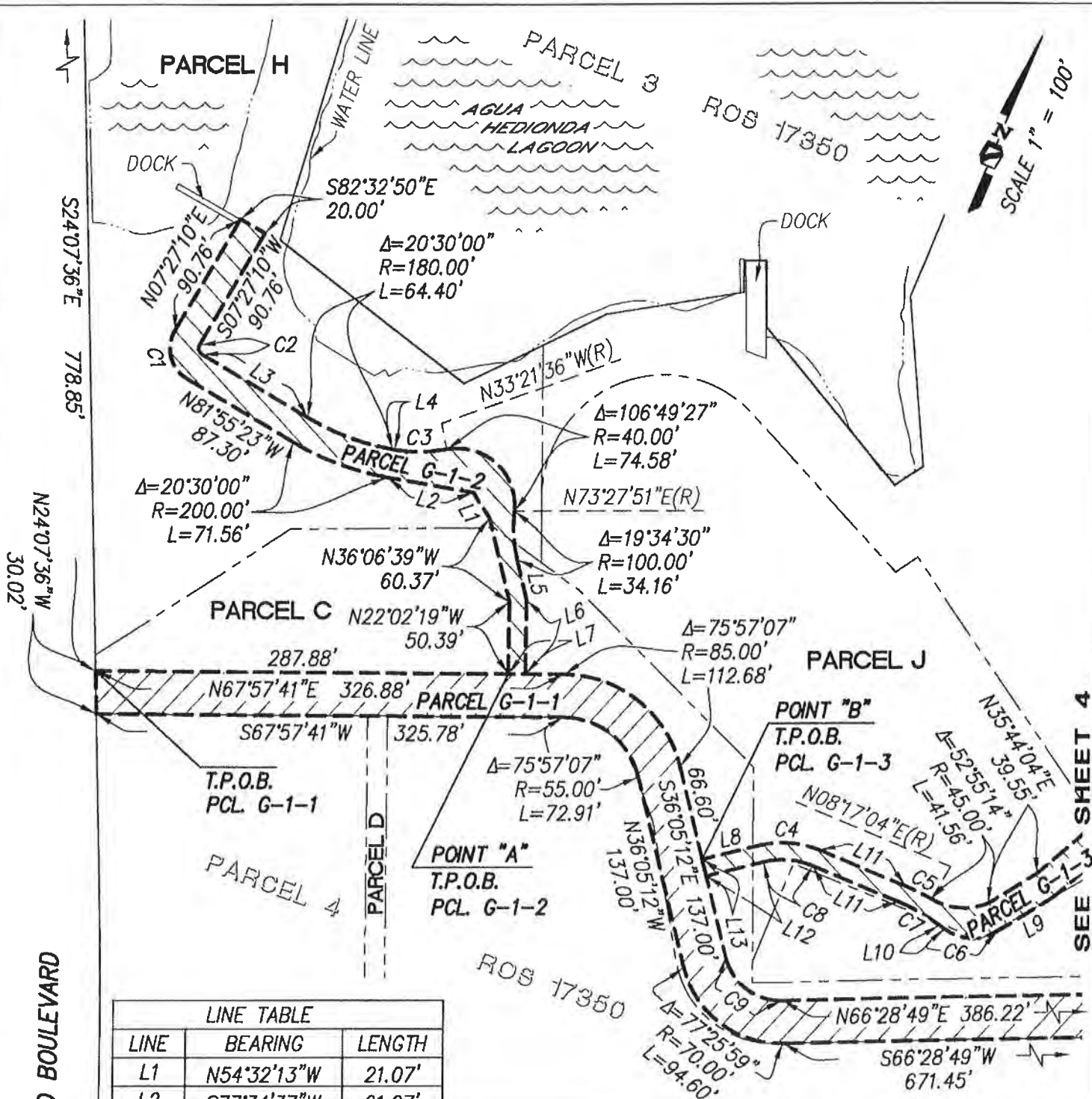
SHEET 2 OF 6

A.P.N. 210-010-43

SHEET INDEX

SEE SHEET 6

SCALE 1" = 400'



LINE TABLE		
LINE	BEARING	LENGTH
L1	N54°32'13"W	21.07'
L2	S77°34'37"W	61.07'
L3	S81°55'23"E	87.30'
L4	N77°34'37"E	1.29'
L5	S36°06'39"E	29.01'
L6	S22°02'19"E	51.88'
L7	S67°57'41"W	12.00'
L8	N53°54'48"E	41.39'
L9	S35°44'04"W	45.85'
L10	N75°40'45"W	4.40'
L11	N89°25'04"W	65.34'
L12	S53°54'48"W	41.39'
L13	N36°05'12"W	12.00'

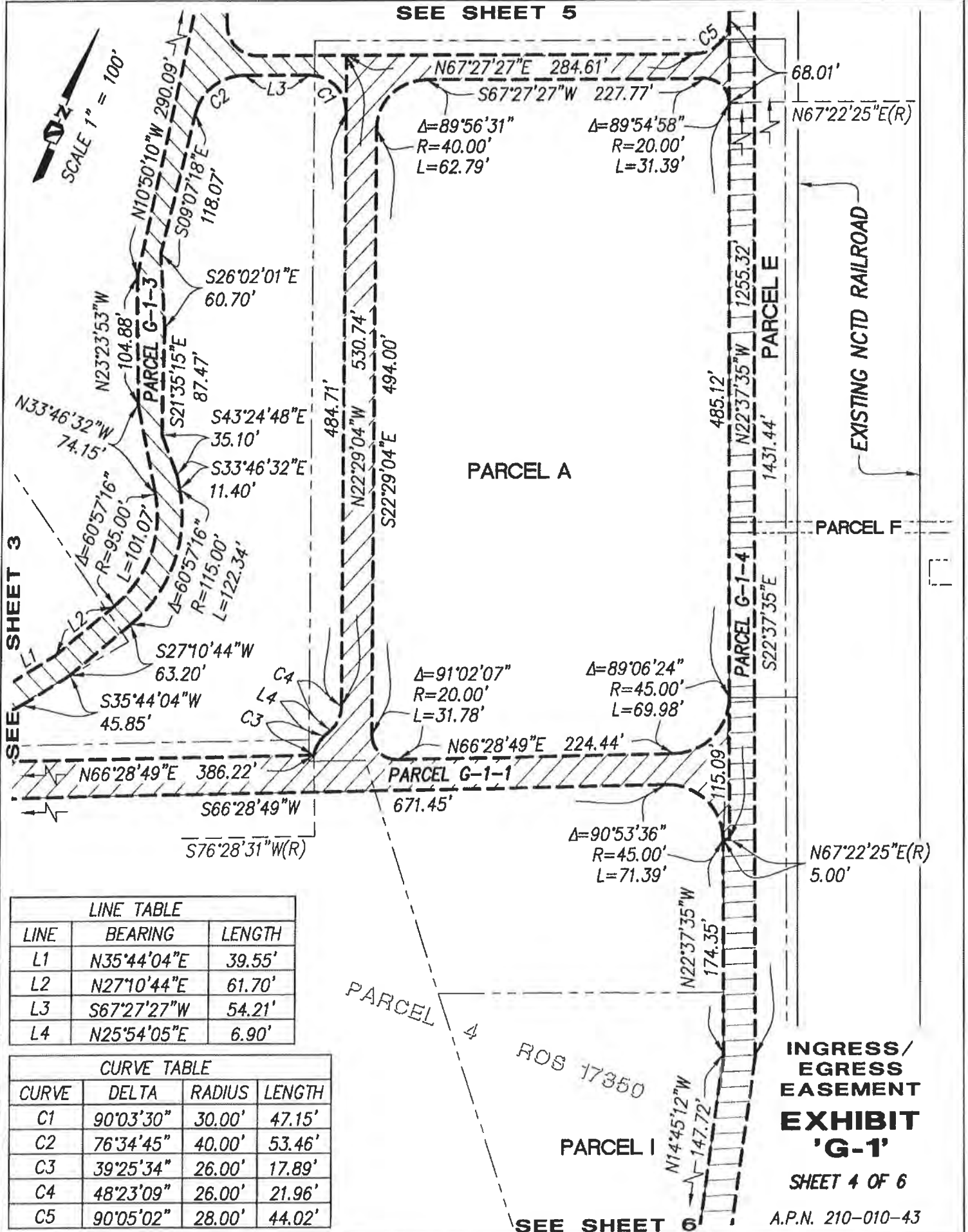
CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	89°22'33"	25.00'	39.00'
C2	89°22'33"	5.00'	7.80'
C3	20°56'13"	100.00'	36.54'
C4	36°40'08"	66.00'	42.24'
C5	07°42'08"	148.00'	19.90'
C6	68°35'11"	33.00'	39.50'
C7	13°44'19"	136.00'	32.61'
C8	36°40'08"	54.00'	34.56'
C9	77°25'59"	40.00'	54.06'

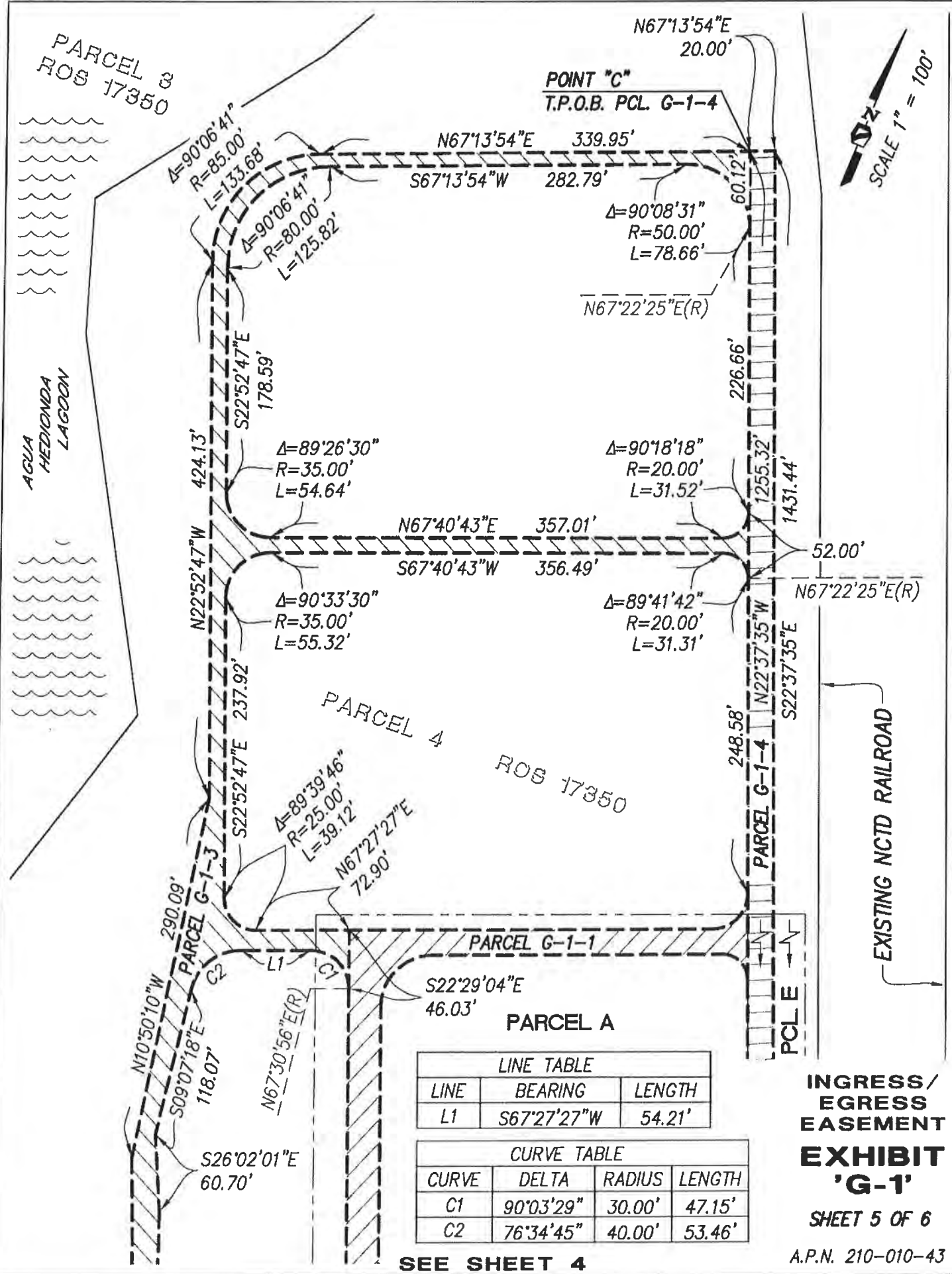
**INGRESS/
EGRESS
EASEMENT
EXHIBIT
'G-1'**

SHEET 3 OF 6

A.P.N. 210-010-43

SEE SHEET 5





LINE TABLE		
LINE	BEARING	LENGTH
L1	S67°27'27"W	54.21'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	90°03'29"	30.00'	47.15'
C2	76°34'45"	40.00'	53.46'

SEE SHEET 4

CARLSBAD BOULEVARD

LINE TABLE		
LINE	BEARING	LENGTH
L1	S16°01'06"E	230.76'
L2	S13°47'06"E	63.74'
L3	S19°08'10"E	127.98'
L4	N13°47'06"W	150.48'
L5	S61°25'19"W	40.23'
L6	S31°54'12"W	141.12'
L7	S10°46'24"W	103.89'
L8	N36°57'13"E	77.04'
L9	N02°46'38"E	87.93'

PARCEL 4
ROS 17350

POINT "D"
T.P.O.B. PCL. G-1-5

SEE SHEET 4
PCL. I

EXISTING NCTD RAILROAD

PARCEL K

PARCEL 5
ROS 17350

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	00°28'15"	5216.55'	42.87'
C2	90°57'16"	40.00'	63.50'
C3	33°17'20"	100.00'	58.10'
C4	28°48'10"	100.00'	50.27'

PCL. 6

CANNON ROAD

INGRESS/
EGRESS
EASEMENT
**EXHIBIT
'G-1'**

SHEET 6 OF 6

A.P.N. 210-010-43

SCALE 1" = 200'

EXHIBIT 'H*'

LEGAL DESCRIPTION

FOR

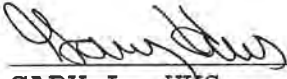
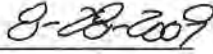
SEAWATER INTAKE/OUTFALL EASEMENT AREA

THAT PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST SOUTHEASTERLY CORNER OF SAID PARCEL 4, ALSO BEING A POINT ON THE WESTERLY LINE OF THE 100.00 FOOT WIDE RIGHT-OF-WAY OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD; THENCE ALONG SAID WESTERLY LINE, NORTH 22°30'13" WEST, 1490.22 FEET; THENCE LEAVING SAID WESTERLY LINE, SOUTH 66°28'49" WEST, 340.71 FEET; THENCE NORTH 40°03'53" WEST, 26.08 FEET; THENCE SOUTH 66°28'49" WEST, 45.93 FEET; THENCE NORTH 22°28'46" WEST, 17.56 FEET; THENCE SOUTH 66°31'12" WEST, 403.04 FEET; THENCE NORTH 22°23'45" WEST, 151.01 FEET; THENCE NORTH 67°18'36" WEST, 174.25 FEET; THENCE NORTH 76°03'09" WEST, 33.56 FEET TO THE **TRUE POINT OF BEGINNING**; THENCE NORTH 76°03'09" WEST, 41.14 FEET; THENCE SOUTH 67°05'54" WEST, 142.26 FEET; THENCE SOUTH 34°28'03" WEST, 161.11 FEET TO A POINT ON THE EASTERLY LINE OF CARLSBAD BOULEVARD (FORMERLY XI-SD-23), BEING 100.00 FEET WIDE AS SHOWN ON RECORD OF SURVEY NO. 17350; THENCE ALONG SAID EASTERLY LINE NORTH 24°07'36" WEST, 498.52 FEET; THENCE LEAVING SAID EASTERLY LINE NORTH 64°33'05" EAST, 16.50 FEET; THENCE NORTH 12°16'19" EAST, 29.68 FEET; THENCE NORTH 65°25'26" EAST, 158.31 FEET TO A POINT ON THE NORTHERLY LINE OF SAID PARCEL 4; THENCE ALONG SAID NORTHERLY LINE, SOUTH 30°14'20" EAST, 44.12 FEET; THENCE SOUTH 05°57'51" EAST, 202.95 FEET; THENCE SOUTH 74°44'52" EAST, 164.81 FEET; THENCE NORTH 41°35'28" EAST, 60.84 FEET; THENCE SOUTH 22°28'46" EAST, 152.31 FEET TO THE **POINT OF BEGINNING**.

ATTACHED HERETO IS A PLAT LABELED EXHIBIT 'H-1*' AND BY THIS REFERENCE MADE A PART THEREOF. ALL DISTANCES SHOWN HEREON ARE GRID DISTANCES. TO COMPUTE GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.999963440. ALL BEARINGS SHOWN HEREON ARE GRID, BASED UPON CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD-83, AND EPOCH 1991.35.

SAID PARCEL OF LAND CONTAINS 2.264 ACRES, MORE OR LESS.

 
GARY L. HUS DATE
L.S. 7019
EXPIRATION DATE 6/30/2010



LEGAL DESCRIPTION:

A PORTION OF PARCEL 4 PER CERTIFICATE OF COMPLIANCE RECORDED OCTOBER 30, 2001 AS DOCUMENT NO. 2001-0789068, AND AS SHOWN ON RECORD OF SURVEY NO. 17350, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

ASSESSORS PARCEL NO:

210-010-43

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS DRAWING IS THE HORIZONTAL CONTROL BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE 6, NAD 83, AS DETERMINED LOCALLY BY THE LINE BETWEEN FIRST ORDER CONTROL POINTS 057 AND 141 PER RECORD OF SURVEY NO. 17271, I.E. N40°39'21"W.

LEGEND:

- _____ INDICATES EXISTING PROPERTY LINE
- P.O.C. _____ INDICATES POINT OF COMMENCEMENT
- T.P.O.B. _____ INDICATES TRUE POINT OF BEGINNING
-  _____ INDICATES INTAKE/OUTFALL EASEMENT AREA = 2.264 ACRES, MORE OR LESS



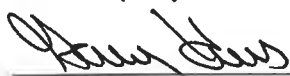
VICINITY MAP
NO SCALE

OWNER:

CABRILLO POWER I LLC
4600 CARLSBAD BOULEVARD
CARLSBAD, CALIFORNIA 92008
PHONE: (760) 268-4011

SURVEYOR OF WORK:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101
PHONE: (619) 235-6471



GARY L. HUS, L.S. 7019
REGISTRATION EXPIRES 6/30/2010

8-28-2009

DATE



SEAWATER
INTAKE/OUTFALL
EASEMENT AREA

**EXHIBIT
'H-1*'**

SHEET 1 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES
501 WEST BROADWAY SUITE 2020
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS
701 B STREET SUITE 800
SAN DIEGO, CALIFORNIA 92101

PARCEL 3
ROS 17350

PARCEL 4
ROS 17350

AGUA
HEDIONDA
LAGOON

EXISTING NCTD
RAILROAD

100'

INTERSTATE ROUTE 5

CARLSBAD
BOULEVARD

T.P.O.B.

S66°28'49"W
340.71' TIE

N22°30'13"W

PARCEL 7
ROS 17350

PARCEL 4
ROS 17350

**PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068**

AT&SF RAILROAD
RIGHT-OF-WAY

1490.22'

PM
19380

AVENIDA ENCINAS

P.O.C.

PARCEL 5
ROS 17350

PCL. 6

CANNON ROAD

**SEAWATER
INTAKE/OUTFALL
EASEMENT AREA**

**EXHIBIT
'H-1*'**

SHEET 2 OF 3

A.P.N. 210-010-43

SCALE 1" = 400'

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

SAN DIEGO, CALIFORNIA 92101

PREPARED BY:

PROJECT DESIGN CONSULTANTS

701 B STREET SUITE 800

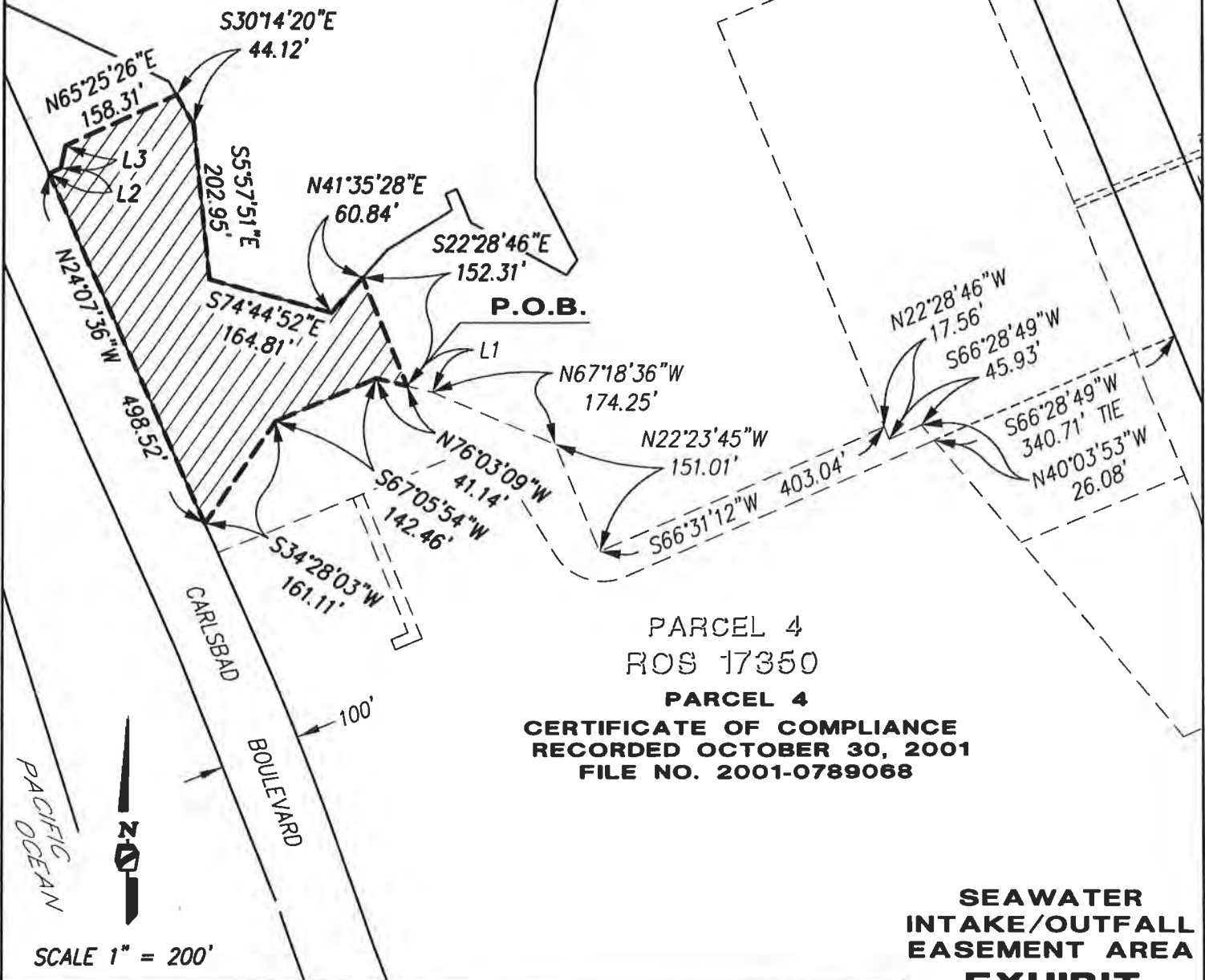
SAN DIEGO, CALIFORNIA 92101

LINE TABLE		
LINE	BEARING	LENGTH
L1	N76°03'09"W	33.56'
L2	N64°33'05"E	16.50'
L3	N12°16'19"E	29.68'

AGUA
HEDIONDA
LAGOON

PARCEL 3
ROS 17350

100'
EXISTING NCTD RAILROAD



PARCEL 4
ROS 17350

PARCEL 4
CERTIFICATE OF COMPLIANCE
RECORDED OCTOBER 30, 2001
FILE NO. 2001-0789068

SEAWATER
INTAKE/OUTFALL
EASEMENT AREA

**EXHIBIT
'H-1*'**

SHEET 3 OF 3

A.P.N. 210-010-43

APPLICANT:

POSEIDON RESOURCES

501 WEST BROADWAY SUITE 2020

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APPENDIX 2
GOVERNMENTAL APPROVALS

APPENDIX 2**GOVERNMENTAL APPROVALS****2.1. PURPOSE**

The purpose of this Appendix is to provide an outline of the Governmental Approvals that exist for the Project or are expected to be required for the construction and operation of the Plant. Additionally, this Appendix outlines some of the Governmental Approval support activities that the Project Company will need to undertake. As required by this Water Purchase Agreement, the Project Company shall obtain and maintain all required Governmental Approvals, irrespective of whether such Governmental Approval is identified in this Appendix.

2.2. EXISTING GOVERNMENTAL APPROVALS

The Project Company has obtained, and must maintain and comply with the following Governmental Approvals:

Table 2-1 Existing Governmental Approvals	
<u>Governmental Approval</u>	<u>Governmental Body</u>
Coastal Development Permit No. E-06-013	California Coastal Commission
Energy Minimization and Greenhouse Gas Reduction Plan (December 2008)	California Coastal Commission
Marine Life Mitigation Plan (December 2008)	California Coastal Commission
Erosion Control Plan (November 2009)	California Coastal Commission
Landscaping Plan (September 2009)	California Coastal Commission
Lighting Plan (August 2009)	California Coastal Commission
Construction Plan (September 2009)	California Coastal Commission
Water Pollution Control Plan (September 2009)	California Coastal Commission
Drinking Water Permit System No. 3710045 (conceptual approval letter dated October 19,2006)	California Department of Public Health
NPDES Permit No. CA0109223	California Regional Water Quality Control Board
Notice of Intent to Discharger for Storm Water Associated with Construction Activities (WDID #9 37C361181)	California Regional Water Quality Control Board
Redevelopment Permit RP 05-12(A)	City of Carlsbad
Specific Plan 144 with Amendment 144(J) SP 144(J)	City of Carlsbad

Table 2-1 Existing Governmental Approvals	
<u>Governmental Approval</u>	<u>Governmental Body</u>
Habitat Management Plan Permit Amendment HMP 05-08(A)	City of Carlsbad
Precise Development Plan PDP 00-02(B)	City of Carlsbad
Final Environmental Impact Report 03-05 (May 2006)	City of Carlsbad
Final Environmental Impact Report Addendum 03-05(A) (August 2009)	City of Carlsbad
Mitigation Monitoring and Reporting Program for EIR 03-05(A)	City of Carlsbad
Development Agreement DA 05-01(A)	City of Carlsbad
Standard Urban Storm Water Mitigation Program (September 2009)	City of Carlsbad
Coastal Development Permit 04-41	City of Carlsbad
Amendment of Lease PRC 8727.1 (August 2008)	State of California State Lands Commission

2.2.1 CONSTRUCTION GOVERNMENTAL APPROVALS

Table 2-1 sets forth the Construction Governmental Approvals that are expected to be required for the construction of the Plant. The Project Company and the Water Authority, as applicable, will be responsible for complying with the terms and conditions contained in the applicable Construction Governmental Approvals, in accordance with this Appendix and Section 4.4 (Construction Governmental Approvals) of this Water Purchase Agreement. The Project Company shall deliver copies of the following Construction Governmental Approvals and related applications to the Water Authority promptly following their issuance:

Table 2-2 Construction Governmental Approvals		
<u>Construction Governmental Approval</u>	<u>Governmental Body</u>	<u>Party Responsible for Obtaining</u>
Domestic Water Supply Permit	California Department of Public Health	Project Company
Demolition Permit	City of Carlsbad	Project Company
Rough Grading Permit	City of Carlsbad	Project Company

Table 2-2 Construction Governmental Approvals		
<u>Construction Governmental Approval</u>	<u>Governmental Body</u>	<u>Party Responsible for Obtaining</u>
Precise Grading Permit	City of Carlsbad	Project Company
Building Permits	City of Carlsbad	Project Company
Solid and Hazardous Waste Disposal Permits	City of Carlsbad	Project Company
Haul Route Permit	City of Carlsbad	Project Company
Air Quality Permits	San Diego County Air Pollution Control District	Project Company
General Waste Discharge Requirements Permit (Dewatering Permit)	California Regional Water Quality Control Board, San Diego Region	Project Company
NPDES Permit (for Construction activities)	California Regional Water Quality Control Board, San Diego Region	Project Company
Storm Water Pollution Prevention Plan	California State Water Resources Control Board	Project Company
Amendment to the Water Authority's Domestic Water Supply Permit	California Department of Public Health	Prepared by Project Company Submitted by Water Authority
Final Inspection /Approval of Plant Occupancy	City of Carlsbad	Project Company

2.2.2 Governmental Approval Support Activities. This Section outlines activities which must be completed by the Project Company to maintain compliance or obtain Governmental Approvals which are the Project Company's responsibility. The Project Company shall be responsible for completion of each of the mitigation measures and Governmental Approval conditions, including, but not limited to the following:

- (a) Approval of improvement plans;
- (b) Archaeological monitoring;
- (c) Biological monitoring;
- (d) Paleontological monitoring;
- (e) Geotechnical review;

- (f) Landscape and irrigation plans;
- (g) Traffic plan;
- (h) Sewer study;
- (i) Construction impacts mitigation (including specifically FEIR Mitigation Measure 4.3-1);
- (j) Lighting plan; and
- (k) Storm water management plan.

2.3. OPERATING GOVERNMENTAL APPROVALS

Table 2-3 sets forth the Governmental Approvals that are expected to be required for the operation of the Plant. The Project Company shall be responsible for complying with the terms and conditions contained in the applicable operating Governmental Approvals, in accordance with this Appendix and Section 8.8 (Operating Governmental Approvals) of this Water Purchase Agreement.

Table 2-3 Operating Governmental Approvals		
<u>Operating Governmental Approval</u>	<u>Governmental Body</u>	<u>Party Responsible for Obtaining</u>
Project Company New Domestic Water Supply Permit	California Department of Public Health	Project Company
Water Authority Domestic Water Supply Permit Amendment	California Department of Public Health	Water Authority
Approval to Operate	City of Carlsbad Fire Protection Division	Project Company
Hazardous Waste Business Plan	San Diego County	Project Company
NPDES Municipal Industrial Stormwater Permit	California State Water Resources Control Board	Project Company

APPENDIX 3
PROJECT DESIGN AND CONSTRUCTION WORK

APPENDIX 3

PROJECT DESIGN AND CONSTRUCTION WORK

3.1. OVERVIEW

3.1.1 Purpose. The purpose of this Appendix is to set forth the procedures for the Water Authority's review of the Construction Work to verify that the Project has been designed and constructed in accordance with the Contract Standards, and to provide a process to review Design Requirements Changes (as defined below).

3.1.2 Communication Plan. The Project Company shall prepare a communication plan that shall be organized as a directory available to the Project Company and Water Authority personnel and shall outline points of contact under various circumstances, including emergencies (the "Communication Plan"). The Communication Plan shall include both Project Company and Water Authority phone numbers, facsimile numbers, e-mail addresses, and points of contact. Within 30 days after the Contract Date, the Project Company shall submit an electronic copy of a draft Communication Plan for review and comment by the Water Authority. The Water Authority shall review the draft Communication Plan and return comments within 30 days of the initial submittal. Thirty days following the return of comments on the draft Communication Plan, the Project Company shall submit to the Water Authority five hard copies and one electronic copy of the final version of the Communication Plan incorporating the Water Authority's requested changes. The Communication Plan shall be updated and resubmitted semi-annually or sooner if needed to remain current during the Construction Period.

3.1.3 Water Authority Communication with Project Contractors. In accordance, with subsection 12.1(E) (Water Authority Access to and Communications with Project Contractors) of this Water Purchase Agreement, the Project Company shall grant the Water Authority's Director of Engineering and Director of Operations (or management personnel senior to such positions) direct access to the Project Contractors and their senior management personnel for meetings and email, telephone and fax communications regarding any material aspect of the work being performed by the Project Contractor which the Water Authority believes has resulted or may result in a material breach of this Water Purchase Agreement. This right of direct access shall apply during normal business hours and at any time during emergencies.

In addition, the Construction Superintendent or its delegate shall be available to be contacted by the Water Authority's on-site representative: (i) on a continuous 24-hours per day, 7 days per week, 365 days per year basis for emergency response; and (ii) during normal business hours for safety concerns or others issues requiring immediate attention.

3.2. PERSONNEL

3.2.1 Construction Superintendent. The construction superintendent shall be appropriately trained, experienced and knowledgeable in all aspects of the Construction Work so as to knowledgeably interact and communicate with the Water Authority, the Project Contractors and all Subcontractors regarding the Project and appropriately oversee the day-to-day performance of the Construction Work (the "Construction Superintendent"). The Construction Superintendent shall, among other things:

- (a) be familiar with the Construction Work and all requirements of this Water Purchase Agreement;
- (b) coordinate the Construction Work and give the Construction Work regular and careful attention and supervision;

- (c) maintain a periodic status log of the Construction Work that is updated no less frequently than once a week; and
- (d) attend all design and construction progress meetings with the Water Authority, as set forth in subsections 3.10.3 (Design Progress Meetings) and 3.12.2 (Construction Progress Meetings) of this Appendix.

The Project Company shall keep the Water Authority informed of all business telephone, mobile telephone, e-mail addresses and other means by which the Construction Superintendent may be contacted. The Construction Superintendent shall be present on the Plant Site with any necessary assistants on a full-time basis.

3.3. CONSTRUCTION WORK GENERALLY

3.3.1 Deliverable Material. The Project Company shall make available and deliver to the Water Authority all design documents, reports, submittals and other materials ("Deliverable Material") required to be delivered under this Appendix.

3.3.2 Signs. All Project participant identification and informational signs erected during the Construction Period shall be subject to the approval of the Water Authority, acting reasonably.

3.3.3 Laydown Areas and Water Authority Construction Office Space. Lay-down and staging areas for construction materials shall be located at the Plant Site or at other locations arranged and paid for by the Project Company. The Project Company shall also provide construction office space (and related reasonable ingress and egress rights) for two Water Authority employees during the Construction Period of approximately 175-200 square feet (similar in character to that provided for the Project Company and EPC Contractor), two telephone lines, and broadband internet connection to support two users. The cost of the Water Authority's construction office and fixtures shall be borne by the Project Company. The Water Authority shall supply its own furniture, equipment, supplies, and consumables. The cost of the Water Authority's furniture, equipment, supplies, consumables, telephone service, and internet service provider fees shall be borne by the Water Authority.

3.3.4 Maintenance of the Plant Site. During performance of the Construction Work, the Project Company shall be responsible for the overall maintenance of the Plant Site. The Project Company shall keep the Plant Site neat and orderly at all times, and shall clean up and remove all rubbish and construction debris from the Plant Site as they accumulate in accordance with the Contract Standards.

3.3.5 Relocation of Existing Utilities. The Project Company shall be responsible for all construction activities required with regard to existing utility services and installations (e.g., conduits, pipelines, transmission mains and other utility equipment and appurtenances), including any relocation of Utilities, whether such construction activities are performed by the Project Company or by the owner of the existing utility.

3.4. PROJECT COMPANY DESIGN – GENERAL

3.4.1 Design Requirements. The Project Company shall perform the Construction Work in compliance with the Design Requirements. The Design Requirements are intended to include the basic design principles, concepts and requirements for the Construction Work but do not include the final, detailed design, plans or specifications or indicate or describe each and every item required for full performance of the physical Construction Work or for achieving Commercial Operability. The Project Company agrees to prepare and furnish all necessary

detailed designs, plans, drawings and specifications in conformity with the Design Requirements.

3.4.2 Design Considerations. The design for the Project undertaken and performed by the Project Company shall:

- (a) be undertaken by a design team exercising such degree of care, skill and diligence as would reasonably be expected from consultants qualified to perform services similar in scope, nature and complexity to the design of the Plant in accordance with Good Design and Construction Practice, and the Project Company shall appoint a design team that:
 - (i) is so qualified;
 - (ii) includes licensed or registered professional engineers and architects in accordance with Applicable Law; and
 - (iii) has sufficient expertise and experience to expeditiously and efficiently perform all of the design in a proper and professional manner to the standard set out in this Water Purchase Agreement; and
- (b) include consideration of life-cycle operation and maintenance costs.

3.4.3 Water Authority Review and Comment on Design Documents. The Project Company shall have the obligation to provide the Water Authority all Design Documents in accordance with this Appendix. The Water Authority will have the right to provide comments on Design Documents which identify any issues: (a) of material non-compliance with the Design Requirements; (b) that may reasonably and adversely affect the ability of the Project Company to achieve Provisional Acceptance or meet the Performance Guarantees; or (c) which may have a material impact on the Water Authority Distribution System ("Material Issue Comments"). The Project Company shall provide written responses to any Material Issue Comments delivered by the Water Authority indicating the proposed measures that shall be taken to correct any such material issues. Neither compliance by the Project Company with the Design Requirements, nor review and comment by the Water Authority of the Design Documents, nor any failure or delay by the Water Authority in commenting on any design submittals shall in any way relieve the Project Company of full responsibility for the design, construction, performance, operation, maintenance and management of the Project in accordance with the Contract Standards. During the review process set forth in Section 3.10 (Water Authority Design Review) of this Appendix, the Project Company may proceed with the Construction Work based on a particular design package, provided that all Material Issue Comments related to that design package are responded to within 30 days.

3.4.4 Document Submittal Protocol. No later than 30 days following the Financial Closing Date, the Project Company shall submit to the Water Authority a document submittal protocol (the "Document Submittal Protocol") which shall identify the key document submittal packages to be prepared by the Project Company, the expected submittal dates to the Water Authority and the expected dates for Water Authority responses, which shall be reasonable and be based on and consistent with the Project Schedule (as defined below). The Document Submittal Protocol shall stipulate that the Water Authority shall have at least 10 Business Days for review of each document submittal package and provide related Material Issue Comments. The Document Submittal Protocol shall also require the Project Company to submit five hardcopies and one electronic copy of the final versions of the record drawings and specifications set forth in: (i) subsection 3.12.5(a) (Record Drawings and Specifications); and (ii) and the maintenance manuals and other information set forth in subsection 3.12.5(b) (Maintenance Manuals) of this Appendix. All other project records required pursuant to

subsection 3.12.5 (Project Records), and all other reports, plans, drawings, submittals, and draft and final versions of documentation required to be provided or made available to the Water Authority may be submitted electronically in an agreed upon format. The Document Submittal Protocol shall also require the Project Company to distribute the document submittals in the manner directed by the Water Authority.

3.4.5 Documents at the Plant Site. The Project Company shall maintain at the Plant Site all design and construction documents, which may be in electronic format, including a complete set of record drawings, in accordance with the Design Requirements. These documents shall be available to the Water Authority for reference, copying and use.

3.4.6 Ownership of Design. The Project Company shall own the Design Documents. Except for reference purposes, the Design Documents shall not be used by the Water Authority or the Project Company on any other project.

3.5. PROJECT COMPANY DESIGN – DESIGN REQUIREMENTS

3.5.1 Generally. The Project Company shall prepare all Design Documents necessary or appropriate to carry out and complete the Construction Work. As of the Contract Date, the Project Company's design for the Plant is not complete. The Design Requirements shall form the basis of design for the Plant and all design work shall be completed in accordance therewith. All of the Project Company working and final Design Documents shall comply with the Design Requirements and shall ensure that the Project is constructed to a standard of quality, integrity, durability and reliability which is equal to or better than the standard established by the Design Requirements.

3.5.2 Design Requirements Change Defined. "Design Requirements Change" means a design that is in conflict with the Design Requirements, but does not include refinements, corrections to mistakes, detailing, or the substitution of equal alternatives to the extent permitted by Attachment 3A (Basic Design Requirements for the Plant) and Attachment 3C (Supplemental Design Requirements) of this Appendix.

3.5.3 Making a Design Requirements Change. A Design Requirement Change shall only be made in accordance with the requirements of Section 3.6 (Design Requirements Changes Made at Project Company Request) or Section 3.7 (Design Requirements Changes Made Due to Uncontrollable Circumstances) of this Appendix. Any Design Requirements Change that is agreed to by the parties, and any related change in the terms and conditions of this Water Purchase Agreement, shall be reflected in a Water Purchase Agreement Amendment or a Contract Administration Memorandum.

3.6. DESIGN REQUIREMENTS CHANGES MADE AT PROJECT COMPANY REQUEST

3.6.1 Project Company Proposed Design Requirements Changes. The Project Company shall give the Water Authority written notice of, and reasonable opportunity to review and comment upon, any Design Requirements Changes proposed to be made at the Project Company's request. The notice shall contain sufficient information for the Water Authority to determine that the Design Requirements Change:

- (a) does not diminish the capacity of the Project to be operated and maintained so as to meet the Contract Standards;
- (b) does not materially impair the quality, integrity, durability and reliability of the Project;

- (c) is reasonably necessary or is advantageous for the Project Company to fulfill its obligations under this Water Purchase Agreement; and
- (d) is feasible.

3.6.2 Water Authority Approval Rights of Project Company Proposed by the Project Company. For Design Requirements Changes proposed by the Project Company related to Attachment 3C (Supplemental Design Requirements), the Water Authority shall have the right, in its sole discretion, to reject or modify any Design Requirements Change proposed by the Project Company. For Design Requirements Changes proposed by the Project Company related to Attachment 3A (Basic Design Requirements for the Plant), the Water Authority shall have the right, acting reasonably, to accept, reject or modify any Design Requirements Change proposed by the Project Company that does not meet the conditions of subsection 3.6.1 (Project Company Proposed Design Requirements Changes) of this Section.

3.7. DESIGN REQUIREMENTS CHANGES MADE DUE TO UNCONTROLLABLE CIRCUMSTANCES

Upon the occurrence of an Uncontrollable Circumstance prior to the Commercial Operation Date, the Project Company shall promptly proceed, subject to Article 14 (Uncontrollable Circumstance Procedures) of this Water Purchase Agreement, to make or cause to be made all Design Requirements Changes reasonably necessary to address the Uncontrollable Circumstance. The Project Company and the Water Authority shall consult on the possible means of addressing and mitigating the effect of any Uncontrollable Circumstance, and the Project Company and the Water Authority shall cooperate in order to minimize any delay, lessen any additional cost and modify the Project so as to permit the Project Company to continue performing the Contract Obligations in light of such Uncontrollable Circumstance. The design and construction costs resulting from any such Design Requirements Change, and any related operation, maintenance, repair and replacement costs, shall be borne by the Water Authority as and to the extent provided in this Water Purchase Agreement.

3.8. PROJECT SCHEDULE AND SCHEDULING

3.8.1 Initial Project Schedule. Attachment 3B (Project Schedule) to this Appendix is the initial project schedule which will reflect and be illustrative of key milestones (the "Project Schedule").

3.8.2 Baseline CPM Schedule. Within 120 days following the Financial Closing Date, the Project Company shall prepare a critical path method ("CPM") Project Schedule that is an accurate representation of the proposed means and methods for accomplishing the work and reflects the entire scope of work as included in this Water Purchase Agreement. This Project Schedule shall show the breakdown of work into activities and relationships to the extent required to effectively plan the project, report work progress and analyze time impacts, but is not required to be cost or resource loaded. The CPM Project Schedule shall be prepared using the latest version of Primavera Project Management for Windows to reflect the EPC Contractor's plan for and status of the work. Narrative reports shall be prepared with the latest version of Microsoft Word.

3.8.3 Project Schedule Updates. The Project Company shall, as required from time to time until the Commercial Operation Date, but no less than once per calendar month, update the Project Schedule so that it is at all times an accurate, reasonable and realistic representation of the Project Company's plans for the completion of the Construction Work in accordance with the requirements of this Water Purchase Agreement. The updates shall include:

- (a) adjustments resulting from Uncontrollable Circumstances and Design Requirements Changes;
- (b) as the design progresses, best estimates of:
 - (i) the start and completion dates for the major design phases; and
 - (ii) the commencement of construction;
- (c) the planned start and completion dates of the major activities of construction; and
- (d) the estimated date on which the Commercial Operation Date is expected to occur.

The Project Company shall deliver an updated Project Schedule on a monthly basis to the Water Authority and the Water Authority Engineer (the “Updated Project Schedule”). Upon delivery, the updated Project Schedule shall be the Project Schedule under this Water Purchase Agreement in substitution for the previously issued Project Schedule.

3.8.4 Compliance with Project Schedule. The Project Company shall undertake the Construction Work of the Project in compliance with the Project Schedule and each Updated Project Schedule.

3.9. PROJECT COMPANY DESIGN PROCESS

3.9.1 Phases Generally. The Project Company shall cause the EPC Contractor to undertake the design of systems and subsystems in phases progressively, with each phase capturing the information and detail provided in a previous phase.

3.9.2 Construction Drawings Phase. The construction drawings phase shall include construction documents consisting of drawings and specifications describing in detail the requirements for the construction of the Project delivered to the Water Authority when the design of the Project is:

- (a) approximately 50% complete or better (“Ready for Construction”); and
- (b) Final Documents (as defined below).

These construction documents shall be delivered in a timely way in advance of construction and with sufficient detail as to permit the Water Authority to monitor compliance and to assess the design of that portion of the Project. If the Project Company intends to proceed with construction of one element of the Project in advance of the completion of the design of that portion of the Project, then the Project Company shall deliver the Ready for Construction documents for that element with sufficient accompanying detail to permit the Water Authority to monitor compliance and assess the design of that element and its compatibility with the Design Requirements provided however, the Project Company may proceed with the Construction Work whether or not the Water Authority has delivered its comments on the Ready for Construction drawings to the Project Company. At such time as all or a portion of the construction documents are finally complete (the “Final Documents”), the Project Company shall deliver the Final Documents to the Water Authority and the Water Authority Engineer. The Water Authority and the Water Authority Engineer shall review and comment on the Final Documents in accordance with the Document Submittal Protocol and this Appendix; provided however, that the Project Company may proceed with the design, procurement and physical

construction during such review process as long as all Material Issue Comments are responded to within 30 days.

3.9.3 Documentation Generally. In each phase, the Project Company shall provide to the Water Authority the level of detail and documentation as required by Good Design and Construction Practice. In addition, the Project Company shall deliver the Final Documents in compliance with: (i) the standards set forth in Attachment 3D (Water Authority Drawing Requirements) of this Appendix; or (ii) comparable drafting standards that the Project Company has delivered to and been approved by the Water Authority, acting reasonably.

3.9.4 Conditions to Issuance of Construction Drawings. The Project Company shall only provide drawings and specifications for construction purposes which have been submitted to the Water Authority in accordance with the Document Submittal Protocol. Should the Water Authority provide comments at a time later than that set forth in the Document Submittal Protocol, the Project Company's obligation to respond to such Water Authority comments shall be deemed to have been waived.

3.9.5 Document Control and Coordination. The Project Company shall ensure that all documentation submitted to the Water Authority as part of the design process:

- (a) indicates the design phase to which it relates, and if it is a document from the construction drawings phase pursuant to subsection 3.9.2 (Construction Drawings Phase) of this Section, whether such documents is part of the Ready for Construction documents or the Final Documents;
- (b) describes and justifies Design Requirements Changes in accordance with Section 3.6 (Design Requirements Changes Made at Project Company Request) or Section 3.7 (Design Requirements Changes Made Due to Uncontrollable Circumstances) of this Appendix; and
- (c) is provided in accordance with the Document Submittal Protocol.

3.10. WATER AUTHORITY DESIGN REVIEW

3.10.1 Identification of Design Requirements Changes. Any Design Requirements Change (regardless of prior oral discussion) must be clearly identified by the Project Company in its cover letter that transmits the submittal and shall be individually highlighted in all drawings, specifications, and other design documents provided to the Water Authority.

3.10.2 Time for Project Company Response. For each submittal, the Water Authority may provide written Material Issue Comments. The Project Company shall provide a written response to such comments within the time periods set forth in the Document Submittal Protocol or, if the Document Submittal Protocol is silent, within 10 Business Days of receipt of the Water Authority's comments.

3.10.3 Design Progress Meetings. For the purpose of facilitating the design and design review process, the Project Company shall schedule design progress meetings with the Water Authority once every two weeks. Any outstanding Material Issue Comments that have not been satisfactorily resolved shall be transferred to an issues tracking form by the Project Company for subsequent follow-up. The primary purpose of these meetings shall be to discuss overall design progress, the conformance of the design to the Design Requirements, and to address outstanding issues arising from the review and response process. The status and issues of related permitting and early construction activities may also be included as agenda items for each design progress meeting. Project Company representatives with responsibility for design shall participate in the meeting either in person or via video conference. Similarly, the Water

Authority shall be appropriately represented by individuals with knowledge and authority for decision making at the meeting. Design progress meetings may coincide with construction progress meetings.

3.10.4 Design Submittals During Construction. It is anticipated that there could be some redesign or design clarifications needed during construction and after the Final Documents are completed. This continuing design effort shall be subject to the Water Authority's review for compliance and consistency with the applicable Design Requirements in the same manner as set forth in this Appendix with respect to the Design Documents. Material design changes to a particular Final Document performed following the issuance of the Design Document for construction shall be issued under a design change notice process that accurately tracks and documents changes to the design ("DCN"). No later than 30 days prior to initiation of construction, the Project Company shall submit to the Water Authority additions to the Document Submittal Protocol to include the DCN process. The DCN process shall include provisions for the Water Authority to be provided with copies of all DCNs in a timely manner to allow review by the Water Authority and the ability to make Material Issues Comments in the same manner as set forth with respect to the Design Documents. If a DCN requires a material change from what was reflected in the applications for Governmental Approvals, the DCN must be approved by the appropriate Governmental Body if required by Applicable Law.

3.11. SUPPLEMENTAL DESIGN REQUIREMENTS.

Attachment 3C (Supplemental Design Requirements) of this Appendix identifies equipment, preferred vendors, and design specifications which the Project Company shall incorporate into the Design Documents and the Construction Work.

In instances when Attachment 3C (Supplemental Design Requirements) of this Appendix grants the Project Company the right to select a vendor or equipment specification not listed therein, and the Project Company exercises such right, the Document Submittal Protocol shall allocate 15 days for the Water Authority, acting reasonably, to review and approve of such selection.

In addition, within 180 days after the Contract Date, for all the equipment identified in Section 3C.3 (Water Authority Preferred Material and Equipment Providers) of Attachment 3C of this Appendix, the Project Company shall provide a list of the vendors and specifications that the Project Company has selected.

Notwithstanding anything set forth in this Section, the Project Company shall have the sole and exclusive responsibility and liability for the design, construction and performance of the Project.

3.12. CONSTRUCTION MEETINGS AND REPORTS

3.12.1 Preconstruction Conference. The Project Company shall hold a preconstruction conference prior to commencement of the construction of the major components (excluding preliminary site preparation activities) of the Project (the "Preconstruction Conference"). The Project Company shall prepare an agenda which shall be reviewed with the Water Authority, and shall preside at the conference, contribute appropriate items for discussion, provide any data requested, record minutes to summarize significant proceedings and decisions, and distribute the minutes to all parties in attendance. The agenda shall include, but shall not necessarily be limited to the status of the following items:

- (a) designation of responsible Key Individuals during the Construction Period;
- (b) Project Contractors and Subcontractors, and their roles on the Construction Work;

- (c) Project Schedule;
- (d) status of construction quality assurance / quality control ("QA/QC") manual and procedures and construction QA/QC personnel;
- (e) procedures for Project Company submittals;
- (f) Project Company's site-specific health and safety plan;
- (g) maintenance of record drawings;
- (h) proposed construction start date;
- (i) status of Governmental Approvals;
- (j) emergency telephone numbers;
- (k) identification of Water Authority QA/QC inspectors; and
- (l) any other Construction Work-related items.

The Preconstruction Conference shall be scheduled by the Project Company at a time reasonably acceptable to the Water Authority and shall be attended by the Construction Superintendent, the design manager, the QA/QC Manager, a representative of the Operating Service Provider, principal Subcontractors and the Project Company's principal suppliers, as the Project Company deems appropriate. The Project Company may also include other attendees including: (a) local police and fire departments, and other Governmental Bodies with jurisdiction over the Construction Work; (b) any other contractors whose work affects or is affected by construction of the Project; and (c) others as it deems appropriate.

3.12.2 Construction Progress Meetings. From the time mobilization for construction commences through Project Completion, for the purpose of facilitating the construction process, the Project Company shall schedule, hold, and facilitate construction progress meetings with the Water Authority once every two weeks. These construction progress meetings shall be attended by the Construction Superintendent, principal Subcontractors and the Project Company's principal suppliers, as the Project Company deems appropriate. The project manager, the design manager, and representatives from the Project Company's executive team shall attend construction progress meetings periodically and as reasonably requested by the Water Authority. Other attendees may include any other contractors whose work affects or is affected by construction of the Project, and others deemed appropriate by these parties. Construction progress meetings shall be held at the Plant Site.

3.12.3 Construction Progress Meeting Agendas. At such meetings, discussions shall be held concerning all aspects of the Construction Work including, but not limited to, schedule of work, coordination of work with others, extra Construction Work, permits and Construction Work submittals, and any test results. The Project Company shall prepare an agenda, preside at meetings, record minutes to include significant proceedings and decisions, and distribute the minutes to all parties in attendance within 14 Business Days of the meeting. The agenda shall include, but shall not necessarily be limited to, the status of the following matters:

- (a) minutes of the previous meeting;
- (b) progress since the last meeting by the Project Company and Project Contractors;

- (c) schedules, including planned progress, off-site fabrication and delivery schedules; corrective action measures, if required;
- (d) problems, conflicts and observations;
- (e) EPC or subcontractor change orders and any Process Services Agreement or Operating Service Agreement amendments;
- (f) quality standards and control;
- (g) QA/QC status, inspection/testing schedule, and issues;
- (h) coordination between parties;
- (i) an eight week forward looking schedule for dry and wet testing of major systems and subsystems including control systems;
- (j) safety concerns, accidents, and injuries;
- (k) visits by representatives of regulatory agencies;
- (l) public affairs and concerns of nearby residents;
- (m) tours;
- (n) environmental issues;
- (o) record drawings;
- (p) other business; and
- (q) next meeting date.

3.12.4 Monthly Progress Reports. Monthly progress reports required to be submitted by the Project Company shall include:

- (a) a summary of Construction Work activities during the reporting month;
- (b) a schedule of upcoming Construction Work activities;
- (c) a listing of submittals delivered during the reporting month and their status;
- (d) a listing of submittals scheduled for delivery the following month;
- (e) the Project Company's verification that the record documents have been updated as appropriate;
- (f) a summary of progress towards obtaining Governmental Approvals;
- (g) a listing of any violations of Governmental Approvals or Applicable Law and actions taken or to be taken to eliminate any subsequent violations;
- (h) a listing of issues needing resolution;

- (i) a listing of all telephone calls received during the reporting month involving material inquiries or complaints;
- (j) Project Schedule updates;
- (k) the Project Company's plan for accelerating the schedule to meet the Scheduled Commercial Operation Date should the Project Company's progress-to-date indicate that the Construction Work is behind schedule (as adjusted for extensions of time permitted under this Water Purchase Agreement);
- (l) Construction Quality Management Plan (as defined below) prepared in accordance with this Section;
- (m) Available Construction Work progress photographs; and
- (n) Summary of reports, certified test records and status of results for all Construction Work materials which were undertaken as part of Construction Work.

The monthly progress report shall also: (i) provide a description of any concerns or issues raised regarding the Construction Work and the Project Company's approach to addressing the issue; and (ii) include a section containing health and safety statistics.

The construction quality management plan shall be prepared by the Project Company Quality Manager (as defined below) covering all aspects of the design and Construction Work completed in the reporting period (the "Construction Quality Management Plan"). The Project Company shall highlight any deficiencies identified and corrective actions taken to address such deficiencies during the period covered by such report.

The format of the monthly progress report shall be approved by the Water Authority.

3.12.5 Project Records. Notwithstanding any other provision of this Water Purchase Agreement, the Project Company shall meet the following obligations:

- (a) Record Drawings and Specifications. The Project Company shall:
 - (i) throughout the Construction Period, update the Design Documents electronically, including approved shop drawings that are available from Project Contractors and Subcontractors, so as to produce accurate and complete record documents for the Project;
 - (ii) as requested from time to time during the Construction Period, make available such record drawings and specifications to the Water Authority or the Water Authority Engineer for review to permit the Water Authority to monitor the Project Company's compliance with the requirements of this Section; and
 - (iii) provide an electronic version and a hard copy of the completed, as-built record drawings and specifications to the Water Authority as a condition to Project Completion in accordance with: (i) the standards set forth in Attachment 3D (Water Authority Drawing Requirements) of this Appendix; or (ii) comparable drafting standards that the Project Company has delivered to and been approved by the Water Authority, acting reasonably.

- (b) Maintenance Manuals. The Project Company shall, as a condition to Project Completion, make available all maintenance manuals, specifications, warranties and related information, in both written and electronic form, for all the equipment and systems that have been included in the Construction Work of the Project for review by the Water Authority.
- (c) Design Records. The Project Company shall retain electronic records of the design development consistent with the record retention requirements of this Water Purchase Agreement.
- (d) Minutes of Meetings. The Project Company shall retain minutes of meetings between the Water Authority and the Project Company relating to the Construction Work, and shall circulate such minutes to the Water Authority Representative for review and comment.
- (e) Inspection Reports and Tests Results. The Project Company shall retain and, upon the Water Authority's request, grant electronic access to the Water Authority to, official reports and certified test records of all inspections and tests which were undertaken as part of the construction.
- (f) Utility Plans. The Project Company shall retain utility plans for the Plant and the Plant Site.
- (g) Landscape and Irrigation Plans. The Project Company shall retain landscape and irrigation plans for the Project and the Plant Site.
- (h) Copies of all Governmental Approvals. The Project Company shall retain copies of all Governmental Approvals for the construction and occupation of the Project.
- (i) Signed Construction Quality Management Plan. The Project Company shall retain a signed copy of the Construction Quality Management Plan for the construction and all records of the quality assurance program implemented as required by this Water Purchase Agreement.

3.13. QUALITY MANAGEMENT

3.13.1 Quality of the Design and Construction Work. The Project Company is solely responsible for the quality of the design and Construction Work and acknowledges that a comprehensive quality management system is critical for the proper and timely completion of the Construction Work.

3.13.2 Project Company Quality Manager. The Project Company shall retain a qualified expert in quality management ("Project Company Quality Manager") to develop a Construction Quality Management Plan.

3.13.3 Construction Quality Management Plan. Within 45 business days of the Contract Date, the Project Company shall deliver to the Water Authority a draft Construction Quality Management Plan that describes the implementation of the quality control system, which shall include, but not be limited to, the following:

- (a) design integration;
- (b) interdisciplinary coordination;

- (c) constructability reviews;
- (d) cost impact analyses;
- (e) in-Plant quality assurance inspections;
- (f) on-site equipment/materials protection;
- (g) construction Period inspections; and
- (h) construction Period testing.

3.13.4 Construction Quality Management Plan Comments. The Water Authority may, within 30 days of receipt of the draft Construction Quality Management Plan, provide comments on it to the Project Company regarding any concerns that the draft Construction Quality Management Plan is not in accordance with Good Design and Construction Practice or is not in accordance with Section 3.13.3 (Construction Quality Management Plan) of this Appendix. The Project Company shall, acting reasonably, take account of such comments when finalizing the Construction Quality Management Plan. The Project Company shall promptly implement and strictly comply with the Construction Quality Management Plan as recommended by the Project Company Quality Manager.

3.13.5 Quality Review by the Water Authority. The Water Authority may, at its discretion, perform its own audits of the Construction Quality Management Plan and for that purpose the Project Company shall make available for review by the Water Authority, upon request from the Water Authority, all material records relating to the Construction Quality Management Plan.

3.14. ENVIRONMENTAL REVIEW AND PROTECTION

3.14.1 Compliance With Governmental Approvals. The Project Company shall be solely responsible to develop and comply with all the applicable environmental mitigation or management measures required by the Governmental Approvals during the performance of the Construction Work.

3.14.2 Construction Environmental Compliance Manager. The Project Company shall assign a construction environmental compliance manager who shall be responsible to oversee compliance with all the applicable environmental mitigation or management measures required by the Governmental Approvals (the "Construction Environmental Compliance Manager"). The Construction Environmental Compliance Manager shall be a single, identified entity or person responsible for, at a minimum, the following duties:

- (a) compliance during the Construction Work with environmental Governmental Approvals;
- (b) oversight of construction methods for environmental soundness;
- (c) ensuring compliance with the Storm Water Pollution Prevention Program;
- (d) any required record keeping to demonstrate environmental compliance with Governmental Approvals;
- (e) coordination with the Water Authority on environmental compliance;
- (f) coordination on environmental compliance with Governmental Bodies; and

- (g) conducting meetings relating to environmental compliance with Governmental Approvals with any Governmental Bodies, if any, as required.

All environmental compliance monitoring duties conducted by the Construction Environmental Compliance Manager shall be recorded in the form of standard daily logs and a monthly report with photographs as applicable to affirmatively record and demonstrate the Plant Site's continuing compliance with applicable environmental requirements of the Governmental Approvals. All environmental compliance monitoring reports shall be made available to the Water Authority upon request.

3.14.3 Hazardous Substances Management Program. The Project Company shall develop and maintain a written Hazardous Substances management program that includes as a minimum, but is not limited to, the requirements specified in this Section (the "Hazardous Substance Management Program"). A copy of the Hazardous Substance Management Program shall be submitted to the Water Authority. Accidental spills, site contamination, and injury of personnel shall be avoided. The Water Authority shall notify the Project Company of suspected violations. Any fines that may be levied against the Water Authority for violations relating to Hazardous Substances connected to the Project shall be reimbursed immediately by the Project Company. All documents required by the Hazardous Substances Management Program shall be made available to the Water Authority immediately upon request.

3.14.4 Project Company Hazardous Substances. As between the Project Company and the Water Authority, any Project Company Hazardous Substances shall be the responsibility of the Project Company. To the extent required by Applicable Law, the Project Company shall ensure that an EPA identification number is obtained for all Project Company Hazardous Substances, listing the Project Company's name and construction site address as the generator of the Project Company Hazardous Substance. To the extent required by Applicable Law, the Project Company shall be responsible for the identification, analysis, profiling, documentation, reporting, transport and disposal of such Hazardous Substances.

3.14.5 Emergency/Spill Response Plan. The Project Company shall develop an emergency/spill response plan ("Response Plan"), for each Hazardous Substance or class/group of Hazardous Substances either known to be on the Plant Site or intended to be brought to the Plant Site by the Project Company. As a minimum, the Response Plan must address the following:

- (a) provide a description of on-site equipment used to segregate and contain Hazardous Substances and available to respond to an emergency/spill of the Hazardous Substance;
- (b) notification procedures, including notification to potentially impacted residents and businesses adjacent to the Project;
- (c) response coordination procedures between the Project Company and the Water Authority;
- (d) provide a Plant Site plan identifying the location of stored Hazardous Substances and location spill containment/response equipment;
- (e) provide a description of the Hazardous Substances handling and spill response training provided to the Project Company's employees, Project Contractors and Subcontractors; and
- (f) provide a description of arrangements with Hazardous Substance and spill response contractors and their response times.

3.15. CONSTRUCTION PRACTICE, SAFETY AND SECURITY

3.15.1 Means and Methods. The Project Company shall perform the Construction Work in accordance with the Contract Standards and shall have exclusive responsibility for all construction means, methods, techniques, sequences, and procedures necessary or desirable for the correct, prompt, and orderly prosecution and completion of the Construction Work as required by this Water Purchase Agreement. The responsibility to provide the construction means, methods, techniques, sequences and procedures referred to above shall include, but not be limited to, the obligation of the Project Company to provide the following construction requirements: temporary offices and construction trailers; required design certifications; required approvals; weather protection; clean-up and housekeeping of the Plant Site; construction trade management; temporary parking; vehicle traffic; safety and first aid facilities and equipment; correction of defective work or equipment; Project Contractor and Subcontractors' insurance; storage areas; workshops and warehouses; temporary fire protection; security of the Plant Site; temporary utilities; potable water; sanitary services; Project Contractor, Subcontractor and vendor qualification; receipt and unloading of delivered materials and equipment; erection rigging; temporary supports; installation and testing of all equipment and systems; and construction coordination.

3.15.2 Safety and Security. The Project Company shall maintain safety and security at the Plant Site at all times at a level consistent with the Contract Standards. Without limiting the foregoing, the Project Company shall:

- (a) take all necessary precautions for the safety and security of the Construction Work and provide all necessary protection to prevent damage, injury or loss caused by trespass, negligence, vandalism, malicious mischief or any other course related to the Construction Work, for:
 - (i) workers at the Plant Site and all other persons who may be involved with deliveries or inspections;
 - (ii) visitors to the Plant Site;
 - (iii) passersby, neighbors and adjacent properties;
 - (iv) materials and equipment under the care, custody or control of the Project Company or Subcontractors on the Plant Site;
 - (v) other property constituting part of the premises or the Project under construction;
 - (vi) adjacent property not constituting part of the premises or the Project under construction; and
 - (vii) Water Authority property;
- (b) establish and enforce all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards;
- (c) implement a comprehensive safety program in accordance with Applicable Law;
- (d) give all notices and comply with all Applicable Law relating to the safety of persons or property or their protection from damage, injury or loss;

- (e) operate and maintain all equipment in a manner consistent with the manufacturer's safety requirements;
- (f) provide for safe and orderly vehicular movements;
- (g) develop and implement a written site-specific health and safety plan that includes management commitment to maintaining a safe workplace, employee participation, hazard evaluation and controls, employee training and periodic inspections;
- (h) designate an appropriately certified safety professional with construction safety experience who is to develop and sign the site-specific health and safety plan including all safety rules at the Plant Site;
- (i) designate an appropriately certified safety professional with construction safety experience to be stationed full-time at the Plant Site during on-site construction activities whose duty shall be the implementation of safety rules at the Plant Site, the prevention of fires and accidents, monitoring compliance with the Project Company's site-specific health and safety plan, and the coordination of such activities as shall be necessary with the Water Authority and all Governmental Bodies having jurisdiction; and
- (j) require the Project Contractors and all Subcontractors to comply with a site-specific health and safety plan.

3.16. CONSTRUCTION MONITORING AND OBSERVATIONS

3.16.1 Observation and Design Review Program. During the progress of the Construction Work through Project Completion, the Project Company shall at all times afford the Water Authority every reasonable opportunity for observing all Construction Work. The Project Company shall use all reasonable efforts to provide Water Authority employees with safe access to the Construction Work. During any such observation, all representatives of the Water Authority shall comply with the Project Company's site-specific health and safety plan for the Construction Work applicable to areas visited and all reasonable instructions or directions made by the EPC Contractor in this respect, and shall not interfere with the Project Company's performance of any Construction Work. The Project Company shall, upon reasonable notice, cooperate with the Water Authority to arrange for tours of the Plant Site at reasonable times during normal working hours during construction for interested municipal officials and their invitees, provided that all such tours comply with the site-specific health and safety plan and do not interfere with the progress of the Construction Work.

3.16.2 Water Authority Observations and Inspections. The Water Authority, its employees, agents, representatives and contractors (which may be selected in the Water Authority's discretion), may at any reasonable time and with reasonable notice conduct such on-site observations and inspections, as the Water Authority deems necessary or desirable to ascertain whether the Construction Work complies with this Water Purchase Agreement. The costs of any such observation or inspection shall be borne by the Water Authority unless such observation or inspection reveals a material failure of the Construction Work to comply with this Water Purchase Agreement or Applicable Law after the Project Company has certified that the Construction Work being reviewed has been completed, in which event the Project Company shall bear all reasonable costs and expenses of such observation or inspection. The Water Authority's rights set forth in this subsection and participation in the progress meetings set forth in this Appendix are intended to be a part of the Water Authority's independent quality assurance process which are separate from the involvement of the Water Authority

Engineer, and shall not be viewed as an additional layer or integral part of the Construction Quality Management Plan.

3.16.3 Certificates and Reports. The Project Company shall secure and deliver to the Water Authority promptly, at the Project Company's sole cost and expense, all required certificates of inspection, test reports, and approvals with respect to the Construction Work as and when required by the Contract Standards.

ATTACHMENTS TO APPENDIX 3

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OCTOBER 2003 (ONLY DRAWINGS SD-22, SD-24 AND SD-25)

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ATTACHMENT 3A

BASIC DESIGN REQUIREMENTS FOR THE PLANT

(Documents Available Upon Request from Water Authority)

ATTACHMENT 3A
BASIC DESIGN REQUIREMENTS FOR THE PLANT

Designation	Document Title	Author	Date
Appendix 2.1.2	Scope Book for Engineering, Procurement and Construction of The Carlsbad Seawater Desalination Project		Sep 2012
ATTACHMENT 1	Requirements for Useful Life of Key Equipment	Poseidon	Sep 2012
ATTACHMENT 2	San Diego RWQCB Order No. R9-2006-0065, as amended by Order No. R9-2009-0038	San Diego RWQCB	2006, 2009
ATTACHMENT 3	[Intentionally Omitted]		
ATTACHMENT 4	Watershed Sanitary Survey	Archibald & Wallberg Consultants	Aug 2005
ATTACHMENT 5	Design Review Deliverables	Poseidon	Sep 2012
ATTACHMENT 6	[Intentionally Omitted]		
ATTACHMENT 7	[Intentionally Omitted]		
ATTACHMENT 8	Facility and Equipment Plant Data Sheets	Poseidon	Sep 2012
ATTACHMENT 9	[Intentionally Omitted]		
ATTACHMENT 10	Instrument List and Process and Instrumentation Data Sheets	Poseidon	Sep 2012

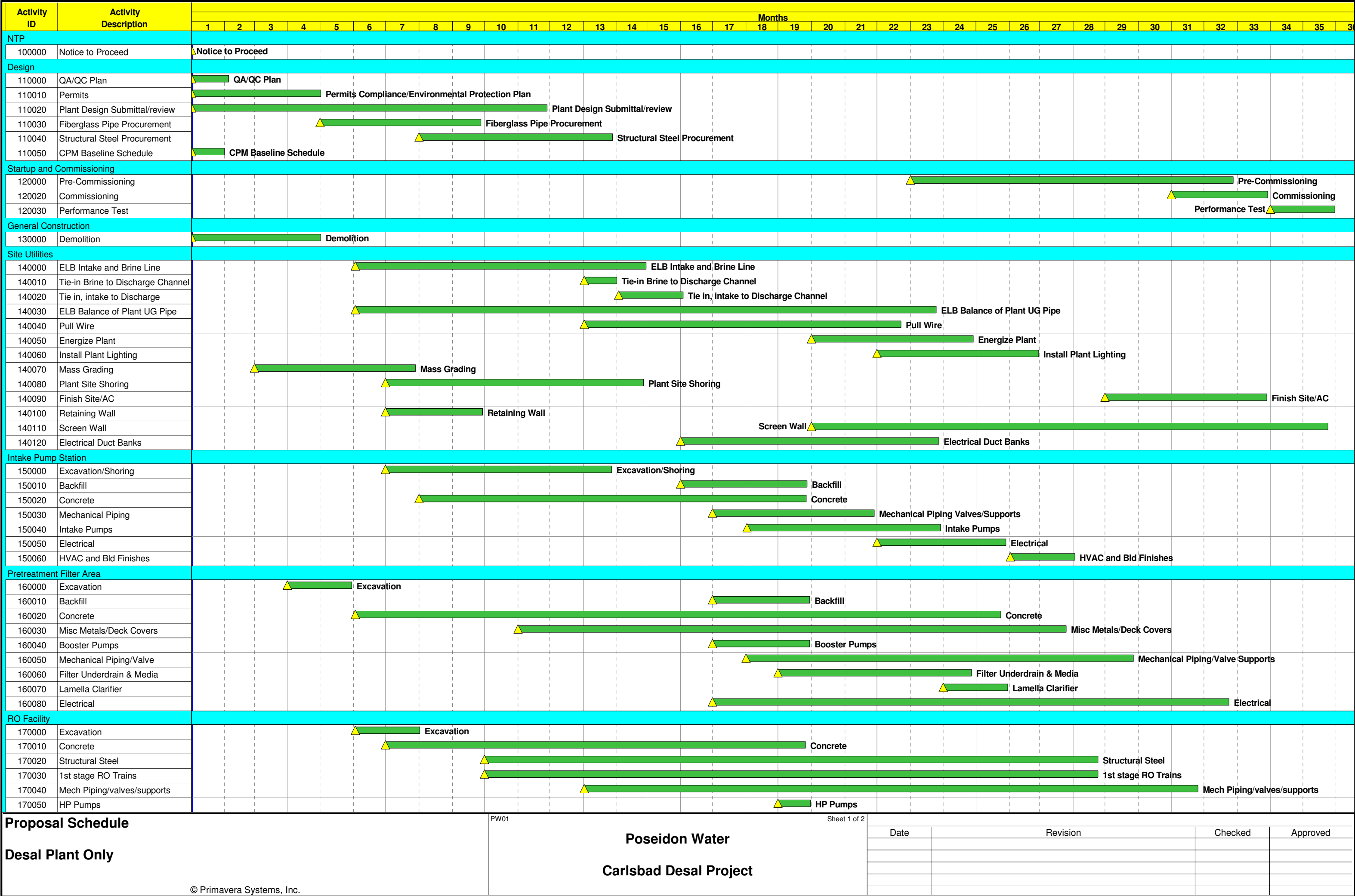
Designation	Document Title	Author	Date
ATTACHMENT 11	Local Approvals, Permits and Conditions		Undated
	Environmental Impact Report		
	City of Carlsbad Approvals		
	CA State Lands Commission		
	CA Coastal Commission		
ATTACHMENT 12	First Year Spare Parts List	Poseidon	Sep 2012
ATTACHMENT 13	Supplementary Project Information		Undated
	Pilot Testing Alternative Pretreatment Systems for Seawater Desalination in Carlsbad, California	Nikolay Voutchkov, Jonathan Dietrich	Undated
	Frequency, Duration, and Intensity of Coastal Phytoplankton Blooms in Southern California	Scripps Institution of Oceanography	15-Dec-09
	Engineering Feasibility Study for Electric Services to Carlsbad Seawater Desalination Plant	San Diego Gas & Electric Co.	Jan 2009
ATTACHMENT 14	Project Drawing Sheets and Instrumentation Diagrams	Poseidon	Sep 2012
ATTACHMENT 15	Major Equipment List	Poseidon	Sep 2012
Appendix 2.1.2.1	Outline of Operation and Maintenance Manual	Poseidon	Sep 2012

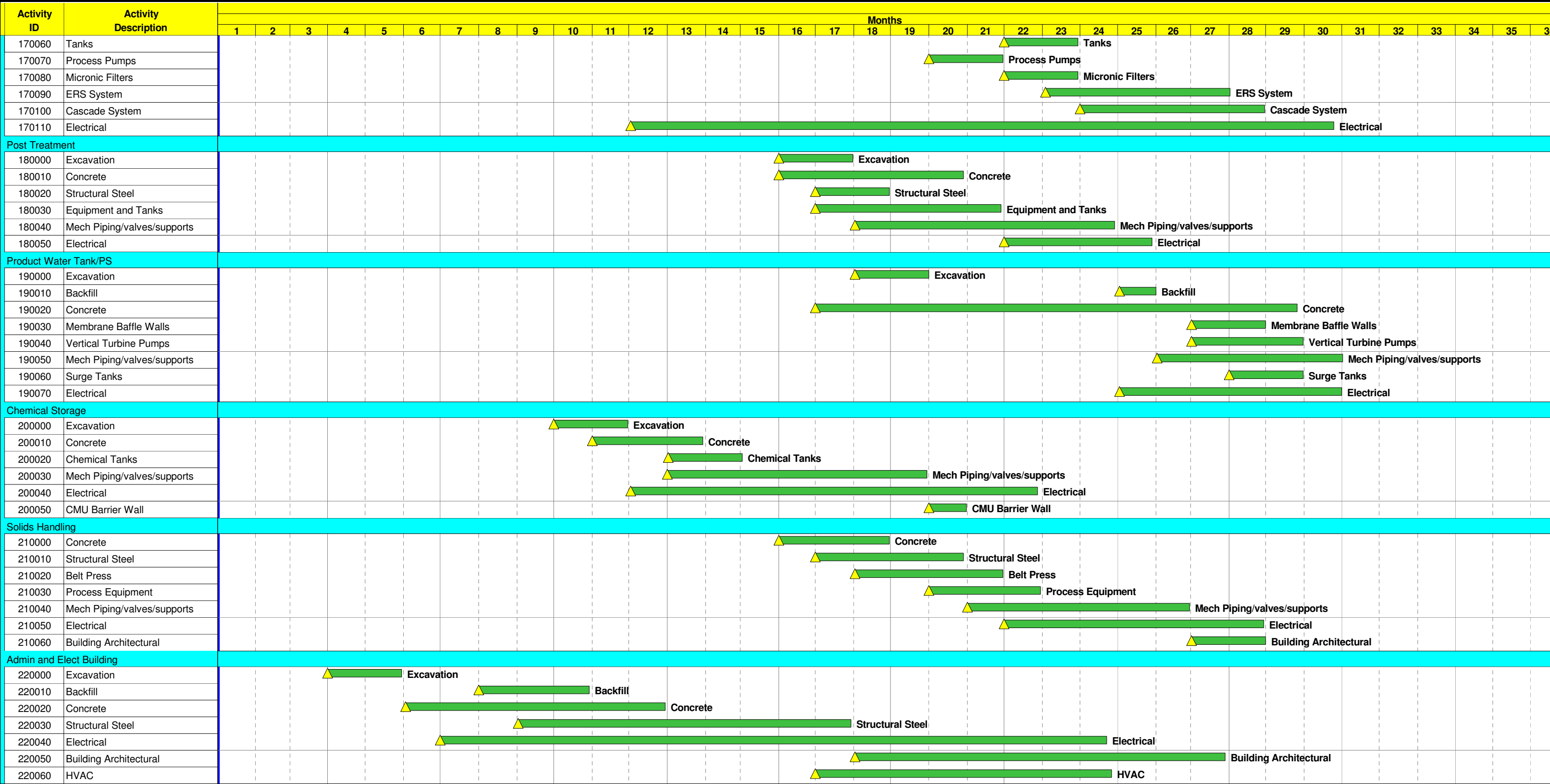
A3-21 Attachment 3A
(Basic Design Requirements for the Plant)

Designation	Document Title	Author	Date
Appendix 2.1.11	Training Requirements for Operation, Maintenance, Repair and Replacement Transition	Poseidon	Sep 2012
Appendix 6.1	Mechanical Completion Requirements	Poseidon	Sep 2012
Appendix 6.3	Minimum Performance Criteria, Guaranteed Performance Levels and Performance Testing	Poseidon	Sep 2012
Appendix 6.7	Stage 1 Output Requirements Test	Poseidon	Sep 2012

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ATTACHMENT 3B
PROJECT SCHEDULE





Proposal Schedule

Desal Plant Only

Poseidon Water
Carlsbad Desal Project

Date	Revision	Checked	Approved

ATTACHMENT 3C
SUPPLEMENTAL DESIGN REQUIREMENTS

ATTACHMENT 3C

SUPPLEMENTAL DESIGN REQUIREMENTS

This Appendix is supplemental to the Design Requirements outlined in Attachment 3A (Basic Design Requirements for the Plant) of this Appendix, and is included as part of the Design Requirements. The Project Company shall be responsible to confirm process operating/design conditions are accurate and that materials, pipe wall thicknesses, flange ratings, and that other engineering aspects are suitable for their intended purpose. In accordance with Section 3.11 (Supplemental Design Requirements) of this Appendix, the Project Company shall cause the specifications in this Attachment to be completed where indicated by its design engineer and equipment supply vendors to conform to the applicable Contract Standards and shall remit such specifications to the Water Authority for approval. The Plant Flow Meter shall not be released for purchase from the Plant Flow Meter equipment supplier until the Water Authority has approved the specification. The Project Company shall promptly advise the Water Authority of any recommended modifications to such process conditions or other such engineering aspects of the equipment and systems addressed herein.

This Attachment includes the following:

Part 1. General Supplemental Design Requirements

Part 2. 16890 Fiber Optic Cable and Hardware

Part 3. SDCWA Electrical/Instrumentation Guide Drawings, June 2006

Part 4. SDCWA Standard Drawings and Standard Details, October 2003 (only drawings SD-22, SD-24 and SD-25)

ATTACHMENT 3C PART 1

GENERAL SUPPLEMENTAL DESIGN REQUIREMENTS

3C1.1 PLANT FLOW METER.

The Plant Flow Meter shall comply with the following:

- (a) Manufacturer: Primary Flow Signal, Inc., Cranston, RI USA.
- (b) Model: HVT-FV

Primary Flow Element		Fabricated Pressure Vessel	
		Body Material:	316 Stainless
Line Size:	42.0 inches diameter	Throat Material:	316 Stainless
Pipe ID:	42.000 inches diameter	Flange Material:	316 Stainless
Tap Size:	3/4"	Flange Type:	ANSI
Pipe Schedule:	40 minimum	Flange Rating:	300 minimum

Application Conditions								
Fluid:	WATER		Oper.Temp.:	40 to 90	°F	Base Temp.:	60.0	°F
State:	LIQUID		Oper.Press.:	[To be supplied by Project Company in accordance with Section 3.11(Supplemental Design Requirements) of this Appendix]	psia	Base Press.:	515.0	psia
Maximum Flow:	60	MGD	Op.Sp.Gr.:	1.0020		Base Sp.Gr.:	1.0020	
Normal Flow:	50	MGD	Density:	62.473	Lbm /ft3			
Minimum Flow:	6.0	MGD	Viscosity:	1.12 Company	cp			

Beta 0.4714		Ratio	Discharge 0.9900		Coefficient
Calculated Values	At maximum flow of 60 MGD		At normal flow of 50 MGD		At minimum flow of 6.0 MGD
Differential Pressure =	341.86 In. of water		237.40 In of water		3.42 In. of water
Pipe Reynolds Number =	2805293		2337744		280529
Head Loss of Meter =	24.8 In. of water		17.6 In. of water		0.330 In. of water
Basic Meter Accuracy	±0.50 %		±0.50 %		±0.50 %
Lab Calibrated Accuracy	±0.25%		±0.25%		±0.25%

3C1.1.1 General.

- (a) Products. The flow meter shall be a short form venturi design utilizing pure static pressure sensing taps in the inlet and throat sections and shall produce a differential pressure, which shall be measured and transmitted by the specified differential pressure transmitter. The venturi meter shall be a code stamped device based on the American Society of Mechanical Engineers ("ASME") code stamp procedure.
- (b) Performance. The venturi flow meter shall have an accuracy of +/-0.5% of actual flow above a pipe Reynolds number of [to be supplied by the Project Company in accordance with Section 3.11 (Supplemental Design Requirements) of this Appendix] with a discharge coefficient of [to be supplied by the Project Company in accordance with Section 3.11 of this Appendix].
- (c) Venturi Meter Details. [To be developed by the Project Company's engineer of record in accordance with Section 3.11 (Supplemental Design Requirements) of this Appendix.]

Inlet Diameter:

Throat Diameter:

Overall Length Allowed:

Flow Range:

Differential @

Differential @

Headloss @

- (d) Submittals. The submittals listed below shall be provided to the Project Company by the manufacturer. The Project Company shall provide these submittals to the Water Authority for review and approval.

- (i) The manufacturer's catalog data and descriptive literature for equipment and coatings. Show all meter dimensions. Show materials of construction by the American Society for Testing and Materials ("ASTM") reference and grade.
 - (ii) Data for the venturi meter indicating serial number, meter location, meter size, pressure class, maximum flow, minimum flow, differential pressure and head loss at maximum flow, and beta ratio.
 - (iii) Flow calibration test procedures, including piping configuration for the testing, and test facility qualifications, for review and approval by the Water Authority Engineer before performing required tests.
 - (iv) Certification that venturi flanged connections match adjacent piping flanged connections.
 - (v) A complete manufacturing plan to include calculations for proper material thicknesses and certified Advanced Pressure Vessel (APV) design calculations including wall thickness analysis, corrosion allowance requirements, and stress analysis.
 - (vi) Quality Assurance procedures to include welders qualifications, material and welding testing procedures, and proof of welders current certification for all procedures that will be used in the manufacturing of the venturi meter.
 - (vii) Certification from the manufacturer that the quality control requirements are met.
 - (viii) Documentation of bench calibration test results, and results of film thickness testing for linings and coatings.
 - (ix) Certified calibration test for the venturi meter. Submit test results for approval before shipping the meter.
 - (x) Operation and maintenance manuals, identified by meter serial number and name of installation site, including NIST traceable calibration records showing serial numbers of all calibration system components.
- (e) Materials.
- (i) All wetted surfaces shall be made of 316 stainless steel per applicable ASTM standards.
 - (ii) Pressure tap connections for both the inlet and throat section shall have stainless steel sleeves in accordance with ASTM A276, Type 316.
 - (iii) End flanges shall be drilled for ANSI 300# minimum and made of 316 stainless steel. Mill certifications shall be provided for all materials.
 - (iv) All welds shall be liquid penetrant inspected ("LPI") and a certified report detailing all inspections shall be submitted to the Water Authority and Project Company for approval prior to the venturi meter being shipped to

the jobsite. In addition, all applicable circumferential and longitudinal welds shall be 100% radiographed and a certified report stating that all welds are acceptable shall be provided to the Water Authority and Project Company prior to shipping the meter to the testing facility. The venturi meter manufacturer shall also have an established weld repair procedure in the event weld repairs are required based on the radiographic results.

(f) Outlet Port and Vent Cleaner Assembly.

- (i) Fittings in outlet port and vent cleaner assemblies shall be commercially available Type 316 stainless steel fittings as set forth on Drawing EGD-3 of the Electrical/Instrumentation Guide Drawings set forth in Part 3 of this Attachment. Vent cleaner rods shall be polished stainless steel in accordance with ASTM A276, Type 316.
- (ii) The venturi meter supplier shall provide all components of the outlet port and vent cleaner assemblies, as set forth on Drawing EGD-3 of the Electrical/Instrumentation Guide Drawings set forth in Part 3 of this Attachment. The assemblies shall be designed for safe operation at the maximum rated pressure of the associated venturi meter. Manufacturer shall provide written statement of compliance with the above requirements.
- (iii) Two complete outlet port and vent cleaner assemblies shall be supplied with each venturi meter.

(g) Venturi Meter Design.

- (i) The meter shall be of the pressure differential producing type, utilizing pure static pressure sensed at the inlet and throat sections. Do not use devices utilizing entire or partial pitot effects.
- (ii) The inlet section shall be comprised of a cylindrical section, of the same inside diameter as the connecting upstream pipe, in which the high-pressure tap is installed. The laying length of the throat shall be at least 0.5 times the throat diameter. Install the low-pressure sensor in the throat section. The outlet cone shall have an angle of 10 to 15 degrees.
- (iii) The meter coefficient shall be within 0.75 percent of the manufacturer's expected value (0.99 for an HVT plant flow meter) and shall be constant to within ± 0.50 percent of the mean coefficient for pipe Reynolds numbers exceeding 200,000. The mean coefficient shall be calculated based on coefficients corresponding to Reynolds numbers exceeding 200,000. For operating conditions between Reynolds numbers of 100,000 and 200,000, the coefficient shall be within ± 1.0 percent of the mean coefficient. For conditions between Reynolds numbers of 75,000 and 100,000, the coefficient shall be within ± 2.0 percent of mean coefficient. Meter coefficient shall be independent of beta ratio and line size. The data for the meter coefficient shall state and substantiate the value and tolerance of the coefficient, the effect of up and downstream piping configurations, the head loss in percent of pipe velocity head, and shall provide proof that the coefficient is independent of line size and beta ratio

- (iv) Accuracy of the meter shall be within a range of ± 0.50 percent of the actual flow rate, at all points above 10 percent of maximum flow, with a 95 percent confidence level. This accuracy shall be substantiated by a two times standard deviation calculation of at least 30 calibrated meter coefficients of different line size and beta ratio meters as described in the ASME Fluid Meters, 6th edition.
 - (v) ASME code data is not acceptable for piping configuration effect.
 - (vi) Differential pressure at maximum flow shall be in accordance with clause (i) of this subsection.
 - (vii) All venturi meters shall be tested at an approved testing facility, regardless of how many meters have been manufactured or tested by any one manufacturer
- (h) End Connections.
 - (i) End connections shall be flanged, with a flange drilling pattern to match adjacent piping. Flanges shall be sized to meet the pressure class specified herein. Flanges shall be flat faced.
 - (ii) The finished inside diameter of the inlet section shall match the clear inside diameter of the adjacent piping. The outlet cone may be truncated. The venturi manufacturer is responsible for providing flanges that match the adjacent flanges.
- (i) Service Conditions.
 - (i) Tabulate performance conditions and design data, including head losses for each test flow rate, and include in the submittals set forth in clause (d) of this subsection.
 - (ii) Differential pressure at maximum flow shall be between 250 inches and 300 inches water.
- (j) Painting and Coating.
 - (i) Stainless steel exteriors and interiors do not require painting or coating.
- (k) Laboratory Testing.
 - (i) Provide a flow test and calibrate the venturi meter at an approved flow measurement laboratory, using a method approved by the Water Authority Engineer. Approved flow measurement laboratories include Alden Research Laboratory and Utah State Water Research Laboratory.
 - (ii) Test the venturi meter before shipping to the Plant Site. Test for:
 - (a) Meter coefficient over a Reynolds number range of 5 percent maximum flow to that corresponding to 100 percent maximum flow using the pressure tap configuration to be used for installation;

- (b) Differential pressure at each test point; and
- (c) Head loss at each test point.
- (iii) During the calibration, use piping and equipment of similar clear inside diameter and physical configuration to that in which the meter will be installed, such that the piping effects on the meter will be accurately modeled. Provide concentric configuration in piping joints upstream of the venturi meter, without significant offset in internal diameters. No offset will be allowed unless test data can be supplied proving that the proposed offset has no effect on the calibration.
- (iv) Calibrate the meter for a discharge coefficient at a minimum of eleven test points corresponding to 5, 10, 15, 20, 25, 30, 40, 55, 70, 85, and 100 percent of the maximum designed flow. Data points that fall outside of the specified accuracy range as defined in clause (g)(iii) of this subsection shall be repeated, and sources of errors must be documented.
- (v) (v) Accuracy of the total calibration system, including metering, transmitting, receiving, and totalizing, shall be within a range of ± 0.50 percent of the actual flow rate, at all points above 5 percent of maximum flow. Repeatability of measurements shall not vary by more than ± 0.25 percent.
- (vi) Provide a minimum five working days notice of the flow testing date to allow the Water Authority Engineer to witness the testing.
- (vii) Concurrent with the delivery of the venturi meter to the Plant Site, deliver the National Institute of Standards and Technology ("NIST") traceable calibration records showing serial numbers of all system components to the Water Authority Engineer.
- (l) Noise Documentation. The venturi meter manufacturer shall provide, at time of submittal, a process noise evaluation certification sheet which provides a Hz value across the full minimum to maximum flow rate range for each venturi meter.
- (m) Project Contractor Interface. The venturi metering system supplier shall provide explicit installation instructions to the Project Contractor on the proper installation of the venturi meter, impulse/pressure sensing lines and secondary instrumentation. A pre-installation meeting will be held during which the Project Contractor's installation personnel, owners representative, Water Authority Engineer and the venturi metering system supplier shall be present during which all facets of the installation of each metering system will be discussed.
- (n) Shipping.
 - (i) Package the equipment adequately to prevent damage during shipping. Before shipping flanged meters, clean flanges by wire brushing, and coat unpainted machined surfaces of the flange with strippable, rust-preventative compound. Fasten full-face flange protectors of waterproof plywood or weather-resistant pressboard, of a diameter at least that of

the outside of the flange, to each flange to protect both the flange and the interior of the meter.

- (ii) Install stainless steel Type 316 threaded plugs on all meter taps before shipment.
- (iii) Ship outlet port and vent cleaner assemblies separately.

(o) Field Installation.

- (i) Install the meter in accordance with the manufacturer's written instructions. The Plant's pump station meter vault is a wet and/or damp location.
- (ii) Install one outlet port and vent cleaner assembly on each of the two pressure taps, with isolation ball valves and other appurtenances, as set forth on Drawing EGD-3 of the Electrical/Instrumentation Guide Drawings set forth in Part 3 of this Attachment. Before shipping the meter to the flow measurement laboratory, temporarily mount each outlet port and vent cleaner assembly with all appurtenances and test for full penetration without binding.
- (iii) The field installation shall be checked and certified by the manufacturer or the manufacturer's representative. The start-up, testing, and adjustment of the equipment shall be supervised by the manufacturer or their representative. Provide instruction in the operation and maintenance of the equipment.

- (p) Warranty. The venturi meter shall be warranted by the manufacturer to be free from defects in materials, workmanship, and performance, to meet all performance specifications, and to operate without malfunction resulting directly or indirectly from defective material or workmanship for a period of 25 years from date of Mechanical Completion.

3C1.1.2 Field-Mounted Instruments. This section describes furnishing, installing, calibrating, and testing of differential-pressure transducers for measuring water flow and three-valve instrumentation manifolds for differential pressure transducers associated with the Plant Flow Meter. Perform work as specified to provide complete, operational, and functional instrument systems.

(a) Submittals

- (i) Shop drawings, product data, and descriptive literature for all materials, coatings, equipment, apparatus, and other items as specified. Include the manufacturer's name, product designation, catalog numbers, dimensions, materials of construction, and a certification statement that all connections are compatible. Mark all shop drawings and data submitted so that drawings and manuals clearly indicate the items applicable to the work to be performed.
- (ii) Complete operations and maintenance manuals for all equipment furnished under this section. Include all required cuts, drawings,

equipment lists, descriptions, troubleshooting lists, complete spare parts lists, complete schematic and loop drawings.

- (iii) A list of all nameplates and identification tags to be installed on all devices. Data for the identification tags shall include serial number (if any), pressure class, and process control tagname.
- (iv) Samples of materials or manufacturer's specifications, if requested by the Water Authority Engineer.
- (v) Qualifications of all field technicians that will be used to install, calibrate or test field mounted instruments

(b) Manufacturers

- (i) The differential pressure flow transmitter shall be manufactured by SMAR International Corp., model LD301-D31I-BU11-012/I1/A1, or equal. All transmitters shall be equipped with the latest version firmware
- (ii) The 3-Valve manifolds for differential pressure transducers shall be manufactured by Century Valve Company, model CM3-1-F29-CD-T, or equal

(c) Qualifications

- (i) Manufacturers shall have a minimum of ten years of continuous product history manufacturing transducers and manifolds specified herein
- (ii) Testing and calibration is to be performed by qualified personnel skilled in the particular tests being conducted. Personnel shall have at least five years of experience calibrating and testing instruments of the same type and size as specified

(d) Warranty

- (i) The manifold, instruments, transmitters, and valves shall be warranted by the manufacturer to be free from defects in materials, workmanship, and performance, to meet all performance specifications, and to operate without malfunction resulting directly or indirectly from defective material or workmanship for a period of two years from the date of Mechanical Completion.

(e) Materials

(i) General

- (a) The furnished pressure measuring system shall be complete and functional. Furnish all material that is incidental to the work of this section.
- (b) Furnish Underwriter's Laboratories ("UL") listed and labeled devices and materials. Where UL listing is not available for equipment, submit test reports of an independent testing laboratory, approved by

the Water Authority Engineer, indicating that the equipment is in conformance with National Electrical Code ("NEC"), state, and local code requirements.

- (c) Furnish equipment, devices, and material marked with name or trademark of the manufacturer and other pertinent information on a nameplate.
- (d) Furnish only products which are new, undamaged, and in the original cartons or containers.
- (e) Protect pressure-measuring equipment at all times against mechanical and moisture damage. Transducers shall be stored indoors. Store transducers in dry areas. Replace any apparatus that has been moisture damaged.
- (f) Three-valve manifold body shall be manufactured from ASTM 316 stainless steel.
- (g) All valves installed in the manifold body shall conform to ASTM and the American Waterworks Association ("AWWA") specifications for the intended service.
- (h) Manufacturer shall supply transducers and manifolds that are constructed of new materials.
- (i) All instruments of the same type shall be furnished by the same manufacturer.

(ii) Differential Pressure Transmitter

- (a) The differential-pressure transmitter shall be capable of operation from 17 - 42 VDC, supplied from a two-wire control loop. The transmitter shall be scalable between 0 - 33 inches of water column ("IWC") and 0 - 330 IWC. The transmitter shall provide a 4-20 mA signal to the control loop, with Hart protocol.
- (b) Transmitter shall not weigh more than 10 pounds.
- (c) Transmitter shall occupy less than 0.5 cubic feet of space.
- (d) Transmitter shall provide traditional 2.125 inch flange mounting for process inputs, no exceptions. Transmitter flange mount shall be suitable for use with a model CM3-1-F29-CD-T manifold, manufactured by Century Valve Company, or equal manifold. Deliver each transmitter with this manifold mounted to the transmitter. Mount the transmitter to the manifold so that the high-pressure side of the transmitter is on the left side of the manifold, as viewed from the front of the manifold.
- (e) Transmitter shall provide a sealed National Electrical Manufacturer's Association ("NEMA")-4 enclosure with field termination section fully isolated from electronics section of transmitter housing.

- (f) Transmitter shall be corrosion-resistant construction with stainless steel measurement cell. All exterior hardware and mounting hardware shall be stainless steel of the same type as the measurement cell.
- (g) Transmitter shall provide a 1/2 inch - 14 NPT conduit entry into the electronic termination section of enclosure.
- (h) Transmitter shall provide integral vent/drain valves on the measurement cell.
- (i) Transmitter shall include an integral display with characters at least 1/2 inch in height. Displayed information shall be user selectable via programming interface.
- (j) Integral display shall swivel over 270 degrees in the horizontal plane to allow various mounting positions for transmitter.
- (k) Transmitter shall withstand common mode over-pressurizations of the measurement cell to 2000 PSI without sustaining internal damage, degrading measurement accuracy, or causing a zero-point shift of greater than 0.2 IWC. Transmitter shall withstand over-pressurizations of a single side of the measurement cell to the maximum operating pressure of the system without sustaining internal damage, degrading measurement accuracy, or causing a zero-point shift of greater than 0.2 IWC.
- (l) Transmitter shall operate over a temperature range of minus 40 degrees F to plus 200 degrees F.
- (m) Transmitter shall store all programmable information in nonvolatile EEPROM memory, and maintain sensor characterization data as an integral part of the sensor.
- (n) Transmitter shall continuously perform self-diagnostics and respond to internal malfunctions via a user programmable failsafe mode, allowing user selection of upscale, downscale, and hold last output failsafe modes.
- (o) Transmitter shall be fully programmable, communicating via hand-held terminal, allowing programmer access to the following features.
 - (1) User selectable input scaling in units of PSI, inches of water, feet of water
 - (2) User selectable display of measurement units and accessory data via integral display
 - (3) User selectable damping over the range of 0 - 30 seconds
 - (4) User selectable upscale/downscale/ hold last output failsafe modes

- (5) User selectable password security for access to all programmable functions
- (6) User selectable zero-cutoff mode; functional between zero, and 20 percent of linear output
- (7) Programmable data fields to identify the unit, owner, and installation date
- (8) Programmable zero trim for pressure input and current output.
- (9) Programmable span trim for pressure input and current output.
- (10) Independent adjustment of zero and span.
- (p) Transmitter shall have turndown capability of at least 40:1.
- (q) The URL shall be at least 330 IWC.
- (r) For all flows between 5% and 100% of range:
 - (1) The accuracy for a 10 to 1 turndown of span shall be better than or equal to 0.2 percent of reading.
 - (2) The accuracy of a range equal to the URL shall be better than 0.1 percent of reading.
 - (3) Output signal shall drift less than plus or minus 0.2 IWC over a twelve-month period.
 - (4) Transmitter shall allow replacement of electronics or sensor assembly in the field, without loss of accuracy or need for bench calibration.
 - (5) Transmitter shall allow access to all programmable features via a HART 375 Handheld (Model Number 375-F-R-1-E-NA-U-C-G). Furnish all necessary software, user licenses, one Model 375 handheld, and interface cabling for programming of the transmitter.
 - (6) Manufacturer shall equip the transmitter with the latest software and firmware available as of the delivery date of the transmitter.
 - (7) Manufacturer shall provide a Windows (2000/XP/Vista) based software interface that allows access to all programmable features of the transmitter from a PC type laptop computer. Provide all hardware necessary to connect the PC to the transmitter.
 - (8) Transmitters shall include a HART communication interface.

(iii) 3-Valve Manifold

- (a) The manifold shall be suitable for use with any differential pressure transducer that has standard 2.125-inch sensor spacing, and shall conform exactly to all aspects of the Water Authority's standard design.
- (b) The manifold shall be suitable for service in all Water Authority flow control facilities. These facilities are subject to temperatures between zero and 120 degrees F, and moisture conditions including total submersion in water.
- (c) The manifold shall consist of a single block of stainless steel, machined to accept the valves, provide process connections, provide a transducer mounting location, provide test ports for calibration of the transducer, and provide a mounting location for the two-inch pipe stand.
- (d) The manifold shall be physically arranged to place the process inlet connections on the bottom of the manifold, the process isolation valves on the sides of the manifold, and the crossover valve, test ports, and all mounting bolts on the front of the manifold. The differential pressure transducer and pipe stand shall be mounted to the back of the manifold. All positional references are made with respect to the position the manifold will occupy when mounted in the field.
- (e) The manifold and all valves shall be designed for service at the maximum operating pressure of the system.
- (f) The manifold body shall have 1/4 -inch 18 NPT female connections for each of the process inputs.
- (g) The manifold body shall have a mounting flange for the differential pressure transducer that is compatible with a standard differential pressure transducer, having standard 2.125 inch sensor spacing.
- (h) The manifold body shall have two 1/4-inch 18 NPT female connections for the test ports. The test ports shall be located on the front of the manifold, and positioned to allow all water to gravity drain out of the transducer and manifold when the test ports are opened and the process isolation valves are closed.
- (i) The manifold body shall have an integral mount that is suitable for mounting the manifold onto a vertical section of two-inch galvanized schedule 40-pipe. All mounting hardware necessary for mounting the manifold to the two-inch pipe stand shall be of the same variety of stainless steel used for the manifold body, and shall be supplied with the manifold at no additional cost.
- (j) The manifold shall be supplied with stainless steel bolts for mounting the differential-pressure transmitter to the manifold. These bolts shall be of a sufficient length to insure engagement of at least ten threads of the mounting flange of the transmitter. Provide bolts of the same type stainless steel as the manifold body.

- (k) Provide two sets of manifold to transmitter gaskets for each manifold supplied. Construct all gaskets to be suitable for the intended service conditions.
- (l) The manifold shall not be painted or coated.
- (m) Provide a laboratory certification that each manifold supplied has been tested for leaks at the maximum operating pressure of the system.

(iv) Execution

(a) Installation

- (1) The Design Documents indicate connections for typical equipment only. If the equipment furnished is different from what is shown, provide the modifications necessary for a safe and properly operating installation in accordance with the National Electric Code requirements, AWWA and ASME recommended practices, and the equipment manufacturer's recommendations.
- (2) The Design Documents diagrammatically indicate the desired location and arrangement of transducers, and other items. Field verify their exact location based on physical size and arrangement of equipment, finished elevations, and obstructions, and submit such location for approval prior to installation.
- (3) Accomplish all work and furnish and install all equipment not indicated or specified which is necessary for the intended complete operation of the pressure sensing system.

(b) Supervision and Coordination

- (1) Provide factory certified supervision on the Plant Site at all times to layout, check, coordinate, and supervise the installation of all transducers. Plan the installation of all transducers, giving consideration to the work of other trades to prevent interference.

(c) Interpretation of Drawings

- (1) Determine transducer locations that conform to the installation requirements set forth herein.
- (2) Install transducers as shown on the Design Documents.
- (3) Verify with the exact locations and mounting heights of transducers prior to installation.
- (4) Support surface mounted equipment with galvanized or stainless steel unistrut to provide a 7/8-inch clearance between walls and equipment. Securely mount unistrut with stainless steel anchors.

- (5) Make connections to equipment as required and in accordance with approved shop drawings.

(d) Shipping and Assembly

- (1) All equipment shall be shipped and handled, and assembled, if necessary, at the Plant Site in accordance with the manufacturer's requirements to maintain functional integrity.

(e) Component Interconnections

- (1) Analyze all system components, identify terminals, and prepare drawings or wiring tables necessary for component interconnection.
- (2) Furnish and install all component interconnections.

(f) Testing

- (1) Provide factory certified supervision, labor, materials, tools, test instruments, and all other equipment or services required to test, adjust, set, calibrate, and operationally check all components of the pressure measurement systems and circuitry.
- (2) Tests are to provide initial equipment/system acceptance, provide recorded data for future maintenance and trouble shooting, and provide assurance that each system component is installed satisfactorily and can be expected to perform, and continue to perform, its function with reasonable reliability.
- (3) Pay for all tests specified including expenses incident to retesting occasioned by defects and failures of equipment to meet specification.
- (4) Prior to testing and start-up, permanently identify all equipment with nameplates. Check and tighten terminals and connection points, remove shipping blocks, thoroughly clean equipment, repair damaged or scratched finishes, inspect for broken and missing parts, and review and collect manufacturer's drawings and instructions for delivery to the Water Authority Engineer. Make routine checks and tests as the job progresses to ensure that wiring and equipment is properly installed.
- (5) Do not void equipment warranties or guarantees by testing. Checks and tests shall be supplemental to and compatible with the manufacturer's installation instruction. Where deviations are warranted, obtain the manufacturers written approval prior to testing. Where any repairs, modifications, adjustments, or tests are to be made, the Project Contractor shall notify the Water Authority Engineer and make such repairs, modifications, adjustments and tests in accordance with the manufacturer's recommendations.

- (6) Report to the Water Authority Engineer any pressure measuring equipment or system determined to be damaged, or faulty. Obtain approval from the Water Authority Engineer for any corrective action and retesting. Replace defective equipment.

(g) Test Equipment

- (1) Perform calibration and setting checks with calibrated test instruments of at least twice the accuracy of the equipment under test. Dated calibration labels shall be visible on test equipment. Calibrations over six months old are not acceptable on field test instruments. Inspect test instruments for proper operation prior to testing. Record the serial and model numbers of the instruments used on the test forms.

(h) Test Procedures

- (1) Schedule tests and inspections as the job progresses.
- (2) Conduct tests in presence of the Water Authority Engineer. Notify the Water Authority Engineer seven days in advance of any test scheduled to be performed.
- (3) After each pressure measurement system installation is complete, perform the tests to determine that the entire system is in proper working order and in accordance with applicable codes, manufacturer's instructions, drawings, and specifications.

3C1.2 WATER AUTHORITY INTERFACE MONITORING EQUIPMENT

3C1.2.1 General. The Project Company shall design the Plant control system to include provisions for instrumentation and controls ("I&C") interface facilities in compliance with the requirements of this subsection and the requirements of Attachment 3E (Additional Design Specifications) of this Appendix.

The I&C interface facilities shall provide for remote monitoring by the Water Authority. As real time information will need to be accessible by the Water Authority, the Plant I&C system shall be configured and equipped to allow connection to the Water Authority's Wide Area Network ("WAN") through the interface facilities described in Parts 2 and 3 of this Attachment.

3C1.2.2 System Design Criteria. The I&C interface facilities shall consist of isolated input/output ("I/O") signals from the Plant control system to an interface cabinet and fiber optic communications link (the "Water Authority Interface Cabinet") to a below-grade pull box at located proximate to the fence line on the eastern property line of the Cabrillo Generating Facility Site adjacent to the start of the Product Water Pipeline tunnel below the North County Transit District Railroad (the "Water Authority Pull Box"). The Water Authority shall provide and install the Water Authority Interface Cabinet in or near the Plant's control room. The Water Authority Interface Cabinet shall include a secure cabinet, a programmable logic controller ("PLC") and fiber optic communications equipment. The Project Company shall coordinate with the Water Authority to identify the size and location (indoor or outdoor) of the Water Authority Interface Cabinet, provide adequate space to mount this cabinet, and provide adequate clearance around this cabinet for access and maintenance. The Project Company shall provide and install isolated and labeled wires for the requested I/O points to the Water

Authority Interface Cabinet's PLC. The Water Authority will terminate the wires in the Water Authority Interface Cabinet. A fiber optic cable shall be installed by the Project Company from the Water Authority Interface Cabinet to the Water Authority Pull Box, and shall terminate and connect the fiber optic cable in the Water Authority Interface Cabinet. The Water Authority will provide PLC programming and human machine interface ("HMI") integration for these signals into the Water Authority control system. The Project Company shall provide the signals in a format that is compatible with the Water Authority's system. The Project Company shall coordinate and obtain the Water Authority's approval on the design of the interface facilities, and shall coordinate the implementation of this interface utility with the Water Authority when access to Water Authority facilities or equipment is needed.

3C1.2.3 Ownership. The Project Company will own the fiber optic communications cable and conduit from the Water Authority Interface Cabinet to the Water Authority Pull Box. The Water Authority will own the Water Authority Interface Cabinet.

3C1.2.4 I&C System Monitoring. The Project Company shall provide the I/O for the specific process parameters identified in Table 3C1-1 of this Attachment.

Table 3C1-1 – Parameters Monitored by Water Authority	
Parameter	Units
Product Water	
Flow Rate	Cubic feet per second ("cfs")
Totalized Flow	1,000 cubic feet ("kcf")
Chloramine Residual	mg/L
Temperature	oC
Fluoride	mg/L
Turbidity	NTU
pH	Standard Units
Conductivity	μSiemens/cm
Product Water Pump Station	
Product Water Pumps Status	on/off
Product Water Tank Level	feet
Product Water Pump Station Discharge Pressure	psig
Product Water Surge Tank Compressor Status	on/off
Product Water Surge Tank Level	feet

Plant Main Power Supply Status	on/off
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The Project Company shall meet with the Water Authority's programmer to coordinate the exchange of data between the Plant and the interface facilities. Fiber optic materials and installation shall adhere to the requirements of Part II of this Attachment. The Project Company shall provide the Water Authority with 360 days advance notice of when the Water Authority Interface Cabinet will be required for installation, programming and testing. The Project Company shall allow 10 days for the Water Authority to install the programming and test the interface facilities.

3C1.3 WATER AUTHORITY PREFERRED MATERIAL AND EQUIPMENT PROVIDERS

The Water Authority requires the Project Company to provide a list of its preferred equipment providers and the proposed manufacturer's specifications for the following equipment types:

Reverse osmosis ("RO") membrane pressure vessels: BEL, Protec Arisawa, Pentair Codeline.

RO membrane elements: Dow-FilmTec, Hydranautics, Toray.

Product Water pump motors: ABB, Siemens, GE, US Motors, Hyundai.

Product Water pump manufacturers: Sulzer, Clyde Union, Ebara, Torishima, Goulds, Fairbanks Morse, Kubota.

3C1.4 WATER AUTHORITY PRODUCT WATER PUMPING SYSTEM AND SURGE CONTROL DESIGN REQUIREMENTS

The Product Water pumping system and the Product Water surge control facility provided by the Project Company (the "Product Water Pumping System" and "Surge Control Facility") shall be designed, maintained, and operated at all times and under all possible operating scenarios to protect Water Authority owned pipelines from excessive static and transient hydraulic pressures resulting from the delivery of Product Water.

In March 2012, the Project Company performed a hydraulic transient analysis and provided to the Water Authority a draft report of the Carlsbad desalination plant conveyance system to the Twin Oaks Valley water treatment plant clear wells. The hydraulic transient analysis assumed the following delivery system characteristics.

Table 3C1-2 – Transient Analysis Assumptions	
<u>Item</u>	<u>Characteristic</u>
Flow	57 MGD
Static Head	455 psi (El 1059.28 ft – difference between low water level of 1089.28 at TOVWTP Clear Wells and Product Water Pump Station suction elevation of 30 ft)

Product Water Pipeline Diameter	54-inch
Pipeline 3 (72" section) Diameter	67-inch
Pipeline 3 (75" section) Diameter	70-inch
Pipeline Roughness Coefficient "C" value	130
Duty Pumps/Standby Pumps	Seven duty/one standby, in parallel configuration
Pump Type	Vertical Turbine, multistage
Motor Horsepower (rated)	2000 – 2250 hp (nominal)
Actual Calculated Horsepower	2080-2115 hp
Pump Speed	1800 rpm
Pump and Motor Efficiency	80%
Speed Control Type	Seven Constant Speed/One Variable Frequency Drive

Based on the results of the March 2012 draft hydraulic transient report, the following criteria shall be used in the design of the Product Water Pumping System and the Surge Control Facility:

Table 3C1-3 – Product Water Pumping System and Surge Control Design Requirements	
<u>Item</u>	<u>Characteristic</u>
Control System	Provide discharge pressure monitoring of each duty pump. Provide flow monitoring of total delivery. Provide limit switches to indicate "full open" and "full close" positions at each pump control valve. Provide surge tank water level and surge tank compressor status monitoring.
Surge Suppression	Provide redundant 33,800-gallon surge tank. Operated at a 60: 40 air to water volume ratio.

Pump Control Valve	Provide slow closing hydraulically operated valve, capable of slow closing during loss of power.
Pump and Motor Inertia	Minimum of 1500 1b-ft ²

The Water Authority requires the Project Company to perform a final hydraulic transient analysis upon completion of the design of the Product Water Pumping System and Surge Control Facility. The final analysis shall confirm all the assumptions provided in Table 3C1-2 of this Appendix, and shall provide updates to all the design requirements shown in Table 3C1-3 of this Appendix. A report on the final hydraulic transient shall be submitted to the Water Authority for review. The Project Company shall address all Water Authority comments and submit to the Water Authority five hardcopies and one electronic copy of the final report.

ATTACHMENT 3C PART 2

SECTION 16890 FIBER OPTIC CABLE AND HARDWARE

GENERAL

3C2.2 DESCRIPTION

This Attachment includes furnishing, installing, and testing a fiber optic cable system within a buried high density polyethylene duct, routing and termination at designated facilities, and all appurtenant apparatus as specified herein and as shown on the Water Authority's Standard Drawings and Details, drawings SD-22, SD-24 and SD25.

The applicability of this Attachment is limited to the Water Authority's I&C facilities described in subsection 3C1.2 (Water Authority Interface Monitoring Equipment) of this Appendix.

Provide all tools, supplies, materials, equipment, and all labor necessary for furnishing, constructing and installing a complete fiber optic cable system.

3C2.2.1 References

(a) American Society for Testing and Materials

D1248 Specification for Polyethylene Plastics Molding and Extrusion Materials.

D1603 Test Method for Carbon Black in Olefin Plastics.

D2239 Specification for Polyethylene Plastic Pipe Based on Controlled Inside Diameter.

D3349 Test Method for Absorption Coefficient of Carbon Black Pigmented Ethylene Plastic Film.

(b) Plastics Pipe Institute

PPI Handbook of Polyethylene Pipe

(c) National Electrical Manufacturers Association

TCB2-2000 - NEMA Guidelines for the Selection and Installation of Underground Nonmetallic Duct

(d) National Electrical Contractors Association

NECA-2004 Installing and Testing Fiber Optic Cables

(e) National Fire Protection Association

NFPA 70 National Electric Code

3C2.2.2 Submittals

- (a) Catalog data on the fiber optic cable, HDPE duct, pull boxes, connectors, cable lubricant, duct sealant, closures, pull rope, enclosures, identification tape, mounting hardware, pulling equipment, testing equipment, and splicing hardware and equipment.
- (b) Detailed bill of materials.
- (c) Written procedure on the splice method for cable, duct, and cable pull rope.
- (d) Written procedure on the installation methods that will be used when pulling the fiber optic cable through duct as applicable to this installation. Include a reference to each pullbox station where cable, figure-eighting and pulling equipment will be staged during each pull.
- (e) Written procedure outlining the steps and methods that will be used to test the cable during and after installation. Include a sample copy of each test form that will be used in the test procedure.
- (f) Cable installation procedure outlining the methods that will be used for duct extruded over a fiber optic cable. Identify steps that will be taken to ensure that the cable is not damaged during the extrusion process or the installation.
- (g) Complete manufacturer test results for each cable reel stating conformance to the requirements specified herein. Manufacturer test data shall include optical time domain reflectometer ("OTDR") traces for each fiber of each reel taken at 1,300 nm wavelengths and 1,550 nm wavelengths.
- (h) Cable pull calculations for each duct run.
- (i) Construction drawings indicating the location of all splices and pull boxes with references to pipeline station numbers.
- (j) Fiber optic cable and installation qualifications as specified herein.
- (k) Written statements of compatibility from all manufacturers that state that their product is compatible with the other manufacturer's products used to furnish and install the fiber optic cable system, i.e., duct manufacturer's compatibility with pull rope, cable manufacturer's compatibility with splice trays.
- (l) Provide a log of duct markings, pull box locations and duct splices. The log will be used to calculate distances between pull boxes.
- (m) Duct installation procedure including provisions to maintain line and grade in conformance with the detail drawing

3C2.3 QUALIFICATIONS

- (a) Use qualified personnel, possessing the necessary equipment and having experience in similar installations. Evidence of qualification shall include the following:
 - (i) Written evidence that the Project Company has recent experience with all aspects of the fiber optic cable system as specified, including the installation of conduit and pull boxes, pulling of fiber optic cable in conduit, splicing and testing of fiber optics, and the installation and testing of all other components of the fiber optic cable system. Such experience shall include projects with installation and testing of no less than 5,000 feet of continuous fiber optic cable. Retain specialty workers or subcontractors meeting this experience requirement.
 - (ii) Written evidence that the manufacturer of the fiber optic cable has manufactured and provided fiber optic cable equal to the cable specified herein and installed under similar conditions.
 - (iii) Written evidence that the proposed fiber optic cable is compliant with all requirements of both Bellcore TR TSY-000020 and REA PE-90 certifications.
 - (iv) The name and qualifications of the supervisory personnel that will be directly responsible for the installation of the fiber optic system.

3C2.4 QUALITY ASSURANCE TESTING

- (a) Quality assurance testing will be performed by the Project Company, in accordance with all applicable sections of this specification,.
- (b) Field tests shall be performed on each fiber. All fibers will be tested for breaks, abnormalities, and overall attenuation characteristics to ensure that the db loss at each splice point and test location is in conformance with the requirements specified herein.
- (c) After delivery to the Plant Site, and before the cable is installed, an end-to-end OTDR trace for each fiber at both 1,300 nm and 1,550 nm wavelengths, using the proper index of refraction for that fiber shall be performed. These traces shall identify the total optical length. An average optical attenuation measurement (Db/km) shall be made for each fiber at both 1,300 nm and 1,550 nm wavelengths with an OTDR. Each measurement will be captured on a trace. Any cable delivered containing fiber that exceeds the Db/km loss specified herein or shows macro or micro bend damage shall be rejected.
- (d) A test shall be performed of each optical fiber end-to-end for each installed span after cable installation and after any intermediate (non-terminating) splicing is completed. For each fiber, an end to end OTDR trace shall be made at both 1,300 nm and 1,550 nm wavelengths and shall show total optical length. Testing will be conducted from both ends of the fiber. During testing, the Project Company shall use an acceptable power meter to measure and record the transmitted power for each test of each fiber.

- (e) For each installed optical fiber, the following measurements shall not be exceeded:

Measured loss less than: $(0.0040)L + (0.15)N + 1.0\text{dB}$ (for 1300-nm)

Measured loss less than: $(0.0030)L + (0.15)N + 1.0\text{dB}$ (for 1550-nm)

Where: L = Optical length of the fiber in meters
N = Number of non-terminating splices in the cable

- (f) Any installed fiber optic cables containing one or more fibers not meeting the specified insertion loss above shall not be accepted and shall be repaired or replaced.
- (g) Splice testing for each fiber splice shall be conducted. The splice test shall include bi-directional measurement using an OTDR. Remake and retest splices that exceed the specified 0.15-dB loss figure until compliance is achieved.
- (h) Any test failing to meet the specified requirements shall be deemed non-compliant with the specifications. The Project Company shall repair or replace all deficient materials and equipment. The Project Company shall be backcharged the cost of retesting failing test. Such backcharges shall be deducted from the Project Company's progress payments.

3C2.5 MATERIALS

3C2.5.1 Fiber Optic Cable

- (a) The fiber optic cable shall be a single mode, dual window cable suitable for use with both 1,300 nm and 1,550 nm transmission equipment. The cable shall consist of twelve fibers, with a maximum number of six fibers per buffer tube. The cable sheathing shall be medium density polyethylene. The cable shall utilize water-blocking gel and be all dielectric. The cable shall be fully compliant to Bellcore TR-TSY-000020 and REA PE-90 standards.
- (b) Each fiber shall consist of an 8.3 micron core with a 125 micron cladding and a coating diameter minimum of 250 microns.
- (c) The maximum individual fiber loss shall be 0.4 db/km at 1,310 nm and 0.3 db/km at 1,550 nm.
- (d) Each fiber shall be individually color coded. Color coding which uses only the color of tube or buffer as a designation is unacceptable.
- (e) Dispersion shall be less than or equal to 3 ps/nm/km at 1,310 nm, 20 nm, and 18 ps/nm km at 1,550 nm. Cut-off wavelength shall be 1,130 nm to 1,290 nm. The zero dispersion wave length shall be 1,310 nm. Fiber noncircularity shall be 0.2 percent. Operating temperature shall be minus 40 degrees C to 70 degrees C.
- (f) Crush resistance shall be 220 N/cm minimum.

- (g) The fiber optic cable shall have a tensile load rating of 600 pound minimum
- (h) The outer jackets of the cable shall be continuous, free from holes, splits, blisters, or inclusions. The same requirement holds for any inner jackets within a given cable structure as well as fiber coatings.
- (i) Materials used for the fiber optic cable shall present no environmental or toxicological hazards as defined by current industry standards and shall comply with OSHA and EPA standards and applicable federal or state laws or regulations.
- (j) The outer jacket material shall be MDPE. The color of the jacket shall be black in accordance with ASTM D1248 and contain a suitable antioxidant substance. The carbon black used shall be furnace-type conforming to the designation No. 110 in ASTM D1765. The carbon black content on the jacket material when measured in accordance with ASTM D1603 shall be 2.6 percent 0.25 percent by weight. The light absorption coefficient of the jacket material shall be at least 400 when measured at a wavelength of 375 nm per ASTM D3349.
- (k) Outer polyethylene jacket materials shall meet the Fiber Optic Test Procedures tensile strength and elongation minimum requirements for unaged and aged samples as follows: tensile strengths at break shall be no less than 2,700 psi unaged and 75 percent aged. Elongation at rupture shall be no less than 400 percent unaged and 375 percent aged.
- (l) The outer jacket shall be permanently marked every two feet with consecutive numbering at each mark for the entire length. Markings shall be stamped and white in color.
- (m) The outer jacket shall be permanently marked at regular intervals with the name of the manufacturer, date manufactured, product identification code, and standards codes when appropriate.
- (n) The cable jacket shrinkage test measures the shrinkage or expansion of a cable jacket exposed to temperature aging for a specified period of time. Maximum shrinkage shall be less than 5 percent for each specimen tested. The test procedure is described in EIA-RS-455, FOTP-86.
- (o) All of the fiber optic cable shall be supplied from one manufacturer and shall be consistent throughout the entire project.
- (p) The fiber optic cable shall be the loose tube gel filled type as manufactured by Corning, or equal.
- (q) All fiber optic cable shall be purchased in continuous segments no less than 4,000 meters (13,120 feet), plus or minus 5 percent. If specific project design or construction conditions warrant deviations from this requirement, identify such and propose their alternative(s) during the submittal phase of the project.

3C2.5.2 Fiber Optic Splice Trays

- (a) Fiber optic splices shall be made by the fusion process with a loss no greater than 0.15 db per splice. The splice trays shall be consistent and suitable for use with the type of cable provided.

3C2.5.3 Fiber Optic Splice Closure Assembly

- (a) Install fiber optic splices in pull boxes. Splices shall be made in a re-enterrable splice closure assembly with removable splice organizer trays. The splice closure assembly shall consist of individually accessible splice trays and an inner and outer closure. Provide Coyote Closures, Raychem FOSC 400 B2 or B4, or equal.

3C2.5.4 Fiber Optic Cable Termination Enclosures

- (a) Fiber optic cable termination enclosure shall be installed within the Water Authority Interface Cabinet in accordance with the Electrical/Instrumentation Guide Drawings set forth in Part 3 of this Attachment.
- (b) Fiber optic cable termination materials shall be as follows:
 - 1. SC Patch Cord, single-mode, one meter; FONS Part No.:50J-08001-99, or equal.
 - 2. Heat shrink sleeves

3C2.5.5 High-Density Polyethylene Duct

- (a) High-density polyethylene ("HDPE") duct shall be SIDR-7 with a minimum inside diameter of two inches, or as shown on construction drawings, conforming to ASTM D2239. Provide HDPE duct marked by the manufacturer every two feet with consecutive numbering at each mark for the entire length of the duct. The HDPE ducting process shall not affect the cable warranty. Perform an OTDR trace at 1,300 nm and 1,550 nm before and after the ducting process, if the duct is extruded over the cable. HDPE duct shall be as manufactured by Integral Corp., or equal.
- (b) HDPE duct splices shall utilize the manufacturer's recommended threaded, corrosion-resistant, screwed couplings. Couplings shall be made water-tight using standard electrical-grade heat-shrink sleeve.

3C2.5.6 Sealed Bushings

- (a) Furnish and install sealed bushings at the ends of all cable-in-duct. Sealed bushings shall be mechanically tightened, split inner-duct plug, as manufactured by Jack Moon Ltd., Arnco, or equal.
- (b) Furnish and install sealed bushings for conduit entering pull boxes. Use mechanically expanding bushings as manufactured by Jack Moon Ltd., George Ingraham, or equal.

3C2.5.7 Lubricant

- (a) Furnish cable-pulling lubricant in an amount necessary to meet a minimum application rate of one gallon per 1000 feet. The cable lubricant shall be compatible for use within the duct and shall facilitate fiber optic cable pulling. The cable lubricant shall be Integral LUBADUK, or equal.

3C2.5.8 Fiber Optic Cable Pull Boxes

- (a) Provide 36 inch long by 24 inches wide by 36 inches deep pull boxes for all locations, except provide 48 inches long by 30 inches wide by 36 inches deep pull boxes at location of future service connections. Measurements represent interior clear distances.
- (b) Provide traffic bearing precast concrete pull boxes designed for H-20 bridge loading. Covers for pull boxes shall be galvanized steel. Grind center of pull box cover to create a 1-5/8 inch by 16 inch by 1/16-inch recess area for a cast steel name plate. Weld cast steel nameplate continuously around the outside edge, grind weld bead smooth, and cold galvanize nameplate. The nameplate shall read "SDCWA COMCBL" with square block capital letters. The letters shall be a minimum of 1-1/4 inches tall, raised 1/16 inches, with spacing between letters at 1/2 inch. A blank space shall be left at both ends from the "SDCWA COMCBL" wording. Covers shall have locking devices and form a watertight seal to prevent surface water from entering the box. Knockouts in the wall shall permit underground conduit penetrations. Accessories shall include angle iron and pulling eyes. Provide Brooks, Associated Concrete Products, or equal.

3C2.5.9 Cable Identification Tape

- (a) Cable identification tape shall be a plastic coated metallic orange tape not less than six inches in width. The tape shall have a continuous legend reading "CAUTION BURIED FIBER OPTIC CABLE" in black lettering. Tape splices shall be per tape manufacturer's recommendations to ensure tape continuity for locating purposes. The tape shall be Panduit, Terra Tape, Brady and Blackburns, or equal. Project Company shall have at least one splice kit on hand before placing tape.
- (b) A tracer wire, of stranded 12 ga. THHN, shall be pulled with the fiber optic cable during any buried-conduit installation that does not have a tracer wire installed. Tracer wire shall be neatly coiled in each pull box, with a minimum of 20 feet of excess wire for each direction of the buried conduit.

3C2.5.10 Cable Pull Rope

- (a) The cable pull rope shall be constructed of a solid braid polyethylene jacket with a polyester core. The duct manufacturer shall certify that the cable pull rope is compatible for use with pulling fiber optic cable.
- (b) The cable pull rope shall be preinstalled by the duct manufacturer before the duct is laid.

3C2.6 EXECUTION

3C2.6.1 Cable Packaging

- (a) Package the cable on a reel with inner hub diameter greater than the recommended minimum bending diameter of the cable. The anchor holes on the reels shall admit a 63.5 mm (2 1/2 inch) diameter spindle without binding. The package shall be sturdy enough to endure reasonable handling in the process of shipping and storage.
- (b) Securely attach tags, or clearly and permanently stencil or label each reel, with the following information: customer order number, customer job number, customer reel number, termination, ship date, manufacturer's name, factory reel number, manufacturer's cable code (type and fiber count), length of cable, weight of cable and reel, and defect tag.
- (c) Seal the ends of all cable to prevent the escape of filling compound and to prevent the entry of moisture during shipping, handling, storage, and installation.

3C2.6.2 Location Of Facilities

- (a) The construction drawings diagrammatically indicate the desired location and arrangement of pull boxes, cable runs, and other elements of the fiber optic cable system. Determine exact locations in the field based on The size and arrangement of specified materials, capabilities of installation equipment, finished elevations, and allowable cable pulling tensions and obstructions. Stake pull box locations in the field prior to installation.

3C2.6.3 Swivel And Grips

- (a) Insert a reliable nonfreezing type of swivel between the pulling line and the cable pulling grip to prevent twisting under strain. Equip the swivel with shear or tension pins with a breaking strength of 600 pounds. Do not pull cable without a breakaway swivel.
- (b) Use the manufacturers approved method to grip the cable during pulling operations. Include a copy of the manufacturers approved method to grip the cable during pulling operations with the cable submittal.

3C2.6.4 Duct Installation

- (a) Install the duct in trenches as shown on the construction drawings and backfilled with imported sand or crushed rock. Place the identification tape 18 inches directly above the top of the duct.
- (b) At pipeline encasements install duct within steel casings as shown on construction drawings.
- (c) For duct that will not be immediately used, seal duct at both ends to prevent moisture from entering.

- (d) For change in direction exceeding 45 degrees in either the horizontal or vertical direction, do not install duct without a pull box or without utilizing a bend radius less than 20 feet. Duct must be installed as straight as possible, with no side to side or top to bottom bending.
- (e) At duct splicing locations provide sufficient cable pull rope beyond the ends of the duct to allow for splicing of cable pull rope.
- (f) Use manufacturer approved methods and materials to splice the cable pull rope and duct. Spliced sections of rope are to withstand the maximum pull tension (600 pounds) available by the pulling equipment used without damaging the integrity of the duct while pulling.

3C2.6.5 Pull Box Locations And Installation

- (a) Install fiber optic cable pull boxes in accordance with the following:
 - 1. The maximum distance between any two pull boxes shall not exceed 3,000 feet, unless otherwise shown on the construction drawings.
 - 2. Install additional pull boxes at locations where the cable pulling tension approaches, but does not exceed 600 pounds.
 - 3. Install pull boxes at each service connection or other designated facility.
 - 4. Install pull boxes on one side of pipeline tunnel street crossings. Install pull boxes on both sides of pipeline tunnel crossings which require more than 180 degrees of duct bends to account for elevation differences or route adjustments.
 - 5. Install pull boxes on both sides of pipeline tunnels that are longer than 3,000 feet.
 - 6. Project Company shall install new pull boxes on each side of any pipeline encasement, unless there is an existing pull box within 200 feet of the end of the encasement.
- (b) Install sealed bushings where duct enters the pull box.
- (c) Inside the installed pull box, paint the distance in feet to the next pull box or opening as determined from log of duct markings. Use orange paint and two inch high stenciled numbers. Paint numbers three inches above every duct opening.
- (d) Place the bottom of the pull box firmly on a six inch thick bed of 3/4 inch crushed rock extending six inches beyond the outside edges of the pull box.

3C2.6.6 Fiber Optic Cable Installation

- (a) Install cable in HDPE duct in accordance with the manufacturer's recommendations. Do not allow cable to be bent or twisted into a radius

less than the manufacturers minimum bend radius. Include a copy of the manufacturers recommended procedure for cable installation with the cable submittal. Install cables in accordance with the manufacturers recommendations.

- (b) Clean and test the duct prior to installing the cable. Clean the duct by passing a cleaning assembly through the duct, consisting of a flexible steel or rubber slug, followed by a wire brush. Repeat this operation if necessary to ensure that all construction debris has been removed from the duct. After cleaning the duct, perform a clearance test with a mandrel. Pass through the duct a rigid mandrel specifically designed for proving duct. Size the mandrel in accordance with NECA-2004 and NEMA TCB2-2000 guidelines. Pulling tension of mandrel is not to exceed 600 pounds and rope must not damage duct. Remove foreign materials, earth, sand, and gravel from the duct before the duct is lubricated.
- (c) Install the cable using a hydraulic capstan or winch, equipped with a recording running line dynamometer graph to measure and record the pulling tension, as manufactured by A.B. Chance Co., Evergreen Co., T.A. Pelsue Co., or equal. Use pulling equipment with "slip-load" capability to allow the winch to maintain a constant pulling force without taking up the winch line. Use the pulling equipment equipped with a hydraulic bypass set with a maximum tension of 600 pounds
- (d) Connect and activate the recording graph before any pulling has begun. Run the graph continuously throughout the pulling operation. At the end of each pull, sign and date the graph and record the reel number. Provide a written explanation for any abnormality in a graph of a cable reel pull. Note all starts and stops on the graph with a separate written explanation for each interruption. Submit graphs at the end of each pull run.
- (e) Calibrate the pulling equipment before each pull. Do not make adjustments to the hydraulic system, gauges, or graph recorders after calibration.
- (f) Where practical, attach a rubber swab ahead of the cable to aid in dispersing the pulling lubricant evenly through the duct. Pour or pump lubricant into the end of the duct or conduit at the feed location prior to inserting cable. If the duct is open at intermediate locations, apply the appropriate proportion of lubricant at each opening. As the cable is being pulled, pour lubricant into the duct at the feed location and at each intermediate location or pull hole. Station workmen at each intermediate location as required. After cable pulling, remove excess lubricant that has collected in the manholes or buildings and clean the surrounding area. Add lubricant in accordance with cable manufacturer's standard installation practices.
- (g) Position the cable reel at the feed vault in alignment with the duct and in such a position that the cable can be passed from the top of the reel in a long, smooth bend into the duct system. The use of a cable feeder is required.

- (h) Place a marker, consisting of several turns of friction tape on the pulling line, 20 feet from the end of the line. Use this marker to indicate when the cable is about to enter the pull box. When the marker on the pulling line arrives at the pull box, slow the pulling operation until the cable enters the pull box, and then discontinue. Pull sufficient slack by hand. Leave a minimum of 100 feet of cable slack in the pull boxes, measured from the centerline of the pull box. Support the cable on porcelain saddles attached to the inside wall of the pull boxes. Secure the cable to the porcelain saddles with cable tie wraps.
- (i) If back feeding is required, remove the cable from the reel and place the cable in a figure eight pattern. Use protection covering over the ground for laying out the cable. Carefully handle and protect the cable to prevent damage. When pulling is ready to resume, hand feed cable into the duct system and follow the same pulling procedures.
- (j) If the pulling operation cannot be completed because of darkness, weather, equipment breakdown, etc., do not leave the cable exposed or unattended.
- (k) Supply all bull wheels, blocks, split wheels, cable feeders, and necessary equipment required to provide a clean and safe operation. Do not allow the cable to travel over any wheel or block that has a radius less than the minimum radius allowed by the cable manufacturer.
- (l) Minimize the use of snatch blocks and rollers to guide the cable into the duct at the feed manhole. Feed cable by hand into the feed manhole and duct without the use of rollers wherever possible. Tend the cable reel at all times and turn by hand to provide the required cable slack. Do not allow the cable tension to turn the cable reel. Place a rim roller, with a wheel radius greater than the minimum cable bending radius, at the manhole or vault opening to prevent the cable from dragging on the manhole rim or steps.
- (m) Conduct a thorough visual inspection for flaws, breaks, or abrasions in the cable sheath as the cable leaves the reel. Monitor the pulling speed to permit this inspection. Damage to the sheath or finish of the cable shall be sufficient cause for rejecting the cable. Replace cable damaged in any way during installation.
- (n) Do not exceed a cable pulling tension of 600 pounds. Do not continue cable installation until the difficulty has been determined and corrective action taken.

3C2.6.7 Splice Locations

- (a) Minimize non-terminating (field) splices. A goal of no more than one field splice per 20,000 feet of installed cable will be pursued by the Project Company. Splice locations described here are exclusive of repair splices specified herein.

- (b) Install splices in splice tray organizers specifically designed for the type of splice being used. Place a heat shrink protection sleeve over the splice prior to placing the splice in the tray.

3C2.6.8 Cable Damage During Installation

- (a) If the cable becomes damaged during installation, discontinue the operations. The Project Company will determine whether to replace the entire reel of cable or to install a splice at the damaged section. Determination for replacement of cable will be based on exceeding 600 pounds of pull, failure of attenuation test, or damage to cable jacket.
- (b) If the Project Company determines that the entire reel of cable needs to be replaced, begin the installation at the last designated splice point. The damaged cable between these points shall be removed from the duct, coiled, tagged, and removed from the jobsite.
- (c) If the Project Company determines that a splice needs to be installed at the damaged point, carefully excavate from the damaged point a distance along the cable as directed by the Project Company and expose the cable. Install a pull box at this point. A minimum of 50 feet on both ends of the cable (100 feet total) shall be coiled in the pull box. For any section of fiber cable between two terminations, no more than two repair splices will be allowed. If the Project Company has already performed two repair splices between pre-defined splice locations, and the cable is damaged a third time, replace the entire reel of damaged cable with a new reel.

3C2.6.9 Termination At Service Connections And Other Facilities

- (a) When connecting or splicing into an existing fiber optic cable system, in support of a new facility termination location, the contractor shall provide a detailed procedure for performing the work or refer to the details, procedures, or notes shown on the construction drawings.
- (b) The contractor may be required to pull and re-route existing fiber optic cable in order to complete the connection and termination for the new facility. The contractor shall test the existing fiber optic cable before and after the pull and re-routing in accordance with Section 16890-1.06.
- (c) All work on existing fiber optic cable systems shall be coordinated with the Water Authority's Technical Services Section.
- (d) Where shown on the Electrical/Instrumentation Guide Drawings set forth in Part 3 of this Attachment, install a three-inch diameter HDPE duct or Schedule 40 PVC conduit between a new or existing pull box and the service connection or other designated facility. Place the duct or conduit in a trench at a minimum depth of 36 inches. Backfill material within a zone between the bottom of the trench and to a point six inches above the top of the duct or conduit using imported sand or crushed rock. Backfill material from six inches above the top of the duct or conduit to finished grade using native earth backfill. Place the identification tape eighteen inches below finished grade.

- (e) The duct or conduit entrance into the facility structure and subsequent connection to the Water Authority Interface Cabinet shall be as shown in the Electrical/Instrumentation Guide Drawings set forth in Part 3 of this Attachment. Do not exceed the minimum bend radius restriction.
- (f) Route incoming and outgoing fiber optic cables from the exterior pull box to the termination enclosure located within the Water Authority Interface Cabinet.
- (g) Terminate fiber optic cable at the termination enclosure by performing the following:
 - 1. Open the cable.
 - 2. Fusion splice the individual fiber to the SC pigtails.
 - 3. Place heat-shrink on the splice.
 - 4. Load fibers in splice tray and place in enclosure.
 - 5. Route and terminate pigtails at the bulkhead.
 - 6. Route and terminate patch cords.
- (h) After completing each fiber to pigtail splice, the contractor shall perform a light injection and detection ("LID") test on the splice to determine loss. Any splice not meeting the LID test criteria of 0.15 dB shall be re-spliced.
- (i) Provide water-tight entrances into the facility structure and the Water Authority Interface Cabinet.
- (j) For pull box locations for future service connections or other specified facilities, provide 1,300 feet of cable coiled inside the pull box.

3C2.6.10 Marker Post

- (a) Install a marker post at each pull box consisting of a concrete filled steel post as shown on the construction drawings. Paint the post with a safety yellow color high-gloss enamel and attach an underground utility warning decal.

3C2.6.11 Cable Manufacturer Supervision And Certification

- (a) Retain a qualified representative of the cable manufacturer to be present during the installation of the first complete reel of cable.
- (b) Cable manufacturer representative shall submit written certification to the Project Company that the Project Company has followed standard industry procedures and the requirements specified herein for the installation of the fiber optic cable.

3C2.6.12 Removal, Storage, And Reinstallation Of Fiber Optic Cable

- (a) Before removal of any fiber optic cable, the Project Company shall perform an OTDR test of the cable to be removed. This test shall include all individual fibers, and shall be performed from both directions, at both 1300 and 1550-nm wavelengths.
- (b) The Project Company shall protect the fiber optic cable during the removal and storage process,.
- (c) The removed cable shall be reinstalled in accordance with all provisions of this specification for the installation of new fiber optic cable. After reinstallation, the Project Company shall perform an OTDR test of the portion of the cable that was removed. This test shall include all individual fibers, and shall be performed from both directions, at both 1300 and 1550-nm wavelengths.
- (d) The re-installed cable must not have any fibers that are damaged.

END OF SECTION

**(SDCWA Standard Drawings SD-22, SD-24 and SD-25 available upon request from
Water Authority.)**

ATTACHMENT 3C PART 3
SDCWA ELECTRICAL/INSTRUMENTATION GUIDE DRAWINGS

JUNE 2006

[Document available upon request from Water Authority]

The drawings set forth in this Part is limited to the Water Authority's I&C facilities described in subsection 3C1.2 (Water Authority Interface Monitoring Equipment) of this Appendix.

**ATTACHMENT 3C PART 4
SDCWA STANDARD DRAWINGS AND STANDARD DETAILS
OCTOBER 2003
(ONLY DRAWINGS SD-22, SD-24 AND SD-25)**

[Drawings available upon request from Water Authority]

The drawings set forth in this Part is limited to the Water Authority's I&C facilities described in subsection 3C1.2 (Water Authority Interface Monitoring Equipment) of this Appendix.

ATTACHMENT 3D
WATER AUTHORITY DRAWING REQUIREMENTS

ATTACHMENT 3D

WATER AUTHORITY DRAWING REQUIREMENTS

This Attachment sets forth the requirements with which the as-built construction record drawings and annual updates delivered by the Project Company shall comply as noted in Section 3.12.5(a)(iii) of this Appendix.

3D.1 RECORD DRAWINGS PREPARATION AND ANNUAL UPDATES

3D.1 Purpose. The purpose of this section is to provide a procedure for preparation of record drawings for the Project as a condition of Project Completion and to provide a procedure for updating or revising record drawings when future modifications are made.

3D.2 Policy. The policy of the Water Authority is to provide consistency from project to project and facilitate the preparation of record drawings and future revisions resulting in the accurate and complete drawing representations of the Water Authority's capital improvement program facilities.

3D.3 Discussion. Record drawings are a complete set of drawings for a facility reflecting our best understanding of what was constructed or modified. During construction or modification of a facility, a record of the construction of the facility is marked in red on a set of the construction drawing blueprints (that is, a master set of contract redline drawings). Following construction, the master set of contract redline drawings is incorporated into the construction drawings and finalized as record drawings. The record drawings are then forwarded to the Water Authority for incorporation into the Water Authority's archive construction drawing inventory.

Consistency in the preparation of the record drawings is the responsibility of project managers and construction managers.

This policy shall be provided to all Water Authority departments and consultants providing construction management and design services to the Water Authority's Capital Improvement Program.

3D.4 Procedure. Procedures for preparation and future updates of record drawings are as follows:

- (a) Record Drawing Preparation. The record drawings shall be prepared as follows:
 - (i) The Water Authority retains one full size blueline set of the contract drawings including addenda for the record.
 - (ii) Original AutoCAD bid/addendum/conformed CAD drawing files shall be updated to prepare record drawings.
 - (iii) Before preparation of the record drawings, the master set of contract redline drawings shall be reviewed by the Water Authority when applicable, to ensure the master set of contract redline drawings represent completely what was constructed.
 - (iv) Line work for profiles, plans, details, and other elements that require modifications shall be erased on the original CAD drawing files and drafted

according to the master redline drawings developed during construction. All lettering, line patterns, and weights required to revise the original CAD drawings shall match those shown on the existing original CAD drawings. Revisions to the drawings shall be bubble outlined to highlight the revised areas on each drawing. The bubbled outline shall also contain a small triangle with a corresponding revision number as shown in the revision block.

- (v) Notes shall be added on the plan and profile sheets identifying the stations and the type of materials (for example, sand, concrete, or gravel) used for backfill in the pipe zone. Additional information to be noted on the record drawings includes, but is not limited to:
 - (a) locations of over excavation; give approximate dimensions and materials;
 - (b) dewatering well heads/casing left in place;
 - (c) zones where groundwater was encountered; estimate seepage rate and elevation;
 - (d) trench conditions that deviate from the originally assumed conditions; give trench width, failures, approximate dimensions of backfill, and type of material;
 - (e) soil description of trench sidewalls;
 - (f) soil stabilization treatments left in place, such as piles and bracing;
 - (g) location of any shoring left in place, such as soldier beams and tunnel supports; and
 - (h) utility relocations.
- (vi) The information provided pursuant to clause (v) of this subsection, and any other unusual conditions are to be recorded in the construction daily reports and transferred to the drawings during the preparation of the record drawings.
- (vii) The Project Company preparing the record drawings is responsible for ensuring all revised CAD drawing files have the appropriate signatures and registered professional engineer's seal as provided on the original CAD drawings.
- (viii) The master set of contract redline drawings shall be returned to the Water Authority with the record drawings. The Water Authority will provide a review and note any discrepancies between the master redline drawings and the record drawings. Where discrepancies occur, the Project Company shall make corrections. The process is repeated until the Water Authority is satisfied that the record drawings are complete.
- (ix) Following completion of all work, every revised drawing in the contract documents shall have the description of the change filled in the revision block. When multiple revisions to a drawing are required, the words "Revised for the Record" may be filled in the revision block in lieu of a

multiple-lined description. The revision number, date, drawn, checked, and approved boxes are to be filled in.

- (x) The Water Authority has the right to review and approve the record drawings for consistency with the Contract Standards. The Water Authority's record drawing disclaimer is placed within the title block on each sheet and on the title or cover sheet as shown in Figure 3D-1 of this Attachment (the "CAD Record Drawing Disclaimer"). The Water Authority will furnish a CAD Record Drawing Disclaimer file for this purpose.
 - (xi) If construction management services are not performed by the Design Engineer, then the Construction Manager's registered professional engineer's stamp is required on the record drawings for construction revisions/record drawing purposes only.
 - (xii) The record drawings CAD files are submitted to the Water Authority and all other mylar sets and redline drawings are destroyed.
- (b) Annual Update of Record Drawings.
- (i) In accordance with subsection 8.10(D) (Annual Update of Record Drawings and Documents) of this Water Purchase Agreement, the Project Company shall deliver to the Water Authority an annual update of record drawings in accordance with the Contract Standards. The Water Authority shall review and approve all updates for consistency with the Contract Standards. Revisions to the drawings shall be bubble outlined to highlight the revised area(s) on each drawing. The bubbled outline shall also contain a small triangle with the next succeeding revision number as shown on the revision block. Each revised drawing shall have a description of the change filled in the revision block adjacent to the corresponding revision number with the date, drawn, checked, and approved boxes filled in.

RECORD DRAWING SAN DIEGO COUNTY WATER AUTHORITY THIS IS A RECORD DRAWING ONLY OF THE FACILITIES OWNED BY THE AUTHORITY AND IDENTIFIED IN THE TITLE BLOCK. IT HAS BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE AUTHORITY IS NOT RESPONSIBLE FOR ANY ERROR(S) OR OMISSION(S) WHICH HAVE BEEN INCORPORATED INTO THIS DRAWING. ACTUAL CONDITIONS WILL VARY SOMEWHAT FROM THE CONDITIONS SHOWN HERE AND AT SOME LOCATIONS THE VARIANCE MAY BE LARGE. IF THE PRECISE LOCATION OF ANY FACILITY OWNED BY THE AUTHORITY IS REQUIRED, THE FACILITY MUST BE FIELD LOCATED IN THE PRESENCE OF AN AUTHORIZED REPRESENTATIVE OF THE AUTHORITY.	ENGINEERING COMPANY LOGO		DESIGN BY _____
			DRAWN BY _____
			CHECKED BY _____

APPR _____

Figure 3D-1. Record Drawing Disclaimer

3D.2 DRAFTING MANUAL REQUIREMENTS

The Project Company shall comply with the requirements set forth in the San Diego County Water Authority's Drafting Manual, ESD-120, March 2004 and as included in the attached CD.

[Drafting Manual ESD-120 available upon request from Water Authority]

APPENDIX 4
MECHANICAL COMPLETION REQUIREMENTS

APPENDIX 4

MECHANICAL COMPLETION REQUIREMENTS

4.1. GENERAL REQUIREMENTS

To accomplish Mechanical Completion, the Project Company shall demonstrate having met the minimum requirements set forth in Section 4.5 (Mechanical Completion Procedure Requirements) of this Appendix by following the Mechanical Completion Procedure components set forth in Section 4.6 (Mechanical Completion Procedures Components) of this Appendix in a manner consistent with the approach to be established in the Commissioning Plan required pursuant to Section 4.2 (Commissioning Plan) of this Appendix.

4.2. COMMISSIONING PLAN

The Project Company shall prepare a commissioning plan which shall provide a protocol for the conduct of all Plant start-up and commissioning activities consistent with this Section (the "Commissioning Plan"). As set forth in subsection 7.1(B) (Commissioning Plan) of this Water Purchase Agreement, the Project Company shall prepare and submit to the Water Authority for its approval the Commissioning Plan no later than 60 days prior to the anticipated commencement of commissioning of the Plant for review and comment by the Water Authority. Within 30 days after the Water Authority's receipt of the Commissioning Plan, the Water Authority shall provide written notice to the Project Company either acknowledging that the Commissioning Plan is acceptable to the Water Authority or specifying the deficiencies therein. In the latter instance, the Project Company shall revise and resubmit the Commissioning Plan to the Water Authority until the same is acceptable to the Water Authority (such approval not to be unreasonably withheld).

4.2.1 General Commissioning Plan Requirements. The content of the Commissioning Plan shall be consistent with the terms and provisions of this Water Purchase Agreement. All commissioning activities shall be performed in compliance with all Applicable Laws, Governmental Approvals, equipment manufacturer warranties and guidelines, the Electronic Operation and Maintenance Manual, Good Design and Construction Practice, and Good Management Practice.

4.2.2 Commissioning Plan Content. The Commissioning Plan shall be a comprehensive plan organized into separate sections addressing overall Plant start-up and commissioning procedures and practices, all equipment and each unit operation, all auxiliary Plant equipment and systems, and the Project Company's management, documentation, and oversight of the start-up and commissioning process. At a minimum, the Project Company's Commissioning Plan shall include the following:

- (a) A start-up and commissioning overview with a complete description of start-up and commissioning activities.
- (b) The list of prerequisites required for commencing commissioning.
- (c) A critical path method ("CPM") commissioning schedule that sequences all commissioning activities required to achieve Mechanical Completion. The commissioning schedule shall incorporate logic to properly sequence activities with precedents and constraints including, but not limited to, Governmental Approvals such that the schedule addresses dry and wet testing, verification of equipment readiness for service, instrumentation and controls calibration, local control and SCADA functionality, and all other steps consistent with Good

Design and Construction Practice, Good Management Practice, and all equipment manufacturers' guidelines and equipment warranty provisions. The commissioning schedule shall also indicate any activities on the critical path that require Water Authority actions.

- (d) A description of the Project Company's process for assuring orderly transitions between its construction, start-up, commissioning activities and the Performance Test, and the Operation Period.
- (e) An organizational chart for the Project Company's start-up and commissioning team and a description stating the responsibilities and the level of authority of each Project Company representative in the organizational chart.
- (f) The quality assurance/quality control ("QA/QC") procedures for oversight by the EPC Contractor's QA/QC staff to assure adherence to the requirements of the Commissioning Plan and the procedures for deficiency correction and tracking/documentation of such corrections.
- (g) A description of the procedures the Project Company proposes for inspecting process equipment prior to and during functional testing and for developing the Punch List.
- (h) The procedures and staffing planned that Project Company intends to use for disinfecting the Plant and obtaining all CDPH clearances necessary for starting-up the Plant and producing Product Water;
- (i) A description of the systems or components of the Plant that will be started up as unit processes or sub-process and the sequence in which they will be started up. For example, starting-up the post treatment processes requires permeate from the reverse osmosis processes as a prerequisite and operating the reverse osmosis processes requires that the raw water conveyance and pretreatment system be operational.
- (j) A description of the sequence of start-up and commissioning activities the Project Company intends to conduct including the functional testing of individual control loops and unit processes, equipment, SCADA demonstrations, and computerized maintenance management system ("CMMS") demonstrations. At a minimum, the unit process and SCADA demonstrations shall provide confirmation that (i) the Plant is capable of demonstrating that all material operations and control functions necessary to produce and pump Product Water at the rated capacity of the Plant and for any Operating Mode and Flow Rate can take place by the operators through the human machine interfaces ("HMI") in the central control room ("Automatic Mode"), and (ii) for any of the primary operating areas of the Plant (e.g. intake system, pretreatment system, reverse osmosis island, product water pump station, post treatment system, chemical feed systems, and the solid handling systems), where applicable, manual set points can be entered and start and stop sequences can be initiated by the operator through the HMI in the central control room ("Manual Mode").
- (k) A description of the dry testing of the Plant, which shall include ensuring proper electrical installation, mechanical installation, valve operation, pump operational readiness, instrumentation calibration and performance, complete and calibrated electronic signals, and control hardware installation. Initial performance during dry testing shall be logged on data sheets maintained by the Project Company and available for review by the Water Authority.

- (l) A description of the wet testing of the Plant, which shall include ensuring proper air venting, flushing of all lines and pressure vessels, chlorinating lines and tanks (as appropriate), running water through all systems, control loop check, adjustment and tuning, ensuring proper communications between systems and SCADA, ensuring SCADA system coordinates all systems according to Operation and Maintenance Standards, testing SCADA alarms, starting and testing chemical feed systems, loading cartridge filters.
- (m) The procedures to: (i) protect the RO membranes in accordance with the manufacturer's storage requirements; (ii) test and disinfect the pressure vessels, (iii) load the RO membranes; (iv) protect the membranes from damage due to disinfectants in feedwater; (v) obtain membrane data required for normalization by the RO membrane manufacturer's methodology within 96 hours of the initial operation of each of the membrane trains; and (vi) maintain the data to map RO element placement.
- (n) A description of the procedures and schedule required to sufficiently mature the deep bed filters and establish a mature biogrowth on the biologically active dual media filters.
- (o) A description of the procedures and the sequence of start-up and commissioning activities that the Project Company shall conduct in cooperation with the Water Authority prior to (and as a precondition of) the Scheduled Water Authority Improvements Completion Date which will demonstrate that the Plant, Product Water Pipeline Improvements, and the Water Authority Improvements collectively meet requirements similar to those set forth in subsection 4.6.2(e) (Equipment, Instrumentation and Controls Readiness Verification) of this Appendix (the "Full System Test").
 - (i) The Project Company and the Water Authority shall have up to seven days to cooperatively complete the Full System Test.
 - (ii) The Full System Test shall include, but is not limited to, the activities necessary to: (i) demonstrate the interoperability of the Plant and the Product Water Pipeline Improvements with the Water Authority's SCADA communications system (as further described and specified in Appendix 3 (Project Design and Construction Work) and the Product Water Pipeline Improvements Design-Build Agreement); (ii) tune and calibrate the chemical feed systems of the Water Authority Improvements, as required by this Appendix; and (iii) tune and calibrate the instrumentation and control signals of the Product Water Pipeline Improvements to the Water Authority, as required by this Appendix.
 - (iii) During the Full System Test, the Project Company shall: (i) on the first day, delivering enough Product Water to displace any water that may be found in the Product Water Pipeline Improvements, the Pipeline 3 Improvements, and the TOVWTP Improvements; and (ii) deliver Product Water to the Water Authority continuously for three consecutive days, on a 24 hours a day basis, at Flow Rates in the Three Pump Mode. If the parties cannot complete the Full System Test because the Project Company fails to produce Product Water in the manner set forth in this clause, (i) the Full System Test shall be extended until such time as Project Company produces Product Water in such manner, and (ii) the Water Authority shall receive the relief set forth in subsection 5.2(D) (Project Company Obligations Relating to the Water Authority Improvements) in the Water Purchase Agreement, if applicable.

- (iv) During the Full System Test, the Project Company shall be responsive to any Water Authority dosage requests related to disinfection set forth in Appendix 8 (Supplemental Performance Guarantee Requirements), and Water Authority requests to curtail Product Water delivery to the Water Authority.
- (v) The Full System Test shall not include the delivery of Product Water for hydrostatic testing of the Water Authority Improvements.
- (vi) If at the end of the Full System Test, (i) the Project Company has delivered Product Water to the Water Authority on a continuous and uninterrupted basis, (ii) the conditions set forth in subsection 7.3(D) (Conditions to Commencement of the Performance Test) of this Water Purchase Agreement have been met, and (iii) the Project Company has completed all the items set forth in Section 5.1 (Performance Testing Prerequisites) of Appendix 5 (Minimum Performance Criteria and Performance Testing), such period of continuous and uninterrupted delivery of Product Water shall be deemed the beginning of the Performance Tests.
- (p) A list of all Governmental Approvals required for functional testing and for Performance Testing and the tracking mechanism the Project Company proposes to use to confirm that the Project Company has obtained all such Governmental Approvals prior to commencing the functional testing and Performance Testing activities for which such Governmental Approvals are required.
- (q) A description of the approach for management of Plant generated wastewaters confirming that all wastewater created during start-up and commissioning activities can be disposed of in a manner consistent with the provisions of all Governmental Approvals such as the Project Permit and the local wastewater treatment agency.
- (r) A list of all controls system set points and alarms required for operating the Plant and for equipment protection. The Project Company shall maintain the list as a controlled document throughout the Construction Period.
- (s) A description of the procedure the company will follow for making corrections to its Electronic Operation and Maintenance Manual.

4.2.3 Start-up Prerequisites. The Project Company shall complete the following prerequisites prior to commencing start-up:

- (a) Commissioning Plan. The Project Company has prepared and forwarded a copy of the Commissioning Plan to the Water Authority and received the Water Authority's approval for the plan in accordance with subsection 7.1(B) (Commissioning Plan) of this Water Purchase Agreement.
- (b) Instrument Calibration. The Project Company has completed instrument calibration activities required to assure Plant instrumentation provides readings accurate within manufacturer's tolerances only as applicable to the systems and subsystems commissioned. Upon request by the Water Authority, the Project Company shall producing documentation verifying the completion of such activities.
- (c) SCADA. The Project Company has completed SCADA programming and testing necessary for operating the Plant in both Automatic Mode and Manual Mode.

Upon request, the Project Company shall deliver to the Water Authority verification that SCADA testing has been completed.

- (d) Operation and Maintenance Staff Training. The Project Company completed all operation and maintenance staff training on equipment operations and maintenance provided on-site by the equipment manufacturers or membrane supplier sufficient to start-up the Plant in accordance Good Industry Practices and provided documentation to the Water Authority, if requested, certifying all such training has been completed.
- (e) Electronic Operation and Maintenance Manual. The Project Company completed the Electronic Operation and Maintenance Manual and obtained the Water Authority's comments in accordance with Section 8.5 (Electronic Operation and Maintenance Manual) of this Water Purchase Agreement.
- (f) Operating Protocol. The Project Company and the Water Authority have jointly developed the Operating Protocol in accordance with this Water Purchase Agreement.
- (g) Governmental Approvals. The Project Company obtained all Governmental Approvals required for commencing Performance Testing.

4.2.4 Coordination Meetings. The Project Company shall meet with the Water Authority and or Water Authority Engineer on a regularly scheduled basis to review status of its commissioning activities; to coordinate with the Water Authority for activities related to system walk-downs with the EPC Contractor and the development of a Punch List; witnessing equipment functional and operability demonstrations; and to address any other relevant issues. The Commissioning Plan shall define the frequency of all commissioning activity coordination meetings.

4.2.5 Documentation. All documentation verifying start-up and commissioning activities shall incorporate checklists which are signed and dated by an authorized representative of the EPC Contractor's staff confirming the accuracy of the information on each checklist. An authorized representative of the EPC Contractor's staff shall also review and sign and date all such documentation prior to its review by the Water Authority, or if required, prior to transmittal to the Water Authority, thus indicating that the information in the checklist has been incorporated into the commissioning records. The Project Company shall provide one an electronic copy of all documentation to the Water Authority. The electronic copies shall be searchable documents supplied in Adobe Acrobat electronic format or other format acceptable to the Water Authority.

4.3. COMMISSIONING STAFF AND PROJECT COMPANY RESPONSIBILITIES

4.3.1 Commissioning Manager. The Project Company shall designate, subject to the Water Authority's approval, a manager who shall be responsible for directing all Mechanical Completion Procedures and who shall attend all Project meetings related to construction completion or Mechanical Completion Procedures (the "Commissioning Manager"). The direction of all start-up, Mechanical Completion, and Performance Tests shall be the Commissioning Manager's primary duty. The Project Company shall assure that the Commissioning Manager has sufficient authority to direct start-up and Mechanical Completion. The Commissioning Manager shall be a Key Individual and the Project Company's sole representative responsible to schedule Mechanical Completion Procedures with the Water Authority. The Commissioning Manager shall not be the Project Company's project director, project manager, project engineer, or Construction Superintendent. The Project Company shall submit the Commissioning Manager's resume to the Water Authority for review.

4.3.2 Work Schedule. The Commissioning Manager's normal schedule shall be 40 hours per week, but shall be on call and available 24 hours per day, if needed. The Commissioning Manager shall be fully empowered by the Project Company to make commitments of Project Company staff and other Project Company resources for conducting all commissioning activities.

4.3.3 Qualifications. The Commissioning Manager and the commissioning staff used for the Mechanical Completion Procedures, taken as a whole, shall possess a minimum of 10 years experience with operation of drinking water treatment facilities using reverse osmosis processes, including three years of management experience, and five years' experience in drinking water production facility start-up and commissioning activities

4.3.4 Project Company Responsibilities. The Project Company shall be responsible for all items that pertain to start-up, commissioning and testing. Overall, the start-up, commissioning and testing decision-making shall be based on the following key objectives:

- (a) Protection of the health and welfare of the public;
- (b) Protection of the health and safety of the Operating Service Provider staff;
- (c) Preservation of the long-term reliability of the Project for supplying water treatment services;
- (d) Protection and preservation of all Project facilities;
- (e) Protection of the environment;
- (f) Compliance with Applicable Law;
- (g) Maximizing the efficiency of commissioning activities the Project Company and the Water Authority's staff and representatives;
- (h) Achieving Provisional Acceptance by the Commercial Operation Date; and
- (i) Assure that the staff of the Operating Service Provider is competent to perform the operation and maintenance requirements for the Facility before Performance Testing commences.

4.4. MECHANICAL COMPLETION PROCEDURES

The intent of the Mechanical Completion Procedures (as defined below) are to demonstrate that the installed facilities, systems, subsystems, related equipment, and the Plant as a whole are ready to perform in accordance with the requirements of this Water Purchase Agreement and Design Requirements. The procedures described in this Appendix for determining when the Project Company has achieved Mechanical Completion (the "Mechanical Completion Procedures") include pre-commissioning, verification of start-up readiness, Governmental Approval compliance, functionality of individual Plant subsystems, and Plant commissioning. During the implementation of the Mechanical Completion Procedures, the Project Company shall carry out various inspections and pre-performance test activities, the scope and extent of which tests are outlined in this Appendix.

Each system, subsystem or facility identified in this Section shall be successfully demonstrated to have the capability to operate both individually, and as a part of the integrated Plant. The following Plant systems are to be included in assessing if the Project Company has attained Mechanical Completion:

4.4.1 Seawater Intake System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Pumps;
- (b) Valves, meters, sampling equipment;
- (c) Instrumentation and controls (“I&C”);
- (d) Cabrillo Generating Facility I&C interties and communications (as applicable); and
- (e) Sodium hypochlorite dosing equipment (as applicable).

4.4.2 Pretreatment System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Ferric, acid and polymer dosing equipment;
- (b) Rapid mixers;
- (c) Flocculation mixers;
- (d) Flocculation chambers;
- (e) Filter: underdrains, underdrain panels, nozzles;
- (f) Backwash systems;
- (g) Spent filter backwash storage tank;
- (h) Air blowers and dissolved oxygen control system;
- (i) Valves and flow control systems; and
- (j) I&C.

4.4.3 Reverse Osmosis System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Booster to high pressure pumps;
- (b) Cartridge filters;
- (c) Chlorination/ORP monitoring systems;
- (d) High pressure pumps;
- (e) Circulation pumps;
- (f) Membrane racks;
- (g) Valves and flow control systems;
- (h) I&C;

- (i) Flush system;
- (j) Membrane clean in-place systems;
- (k) Heaters;
- (l) Neutralization system;
- (m) Cascade chemical feed systems;
- (n) Cascade system 2nd & 3rd stage booster pumps; and
- (o) Cascade system.

4.4.4 Energy Recovery System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Energy recovery system booster pumps;
- (b) Energy recovery system;
- (c) Valves; and
- (d) I&C.

4.4.5 Post-Treatment (Calcite) System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Tanks;
- (b) Underdrains;
- (c) Internal piping;
- (d) Boilers (if included in design);
- (e) Pumps;
- (f) Valves and flow control systems; and
- (g) I&C.

4.4.6 Product Water Storage and Pumping. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Pumps;
- (b) Surge control system;
- (c) Valves and flow control systems;
- (d) I&C.

4.4.7 Chemical Feed Systems, including CO₂ and Disinfection Systems. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) CO₂ chemical feed systems;
- (b) NaOH, acid, ammonia, sodium hypochlorite chemical feed systems;
- (c) Tanks;
- (d) Containment structures and alarms;
- (e) Day tanks (if included in design);
- (f) Pumps;
- (g) Scales;
- (h) Mixers;
- (i) Valves;
- (j) Flow control systems; and
- (k) I&C.

4.4.8 Concentrate Discharge System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Valves;
- (b) Flow control system; and
- (c) I&C.

4.4.9 Solids Handling System. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Backwash transfer pumps;
- (b) Spent backwash pumps;
- (c) Sludge pumps;
- (d) Return pumps;
- (e) Valves;
- (f) Chemical feed tanks;
- (g) Storage tanks;
- (h) Clarifiers;
- (i) Belt presses;
- (j) Conveyors;
- (k) Flow controls systems; and

- (l) I&C.

4.4.10 I&C Systems. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Local control panels;
- (b) Master control panels;
- (c) Communications;
- (d) HMI;
- (e) SCADA systems;
- (f) Computer systems; and
- (g) Communication link with the Water Authority via fiber optic cable;

4.4.11 Control Logic, System Architecture and Programming Systems. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Individual equipment loops and system architecture; and
- (b) Individual process and pump station loops and system architecture.

4.4.12 Electrical Systems. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Transformers;
- (b) Programmable relays;
- (c) Transfer switchgear;
- (d) Electrical control panels;
- (e) Grounding/earthing; and
- (f) Plant Site security system.
- (g) Plant Site Plan.

4.4.13 Buildings and Structures. Subsystems or related equipment to be included in the Mechanical Completion Procedures include:

- (a) Service water and air;
- (b) Laboratory equipment; and
- (c) Final or temporary certificates of occupancy.

4.4.14 Observation of Mechanical Completion Procedures. The Water Authority reserves the right to observe and inspect the Mechanical Completion Procedures. The Project Company shall provide at least 5 days' notice to the Water Authority prior to commencement of any Mechanical Completion Procedure. The Project Company shall also ensure that each

equipment manufacturer representative that is required to witness such Mechanical Completion Procedures is present.

4.4.15 Subcontractors Required During Mechanical Completion Procedures. Prior to the commencement of any Mechanical Completion Procedure, the Project Company will identify all Subcontractors needed during such Mechanical Completion Procedure, and define their roles.

4.5. MECHANICAL COMPLETION PROCEDURE REQUIREMENTS

4.5.1 General Information. To meet the requirements of Mechanical Completion, the Project Company is required to demonstrate that all key Plant equipment, treatment processes, systems, subsystems and the Plant as a whole function in accordance with the Contract Standards, equipment warranty provisions and while meeting all Applicable Laws and Governmental Approvals.

4.5.2 Process and Equipment Performance Requirements. During the Mechanical Completion Procedures the following, at a minimum, shall be demonstrated with respect to all of the tested Plant systems and subsystems:

- (a) All pumps operate through their specified design range, and are verified for proper rotation, speed, flow rate, pressure and design point;
- (b) Plant systems and subsystems meet the requirements of the Contract Standards and are installed as designed;
- (c) All required automatic, manual control and remote control features are provided and operable;
- (d) All required valves, water quality sensors and analyzers, pressure and flow sensors, liquid level sensors, indicators, alarms, signals, leak detectors, monitors, controls, field devices and panel devices, are provided, correctly installed, calibrated and operable over their full range;
- (e) All required inlet, outlet, sensor taps, and drain connections are included and operable;
- (f) All required liquid dosing metering pumps, accessories, appurtenances, and injection systems, are provided, installed and operable over the full turn down range, for each chemical;
- (g) Software and hardware operational interlocks and startup, shutdown, control loop functions, and proper sequencing within all programmable logic controllers, HMIs, SCADA and other control locations are fully functional.
- (h) All equipment manufacturer's equipment warranty, start-up and operating instructions draft standard operating procedures for system or subsystem start-up, operation and shut down are available on-site;

In addition, the Project Company shall demonstrate a complete Plant start-up and shutdown cycle.

4.6. MECHANICAL COMPLETION PROCEDURES COMPONENTS

4.6.1 Verification of Start-Up Readiness. The Project Company shall verify that the Plant and Project Company are ready for Plant start-up and commissioning, and shall submit

documentation (data, reports, plans, Governmental Approvals, studies, etc.) in mutually agreed upon format and detail, allowing the Water Authority to confirm that start-up readiness verification has been completed. As a part of the Plant start-up readiness verification, the Project Company shall complete:

- (a) Pre-commissioning and Certificates of Proper Installation (as defined below), as set forth in subsection 4.6.2(a) (Pre-Commissioning and Certificates of Proper Installation) of this Section;
- (b) Design and process verification, as set forth in subsection 4.6.2(b) (Design and Process Verification) of this Section;
- (c) Dry commissioning, as set forth in subsection 4.6.2(c) (Dry Commissioning) of this Appendix;
- (d) Wet commissioning, as set forth in subsection 4.6.2(d) (Wet Commissioning) of this Section;
- (e) Equipment, instrumentation and controls readiness verification (including Certificates of System Readiness (as defined below)), as set forth in subsection 4.6.2(e) (Equipment, Instrumentation and Controls Readiness Verification) of this Section;
- (f) Verification of operational preparedness, as set forth in subsection 4.6.2(f) (Verification of Operational Preparedness) of this Section;
- (g) Verification of Governmental Approval compliance, as set forth in subsection 4.6.2(g) (Verification of Governmental Approval Compliance) of this Section.

The start-up readiness verification activity sequence defined above is dependent on the specific system or subsystem undergoing commissioning. The specific sequence of activities will be defined for each system, subsystem, and component in the Facility.

4.6.2 Seven Key Tasks of Verification of Start-Up Readiness. The Project Company requirements for the seven key tasks incorporated in the verification of start-up readiness are described below.

- (a) Pre-Commissioning and Certificates of Proper Installation.

The Pre-commissioning phase shall consist, at a minimum, of the following activities:

- (i) Complete pre-commissioning checklist for each specific system and subsystem to undergo commissioning as described below in this subsection, in a form appropriate for such system or subsystem and based on the sample set forth in Attachment 4A (Example - Pre-Commissioning Checklist) of this Appendix (the "Pre-Commissioning Checklist");
- (ii) Submittal of factory test reports;
- (iii) Submittal of equipment manufacturers' data (performance data, pump curves, dimensional data, etc.);
- (iv) Submittal of equipment manufacturers installation and startup manual;

- (v) Pressure test completion of all pipelines;
- (vi) Cleaning/flushing of pipe lines, as required, and in the inlet to any reverse osmosis ("RO") membrane train;
- (vii) Physical completion/installation of all process system components affecting Facility performance;
- (viii) Instruments calibration;
- (ix) Valve calibration;
- (x) Manufacturer checkout (where applicable);
- (xi) Complete certificate of proper installation for each specific system and subsystem to undergo commissioning as described below in this subsection, in a form appropriate for such system or subsystem and based on the sample set forth in Attachment 4B (Example - Certificate of Proper Installation (CPI)) of this Appendix (the "Certificate of Proper Installation" or "CPI"); and
- (xii) Input/output tests completion.

As part of the Mechanical Completion Procedures Report, the Project Company shall submit Certificates of Proper Installation for each piece of equipment and Plant subsystem.

The Pre-Commissioning Checklists will be developed and completed by the Project Company for each system, subsystem, or control loop. Pre-Commissioning Checklists will be developed prior to undertaking the dry commissioning activities on that particular system or subsystem and will contain all relevant information and activity appropriate for that subsystem or control loop, to demonstrate that the equipment and all of the associated components necessary to operate that defined system or subsystem are ready to function as per the designer's intent. Pre-Commissioning Checklists will be used to certify that all relevant associated pipes, valves I&C, SCADA, materials and equipment have been reviewed by all appropriate parties, including all appropriate design, construction, and commissioning staff as part of the Pre-Commissioning Checklist preparation process.

The Certificates of Proper Installation will be developed and completed by the Project Company for each system, subsystem, SCADA, or control loop. The Certificates of Proper Installation will be developed prior to undertaking any dry commissioning activities on any system or subsystem and will contain all relevant information when: (i) the system or subsystem is found not to be in accordance to the manufacturer's requirements; (ii) not complete; or (iii) not acceptable for that system or subsystem, SCADA or control loop. The Certificates of Proper Installation for each system or subsystem shall be kept with records of all inspections performed and will be complete when all parties agree that: (i) the equipment has been installed correctly; and (ii) that all of the associated components necessary to operate that defined system or subsystem are ready to function as per the manufacturer's requirements and the designer's intent. The CPI forms will be used to certify that all relevant associated pipes, valves, I&C, SCADA, materials and equipment have been reviewed by the EPC Contractor, Process Services Contractor, the design engineer, the relevant construction Subcontractors, and the commissioning staff, and are ready and able to undergo further dry and wet commissioning.

- (b) Design and Process Verification.

The design verification process consists of a detailed comparison of final Design Documents and the completed Construction Work. To certify that all construction was completed in accordance with the Design Requirements, a design and process verification checklist will be completed by the Project Company for each system and subsystem, in a form appropriate for such system or subsystem and based on the sample set forth in Attachment 4C (Example - Design Verification Checklist) of this Appendix (a "Design Verification Checklist").

The Design Verification Checklist content will be developed by the Project Company after the detailed design of the Plant is complete, but at a minimum will identify all relevant Design Documents for the system, subsystem, or individual component undergoing the design verification process. The Project Company shall also submit a Design and Process Verification Checklist for each system and subsystem (as applicable). The Design Verification Checklists will be used to certify that the relevant Design Documents were adequately reviewed and compared to the completed Construction Work. Any inconsistencies identified during the design verification process will be noted on the checklist and identified on the appropriate Design Document. Relevant Design Documents with markups (where applicable) will be attached to the Design Verification Checklist. The minimum content shall be determined after detailed design of the Plant is completed.

(c) Dry Commissioning.

The minimum framework for dry commissioning activities for each facility process system and subsystem are described below. The Project Company shall detail the dry commissioning pre-activities in the Commissioning Plan. The Project Company shall expand the dry commissioning activities details after the detailed design is complete.

- (i) Run sequences, check program;
- (ii) Check valve strokes;
- (iii) Check that tie-in points are closed; and
- (iv) Check interlocks.

(d) Wet Commissioning.

The minimum framework for wet commissioning activities for each facility process system and subsystem are described below. The Project Company shall detail the wet commissioning pre-activities in the Commissioning Plan. The Project Company shall expand the wet commissioning activities details after the detailed design is complete.

- (i) Run sequences, check program;
- (ii) Check valve strokes;
- (iii) Check that tie-in points are closed;
- (iv) Check interlocks; and
- (v) Confirm equipment characteristics including vibration tolerances, where feasible.

(e) Equipment, Instrumentation and Controls Readiness Verification.

Submit certificates of system readiness for Plant systems and subsystems which certify that the following activities have been completed as applicable, in the form appropriate

for such system or subsystem and based on the sample set forth in Attachment 4D (Example - Certificate of System Readiness (CSR)) of this Appendix and described below in this subsection ("Certificates of System Readiness" or "CSR"s):

- (i) Correct installation of all individual Plant mechanical and electrical components listed in Section 4.4 (Mechanical Completion Procedures) of this Appendix, including Plant pumps; flow meters; energy recovery equipment; RO system; equipment of pretreatment and post-treatment facilities; equipment of solids handling system, equipment of product water pump station and product water storage tank; and all Plant instrumentation, control and monitoring devices.
- (ii) Plant piping systems, service tanks, chemical storage tanks, scavenger tanks, pressure vessels, piping, and product water storage tanks have been pressure and leak tested, and have been thoroughly flushed and cleaned out.
- (iii) Post-treatment storage, interconnecting piping and high-service pump station have been disinfected in accordance with all Applicable Laws.
- (iv) Proper functioning of all Supervisory Control System ("SCS") screens and verify that all equipment controlled by the SCS system is represented graphically, and identified.
- (v) Communication is reliably established with all pumping, monitoring and control components; including a loop-by-loop component and subsystem test to demonstrate that each equipment loop and ancillary system is reliably communicating with programmable logic controllers, interlocking and operating properly under conditions that are representative of the anticipated operating conditions. As applicable, such testing shall specifically include, but not be limited to, all necessary control system communications to and from the Cabrillo Generating Facility to assure appropriate dilution factors are maintained during all concentrate discharge activities.
- (vi) Correct setting and operation of all valves.
- (vii) All pumps and high-pressure piping (i.e., piping operating at pressure of 100 psig or more) do not exhibit bearing temperature, or any vibration and noise higher than the maximum temperature, vibration and noise levels defined in pumping equipment or piping specifications and Subcontractor and vendor warranties as well as Governmental Approvals.
- (viii) Monitoring and control instruments have been properly installed, calibrated and tested. For field calibrated monitoring and control instruments, initial adjustment and calibration shall be performed in the presence of and with assistance from the equipment supplier/manufacturer where required, and that calibration stickers are affixed to the instrument showing the date: (i) such calibration was confirmed; and (ii) the name of the individual confirming such calibration.
- (ix) Calibration of all chemical feed-system components, metering pumps and tanks.

- (x) Functionality of RO membrane clean-in-place (“CIP”) system.
- (xi) Plant storm water management system is in place and the Storm Water Pollution Prevention Plan is completed and that the Plant storm water management system is compliant with Applicable Laws.
- (xii) Plant sanitary wastewater collection system, potable water supply system, process water system, and fire protection system are in place and are functional and compliant with all Applicable Laws.
- (xiii) Plant liquid waste stream discharge system (i.e., RO system concentrate, treated filter backwash, and dewatering system filtrate) is operational and functions as designed and intended, and that equipment and instrumentation for collection of water quality data needed to monitor Project Permit compliance is functional, calibrated and ready for normal operation and data monitoring and collection.
- (xiv) Plant main electrical substation is properly connected to the high-voltage electrical supply system, that all SDG&E and Plant relays are programmed compatibly, and that the electricity metering device that will be used for measurement of Plant energy use is functional, calibrated and ready for continuous use.
- (xv) Plant output parameters required by Table 3C-1 of Appendix 3 (Project Design and Construction Work) are available to the Water Authority’s instrumentation and control system.

The Certificates of System Readiness will be developed and completed by the Project Company for each system and subsystem identified in this subsection. The Certificates of System Readiness will be developed prior to undertaking the sustained operational activities on that particular system or subsystem and will contain all relevant information when: (i) the system or subsystem is found not to be capable of operation in accordance with the manufacturer’s requirements and designer’s intent; or (ii) that the activities identified in this subsection are not complete or not acceptable for that equipment, instrument, or control system. The Certificates of System Readiness will be used to certify that all identified systems, subsystems, equipment, instrument, or control systems have been reviewed by the Project Company and the relevant Subcontractors, and are ready and able to undergo normal operation as required for its intended purpose in the Project.

(f) Verification of Operational Preparedness.

The Project Company shall provide evidence of each of the following to demonstrate the Plant is physically ready to commence Performance Testing.

- (i) Verify that the pre-treatment filtration system has been: (i) in normal operation for at least two months; and (ii) has provided RO feedwater meeting all of the membrane manufacturer’s warranty conditions on a continuous basis prior to the commencement of the Performance Test.
- (ii) Verify that all operation and maintenance staff necessary to run the Plant during the Mechanical Completion Procedures and the Performance Tests (“Start-up Personnel”) have been retained and are available to be on-site. If applicable, verify that the necessary contractual arrangements are in place between the Project Company and the Operating Service Provider for the duration of the Mechanical Completion Procedure periods.

- (iii) Verify that Start-up Personnel experience and qualifications are compliant with the qualification and certification requirements of all pertinent regulatory agencies (i.e., California Department of Public Health, Cal OSHA, etc.), Applicable Laws, and Governmental Approvals.
- (iv) Verify that all of the consumables (chemicals, cartridge filters, RO membranes, sampling probes, etc.) needed for the start-up of the Plant are on site and these consumables are properly tested, installed, stored, handled and ready for use in accordance with Subcontractor and vendor warranty requirements, Good Design and Construction Practice, and with all Governmental Approvals and Applicable Laws.
- (v) Verify that a fully staffed and functional on-site water quality laboratory is in place and that this laboratory is certified in accordance with Applicable Laws and Governmental Approvals to complete the in-house water quality testing needed to confirm Plant performance and Governmental Approval compliance. Verify that any selected outside laboratory is certified in accordance with Applicable Laws and Governmental Approvals and has the all requisite individual certifications to appropriate for each such analysis.
- (vi) Verify that there is coordination of Plant start-up, functional checkout and operations with the Cabrillo Generating Facility staff and that all necessary lines of communication and points of contact have been established.
- (vii) Perform two loss of power tests by sequentially tripping the breakers of each service feed (two circuits from the same source) per test. The purpose of this test is to verify the ability of the electrical design and switchgear to successfully transfer power and maintain operations of critical Plant systems, including pretreatment filter circulation, flush pumps or other such components used for equipment protection, product water pumping in accordance with Appendix 3 (Project Design and Construction Work), and SCADA systems.
- (viii) Demonstrate the functionality and operation of the membrane CIP system prior to the start of Performance Testing.
- (g) Verification of Governmental Approval Compliance.
 - (i) Confirm that all necessary studies, reviews, tests and documentation needed for compliance with all Governmental Approvals and Applicable Laws have been completed.
 - (ii) Verify that all necessary Governmental Approvals, contracts and entitlements to connect to the City of Carlsbad sanitary sewer system for: disposal of sanitary wastewater; waste discharges generated from the flushing of the preserving solution of the newly installed RO membranes; spent chemicals generated from the cleaning of the RO membranes; and of other waste streams; and storm water runoff are in place and are sufficient to operate the Plant as proposed.
 - (iii) Verify that all necessary Governmental Approvals, contracts and entitlements to connect to the City of Carlsbad and regional water distribution systems for the potable water supply to the Plant; and any other utilities, equipment, vehicles, storage tanks, and vessels for sludge

storage not owned and operated, which are needed in order to operate the Plant are in place.

- (iv) Confirm that the Plant has all necessary Governmental Approvals or contracts for storage, collection, transportation and disposal of the solid residuals or sludge generated from the Plant solids handling system and from routine Plant operation (spent cartridge filters, RO membranes, not-to-spec equipment, chemicals, spent consumables, etc.) and that all such disposal sites have all applicable Governmental Approvals.
- (v) Confirm that the necessary notifications associated with the initiation of Plant start-up to Cabrillo Generating Facility's coordination staff; to all Federal, state, county and local regulatory agencies (including but not limited to the City of Carlsbad fire department, police, City of Carlsbad Public Works Department, the San Diego Regional Water Quality Control Board, the regional office of the California Department of Public Health, etc.); and to other entities with jurisdiction over the operation of the Plant have been submitted. Copies of the submittal of such notifications shall be provided to the Water Authority.
- (vi) Upon completion of all Plant systems and subsystems, certify that all the systems and subsystems in the Plant have been tested and are functionally ready.

4.7. MECHANICAL COMPLETION PROCEDURES REPORT

Upon completion of the Process and Design Verification Checklists, the preparation of the Certificates of System Readiness, verification of start-up readiness, and the verification of operational preparedness, and as a condition of Mechanical Completion, the Project Company will prepare and submit in Adobe Acrobat electronic format, indexed and fully-searchable, five copies of Mechanical Completion Procedures report which shall comply with the requirements set forth in this Section (the "Mechanical Completion Procedures Report"). Test sheets will constitute the major section of the Mechanical Completion Procedures Report and hence will commence from the start of the inspection and testing phase. Test results and documentation may be submitted sequentially as each sub-process and treatment system operational component is verified as described in Section 4.2 (Commissioning Plan) of this Appendix.

The Mechanical Completion Procedures Report will follow each of the testing steps for each particular process unit as well as the entire system, i.e. a comprehensive account of findings, results, incidents and activities completed and checked including:

- (a) Pre-Commissioning Checklists;
- (b) CPI forms;
- (c) Process and Design Verification Checklists;
- (d) CSR forms;
- (e) Results of any testing and inspection;
- (f) Verify and document Governmental Approval compliance; and
- (g) Issuance of the notice of Mechanical Completion as required by the Water Purchase Agreement.

Comments will be included on any observed deficiencies in the Plant equipment design and performance and full details of all corrective actions taken will be documented. Any modifications to circuitry and instrumentation carried out during the commissioning period will be recorded in detail, given in the Report and recorded on the drawings.

The Mechanical Completion Procedures Report will include a signed and sealed certification by a California registered professional engineer with thorough and appropriate knowledge of the Project Company's start-up and commissioning activities and signed by a duly authorized officer of the EPC Contractor and the Process Services Contractor attesting to the facts that the Plant has achieved Mechanical Completion including that: (i) all equipment has been properly installed correctly and the applicable equipment manufacturers' post-installation inspection certifications for major equipment are available; (ii) all dry, wet, and functional testing has been satisfactorily completed; (iii) all pre-operational checks are complete, including, but not limited to, flushing and pressure testing piping, tanks, and other such components; (iv) checking automated valve operations, rotating equipment has been properly balanced and vibrations are within manufacturer's Good Design and Construction Practice; (v) motor rotational direction has been confirmed; (vi) electrical insulation integrity has been confirmed; (vii) all electric over/under voltage or amperage protective equipment is appropriately programmed, calibrated or set; (ix) all instrumentation, valves, metering pumps, and chemical dosing systems have been calibrated (as applicable); (x) local and remote instrumentation and SCADA readings are consistent; (xi) appropriate instrumentation and control set points have been established and hard-wired; (xii) SCADA equipment protective devices function properly; (xiii) local and manual equipment controls are fully functional; (xiv) SCADA control system logic functions have been tested, and are fail safe, and function as intended; (xv) an alarm and set point register has been established documenting all alarm and controls set points; (xvi) all equipment is ready for service in accordance with Good Design and Construction Practice, Good Management Practice, and all equipment manufacturer's guidelines and no equipment warranty provisions have been voided; (xvii) all wet testing of the Plant has been completed successfully; (xviii) the Operating Service Provider staff have available to them, on-site, all required equipment manufacturers' documentation, including but not limited to operation and maintenance manuals, equipment manufacturers' equipment manuals and copies of applicable equipment warranties; (xix) all orientation, classroom and field training necessary to be provided to the Operating Service Provider has been conducted and such staff is competent to operate the Plant; and (xx) all Governmental Approvals necessary for subsequent commissioning activities have been received prior to conducting such commissioning steps.

ATTACHMENT 4A

EXAMPLE - PRE-COMMISSIONING CHECKLIST

Checklists with similar detail as the sample checklist given below (for pumping systems) will be developed and completed by the Project Company for each system and subsystem.

Carlsbad Seawater Desalination Project

SYSTEM _____

SUBSYSTEMS _____

RELEVANT SPECIFICATIONS _____

RELEVANT DRAWINGS _____

The following items are applicable and complete:

	STATUS	DATE	COMMENTS
General Installation			
Equipment tag & nameplate permanently affixed			
Pumps in place and properly grouted			
Factory test report reviewed for pump flows, head, elec.			
Pump environment clean			
Adequate access for maintenance			
Factory alignment correct (checked by installer)			
Field alignment, if required, completed (checked by installer)			
Seismic anchoring installed per spec			
Temp., pressure & flow gages and sensors installed per spec.			
Required valves installed & in right direction			
No visible leaks			
Pump lubricated (checked by installer)			
Pump checked for proper rotation			
Piping (in vicinity of pump)			
Pipe fittings complete and pipes properly supported			

	STATUS	DATE	COMMENTS
Air vents if required installed per drawings			
Piping type and flow direction properly labeled			
Pipes properly cleaned per spec. (checked by installer)			
Sample points in place (checked by installer)			
Piping system properly flushed (checked by installer)			
Valves properly tagged			
Automatic valves stroke fully & close tightly			
Electrical and Controls			
Power disconnects in place and labeled			
All electrical connections tight			
Motor safeties in place and operable (checked by installer)			
Control system interlocks hooked up and functional (checked by installer)			
All control devices, and wiring complete (checked by installer)			
Specified point-to-point checks have been completed & recorded			
Variable frequency drive ("VFD")			
Startup documentation includes all parameter settings			
Parameter settings reviewed for reasonableness			
VFD powered (wired to controlled equipment)			
VFD interlocked to control system (checked by installer)			
Pressure or other controlling sensor properly located & calibrated			
All valves in pump's distribution system positioned correctly			
Drive location not subject to excessive temperature (high/low), moisture, or dirt			
Drive size matches motor size			

	STATUS	DATE	COMMENTS
Motor is rated for use with VFDs			
Internal setting designating the model is correct			
Input of motor full load amperage ("FLA") represents 100% to 105% of motor FLA rating			
Appropriate volts vs Hz curve is being used per manufacturer's recommendation			
Acceleration and deceleration times are per spec. Actual deceleration setpoint = _____ Actual acceleration setpoint = _____			
Upper frequency limit set at 100%, unless explained otherwise			
Minimum speed setting. Acceptance: per design and manufacturer			
Motor full load speed setting. Acceptance: Equal to motor rating.			
Motor frequency setting. Acceptance: same as rated motor freq.			
Motor line voltage setting. Acceptance: same as rated motor voltage			
No disconnects installed between VFD & motor without shutdown interlock to VFD			
Shutdown interlocks between VFD & motor verified to be operational			
Separate conduit for VFD incoming power & outgoing motor leads			

Comments:

INSPECTOR

Signature:

Name:

Date:

EPC CONTRACTOR

Signature:

Name:

Date:

ENGINEER

Signature:

Name:

Date:

ATTACHMENT 4B

EXAMPLE - CERTIFICATE OF PROPER INSTALLATION (CPI)

Forms with similar detail as the sample form given below will be developed and completed by the Project Company for all major equipment and Plant subsystems.

Carlsbad Seawater Desalination Project

EQUIPMENT NO. / NAME _____

MANUFACTURER _____ MODEL NO. _____

SERIAL NO. _____

INSTALLATION TENDERER _____

INSPECTION NO. _____ INSPECTION DATE _____

INSPECTOR _____ COMPANY _____

NEAREST AGENT _____

Based on my inspection on the above indicated date, the following is applicable to the installation of this equipment item:

___A. Installation according to manufacturer's instructions and acceptable for start up and operation.

___B. Installation according to industry common practice and acceptable for start-up and operation.

___C. Installation not according to manufacturer's instructions but acceptable for start up and operation. (Describe deviations from manufacturer's instructions below.)

___D. Installation not complete and not ready for start up. (Describe action required to complete installation below.)

___E. Installation unacceptable DO NOT OPERATE. (Describe, below or by attachment, action required to correct installation.)

Comments:

INSPECTOR

Signature:

Name:

Date:

EPC CONTRACTOR

Signature:

Name:

Date:

ENGINEER

Signature:

Name:

Date:

INSTRUCTIONS FOR COMPLETING CPI FORMS

The following information helps explain how to complete the forms:

<u>Item</u>	<u>Entry/Requirement</u>
EQUIPMENT TAG NO.	Enter tag number from drawings
NAME	Provide equipment item designation from [Contract Documents].
MANUFACTURER	Name of equipment manufacturer
MODEL NO.	Model number/model name for equipment item
SERIAL NO.	Unique identification number for equipment item
INSTALLATION	Company name of equipment item installer
CONTRACTOR	Name of contractor/subcontractor
NEAREST AGENT	Name & contact details
INSPECTION NO.	1 for first inspection 2 for second inspection 3 for third inspection, etc.
INSPECTOR	Name of inspector
COMPANY	Name of inspector's company
COMMENTS	Provide detailed description of any corrective actions required to complete or correct installation. Continue on separate sheets if additional space is required.

ATTACHMENT 4C

EXAMPLE - DESIGN VERIFICATION CHECKLIST

Checklists in a similar form as the sample checklist given below will be developed and completed by the Contractor for each system, subsystem, or control loop. Checklists will be developed at a later date as appropriate and will contain all relevant information and activity appropriate for that subsystem or control loop, including checklists for each drawing in the Design Documents and for each design discipline. Checklists will be used to certify that all relevant Design Documents have been reviewed by all appropriate parties, including all appropriate design disciplines and commissioning staff as part of the design verification process. Annotated, red-lined, and otherwise marked-up documents of all relevant Design Documents will be attached to final checklists.

SYSTEM _____

SUBSYSTEM _____

Civil Work and Structural Steel

Description		Remarks	Check
1			
2			

Electrical

Equipment Tag No.		Circuit No.	Check
1			
2			

Instrumentation, Control and Communication

Description		Remarks	Check
1			
2			

Piping

Pipeline No.	Location	Drawing	Check
1			
2			

Mechanical

Tag No.		Description/Location	Drawing	Remarks	Check
1					
2					

Comments:

EPC CONTRACTOR

Signature:

Name:

Date:

ENGINEER

Signature:

Name:

Date:

PROCESS ENGINEER

Signature:

Name:

Date:

ATTACHMENT 4D

EXAMPLE - CERTIFICATE OF SYSTEM READINESS (CSR)

Checklists with similar detail as the sample checklist given below will be developed and completed by the Project Company for each system, subsystem, and control loop.

Carlsbad Seawater Desalination Project

PLANT SYSTEM / NAME _____

INSTALLATION TENDERER/CONTRACTOR _____

INSPECTION NO. _____ INSPECTION DATE _____

INSPECTOR _____ COMPANY _____

Based on my inspection on the above indicated date, the following is applicable to the installation of this system (place a checkmark or circle the applicable response):

A. All System pumps (including chemical feed), piping systems and associated service tanks have been calibrated, pressure and leak tested, and have been thoroughly flushed and cleaned out.

B. All related supervisory control system ("SCS") screens function properly and all equipment controlled by the SCS system is represented graphically, and identified.

C. The SCS has been cold-tested; communication is reliably established with all related pumping, monitoring and control components; including a loop-by-loop component and subsystem test to demonstrate that each equipment loop and ancillary system is reliably communicating with programmable logic controllers, interlocking and operating properly under conditions that are representative of the anticipated operating conditions.

D. All related valve settings are in-place and operating as designed.

E. All related pumps and high-pressure piping (i.e., piping operating at pressure of 100 psig or more) do not exhibit vibration and noise higher than the maximum vibration and noise levels defined in equipment and piping specifications and Subcontractor and vendor warranties as well as Governmental Approvals and Applicable Laws.

F. All related monitoring and control instruments have been properly installed, calibrated and tested and initial adjustment and calibration was performed with assistance from the equipment supplier/manufacturer.

General:

A. The Plant system is acceptable for start up and operation.

B. The Plant system installation is not according to manufacturer's instructions but acceptable for start up and operation. (Describe deviations from manufacturer's instructions below.)

C. The Plant system installation is not complete and not ready for start up. (Describe action required to complete installation below.)

D. The Plant system installation is unacceptable DO NOT OPERATE. (Describe, below or by attachment, action required to correct installation.)

Comments:

INSPECTOR

Signature:

Name:

Date:

EPC CONTRACTOR

Signature:

Name:

Date:

ENGINEER

Signature:

Name:

Date:

IDE COMMISSIONING MANAGER

Signature:

Name:

Date:

INSTRUCTIONS FOR COMPLETING CSR FORMS

The following information helps explain how to complete the forms. At least one form shall be completed for each Plant system. Typical Plant systems are:

- Seawater intake system;
- Pretreatment system;
- Reverse osmosis (“RO”) system (including membrane clean in-place system);
- Energy recovery system;
- Post-treatment system;
- Concentrate discharge system;
- Product Water storage and pumping system;
- Waste filter backwash treatment system;
- Solids handling system;
- Plant storm water management system;
- Plant sanitary wastewater collection system, potable water supply system, and fire protection systems;
- Plant/Cabrillo Generating Facility interlocks
- Plant/Water Authority communications; and
- Instrumentation and control system.

<u>Item</u>	<u>Entry/Requirement</u>
PLANT SYSTEM / NAME	Enter seawater intake system, pretreatment system, RO stage 1, etc. tag number from drawings
INSTALLATION	Company name of equipment item installer
CONTRACTOR	Name of contractor/subcontractor
NEAREST AGENT	Name & contact details
INSPECTION NO.	1 for first inspection 2 for second inspection 3 for third inspection, etc.
INSPECTOR	Name of inspector
COMPANY	Name of inspector's company

APPENDIX 5

MINIMUM PERFORMANCE CRITERIA AND PERFORMANCE TESTING

APPENDIX 5

MINIMUM PERFORMANCE CRITERIA AND PERFORMANCE TESTING

The purpose of the performance test is to establish if the actual Plant performance over a 30 day period meets all Minimum Performance Criteria (as defined below), applicable Contract Standards, and is in compliance with all Applicable Laws (the “Performance Test”). The Performance Test is intended to verify the performance of the Plant in terms of operability, Product Water quality, Product Water quantity, total power consumption, total chemical consumption, cartridge filter performance, and reverse osmosis (“RO”) membrane performance.

5.1. PERFORMANCE TESTING PREREQUISITES

The Project Company shall have completed the following before commencing Performance Testing:

- (a) The Project Company shall have obtained the Water Authority’s approval of the Performance Test Protocol (as defined below).
- (b) The Project Company has complied with Applicable Law and obtained approval from all applicable Governmental Bodies to commence Performance Testing, and dispose of Unacceptable Water and Off-Specification Product Water.
- (c) The Project Company shall have completed the Full System Test described in subsection 4.2.2(o) of Appendix 4 (Mechanical Completion Requirements).
- (d) The Project Company shall have received written notice from the Water Authority that the Water Authority Improvements and the Product Water Pipeline Improvements have been completed and are ready to receive Product Water.
- (e) The requirements of subsection 7.3(D) (Conditions to Commencement of the Performance Test) of this Water Purchase Agreement have been met.

5.2. PERFORMANCE TEST PROTOCOL

The Project Company shall prepare and submit to the Water Authority for its review and approval a performance test protocol in accordance with Section 7.3 (Performance Testing) of the Water Purchase Agreement and the requirements set forth in this Appendix (the “Performance Test Protocol”). An example table of contents for the Performance Test Protocol is set forth as Attachment 5-1 to this Appendix.

At a minimum, the Performance Test Protocol shall address the following:

- (a) List of all the parameters to be monitored and measurements to be made (stating sampling frequencies) in addition to the parameters set forth in Tables 5-1 to 5-7 of this Appendix.
- (b) Organization, form, content, reporting, and quality assurance / quality control (“QA/QC”) components that the Project Company shall use to prepare the Performance Test Report (as defined below) to ensure the clarity of the document. The organization form, content, reporting, and QA/QC components of the Performance Test Report shall be subject to Water Authority approval.

- (c) Written description of the procedures the Project Company shall use for demonstrating compliance with all Minimum Performance Criteria (as defined below), including data and information collection requirements, accuracy requirements, precision requirements, verification requirements (suitable for laboratory analyses by external laboratories, field testing and Project instrumentation), and calculation methods and analyses (including sample calculations).
- (d) Full and complete description of any analytical methods, calculations and other techniques that will be utilized to ensure that all Applicable Law, Contract Standards, and Performance Guarantees are met. In addition, descriptions of how the data collected will be compared with the Minimum Performance Criteria (as defined below), including applicable data handling requirements. Provide examples of any tools such as flow charts, check sheets, calculations, or any other data presentation and evaluation techniques that will be utilized.
- (e) Description of all membrane performance normalization software, calculations and procedures that will be used during the Performance Test.
- (f) Description of the organization of the test team, including identification of normal operations staff, any additional Performance Test support staff, their responsibilities, authority, and decision making protocols for Performance Test start, restart and stop.
- (g) Description of the response procedures for unsuccessful test results including a definition of threshold results that constitute overall Performance Test failure.
- (h) Description of internal and external communications protocols.
- (i) Proposed schedule for Performance Testing.
- (j) Description of the operating and maintenance schedule during testing.
- (k) List of real-time, daily or weekly data and laboratory analyses that will be provided to the Water Authority during Performance Testing.
- (l) List of the operational logs and other operating and maintenance information that will be maintained throughout the test.
- (m) Describe any Contract Standards not set forth in this Appendix that are required to be met to successfully pass the Performance Test.
- (n) Define any applicable standards for equipment performance stated in this Appendix and in Attachment 3A (General Supplemental Design Requirements) of Appendix 3 (Project Design and Construction Work).
- (o) Procedures to prevent Unacceptable Water and Off-Specification Product Water not accepted by the Water Authority from being introduced into the Water Authority Distribution System, and procedures for disposal.
- (p) Procedures for assuring reliable test data with cross-checks where feasible for data verification.

- (q) Operating procedures for an adequate demonstration of Plant performance if the Water Authority determines that it does not want to accept delivery of Product Water at Flow Rates between 50 to 57 MGD during the Performance Test.

5.3. MINIMUM PERFORMANCE CRITERIA

The following are the minimum performance criteria which must be met in order for the Project Company to achieve Provisional Acceptance (the “Minimum Performance Criteria”). Failure to comply with any of the Minimum Performance Requirements shall result in the Project Company failing the Performance Test.

5.3.1 Chemical Consumption.

- (a) The Total Chemical Cost (as defined in Exhibit 5A of this Appendix) shall not exceed 120% of the Maximum Chemical Cost (as defined in Exhibit 5B of this Appendix); and
- (b) The Total Coagulant Amount (as defined in Exhibit 5C of this Appendix) (Ferric Sulfate, FS, or $\text{Fe}_2(\text{SO}_4)_3$) used during the Performance Test shall not exceed 120% of the Maximum Coagulant Amount (as defined in Exhibit 5C of this Appendix).

5.3.2 Product Water Output During Performance Test.

(a) Minimum Production

- (i) During the Performance Test, the Plant shall operate for a period of 30 consecutive days (such period, as may be adjusted pursuant to subsection 5.6.8 (Plant Shutdown During a Performance Test) of this Appendix, the “Performance Test Period”) and produce at least 1,400 MG of Product Water (the “Minimum Production”); provided, that, if the Plant produces more than 57 MG in one day, the excess amount beyond 57 MG in such day shall not be counted when calculating whether the Plant produced Product Water in an amount sufficient to meet the Minimum Production, or for any other purpose under this Appendix.
- (ii) The Plant shall produce not less than the 378 MG of Product Water for a seven consecutive day period during the Performance Test (the “Minimum Seven Day Production”). If the Minimum Seven Day Production has not been met by the end of thirty days, the Project Company may extend the period during which the Performance Test is conducted until the Minimum Seven Day Production requirement has been met. If the Project Company elects to extend the time during which the Performance Test is conducted, the Performance Test Period shall be deemed to be the 30 consecutive days immediately preceding the day that the Minimum Seven Day Production was met.

5.3.3 NPDES Project Permit Compliance

- (a) The Plant shall comply with all NPDES Project Permit requirements and all other Applicable Law during the Performance Test.

5.3.4 Power.

The Unit Quantity of Total Plant Power Consumption (as defined below), including the Product Water pump station does not exceed 110% of the Maximum Power Amount (as defined in Exhibit 5D of this Appendix during the Performance Test. The “Unit Quantity of Total Plant Power Consumption” is defined as the total power consumption measured at the SDG&E billing meters divided by the amount of Product Water produced during the Performance Test.

5.3.5 Permeate and Product Water Quality

All output of the RO system shall be in compliance CDPH regulations applicable to the RO system. Only the output of the Plant meeting all Contract Standards shall be counted towards meeting the Minimum Performance Criteria. If a sample taken in accordance with Tables 5-4 and 5-5 of this Appendix does not demonstrate the sample is in compliance with all aspects of the Product Water Quality Guarantee (a “Non-Compliant Sample”), then all Plant output produced between the time such Non-Compliant Sample was taken and the time the next Compliant Sample (as defined below) is subsequently taken shall be deemed to be out of compliance with the water quality requirements set forth in Tables 5-4 and 5-5 of this Appendix. A “Compliant Sample” means a sample taken in accordance with Appendix 8 (Supplemental Performance Guarantee Requirements) of this Water Purchase Agreement that demonstrates the sample is in compliance with all aspects of the Product Water Quality Guarantee.

5.3.6 Water Quality Testing

Tables 5 1 through 5 7 of this Water Purchase Agreement set forth the minimum sampling frequencies during the Performance Test. The Project Company may sample the Raw Seawater, internal Plant flows, or the Product Water output of the Plant at more locations and more frequently than the Product Water Quality Sampling Locations and frequencies set forth in Tables 5 1 through 5 7 at its discretion. The analytical results of all valid samples obtained by or on behalf of the Project Company during the Performance Test shall be reported in the Performance Test Report (as defined below) and included in the report’s evaluation of Plant performance.

5.4. PERFORMANCE TESTING REQUIREMENTS

5.4.1 General Information

To accomplish a successful Performance Test, Project Company shall operate the following essential process systems in a manner that does not require any extraordinary operational effort or maintenance at the nominal ratings established by the equipment manufacturer for the equipment throughout the entire duration of the Performance Test:

- (a) Seawater Intake System
- (b) Pretreatment System
- (c) Reverse Osmosis/ Energy Recovery/ Concentrate Discharge System
- (d) Post-treatment System
- (e) Product Water Storage and Pumping System
- (f) Waste Filter Backwash Treatment System
- (g) Chemical Storage and Delivery Systems

(h) Solids Handling System

5.4.2 Performance Testing Requirements

The Performance Testing shall be conducted in compliance with the Contract Standards, all Applicable Laws and Governmental Approvals. Samples for analysis shall be analyzed by state-certified laboratories, unless otherwise specifically agreed to in the Performance Test Protocol.

To meet the requirements of the Performance Test, the Project Company must demonstrate that the Plant meets the following criteria at all time during the Performance Test:

1. Produces an output that meets all aspects of the Product Water Quality Guarantee as shall be demonstrated using the tests and frequencies in Tables 5-1 through 5-6 of this Appendix;
2. While in the Three Pump Mode, the Plant shall operate at the following recovery efficiencies:
 - a. For periods when the total suspended solids ("TSS") of the Raw Seawater measured at the intake sampling point are at or below 4.0 mg/L: (i) the clarifier decant flows are recycled to the headworks of the Plant; and (ii) the Plant shall operate at an average recovery of 48-52 percent. In this clause, recovery means the total Plant recovery stated as the percentage of Product Water produced as a function of the Raw Seawater used.
 - b. Pursuant to Section 2.2 of Appendix 2.1.2 of Attachment 3A (Basic Design Requirements) of Appendix 3 (Project Design and Construction Work), the entire RO system operates at a minimum recovery of 50 percent. In this clause, recovery means the percentage of RO permeate produced as a function of the feedwater applied to the entire membrane system. This includes both the first pass and cascade systems recoveries.
3. Performs in a manner that is consistent with Attachment 3A (Basic Design Requirements for the Plant) of Appendix 3, Attachment 3C (Supplemental Design Requirements) of Appendix 3, all Governmental Approvals, Applicable Law, and the Contract Standards;
4. Has been operated and maintained pursuant to the requirements of the draft preliminary Electronic Operation and Maintenance Manual for the entire duration of the Performance Test;
5. All equipment functions in a manner that does not require any extraordinary operational effort or maintenance at the nominal ratings established by the equipment manufacturer for the equipment. Extraordinary operational effort shall be defined as: (1) operation of any equipment outside of the operating conditions envelope recommended by the equipment manufacturer; (2) operation of any equipment in a manner inconsistent with the draft preliminary Electronic Operation and Maintenance Manual; or (3) the need for any material temporary repairs or for overriding any equipment protective devices to keep equipment running during the Performance Test;
6. Operates properly with automated and computerized systems in full and continuous operation and with only the normal complement of employees included in

the Project Company's staffing plan for the Project, with the exception of additional Project Company staffing related to collection and analysis of samples and other test data;

7. Solids handling system operates as intended and all solids are removed from the Plant Site in accordance with the draft preliminary Electronic Operation and Maintenance Manual and Applicable Law;

8. Produces Product Water (excluding Off-Specification Product Water) that meets all Contract Standards and other delivery conditions at the Product Water Quality Sampling Locations;

9. Functions in a manner that safely and reliably conveys Concentrate Discharge and Off-Specification Product Water to the Cabrillo Generating Facility ocean outfall for disposal in accordance with the Contract Standards, all Governmental Approvals, and all requirements of Applicable Law;

10. Pretreatment System functions in a manner that that consistently provides RO feedwater in compliance with all membrane manufacturer guidelines and warranty terms for RO feedwater quality at production flow rates up to 57 MGD in accordance with all Governmental Approvals;

11. Operates in a manner consistent with all Applicable Law and Governmental Approvals;

12. Power consumption (including the Product Water pump station) meets all Minimum Performance Criteria standards for the Maximum Power Amount (as defined in Exhibit 5D of this Appendix); and

13. Has achieved the performance specified in Sections 5.3 (Minimum Performance Criteria) and 5.7 (Performance Test Report) of this Appendix.

5.5. DESIGN CONDITIONS

5.5.1 Design Conditions Assessment

As the Performance Test will be conducted under the ambient Raw Seawater quality available at the time of the Performance Test, it is improbable that the actual Raw Seawater quality will demonstrate the overall capability of the Plant's performance over the full specified range of Raw Seawater conditions expected over the Term. Therefore, a section of the Performance Test Report (as defined below) shall describe how certain test data obtained during the Performance Test compares to the expected performance of the process design at those same Raw Seawater conditions for certain treatment systems (the "Design Conditions Assessment"). The Design Conditions Assessment shall include consideration of the Plant's range of limits for temperature, Total Dissolved Solids ("TDS"), TOC, TSS, turbidity, pH, set forth in Table 8-4 of Appendix 8 (Supplemental Performance Guarantee Requirements). To perform the Design Conditions Assessment, it is anticipated that the Project Company would conduct an engineering evaluation that contrasts in graphical form, summary data from the Performance Test results vs. the designer's anticipated performance under the actual seawater temperature, TDS, TOC, TSS, turbidity, pH conditions experienced during the Performance Test to provide a benchmark for actual performance versus expected performance. The Design Conditions Assessment should include the Plant's:

- (a) Chemical dosing process design capabilities with actual performance during the Performance Test;

- (b) Filter Backwash filter run length design objective with the with actual performance during the Performance Test;
- (c) Residual solids handling process design capacity with actual performance during the Performance Test;
- (d) RO system's process design capacity on an overall system basis and a per pass and per stage basis for the cascade with actual performance during the Performance Test. This RO assessment will also include an assessment for the parameters of Chloride, Bromide, Boron.

5.5.2 Design Conditions Assessment Certification

Authorized representatives of the Project Company and the Process Services Contractor shall be required to sign and date the Design Conditions Assessment and certify that the assessment is accurate to the best of his knowledge and was prepared in a manner consistent with Good Design and Construction practice. Further, the Project Company's engineer of record shall be required to seal the assessment with the aforementioned certification.

5.6. PERFORMANCE TEST DATA COLLECTION AND PERFORMANCE REQUIREMENTS

Performance Test data will be monitored as described in Tables 5-1 through 5-7 of this Appendix and as otherwise described in this Appendix.

The Performance Test Protocol shall contain a Plant operation log sheet and report prepared specifically for this project, and approved by the Water Authority before the initiation of the Performance Test. The Plant operation log sheet shall be maintained each day by the Project Company for the duration of the Performance Test. The Plant operation log sheet shall provide a daily log of all pertinent Plant operating data, flows and conditions and a record of the performance of each item of equipment being monitored. Readings taken from the Plant operations interface console shall be verified by readings taken from process-mounted instruments at least twice per week and manually collected samples, where applicable. All settings and set points will be recorded along with the results of all monitored criteria and samples tested. The Performance Test data collection locations, frequency, accuracy, measurement conditions, detection levels and format of presentation and reporting and recordkeeping shall be consistent with meeting all requirements of all applicable Governmental Approvals, Applicable Law, and Subcontractor and equipment vendor warranties.

Further, each laboratory analytical method practical quantification limit ("PQL") will need to be established, stated in the Performance Test Protocol, and the analytical result will need to be above the method's PQL to be valid. PQL's and other laboratory QA/QC reports shall be provided for all sample analyses. Analytic results below method PQL shall be expressed as required by CDPH or Applicable Law when such stipulations apply. Otherwise, analytical results below method PQL shall be expressed as the PQL value. Method Detection limits for all laboratory analyses shall conform to CDPH or current industry standards.

All material Project corrective maintenance activities or other repairs to equipment shall be logged for the duration of the Performance Test. A summary description of all such maintenance activities shall be provided in the Performance Test Report (as defined below) to demonstrate that the Plant has been operated and maintained pursuant to the requirements of the Electronic Operation and Maintenance Manual for the entire duration of the Performance Test and that the Plant Equipment functioned reliably and in a manner that does not require any extraordinary operational effort or maintenance at the nominal ratings established by the equipment manufacturer or the designer for the equipment;

All pertinent information that is collected by the Plant's SCADA system and used to support Performance Test findings will also be provided to Water Authority as electronic files on CDs or other acceptable media.

During the Performance Test, the Project Company shall allow Water Authority representatives to witness sampling activities and provide split samples to the Water Authority, if requested. The Water Authority shall: (1) make such representatives available in a manner that accommodates the Project Company's schedule for its sampling activities; (2) not unduly delay the Project Company's sampling activities; and (3) make prior arrangements and coordinate such sampling activities with the Project Company to assure the split samples it desires can be reasonably obtained without an appreciable increase in effort or cost.

The data collection and reporting and process and equipment performance requirements are as follows:

5.6.1 Seawater Intake System

(a) Data Collection and Reporting Requirements

The following Raw Seawater data shall be sampled, collected and reported (daily unless otherwise specified in this Appendix) to Water Authority by Project Company during the Performance Test:

- (i) Water quality characteristics matching the Requirements of Table 5-1 of this Appendix;
- (ii) Flow continuously monitored;
- (iii) If applicable and relevant, chlorine addition frequency, dosage (mg/l) and daily use (lbs/day); and
- (iv) Intake water level, individual pump discharge pressure, and individual motor frequency, if a variable frequency drive ("VFD") is installed on the pump.

5.6.2 Pretreatment System

(a) Minimum Data Collection and Reporting Requirements

The following performance and equipment data shall be collected, logged, and available (daily unless otherwise specified in this Appendix) to Water Authority by Project Company during the Performance Test:

- (i) Pretreatment water quality characteristics matching the requirements of Table 5-2 of this Appendix;
- (ii) Average media filter cell surface loading rate (gpm/sq ft) daily and for the entire Performance Test, tabulated by filter cell;
- (iii) Maximum instantaneous media filter cell surface loading rate (gpm/sq ft) daily and for the entire Performance Test, tabulated by filter cell;
- (iv) Filter backwash volume per backwash and per day (MGD) daily and for the entire Performance Test;

- (v) Filter cell backwash frequency (on a number of backwashes per day basis) daily and for the entire Performance Test, tabulated by filter cell;
 - (vi) Differential pressure increase in ft. per cell, between media filter backwashes daily and average for the entire Performance Test tabulated by filter cell;
 - (vii) Run times between backwashing for media filtration process units daily and average for the entire Performance Test, tabulated by filter cell;
 - (viii) Contact chamber mixer rotational speeds (rpm);
 - (ix) Filtrate recovery, per cell (as a total of % throughput), tabulated by filter cell;
 - (x) Backwash and air scour, rinse durations (each measured in minutes of duration) tabulated by filter cell;
 - (xi) Coagulant and polymer dosage (mg/L) and daily use (lbs/day) and average for the entire Performance Test;
 - (xii) Antiscalant dosage (mg/L) and daily use (lbs/day) and average for the entire Performance Test;
 - (xiii) Sulfuric acid dosage (mg/L) and daily use (lbs/day) and average for the entire Performance Test;
 - (xiv) Chlorine dose residual and average for the entire Performance Test;
 - (xv) Sodium bisulfite/sodium meta bisulfite dose and average for the entire Performance Test;
 - (xvi) Cartridge filter type and size and number of filters in service;
 - (xvii) Cartridge filter element replacements each day, if any;
 - (xviii) Cartridge filter element replacement frequency;
 - (xix) Filtered seawater quality measured twice per shift upstream and downstream of each cartridge filter bank (feed to high pressure RO pumps and feed to energy recovery devices) in terms of: Silt Density Index ("SDI") (15) pursuant to ASTM D4189 - 07 Standard Test Method for Silt Density Index (SDI) of Water, or later version if applicable (the "SDI Test"). All such SDI Test data shall be logged and trended;
 - (xx) Differential pressure across cartridge-filter vessels, psig measured continuously;
 - (xxi) Cartridge filter hydraulic loading rate (gpm/10-inch length) daily and average for for the entire Performance Test, tabulated by filter; and
 - (xxii) Clearwell water level, individual pump discharge pressure, and individual motor frequency, if a VFD is installed on the pump.
- (b) Pretreatment Process and Equipment Performance Requirements
-

The requirements in the following table shall be met at all times during the Performance Test:

Backwash cycle	≤ 2 backwashes per day per cell
Total daily backwash volume	≤ 6 MGD
Filtrate turbidity downstream of cartridge filtration	≤ 0.3 mg/L for 95 % of the time and < 0.5 mg/L at all times
Filtrate SDI (15) water quality downstream of cartridge filter vessels	≤ 4.0 for 95 % of the time and < 5.0 at all times (unless more stringent requirements apply based on SWRO membrane supplier warranty)
Differential pressure across cartridge filters (other than cartridge filters having a mechanical defect) during the Performance Test above and beyond the initial pressure drop across any of the cartridge filter vessels used at the end of the Performance Test	Demonstrate that: (i) the Plant has operated without replacement of any cartridge filters (other than cartridge filters having a workmanship or materials defect), and (ii) without exceeding a 15 psi differential pressure increase over the initial startup ("clean") differential pressure across any of the cartridge filter vessels used at the end of the Performance Test
Number of cartridges replaced per vessel (for each vessel in operation at any time, other than cartridge filters having a mechanical defect)	None

Failure to meet these pretreatment requirements at any time shall constitute a Performance Test failure and the Performance Test will be stopped until the condition is remedied. Thereafter the Performance Test can then be repeated.

5.6.3 Reverse Osmosis, Energy Recovery and Concentrate Discharge System

(a) Minimum Data Collection and Reporting Requirements

The Project Company shall collect and deliver to the Water Authority the following data on daily basis (unless otherwise specified in this Appendix) during the Performance Test:

- (i) RO feedwater, permeate, and concentrate quality characteristics matching the requirements of Table 5-3 of this Appendix;
- (ii) RO system feed pressure (for each RO train), psig, continuously monitored and daily average pressure for the duration of the Performance Test;
- (iii) RO feed water temperature, degrees C, continuously monitored, daily minimum, maximum, and average, and average for the duration of the Performance Test;
- (iv) Concentrate pressure (for each RO train), psig, continuously monitored and average for the duration of the Performance Test;

- (v) Pressure of concentrate exiting energy recovery system, psig, continuously monitored and average for the duration of the Performance Test;
- (vi) RO permeate pressure (for each RO train), psig, continuously monitored and average for the duration of the Performance Test;
- (vii) Permeate production (per train and total per pass and stage), MGD;
- (viii) Percentages of high quality vs. low quality permeate for first pass train, percent;
- (ix) Maximum daily permeate production, MGD;
- (x) RO feedwater flow (per train and total per pass/stage), MGD;
- (xi) Concentrate Discharge flow (per train, total per pass/stage, and daily total discharged), MGD;
- (xii) Recovery each day, (per train, per pass/stage, total RO process, and total plant), percent. All such data shall be trended;
- (xiii) permeate pressure (for each RO train), psig;
- (xiv) Actual and normalized differential pressure (pressure drop) across each RO train, psig, calculated at 4 hour intervals and average for the Performance Test. All such normalized data shall be trended;
- (xv) Normalized membrane permeability (gfd/psig), calculated at 4 hour intervals and average for the Performance Test. All such normalized data shall be trended;
- (xvi) Actual and normalized salt passage, %, calculated at 4 hour intervals and average for the Performance Test. All such normalized data shall be trended;
- (xvii) SWRO feed pump power use, kWh/kgal Product Water;
- (xviii) ERD and SWRO booster pump power consumption, kWh/kgal Product Water;
- (xix) ERD bank individual and total system recovered power; kWh/kgal Product Water;
- (xx) Average daily power consumption of each pumping component of the RO system (excluding the Product Water pump station), kWh/kgal of Product Water;
- (xxi) Number of pumps in operation and operational hours of each pump, calculated at 4 hour intervals and average for the duration of the Performance Test; and
- (xxii) Other membrane data/normalized trends pursuant to applicable membrane manufacturer's warranty conditions and other guidelines. All such normalized data shall be trended.

The Project Company shall plot all RO train normalized data including salt passage, permeability, and differential pressure on charts so that trends may be observed. Data files will also be collected by the Project Company and converted to Microsoft Excel format. Only authorized membrane manufacturer's normalization programs and algorithms will be used by the Project Company.

(b) RO Process and Equipment Performance Requirements

(i) All of the following conditions shall be met at all times during the Performance Test:

Reverse osmosis membrane replacement	None (other than membranes having a workmanship or materials defect)
Reverse osmosis membrane end cap, connector, seal, spacer or blank replacement	None
Differential pressure across the RO membrane elements	Demonstrate that the membrane trains do not exceed a five percent increase over the software design differential pressure across any of the RO system trains
Normalized permeate flow	Demonstrate that the membrane trains do not lose more than five percent of the software design normalized permeate flow
Normalized salt passage	Demonstrate that the membrane trains do not lose more than five percent of the software design normalized salt passage
RO membrane cleaning	None

(ii) First Stage RO Membrane Performance

First stage RO membrane performance shall be evaluated with respect to compliance with the standards set forth in Table 5-4 of this Appendix throughout the Performance Test. Such testing shall be conducted on an individual RO train basis before any permeate blending or mixing. The Project Company shall include all performance data necessary to substantiate such performance and compare the actual performance during the Performance Test with the membrane manufacturer's performance projections used as a basis for sizing the RO membrane cascade system in the Performance Test Report (as defined below).

Failure of a RO train to comply with Table 5-4 of this Appendix performance standards during the Performance Test shall not prevent the Project Company from achieving Provisional Acceptance, provided that any such RO train must be brought into compliance as a requirement of achieving Project Completion. Subsequent RO train tests shall be conducted during normal operation with each such RO train being tested demonstrating compliance with the standards in Table 5-4 of this Appendix over a period of 12 consecutive hours.

5.6.4 Post-treatment System

(a) Minimum Data Collection and Reporting Requirements

Product Water flow and pressure shall be measured at the Plant Flow Meter. All Product Water quality parameters shall be measured at the Product Water Quality Sampling Locations unless otherwise set forth in Tables 5-5 and 5-6 of this Appendix as applicable. The Water Authority has determined that to prudently operate its system, that it will be necessary to periodically vary the Chloramine Residual and the Chlorine to Ammonia ratio pursuant to Table 5-5 of this Appendix and the notes thereto.

The following data shall be collected and reported (daily unless otherwise specified in this Appendix) to Water Authority by Project Company during the Performance Test.

- (i) Product Water or Off-Specification Product Water quality characteristics matching the requirements of Tables 5-5 and 5-6 of this Appendix;
- (ii) Calcite, carbon dioxide, sodium hydroxide, sodium hypochlorite, ammonia and sulfuric acid dose (mg/l) and consumption (lbs/day and lbs/MG) – for each chemical;
- (iii) Calcium dissolution rate verified by analysis and material balance; and
- (iv) Chlorine and ammonia dosage (mg/l) and consumption (lbs/day) – for each chemical.

5.6.5 Product Water Storage and Pumping System

(a) Performance Requirements

- (i) The Performance Test shall demonstrate that the Product Water storage and pumping system is capable of delivering, from the Product Water Delivery Point to the TOVWTP, an average daily flow of 54 MGD, with one pump in standby, at the TDH in feet of water utilized in the final design from the Plant Flow Meter.
- (ii) The Performance Test shall demonstrate that the Product Water storage and pumping system is capable of operating in accordance with the Operating Protocol while in Three Pump Mode so as to avoid the occurrence of hydraulic transients, which are any sudden, material changes in the flow rate and pressure of the Product Water beyond the Plant Flow Meter at flow rates up to 57 MGD when Product Water pump configurations are varied.

(b) Minimum Data Collection and Reporting Requirements

The following data shall be collected and reported (daily unless otherwise specified in this Appendix) to Water Authority by Project Company during the Performance Test:

- (i) Hourly water levels in the product water storage tank;
- (ii) Number of pumps in operation and operational hours of each pump;
- (iii) Product tank water level, individual pump discharge pressure, and individual motor frequency, if VFD is installed on the pump; and
- (iv) Volume of Product Water pumped each shift, summed daily.

5.6.6 Waste Filter Backwash Treatment System and Solids Handling System

(a) Data Collection and Reporting Requirements

The following data shall be collected and reported (daily unless otherwise specified in this Appendix) to Water Authority by Project Company during the Performance Test:

- (i) Waste filter backwash treatment system and solids handling system water quality characteristics matching the requirements of Table 5-7 of this Appendix;
- (ii) Clarifier decant water daily flow gpd and average for the duration of the Performance Test;
- (iii) Clarifier sludge solids concentration, % solids;
- (iv) Dewatering facility press feed solids concentration, % solids (each filter press) daily and average for the duration of the Performance Test;
- (v) Dewatering facility feed sludge flow, gpd, (each filter press); daily and average for the duration of the Performance Test;
- (vi) Dewatered sludge cake concentration, % solids;
- (vii) Daily volume of dewatered sludge, wet tons/day;
- (viii) Filter Press dewatering polymer quantity, dry lbs./day; and
- (ix) Number of operating hours of the dewatering facility per day.

5.6.7 Concentrate Discharge Monitoring

(a) Data Collection and Reporting Requirements

The following data shall be collected and reported (daily unless otherwise specified in this Appendix) to Water Authority by Project Company during the Performance Test:

- (i) Concentrate Discharge monitoring data reporting shall be consistent with all the NPDES Project Permit requirements as delineated by Sections IV and V of the NPDES Project Permit. The Project Company shall provide data sufficient to demonstrate compliance with all such requirements.
- (ii) The Performance Test Protocol shall fully describe the Project Company's methodology for demonstrating compliance with the receiving water limitations of Section V of the NPDES Project Permit including, but not limited to its specific testing and sampling practices related to the mixing and dilution zone defined by Section V of the NPDES Project Permit.

5.6.8 Plant Shutdown During a Performance Test

Any failures, stoppages or interruption of the Plant that occur during a Performance Test shall not excuse the Project Company from complying with the Performance Test requirements set forth in this Appendix provided, however:

- (a) With respect to any 24-hour period during which the Project Company demonstrates that (i) the Raw Seawater used in Performance Testing has concentration levels or characteristics outside any of the ranges of Specified Raw

Seawater Quality Parameters set forth in Table 8-4 of Appendix 8 (Supplemental Performance Guarantee Requirements) which materially and adversely affects the operation of the Plant (an "Excused Period"), the following shall apply:

- (i) Excused Periods shall not be included as part of the Performance Test.
 - (ii) The Project Company shall have an hour-for-hour extension of the duration of the Performance Test for the duration of the Excused Period.
 - (iii) To the extent that the Excused Period results from the occurrence of an Uncontrollable Circumstance as a result of a Raw Seawater quality contamination event described in subsection 9.13(E) (Raw Seawater Quality-Contamination) of this Water Purchase Agreement, the Project Company shall also be eligible for compensation relief for the EPC Contractor's direct on-site management and operating expenses related to maintaining readiness to proceed with the Performance Test. The Company shall not be entitled to any other compensation relief as a result of such Uncontrollable Circumstance event during the Performance Test. The Project Company shall receive the compensation relief set forth in this item in the manner set forth in Section 16.3 (Other Uncontrollable Circumstances) of this Water Purchase Agreement.
 - (iv) The Scheduled Commercial Operation Date shall be extended for the duration of the Excused Period.
- (b) In order to demonstrate that any 24-hour period should be an Excused Period, the Project Company must provide three samples (i.e., an initial sample, followed by two confirmation samples), collected at least 8 hours apart, within such 24-hour period, demonstrating that the Raw Seawater has concentration levels or characteristics that are outside of any of the ranges of Specified Raw Seawater Quality Parameters set forth in Table 8-4 of Appendix 8 (Supplemental Performance Guarantee Requirements). All sampling must be in accordance with the Contract Standards. A replicate QA/QC sample shall be collected for each sample. Samples that are not within 10% of their replicate QA/QC sample shall be disregarded.
- (c) If an Uncontrollable Circumstance occurs during a Performance Test (other than the failure of the intake water to meet the specifications pursuant to item (a) of this subsection), Water Authority shall either:
- (i) Agree to treat the period during which the Uncontrollable Circumstance has occurred as an Excused Period, in which event all the provisions of item (a) of this subsection shall apply; or
 - (ii) Instruct the Project Company to re-start the Performance Test from its beginning, in which event the performances of the Plant prior to the restart of the Performance Test shall not be taken into account.
 - (iii) In either event the Scheduled Commercial Operation Date shall be extended for such time as is reasonable in the circumstances to take account of the effect of the delay in Performance Testing caused by the Uncontrollable Circumstance.

5.6.9 Measurement of Certain Test Parameters

In addition to the measurement frequencies identified within this Appendix, the additional test parameters will be measured with the following frequency:

- (a) Power consumption for operation of the Plant shall be determined based on the kilowatt hour readings from the power supplier's meters used by SDG&E for billing purposes.
- (b) All data for parameters continuously monitored shall be provided continuously by SCADA instrumentation and verified with manual reading verification at least once per day;
- (c) For chemical consumption, the following minimum parameters shall be recorded by the Project Company throughout the Performance Test and available upon request:
 - (i) Chemical concentration and grade (as delivered);
 - (ii) Dosing rate, mg/L;
 - (iii) Changes in dosing rate;
 - (iv) Solution concentration (as dosed); and
 - (v) Day tank and bulk storage tank levels, deliveries, and changes in inventory amounts; and
 - (vi) Chemical dosing information shall be computed as a daily average dose based on actual consumption and compared with dosing set points in the Performance Test Report (as defined below) to confirm the proper functionality of the chemical addition systems. Separate chemical consumption values shall be reported for each chemical used for post treatment and for RO feedwater treatment. Chemicals used for pretreatment and for post treatment shall be reported both individually and as combined totals by the Project Company.

5.6.10 Product Water Flow and Pressure Measurements

Product Water production and pressure measurements shall be completed according to a procedure mutually agreed upon by Water Authority and Project Company. This procedure shall be a mandatory component of the Performance Test Protocol.

5.7. PERFORMANCE TEST REPORT

A Performance Test report shall be prepared by the Project Company at the completion of the Performance Test and shall comply with the requirement of this Section (the "Performance Test Report"). The Project Company will deliver five copies of the Performance Test Report to the Water Authority in indexed and fully-searchable Adobe Acrobat electronic format.

5.7.1 Signed and Sealed Test Report

The Performance Test Report shall be signed and sealed by an engineer licensed in California and certified as true, complete and correct by an officer of the Project Company and an Officer of the EPC Contractor.

5.7.2 Minimum Content of Performance Test Report

At a minimum, the Performance Test Report shall include:

(a) General.

- (i) All data obtained during the Performance Test, including a detailed calculation of the Minimum Performance Criteria values during the Performance Test.
- (ii) A chart comparing the actual values to the Minimum Performance Criteria values, and explanations for any failure to achieve such Minimum Performance Criteria. The level of detail of such information shall be sufficient so that all performance metrics cited in the Performance Test Report can be independently calculated and verified.
- (iii) Any data deemed as outliers shall be presented with an explanation of why such data were judged to be outliers.
- (iv) An organized comparison of all SCADA data, laboratory analytical data, and Project local instrumentation readings and field measurements that is sufficiently detailed to show how the Project Company crosschecked the data to verify accuracy and precision.
- (v) Findings of the Design Conditions Assessment conducted pursuant to Section 5.5 (Design Conditions) of this Appendix.
- (vi) Signed operator's daily logs.
- (vii) Normalized plots for RO membrane permeability, salt passage, differential pressure, permeate backpressure.
- (viii) Electronic form (MS Excel with columns clearly identified) of operating data for intake feed pumps, pretreatment system, RO systems (including all associated pumps and ERDs), post-treatment system, solids handling, and product water system.
- (ix) All water quality reports prepared by or for Project Company;
- (x) All instrumentation and control settings (including PID loop control parameters) and any measurements, checks and settings which may be required by operating and maintenance personnel.
- (xi) Report of all spare parts used.

All calculations used or prepared by the Project Company shall be sufficiently documented so that they can be independently verified.

(b) A table of results showing the actual performance achieved for the following:

- (i) The total Plant power consumption, as determined from kilowatt hour readings from the power supplier's meters used by SDG&E for billing purposes;
- (ii) Chemical consumption;

- (iii) Membrane operating data, and the normalized data in both graphical and Excel formats.
- (c) Applicable data, as agreed upon in the Performance Test Protocol, in tabular format, for
 - (i) Seawater Intake System;
 - (ii) Pretreatment System;
 - (iii) Reverse Osmosis System;
 - (iv) Post-Treatment System;
 - (v) Product Water and Transmission System;
 - (vi) Waste Filter Backwash Treatment System and Solids Handling System;
 - (vii) Plant Discharge Monitoring;
 - (viii) Chemical Storage and Delivery Systems.
- (d) If the Performance Test was aborted, the causes and resolutions;
- (e) If any portion of the Plant is shutdown, the causes and resolutions;

5.8. SURGE PROTECTION SYSTEM TEST

5.8.1 Surge Protection System Test. On the last day of the Performance Test, the Project Company shall perform a full flow Product Water pump failure test of the surge protection system which comprises a portion of the Plant's Product Water pump facilities (the "Surge Protection System Test"). The Surge Protection System Test shall demonstrate whether the surge protection system is able to limit the resulting transient pressures in a manner consistent with the design conditions that will be established in the final hydraulic transient analysis prepared by the Project Company pursuant to Attachment 3C (Supplemental Design Requirements) of Appendix 3 (Project Design and Construction Work). The Project Company shall prepare a Surge Protection System Test report that (i) compares the actual values of the pressure recorded during the test to the values that will be established in the final hydraulic transient analysis prepared by the Project Company pursuant to Attachment 3C of Appendix 3; (ii) discusses whether each piece of equipment in the Plant's Product Water pump facilities functioned in a manner that is consistent with Attachment 3C of Appendix 3; and (iii) if the Plant's Product Water pump facilities failed to meet the requirements of the Surge Protection System Test, the repairs and modifications that need to be made to the Product Water pump facilities. (the "Surge Protection System Test Report"). The Surge Protection System Test Report shall be signed and sealed by an engineer licensed in California, and certified as true, complete and correct by an officer of the Project Company and an officer of the EPC Contractor.

5.8.2 Retesting of the Surge Protection System. Within five Business Days of receiving the Surge Protection System Test Report, the Water Authority will deliver to the Project Company written notice setting forth which repairs and modifications that: (i) because of their material effect on the safe operation of the Water Authority Improvements and the Product Water Pipeline Improvements, need to be completed prior to Provisional Acceptance; and (ii) may be completed after Provisional Acceptance but prior to Project Completion. If the Water Authority's notice sets forth repairs or modifications which need to be made before Provisional Acceptance, the Project Company shall repeat the Surge Protection Test and comply with the

requirements of subsection 5.8.1 (Surge Protection System Test) of this Appendix. The Project Company shall have no obligation to repeat the Surge Protection System Test for modifications or repairs which the Water Authority's notice states may be completed after Provisional Acceptance but prior to Project Completion.

5.8.3 No Water Authority Obligation to Accept Product Water If Failure to Meet Surge Protection System Test Damages the Water Authority Improvements. If the Water Authority Improvements are damaged as a result of a failure by the Product Water pump facilities to meet the transient pressure requirements of the Surge Protection System Test, the Water Authority shall have no obligation to accept or pay for Product Water for five days following the completion of the Surge Protection System Test. During such time, the Water Authority shall make preparations for the reconfiguration and repair of the Water Authority Improvements. The Project Company shall reimburse the Water Authority for the reasonable cost of repair to the Water Authority Improvements. The Project Company shall be responsible for paying for and making any necessary repairs to the Product Water Pipeline Improvements.

5.9. CALCULATING MAXIMUM ANNUAL SUPPLY COMMITMENT

5.9.1 General. Depending on the total amount of Product Water produced during the Performance Test (the "Performance Test Product Water Amount"), the Maximum Annual Supply Commitment shall be calculated in accordance with this Section.

5.9.2 Reduction in the Maximum Annual Supply Commitment. If the Performance Test Product Water Amount is 1,564 MG or greater, the Maximum Annual Supply Commitment shall equal 56,000 Acre Feet. If the Performance Test Product Water Amount is less than 1,564 MG, and greater than or equal to 1,400 MG, then the Maximum Annual Supply Commitment shall be calculated as set forth in Section 9.3 (Maximum Annual Supply Commitment and Adjusted Annual Supply Commitment) of this Water Purchase Agreement.

Exhibit 5A

The cost of each chemical listed in the table below shall be determined by multiplying the actual quantities (expressed in dry lbs) of that chemical which are consumed by the Plant during the Performance Test by the corresponding theoretical unit price therein listed. (The columns in the table below entitled Consumption (dry lbs/Kgal) and Maximum Theoretical Chemical Cost (\$/Kgal) are provided as examples of this calculation only.) The Total Chemical Cost (expressed in \$/Kgal) shall be equal to the sum of the individual chemical costs (\$) divided by the total quantity (expressed in kgal) of Product Water produced during the Performance Test.

Chemical/Product	Consumption dry lbs/Kgal (Provided for reference only)	Theoretical Unit Price (\$/dry lbs) (For 100% active material)	Maximum Theoretical Chemical Cost \$/Kgal (Provided for reference only)
Ferric Sulfate, FS	0.195	0.15	0.029205
Polymer A	0.0018	1.08	0.001912
Antiscalant	0.030	1.00	0.030021
NaOH	0.117	0.51	0.059675
H2SO4	0.046	0.2	0.009128
CO2	0.234	0.06	0.014052
CaCO3	0.390	0.04	0.015614
NaOCl	0.045	0.6	0.026739
NH4OH	0.016	2.58	0.041347
Polymer B	0.001	1.02	0.001499
Polymer Cent.	0.0001	1.08	7.94E-05
SBS	0.008	0.293	0.002486

Usage/consumption rate of any chemical shown in this Table may vary subject to total usage/consumption not exceeding the Maximum Chemical Cost or the Maximum Coagulant Amount.

Exhibit 5B

The Maximum Chemical Cost expressed as \$/Kgal of product water shall be determined for the weighted average Total Suspended Solids (TSS) during the Performance Test, as determined pursuant to the table below.

Adjustment for TSS

The weighted average TSS of the intake (raw) water (TSS AVG) during the Performance Test shall be determined as follows:

$$\text{TSS AVG} = \frac{\sum (\text{TSS}_j \times \text{PWA}_j)}{\text{PWATotal}}$$

j=1

Where

N = the number of four hour periods in the Performance Test.

TSS_j = TSS of the Raw Seawater measured at the intake pit sampling point at the end of any four hour period in the Performance Test (or if no TSS measurement was taken for such four hour period, the most recent TSS measurement), or 4.0 mg/L, whichever is greater, expressed mg/L.

PWA_j = the amount of Product Water delivered to the outlet flange of the Product Water pump station (the "Delivery Point") for any four hour period during the Performance Test, expressed in kgal.

PWATotal = the amount of Product Water delivered to the Delivery Point during the Performance Test, expressed in kgal.

TSS (mg/L)	4	5	8	10	15	20	25	30
Maximum Chemical Cost (\$/kgal)	0.195	0.2	0.208	0.214	0.219	0.222	0.227	0.232

If TSS AVG value is not included in the table above, the TSS AVG value shall be rounded up to a listed value and that TSS value shall be used to select the corresponding Maximum Chemical Cost.

Exhibit 5C

TSS shall be sampled by a composite sampler over 24 hours and measured on a daily basis. If the TSS of the Raw Seawater on any day exceeds 4 mg/L, TSS shall be sampled at four hour intervals, until the Raw Seawater TSS returns to 4 mg/L or less. The measured TSS values will be used in conjunction with the table and equation below to determine the Maximum Coagulant Amount.

The maximum coagulant amount (dry lbs of coagulant, FS, for 100% active material) shall be determined as follows (the "Maximum Coagulant Amount"):

$$\text{MAX COAG AMT} = \sum_{j=1}^N (\text{ALLOW COAG AMT}_j \times (\text{PWA}_j + \text{CDA}_j))$$

Where

N = the number of four hour periods in the Performance Test

ALLOW COAG AMT_j = the amount of allowable coagulant (FS) to be added to the Raw Seawater measured at the end of any four hour periods in the Performance Test from the table set forth in this Exhibit, based on the TSS measurement for such four hour period, or if no TSS measurement was taken for such four hour period, the most recent TSS measurement, expressed in lbs/kgal of raw water.

PWA_j = the amount of Product Water delivered to the Delivery Point for the corresponding four hour periods in the Performance Test, expressed in kgal.

CDA_j = the amount of Concentrate Discharge discharged to the ocean for the corresponding four hour periods in the Performance Test, expressed in kgal.

TSS (mg/L)	4	5	8	10	15	20	25	30
Allowable Coagulant (FS) Amount lbs/kgal of raw water	0.088	0.109	0.134	0.150	0.167	0.175	0.192	0.209

The values of Coagulant amount in the table above refer to 100% of Fe₂(SO₄)₃

If the measured TSS value is not included in the table above, the TSS value shall be rounded up to a listed value and that TSS value shall be used to select the corresponding Allowable Coagulant Amount.

The TSS level for each sample during the Performance Test to be determined according to SM 2540 D.

The actual weighted average coagulant amount (Total Coagulant Amount) (TOT COAG AMT) of FS consumed for the Performance Test shall be determined as follows:

$$\text{TOT COAG AMT} = \sum_{j=1}^N (\text{COAG AMT}_j \times (\text{PWA}_j \div \text{PWATotal}))$$

Where N = the number of four hour periods in the Performance Test

COAG AMT_j = the amount of coagulant (FS) added to the Raw Seawater measured at the end of any four hour periods in the Performance Test, expressed in lbs.

PWA_j = the amount of Product Water delivered to the Delivery Point for any four hour periods in the Performance Test, expressed in kgal

PWATotal = the amount of Product Water delivered to the Delivery Point during the Performance Test, expressed in kgal.

Exhibit 5D
Maximum Power Amount

The Maximum Power Amount shall be equal: (i) the kWh/kgal Plant amount of power consumption, adjusted for the weighted average temperature and TDS values for the duration of the Performance Test, as determined pursuant to Table 2 herein, plus (ii) Product Pump Specific Energy of 4.65 kWh/kgal. The Specific Energy values in Table 1 shall apply to all Product Water output levels produced by the Plant during all Performance Tests.

A. Design Assumptions. Maximum Power Amount is calculated and determined on the following design assumptions:

- (a) Product Water pump station TDH is 1173 ft.
- (b) The water level in the Cabrillo Generating Facility discharge channel during the Performance Test falls within the recorded levels for height of the ocean at the closest measurement point for the 19-year period preceding the Performance Test ("Sea Level Range").

In the event that the actual Product Water Pump Station TDH is not 1173 ft the Product Pump Specific Energy shall be determined pursuant to the Product Pump Specific Energy formula set forth after Table 1 herein.

B. Adjustment for Temperature and TDS. The weighted average influent water temperature (TEMP-AVG) for the Performance Test shall be determined as follows:

$$\text{TEMP - AVG} = \sum_{j=1}^N (\text{TEMP}_j \times (\text{PWA}_j \div \text{PWATotal}))$$

Where

N = the number of 15 minute periods in the Performance Test.

TEMP_j = the RO feedwater water temperature measured at the discharge of the HPRO pumps at the end of any 15 minute periods in the Performance Test, expressed in degrees Celsius.

PWA_j = the amount of Product Water delivered to the Delivery Point for any 15 minute periods in the Performance Test, expressed in kgal.

PWATotal = the amount of Product Water delivered to the Delivery Point during the Performance Test, expressed in kgal.

The weighted average influent Total Dissolved Solids (TDS-AVG) for the Performance Test shall be determined as follows:

$$\text{TDS AVG} = \sum_{j=1}^N (\text{TDS}_j \times (\text{PWA}_j \div \text{PWATotal}))$$

Where

N = the number of 24 hour periods in the Performance Test.

TDS_j = TDS measured at the end of each twenty-four (24) hour period during the Performance Test pursuant to Table 5-1 hereto, expressed in mg/L.

PWA_j = the amount of Product Water delivered to the Delivery Point during each twenty-four (24) hour period during the Performance Test, expressed in kgal.

PWATotal = the amount of Product Water delivered to the Delivery Point during the Performance Test, expressed in kgal.

Table 1: Specific Energy Guarantee for All Performance Test Product Water Output Levels

TDS, ppm Feed Water Temp, C	28,000 Plant kWh/kgal	33,500 Plant kWh/kgal	34,5000 Plant kWh/kgal
14	10.42	11.04	11.71
16	10.24	10.98	11.48
18	10.21	10.93	11.29
20	10.15	10.87	11.1
22	10.10	10.81	10.96
24	10.10	10.69	10.83
26	10.10	10.57	10.73
28	10.10	10.45	10.65
30	10.10	10.33	10.58

For the purposes of determining the temperature and TDS to use in conjunction with Table 1 of this Exhibit to determine the Maximum Power Amount:

- (a) The average temperature value shall be rounded down to the preceding Temperature value listed in Table 1 of this Exhibit, and
- (b) The average TDS and Maximum Power Amount values shall be linearly interpolated between the corresponding applicable values listed in Table 2.

Determination of Product Pump Specific Energy if Product Water pump station TDH varies from 1173 ft.:

$$SE\left(\frac{kWh}{Kgal}\right) = \frac{Q(gpm) \times TDH(ft)}{Pe \times Me \times VFDe \times Qp\left(\frac{Kgal}{hr}\right)} \times 1.887 \times 10^{-4} \times Sf$$

Where:

Q (gpm)= average flow Product Water during the Performance Test at the Product Water flow meter located at the Product Water pump station, expressed in gallons per minute (gpm).

TDH (ft) = total dynamic head of the Product Water Pump Station, expressed in ft (feet). The Product Water Pump Station TDH will be determined as the sum of the following three elements (a) the value measured at pressure indicator on the discharge flange of the product pump, (b) height difference between center of pressure indicator on the discharge flange of the product pump and actual water level in product tank, and (c) pressure loss of 1.65 ft at the suction line, in each case, while the Plant is delivering 54 MGD to the maximum water elevation in the clearwells located at the Twin Oaks Valley Water Treatment Plant.

Pe = pump efficiency, expressed as a decimal, determined by the manufacturer's warranty for the Product Water pumps.

Me = motor efficiency, expressed as a decimal, determined by the manufacturer's warranty for the motors associated with the Product Water pump.

VFDe = VFD efficiency, expressed as a decimal, determined by the manufacturer's warranty for the VFD associated with the Product Water pump.

Qp(Kgal/hr)=average flow of Product Water during the Performance Test measured at the Product Water flow meter located at the outlet of the Product Water pump station, expressed in Kgal/hr.

Sf= a safety factor of 1.05.

Table 5-1
Minimum Raw Seawater Quality Analyses

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units
		Sampling Location	Sample Frequency and Method ⁽²⁾	
Total Dissolved Solids	2540C	Discharge of the Raw Seawater Pump Station	1 Grab per Day	mg/L
Chloride	4110B	Discharge of the Raw Seawater Pump Station	1 Grab per Day	mg/L
Bromide	4110B	Discharge of the Raw Seawater Pump Station	3 Grabs per Week	mg/L
Boron	3120B	Discharge of the Raw Seawater Pump Station	3 Grabs per Week	mg/L
Turbidity	2130B	Discharge of the Product Water Pump Station	Continuous ⁽³⁾	NTU
Temperature	2550	Discharge of the Raw Seawater Pump Station	Continuous ⁽³⁾	oF
pH	4500	Discharge of the Raw Seawater Pump Station	Continuous ⁽³⁾	SU
Calcium	3500	Discharge of the Raw Seawater Pump Station	3 Grab per week	mg/L as CaCO ₃
Conductivity	2510	Discharge of the Raw Seawater Pump Station	Continuous ⁽³⁾	μS
TOC	5310	Discharge of the Raw Seawater Pump Station	3 Grab per Week	mg/L
TOC ⁽⁴⁾	5310	Discharge of the Raw Seawater Pump Station	1 Grab per Day	mg/L
Total Suspended Solids	2540	Discharge of the Raw Seawater Pump Station	1 Grab per Day	mg/L
Dissolved Oxygen	4500	Discharge of the Raw Seawater Pump Station	1 Grab per Day	mg/L
Total Chlorine Residual	4500	Discharge of the Raw Seawater Pump Station	Continuous ⁽³⁾	mg/L as Cl ₂
Silt Density Index (SDI)	ASTM D4189	Discharge of the Raw Seawater Pump Station	3 per Day (1 per shift)	
Total Alkalinity	2320	Discharge of the Raw Seawater	3 Grab per week	mg/L

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units
		Sampling Location	Sample Frequency and Method ⁽²⁾	
		Pump Station		
Total Hardness	5310	Discharge of the Raw Seawater Pump Station	3 Grab per Week	mg/L
Sodium	3500	Discharge of the Raw Seawater Pump Station	3 Grab per Week	mg/L
Magnesium	200.8	Discharge of the Raw Seawater Pump Station	3 Grab per Week	mg/L
Other Constituents Pursuant to Plant NPDES Permit	As needed to comply with all Applicable Law and Governmental Approvals	As needed to comply with all Applicable Law and Governmental Approvals	As needed to comply with all Applicable Law and Governmental Approvals	

Notes to Table 5-1:

1. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Concentration limits are calculated for this period, which shall be (i) daily for continuous samples and samples collected every 15 minutes; and (ii) for the Performance Test Period, for samples collected daily or three times per week. All individual values to be reported. Average daily values to be calculated for any parameter for which multiple samples are taken per day.
3. Continuous Sample Frequency and Method: Monitoring, data storage and trending values shall be taken at intervals of 15 minutes or less.
4. Quality Parameter: This Quality Parameter only applied during algal bloom conditions.

Table 5-2
Pretreatment System Water Quality Analyses

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units
		Sampling Location	Sample Frequency and Method ⁽²⁾	
Conductivity	2510	Discharge of HPRO Pumps	Continuous ⁽³⁾	µS
pH	4500	First Pass RO feedwater pH downstream of sulfuric acid feed	Continuous ^{(3), (4)}	SU
Turbidity	2130B	First Pass RO feedwater ⁽⁵⁾	Continuous ^{(3), (4)}	NTU
Turbidity	2130B	First Pass RO feedwater ⁽⁶⁾	Continuous ^{(3), (4)}	NTU
Total Organic Carbon (TOC)	5310	Downstream of cartridge filters (high pressure RO pumps and energy recovery devices)	1 Grab per Day	mg/L
Oxidation-Reduction Potential	2580	Downstream of Bisulfite Dosing	Continuous ^{(3), (4)}	Millivolts
Total Chlorine Residual	4500	Downstream of Floc Basins, Upstream of Bisulfite Dosing	Continuous ^{(3), (4)}	mg/L as Cl ₂
Silt Density Index (SDI)	ASTM D4189	First Pass RO feedwater ⁽⁷⁾	Every 4 Hours	
Other Constituents ⁽⁸⁾	TBD	Per Requirements of Membrane Manufacturer's Warranty Conditions	As needed	

Notes to Table 5-2:

1. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Concentration limits are calculated for this period, which shall be (i) daily for continuous samples and samples collected every 15 minutes or every 4 hours; and (ii) for the Performance Test Period, for samples collected daily or three times per week. All individual values to be reported. Average daily values to be calculated for any parameter for which multiple samples are taken per day.
3. Continuous Sample Frequency and Method: Monitoring, data storage and trending values shall be taken at intervals of 15 minutes or less.
4. Sample Frequency and Method: Automatic analyzers for pH, Turbidity and Oxidation-Reduction Potential, Total Chlorine Residual to have samples analyzed three times a day manually (on a once per shift basis) for confirmation.
5. Sampling Location: Combined first pass RO feedwater downstream of the cartridge filters feeding the high pressure RO pumps.
6. Sampling Location: Combined first pass RO feedwater downstream of the cartridge filters feeding the energy recovery devices.
7. Sampling Location: Downstream of each cartridge filter bank feeding either a high pressure RO pumps or an energy recovery device.
8. Quality Parameters: Pursuant to RO membrane manufacturer's guidelines and RO membrane warranty requirements.

Table 5-3
RO System Water Quality Analyses

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units
		Sampling Location	Sample Frequency and Method ⁽²⁾	
Total Dissolved Solids	2540C	First Pass RO feedwater	1 Grab per Day	mg/L
Total Dissolved Solids	2540C	Second Pass Cascade Combined RO feedwater	1 Grab per Day	mg/L
Chloride	4110B	Combined Concentrate – First Pass and Second Pass Cascade	1 Grab per Day	mg/L
Chloride	4110B	Combined Permeate - First Pass and Second Pass Cascade	1 Grab per Day	mg/L
Bromide	4110B	Combined Concentrate - First Pass and Second Pass Cascade	1 Grab per Day	mg/L
Bromide	4110B	Combined Permeate - First Pass and Second Pass Cascade	1 Grab per Day	mg/L
Boron	3120B	Combined Concentrate - First Pass and Second Pass Cascade	1 Grab per Day	mg/L
Boron	3120B	Combined Permeate - First Pass and Second Pass Cascade	1 Grab per Day	mg/L
Turbidity	2130B	First Pass RO feedwater	Continuous ⁽³⁾ (4)	NTU
Temperature	2550	Second Pass Cascade Combined Concentrate	Continuous ⁽³⁾	oF
pH	4500	First Pass RO feedwater	Continuous ⁽³⁾ (4)	SU
Conductivity	2510	First Pass Concentrate - each RO train	Continuous ⁽³⁾	μS
Conductivity	2510	First Pass Permeate Front – each RO train	Continuous ⁽³⁾	μS
Conductivity	2510	First Pass Permeate Rear – each RO train	Continuous ⁽³⁾	μS
Conductivity	2510	Combined RO feedwater – Second Pass Cascade	Continuous ⁽³⁾	μS
Conductivity	2510	Combined Permeate - Second Pass Cascade	Continuous ⁽³⁾	μS
Conductivity	2510	Combined Concentrate - Second Pass Cascade	Continuous ⁽³⁾	μS
Other Constituents	TBD	Per Requirements of Membrane Manufacturer's Warranty Conditions	As needed ⁽⁵⁾	

Notes to Table 5-3:

1. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Concentration limits are calculated for this period, which shall be (i) daily for continuous samples and samples collected every 15 minutes; and (ii) for the Performance Test Period, for samples collected daily or three times per week. All individual values to be reported. Average daily values to be calculated for any parameter for which multiple samples are taken per day.

3. Continuous Sample Frequency and Method: Monitoring, data storage and trending values shall be taken at intervals of 15 minutes or less.
4. Sample Frequency and Method: Automatic analyzers for pH and Turbidity to have samples analyzed three times a day manually (on a once per shift basis) for confirmation.
5. Sample Frequency and Method: Pursuant to any sampling requirements of RO membrane manufacturer's start-up and operating guidelines and the RO membrane warranty conditions for each train in each pass.

Table 5-4
Performance Test
First-Stage RO Train Permeate
Water Quality Requirements

Quality Parameter	Analytical Method ⁽¹⁾	Sample Method ⁽²⁾	Concentration Limit ⁽³⁾ (mg/L)	
			Individual Train	Combined
Total Dissolved Solids	2540C	Daily Grab	See Note 4	See Note 5

Notes Table 5-4:

1. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Duration of the Performance Test.
3. Concentration Limit: mg/L unless otherwise noted.
4. Individual Train Concentration Limit: Individual train permeate concentration limit shall equal the lower of (i) the concentration value in the table below for the temperature when the sample is taken; and (ii) the warranty concentration value provided by the membrane manufacturer in the warranty for the membranes selected by the Project Company for use in the first stage RO for the appropriate temperature, times a 1.25 safety factor:

Temp.	14	15	16	17	18	19	20	21
TDS	230	244	259	275	291	309	327	347

Temp.	22	23	24	25	26	27	28	29
TDS	367	388	411	434	459	485	512	537

5. Combined Concentration Limit: Concentration permeate concentration limit shall equal the lower of (i) the concentration value in the table below for the temperature when the sample is taken; and (ii) the warranty concentration value provided by the membrane manufacturer in the warranty for the membranes selected by the Project Company for use in the first stage RO for the appropriate temperature, times a 1.15 safety factor:

Temp.	14	15	16	17	18	19	20	21
TDS	250	265	282	299	317	336	356	377

Temp.	22	23	24	25	26	27	28	29
TDS	399	423	447	473	500	528	557	582

Table 5-5
Product Water Quality Analyses

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method ⁽²⁾		Central Tendency ⁽³⁾	Extreme ⁽⁴⁾	Maximum ⁽⁵⁾
Total Dissolved Solids	2540C	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	320	375	600
Chloride	4110B	Discharge point of the Product Water Pump Station	1 Grab per Day	mg/L	120	150	None
Bromide	4110B	Desalination Plant – Combined RO Permeate Effluent	1 Grab per Day	mg/L	0.4	0.7	None
Boron	3120B	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	0.75	1.0 ⁽¹⁰⁾	
Turbidity	2130B	Discharge of the Product Water Pump Station	Continuous ⁽⁶⁾	NTU		0.8	1.0
SDS-TTHM ⁽⁹⁾	5710C	Discharge of the Product Water Pump Station	Weekly Grab: 100% Product Water	µg/L		56	80
SDS-HAA5 ⁽⁹⁾	5710D	Discharge of the Product Water Pump Station	Weekly Grab: 100% Product Water	µg/L		43	60
Temperature	2550	Discharge of the Product Water Pump Station	Continuous ⁽⁶⁾	°F		85°F	
Total Coliform Bacteria ⁽⁷⁾	9221	Discharge point of the Product Water Pump Station	1 Grab per Day	MPN/100m L	Non-detect ("ND")	ND	ND
E. Coli Bacteria ⁽⁷⁾	9221	Discharge point of the Product Water Pump Station	1 Grab per Day	MPN/100m L	ND	ND	ND
pH	4500	Discharge of the Product Water Pump Station	Continuous ⁽⁶⁾	SU	8.5	8.5 ± 0.2	8.5 ± 0.5
Calcium	3500	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L as CaCO ₃		>40	

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method ⁽²⁾		Central Tendency ⁽³⁾	Extreme ⁽⁴⁾	Maximum ⁽⁵⁾
Langelier Saturation Index (LSI)	ASTM D3739	Discharge of the Product Water Pump Station	1 Grab per Day ⁽¹¹⁾			>0	<1
Calcium Carbonate Precipitation Potential (CCCP)	TBD	Discharge of the Product Water Pump Station	Weekly Grab ⁽¹¹⁾			>0	<10
Fluoride	4500	Discharge of the Product Water Pump Station	Daily Grab	mg/L	See Footnote 8		
Iron	200.7	Discharge of the Product Water Pump Station	Weekly Grab	mg/L			0.07
Manganese	200.8	Discharge of the Product Water Pump Station	Weekly Grab	mg/L			0.02
Lead	3111	Discharge of the Product Water Pump Station	Weekly Grab	µg/L			MCL
Copper	3111	Discharge of the Product Water Pump Station	Weekly Grab	mg/L			MCL
Aluminum (if aluminum salts are used in treatment process)	3111	Discharge of the Product Water Pump Station	Weekly Grab	mg/L			0.20
Conductivity	2510	Discharge of the Product Water Pump Station	Continuous ⁽⁶⁾	µS	None	None	None
Dissolved Oxygen	4500	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	Monitor Only		
Total Organic Carbon (TOC)	5310	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	Monitor Only		
Ammonia	4500	Discharge of the Product Water Pump Station	Daily	mg/L	None	None	None
Total Hardness	2340	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	Monitor Only		

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method ⁽²⁾		Central Tendency ⁽³⁾	Extreme ⁽⁴⁾	Maximum ⁽⁵⁾
Total Alkalinity	2320	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L as CaCO ₃		>45	
Sodium	3500	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	Monitor Only		
Magnesium	200.8	Discharge of the Product Water Pump Station	1 Grab per Day	mg/L	Monitor Only		
California Title-22 / CDPH Drinking Water Regulations	As needed to comply with Applicable Law	As needed to comply with Applicable Law	As needed to comply with Applicable Law or Twice per Performance Test, whichever is greater		As needed to comply with Applicable Law	As needed to comply with Applicable Law	As needed to comply with Applicable Law

Notes to Table 5-5:

1. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Concentration limits are calculated for this period.
3. Central Tendency Concentration Limit: Concentration limit cannot be exceeded in more than 50% of samples taken over the applicable period, which shall be (i) daily for continuous samples and samples collected every 15 minutes; and (ii) for the duration of the Performance Test, for samples collected daily or weekly. The first sample in any period and any subsequent sample in the period to exceed the said 50% limit will each be referred to hereinafter as a "Non-Compliant Sample", and the first subsequent sample to any Non-Compliant Sample showing compliance with the Central Tendency value will be referred to as a "Relevant Compliant Sample". The output produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in this Table. Additional Product Water samples taken shall not increase the sample size for determining compliance with the Central Tendency Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Central Tendency value shall be considered a Compliant Sample. When a Quality Parameter is sampled more than once during the Performance Test, the sample set for the Central Tendency Concentration Limit shall be reset for each sampling period.
4. Extreme Concentration Limit: Concentration limit cannot be exceeded in more than 10% of samples taken over the applicable period, which shall be (i) daily for continuous samples and samples collected every 15 minutes; and for the duration of the Performance Test, for samples collected daily or weekly. The first sample in any period and any subsequent sample in the period to exceed the said 10% limit will each be referred to hereinafter as a "Non-Compliant Sample", and the first subsequent sample to any Non-Compliant Sample

showing compliance with the Extreme value will be referred to as a “Compliant Sample”. The output produced from the time that a Non-Compliant Sample is taken to the time the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in this Table. Additional Product Water samples taken shall not increase the sample size for determining compliance with the Extreme Tendency Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Extreme Tendency value shall be considered a Compliant Sample. When a Quality Parameter is sampled more than once during the Performance Test, the sample set for the Extreme Tendency Concentration Limit shall be reset for each sampling period.

5. Maximum Concentration Limit: Concentration limits cannot be exceeded at any time.
6. Continuous Sample Frequency and Method: Monitoring, data storage and trending values shall be taken at intervals of 15 minutes or less.
7. Quality Parameter: Replicate and replacement sampling protocols apply per CA Title 22 before a finding of non-compliance applies.
8. Concentration Limit: The concentration limit for Fluoride shall be 0.7 ± 0.1 rather than a Central Tendency, Extreme, or Maximum.
9. Quality Parameter: Simulated Distribution System (“SDS”) tests will be used to determine compliance with THM and HAA requirements for the samples collected at the compliance point. Product Water is to be collected for the SDS tests and held in a water bath. The following describes the test conditions:
 - a. pH: No adjustment to collected sample.
 - b. Temperature: Same as Product Water at time of collection ± 3 °C.
 - c. Total Cl₂ residual at test end: No adjustment to collected sample.
 - d. Time: 48 ± 2 hours.

Sampling must be conducted daily during the first 30 days in which Product Water is produced and during the Performance Test.

10. Extreme Concentration Limit: Use 95% percentile for Boron. This concentration limit cannot be exceeded in more than 5% of the samples.
11. Sample Frequency and Method: Daily sampling required following a negative value reading until a positive value reading is restored.

Table 5-6
Product Water Disinfectant Levels⁽¹⁾

Quality Parameter	Analytic Method	Sampling		Units	Concentration Limits		
		Sample Location	Sample Frequency and Type ⁽²⁾		Minimum ⁽³⁾	Payment Set Point	Maximum ⁽⁴⁾
Total Chlorine Residual	4500	Discharge of the Product Water Pump Station	Continuous ⁽⁵⁾	mg/L as Cl ₂	1.5 mg/l	2.75 ⁽⁶⁾ ± 0.3 mg/l	4.0 mg/L
Ammonia	4500	Discharge of the Product Water Pump Station	Daily Grab	mg/L	None	None	None
Chlorine/Ammonia Ratio	Calculated Value	Discharge of the Product Water Pump Station	1 per Day		4.0	Ratio 5.0± 0.3 ⁽⁶⁾	6.0

Notes to Table 5-6:

1. The Water Authority has determined that to prudently operate the Water Authority Distribution System, it will be necessary to periodically vary the Chloramine Residual and the Chlorine to Ammonia ratio pursuant to this Table.
2. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
3. Minimum Concentration Limit: Concentration limits cannot be below at any time.
4. Maximum Concentration Limit: Concentration limits cannot be exceeded at any time.
5. Continuous Sample Frequency and Method: Monitoring, data storage and trending values shall be taken at intervals of 15 minutes or less. Average daily values are to be calculated for any parameter for which multiple samples taken per day.
6. Total Chlorine Residual Permitted Variance: This quality parameter cannot be exceeded by an amount greater than ±0.3 in more than 5% of samples taken each day, with no sample exceeding a maximum of twice the permitted variance. The first sample in the day and any subsequent sample in the day to exceed the said 5% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Permitted Variance will be referred to as a Compliant Sample. Any sample that exceeds the maximum Permitted Variance will also be deemed a Non-Compliant Sample. The output volume produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water.
7. Chlorine to Ammonia Ratio Permitted Variance: This quality parameter cannot be exceeded by an amount greater than ±0.2 in more than 5% of samples taken each month, with no sample exceeding a maximum of twice the Permitted Variance. The first sample in the month and any subsequent sample in the month to exceed the said 5% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Permitted Variance will be referred to as a Compliant Sample. Any sample that exceeds the maximum Permitted Variance will also be deemed a Non-Compliant Sample. The output volume produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in Table 8-2 of this Appendix. Additional Product Water

samples taken shall not increase the sample size for determining compliance with this Permitted Variance Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Permitted Variance Concentration Limit shall be considered a Compliant Sample. The sample set for this Permitted Variance Concentration Limit shall be reset for each applicable period.

Table 5-7
Waste Filter Backwash Treatment System and Solids Handling System Water Quality Analyses

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units
		Sampling Location	Sample Frequency and Method ⁽²⁾	
Total Suspended Solids	TBD	Filter backwash	1 Grab per Day	mg/L
Total Suspended Solids	TBD	Clarifier decant	1 Grab per Day	mg/L
Percent Solids	TBD	Clarifier sludge	1 Grab per Day	mg/L
Percent Solids	TBD	Dewatered sludge cake	1 Grab per Day	mg/L
Other Constituents Pursuant to Applicable Law and disposal facility requirements	As needed to comply with Applicable Law and disposal facility requirements	As needed to comply with Applicable Law and disposal facility requirements	As needed to comply with Applicable Law and disposal facility requirements	

Notes to Table 5-7:

1. Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Concentration limits are calculated for this period. Daily and average values for the Performance Test shall be provided.

Attachment 5-1- Example Performance Test Protocol

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APPENDIX 6
OPERATING AND MAINTENANCE STANDARDS

APPENDIX 6

OPERATING AND MAINTENANCE STANDARDS

6.1. OPERATING AND MAINTENANCE STANDARDS

6.1.1 Purpose. The purpose of this Appendix is to supplement the requirements for the Operating Work set forth in Articles 8 (Operation and Management of the Plant), 9 (Performance) and 10 (Maintenance, Repair and Replacement) of this Water Purchase Agreement.

6.2. OPERATIONS REQUIREMENTS.

6.2.1 Objectives. The Project Company shall operate and maintain the Project in accordance with this Water Purchase Agreement and the Contract Standards. Operational decision making shall always be based on the following operating objectives:

- (a) Protection of the health, safety, and welfare of the public and operating staff;
- (b) Compliance with the Performance Guarantees;
- (c) Protection of the environment;
- (d) Protection and preservation of the Project;
- (e) Protection of the Water Authority Distribution System; and
- (f) Producing a reliable supply of Product Water consistent with the Water Purchase Agreement.

6.2.2 Operations Generally. The Project Company shall operate the Project under all conditions in accordance with the Contract Standards and as described below.

6.2.3 Wastewater Facilities and Disposal. The Project Company shall operate and maintain wastewater facilities to service the sanitary wastewater produced on the Plant Site. The Project Company shall arrange for servicing of holding tanks on a regular basis. The Project Company shall manage and operate the wastewater facilities such that no leaks or overflows occur.

6.2.4 Electric Service Equipment. The Project Company shall operate and maintain all electric service equipment owned by the Project Company in accordance with the requirements of the electric service provider. The Project Company shall provide the electric service provider with access to all electric service equipment owned by the electric service provider.

6.2.5 Upon Loss of Power to or Failure of One of the Transformers Feeding the Plant. Following a primary electrical power outage from any cause of one of the two 28 MVA transformers feeding the Plant, the Project Company shall maintain uninterrupted supply of Product Water from the Product Water pump station in compliance with the Contract Standards for a period of not less than forty five minutes, this period shall be reduced to not less than 30 minutes for the eight hours leading up to a Water Authority directed change in the Flow Rate, while such a loss of power event persists and primary electrical power remains unavailable. Further, the Project Company shall assure that the flush pumps and any other components required for equipment protection during such a loss of power event remain

functional upon loss of power to or failure of one of the two 28 MVA transformers feeding the Plant.

6.2.6 Minimum Staffing. The Project Company shall staff the Project consistent with the Operating Protocol, Title 22 of the California Code of Regulations, and the following minimum requirements:

- (a) One staff person (with a minimum T3 certification) shall be at the Plant at all times.
- (b) A Chief Operator with a T5 operator certification shall be assigned to the Plant as his or her regular work place. The Chief Operator shall have the overall responsibility for the day-to-day, hands-on, operation of the Plant. During off hours (including vacation and sick leave), a T5 operator or shift operator (with a minimum T3 certification), in either case with a demonstrated familiarity with the Plant, shall be accessible to the on-site staff and the Water Authority by phone within one hour notice.

6.2.7 Environmental Impact Report and Environmental Mitigation Measures. The Project Company shall comply with the applicable requirements of the Environmental Impact Report and Environmental Mitigation Measures.

6.2.8 Prohibition of Chlorine Gas. The Project Company shall not bring chlorine gas onto the Plant Site without approval from the Water Authority, given in its sole discretion.

6.2.9 Environmental Compliance. The Project Company shall assure compliance with Applicable Law and Governmental Approvals. The Project Company shall provide on-going training and environmental education of staff and operators for long-term environmental sensitivity, awareness, and compliance. Annually, the Project Company shall perform an environmental review of the Plant Site that will include confirming compliance with Applicable Law and Governmental Approvals. The review shall also include all reports (e.g., quarterly and annual) and monitoring data, as necessary to demonstrate compliance therewith. Any non-compliance and reporting issues shall be reported to the Chief Operator and the Water Authority immediately.

6.2.10 Regulated Substances Management. The Project Company shall maintain and comply with a current Regulated Substances management program and emergency/spill response plan meeting the requirements of Applicable Law and this Water Purchase Agreement.

6.2.11 Buildings and Grounds. The Project Company shall at a minimum perform the following activities relevant to the buildings and grounds:

- (a) Maintain the buildings, grounds, and landscaping in an aesthetically attractive and clean condition.
- (b) Replace any dead or diseased plantings to maintain the density of plantings and an attractive appearance of the Plant Site.
- (c) Repair all roof leaks promptly upon discovery.
- (d) Implement regularly scheduled pest control measures.

- (e) Apply paint as necessary to all painted surfaces, as appropriate. All painted surfaces shall be painted at least every five years, except for such surfaces that have maintained their original condition and would be adversely affected by frequent painting.
- (f) Repair cracks, erosions, depressions, and potholes, and slab shifts on paved areas, sidewalls, and other areas, as necessary.
- (g) Periodically resurface paved areas, if and as necessary.

6.2.12 Ordinary and Preventative Maintenance Generally. The Project Company's preventative maintenance plan within the Maintenance, Repair and Replacement Plan (as defined below) shall reflect procedures and standards consistent with Good Management Practice. The preventative maintenance plan shall reflect that in no event shall maintenance be less frequent and less comprehensive than that specified in manufacturers' warranties and manuals. It shall also address the inspection, leak testing, maintenance, and repair procedures for all water-bearing structures in accordance with Good Management Practice.

6.2.13 Preventive Maintenance Activities. All equipment preventative maintenance activities shall, as a minimum, meet the maintenance requirements of the Project Equipment suppliers. As such, all equipment usage shall be logged through the SCADA system or otherwise entered into to the CMMS to provide the necessary input to the CMMS. The CMMS shall generate work orders that are specific to the item of equipment. These work orders shall outline the required preventative maintenance, describing the work to be undertaken. These work orders shall be undertaken and completed promptly. The resultant preventative maintenance work shall be logged as to when the work order was issued, when completed, by whom, duration of work, and listing of consumables and spare parts used in providing the required work. This information shall be continuously maintained for all equipment and summarized on an annual basis to the Water Authority, as part of the annual operations report required by Section 8.11 (Periodic Reports) of this Water Purchase Agreement, to confirm the work is being undertaken as required so as to protect the investment in the infrastructure. The Water Authority, however, may request to review records more frequently. The Project Company, in addition, shall:

- (a) Maintain the Plant Equipment in accordance with manufacturer's recommended maintenance procedures and Good Management Practice;
- (b) Maintain accurate records and all other data required for the proper supervision and administration of the maintenance of the Plant Equipment;
- (c) Provide continuous inspection of Plant Equipment to detect any significant variance from the manufacturer's recommended operating tolerances and specifications of the Plant when new. Corrective action shall be taken to prevent damage to the equipment, as well as protect warranties on new equipment;
- (d) Conduct all maintenance, repair, and replacements in a manner that does not endanger the safety of Project Company or Water Authority staff and visitors and residents in the vicinity of the Plant Site;
- (e) Maintain any cathodic protection systems at the Plant, if installed, at the optimum operating condition at all times to ensure effective corrosion prevention of all underground piping and other Plant components installed in corrosive environments;

- (f) Provide the services of factory-trained technicians, tools, and equipment to field-calibrate, test, inspect and adjust all instruments to their specified performance requirements in accordance with the manufacturer's specifications and instructions; and
- (g) Maintain and implement a regular gate and valve exercising program. The Project Company shall maintain a log of its gate and valve exercising activities in its CMMS.

6.2.14 CMMS. The Project Company shall maintain and update the CMMS. If the Project Company changes or upgrades its CMMS, it shall provide 60 days prior notice to the Water Authority about the changes or upgrades to its CMMS.

- (a) Asset Registry. The CMMS program shall be configured to produce a Asset Registry report (hardcopy and exportable in digital spreadsheet or database form) which shall include a complete listing of all assets having an installed cost, defined as the estimated cost to install that asset, that exceed \$40,000 (Index Linked) that constitute the Project, with Project Equipment grouped separately from Project Structures, including for each such asset:
 - (i) a unique CMMS asset identifier;
 - (ii) an asset descriptor;
 - (iii) the asset's manufacturer and model number;
 - (iv) the asset's service life;
 - (v) the asset's estimated installed cost, including material, equipment and labor costs;
 - (vi) date of installation; and
 - (vii) service status (i.e., in service or removed from service).

An initial Asset Registry report shall be provided to the Water Authority in both hardcopy and digital format within nine months following the Commercial Operation Date.

- (b) Updates. The CMMS shall be updated as necessary to reflect all newly added assets, including populating fields with the information identified in clause (a) of this subsection. Assets that are removed from the Project shall be deleted from the CMMS, and assets that are removed from service but left in place shall remain in the CMMS, but be flagged to indicate service status as removed from service. The Project Company shall provide an updated Asset Registry report annually to the Water Authority in digital format.

At the end of every fifth year in conjunction with the periodic inspection outlined in subsection 10.3(B) (Periodic Inspection of the Plant by the Independent Evaluator) of this Water Purchase Agreement, the Project Company shall update the CMMS to reflect the condition, functionality, structural integrity, and accompanying condition status notations indicated by the Independent Evaluator in the evaluation report. The Project Company shall consider the

updated asset condition information in its evaluation of subsequent updates of the Repair and Replacement Schedule (as defined below).

6.2.15 Maintenance, Repair and Replacement Plan. Within 60 days after the Commercial Operation Date, the Project Company shall prepare and submit for the Water Authority's review a Maintenance, Repair and Replacement Plan (as defined below). After addressing the Water Authority's comments, the Project Company shall submit a final Maintenance, Repair and Replacement Plan to the Water Authority. This plan shall be periodically updated when equipment is replaced, and submitted to the Water Authority annually with a summary of new equipment in place. The Project Company shall comply with the Maintenance, Repair and Replacement Plan throughout the Operating Period except where it can demonstrate to the Water Authority that changes are in accordance with Good Management Practice.

6.2.16 Minimum Plan Requirements. The maintenance, repair and replacement plan shall define how the Project Company will achieve the Water Authority's objective of quality performance, including but not limited to the following components of quality performance: (1) availability of spare parts for critical operating systems; (2) ongoing maintenance and repair; (3) appropriate and timely renewal and replacement of equipment; (4) cost-effective upgrades of obsolete equipment and systems; (5) the minimum standards for performance of its ongoing maintenance, repair and replacement obligations; and (6) an equipment inventory, schedule for shift and preventative maintenance, and related operator training (the "Maintenance, Repair and Replacement Plan"). The Maintenance, Repair and Replacement Plan shall also address how the Project Company shall: (i) maintain and repair the Plant, including without limitation, repair or replacement of components, including all maintenance, repair and component replacement which may be characterized as "major" or "capital" in nature; (ii) maintain the Plant substantially in accordance with applicable manufacturer's instructions, the applicable operation and maintenance manuals, and Good Management Practice and using the CMMS; (iii) perform all maintenance, repairs and replacements reasonably necessary to the continued operation of the Plant at all times; (iv) maintain the Project Equipment in accordance with Good Management Practice, and (v) to keep accurate records and all other data required for the purposes of proper administration and review of the maintenance of the Plant Equipment and Plant Structures. The Repair and Replacement Schedule (as defined below) shall be provided as part of the Maintenance, Repair and Replacement Plan. The Maintenance, Repair and Replacement Plan shall comply with the requirements set forth in Article 10 (Maintenance, Repair and Replacement) of this Water Purchase Agreement.

6.2.17 Repair and Replacement Schedule. For individual items of equipment with an installed repair or replacement value exceeding \$40,000 (Index Linked) (which includes the estimated total cost to repair or replace such equipment, but excludes any on-site labor), the Project Company shall prepare and deliver to the Water Authority a repair and replacement schedule which identifies the projected timing and costs of such major repairs and replacements in defined intervals over the Term (the "Repair and Replacement Schedule"). The Project Company shall not be required to repair or replace a particular piece of equipment in a particular year solely because the projected Repair and Replacement Schedule indicates that timing is the appropriate repair or replacement interval.

6.2.18 One-Year Repair and Replacement Schedule Update. Annually, concurrently with the budgeting performed in accordance with subsection 17.16(B) (Budgeting) of this Water Purchase Agreement, the Project Company shall have prepared an update of the projected Repair and Replacement Schedule for the next Contract Year with individual items of equipment with an installed repair or replacement value exceeding \$40,000 (Index Linked) (a "One-Year Repair and Replacement Schedule Update"). The One-Year Repair and Replacement Schedule Update shall include the proposed schedule for each such major repairs and replacements projected for the Contract Year by the Project Company. The Project Company

and the Water Authority shall hold a meeting to review each annual One-Year Repair and Replacement Schedule Update. The initial Repair and Replacement Schedule and each One-Year Repair and Replacement Schedule Update thereof shall detail the proposed schedule of major repairs and replacements for the immediately following Contract Year (year one of the update), an updated schedule for the next Contract Year (year two of the update), and updated schedule for each of the following three Contract Years (years three through five of the update).

6.2.19 Changes Proposed by One-Year Repair and Replacement Schedule Update. For all changes to the Repair and Replacement Schedule proposed in a One-Year Repair and Replacement Schedule Update, the Project Company shall indicate to the Water Authority the reason for the change and provide supporting information including at a minimum the following:

- (a) Operating or test results used by the Project Company to determine the differing repair or replacement need, demonstrating the actual performance of the asset in comparison to that which would be expected by the same asset performing as was anticipated by the current Maintenance, Repair and Replacement Plan.
- (b) Complete detailed history of the assets in question from the CMMS, indicating actual scheduled and unscheduled maintenance events.
- (c) In the case of Plant Equipment or manufactured Plant Structures, manufacturer's data indicating recommended maintenance schedules.

In the interest of maintaining the expected reliability level of the Plant operation, the Water Authority will review the recommended One-Year Repair and Replacement Schedule Updates and supporting information. For Repair and Replacement Schedule changes that would delay previously anticipated repairs or replacements, should the Water Authority determine (acting reasonably) that the delay could adversely impact the public health and safety, the Water Authority shall have the right to reject the delay and require that the repair or replacement be performed as previously scheduled. In making such a determination, the Water Authority will consider whether or not the asset's condition and performance was continuously monitored as required by this Appendix, and whether or not the Project Company performed appropriate levels of ordinary and preventative maintenance on the asset.

6.2.20 Project Company Obligation to Repair and Replace Not Limited. Notwithstanding the Project Company's performance of its obligations pursuant to subsections 6.2.15 (Maintenance, Repair, and Replacement Plan), 6.2.17 (Repair and Replacement Schedule), 6.2.18 (One-Year Repair and Replacement Schedule), and 6.2.21 (Five-Year Capital Modifications Plan) of this Appendix, the Project Company shall repair and replace equipment as needed over the Term, and such obligation shall not be limited in any way.

6.2.21 Five-Year Capital Modifications Plan. Prior to the commencement of the third Contract Year, the Project Company shall prepare and provide to the Water Authority a report that recommends the anticipated major equipment repair and replacement projects at the Plant over the course of the next five Contract Years (the "Five-Year Capital Modifications Plan"). The Five-Year Capital Modifications Plan shall be used as a planning tool by the Water Authority and the Project Company to consider future proposed major equipment repair and replacement projects at the Plant and other long-term work, and to make certain that the Plant facilities are being adequately maintained and will be available. The Five-Year Capital Modifications Plan shall set forth a description of each project, the rationale for performing each project, the impact or effect of each project on the Plant, a preliminary cost estimate or cost allowance for each project, the approximate period of time when each project would be performed and the proposed method or procedure for delivery of each project. The Five-Year Capital Modifications Plan shall be updated on an annual basis by the anniversary of each Contract Year concurrent

with the budgeting performed in accordance with subsection 17.16(B) (Budgeting) of this Water Purchase Agreement. Each year, the Five-Year Capital Modifications Plan shall be updated by the Project Company and a copy shall be delivered to the Water Authority. The Water Authority and the Project Company shall meet and confer regarding each update to the Five-Year Capital Modifications Plan and its implementation.

6.3. REVERSE OSMOSIS SYSTEM REPLACEMENT SCHEDULE

6.3.1 Purpose. The purpose of this Section is to establish the Project Company's obligations for the replacement of reverse osmosis membranes during the Term. The Project Company shall, prior to the commencement of the second Contract Year and for each Contract Year thereafter, prepare a Two-Year forward looking schedule for the replacement of the reverse osmosis membranes used in the Plant (a "Two-Year Reverse Osmosis Membrane Replacement Schedule"). The Reverse Osmosis Membrane Replacement Schedule will serve as: (a) a planning tool to project the Project Company's schedule to maintain and replace the reverse osmosis membranes in a manner that meets the Contract Standards; and (b) to determine the Project Company's obligations to replace the reverse osmosis membranes pursuant to subsection 6.3.5 (Reverse Osmosis Membrane Replacement After Water Authority Exercise of its Option to Purchase the Project Assets) of this Section.

6.3.2 Reverse Osmosis Membrane Replacement Schedule. An update of the Two-Year Reverse Osmosis Membrane Replacement Schedule shall be provided annually to the Water Authority. The Project Company is generally projecting a seven year life for the reverse osmosis membranes used in the first pass, and a ten year life for the membranes in the cascade. Notwithstanding such expectations, the Project Company plans to extend the lives of the reverse osmosis membranes if warranted by actual membrane performance. Therefore, the annual updated Reverse Osmosis Membrane Replacement Schedule shall be based upon: (a) any observed material reduction in permeate quality for Total Dissolved Solids, Chloride, Boron, Bromide, or other related water quality parameters; (b) a material increase energy usage; (c) the manufacturer's operating limits, as described in subsection 6.3.4 (Manufacturer's Operating Limits) of this Section; and (d) Good Management Practice.

6.3.3 Supporting Information. Along with the updated annual Two-Year Reverse Osmosis Membrane Replacement Schedule, the Project Company shall also provide the following: (a) appropriate supporting Product Water quality trend data; (b) individual unadjusted reverse osmosis train permeate water quality performance; (c) individual reverse osmosis train normalized membrane performance data related to permeate quality, permeate production, differential pressure, trans membrane differential pressure, and salt passage; (d) average projected membrane life for each reverse osmosis train; (e) membrane replacement history data, along with an explanation of any deviations from the applicable Reverse Osmosis Membrane Replacement Schedule; and (f) any other data necessary to reasonably conclude that the Plant should have the capability to meet the Product Water Quality Guarantee and the Committed Annual Volume.

6.3.4 Manufacturer's Operating Limits. The Project Company shall cause the Plant's operations to adhere to all of the reverse osmosis system's operating limits or criteria established in the reverse osmosis system membrane manufacturer's warranty, operational guidelines, technical bulletins, and operating manuals. Compliance with such manufacturer's guidance shall be considered to be a requirement of Good Management Practice.

6.3.5 Reverse Osmosis Membrane Replacement After Water Authority Exercise of its Option to Purchase the Project Assets. If the Water Authority delivers written notice of its election to exercise its option to purchase the Project Assets pursuant to Section 23.5 (Purchase Option Procedures) of this Water Purchase Agreement, for the remainder of the Term the Project Company shall replace reverse osmosis membranes in accordance with the then-

current Two-Year Reverse Osmosis Membrane Replacement Schedule. To deviate from the then-current Two-Year Reverse Osmosis Membrane Replacement Schedule, the Project Company must: (i) deliver to the Water Authority documentation to demonstrate that the proposed replacement of reverse osmosis membranes conforms to the same criteria of permeate reduction and conductivity of the average of the previous three years; and (ii) obtain the Water Authority's approval, which shall not be unreasonably withheld.

6.4. GENERAL OPERATING PERIOD REQUIREMENTS

6.4.1 Monthly Operations Reports. No later than 60 days prior to initiating the Performance Test, the Project Company shall submit for the Water Authority's review and approval, the proposed format of the monthly operations report required to be submitted by the Project Company pursuant to Section 8.11 (Periodic Reports) of this Water Purchase Agreement.

6.4.2 Identification Badges. The Project Company shall provide standardized identification badges to all of its on-site employees throughout the Operating Period. The Project Company's employees shall wear these badges at all times when on the Plant Site. Identification badges shall also be issued to all visitors at the time of arrival with records retained of the name and affiliation of the visitor, purpose of the visit, time of arrival and time of departure. The identification badge shall be surrendered at each time of departure.

6.4.3 Water Authority Office Space and Use of Operations Building. The Project Company shall designate and reserve one of the offices in the operations building (and related reasonable ingress and egress rights) for the Water Authority's exclusive use. At a minimum, the office reserved for the Water Authority shall have the following features:

- (a) 170 square feet (similar in character to that provided for the Operating Service Provider's management personnel).
- (b) three electric duplex receptacle wall outlets.
- (c) Broad band speed internet access.
- (d) Three telephone lines and one speakerphone. One of the telephone lines shall be dedicated to a facsimile machine (to be provided by the Water Authority). If the Project Company provides wireless internet services for its own use at the Project Site, such service shall also be provided to the Water Authority.
- (e) Secure, lockable, and uniquely keyed.

The cost of the Water Authority's office shall be borne by the Project Company. The cost of the Water Authority's furniture, equipment, supplies, consumables, and telephone and internet service provider fees shall be borne by the Water Authority. The Project Company shall also provide the Water Authority with access to the multipurpose room, conference room, and administrative areas of the operations building. The parties will coordinate so that the Water Authority has reasonable access to these facilities.

6.4.4 Water Authority Interface Cabinet. The Water Authority had provided and installed the Water Authority Interface Cabinet (as defined in subsection 3C1.2.2 (System Design Criteria) of Appendix 3 (Project Design and Construction Work)). The Water Authority shall own and be responsible for the maintenance, repair and replacement of the Water Authority Interface Cabinet and its contents after the Full System Test. The Project Company shall provide a power supply to operate the Water Authority Interface Cabinet's equipment

consistent with its design. Further, the Project Company shall be responsible to continuously provide the input and output signals from the Plant in a format that is compatible with the Water Authority's SCADA system, in accordance with Attachment 3C (Supplemental Design Requirements) of Appendix 3 (Project Design and Construction Work). The Water Authority will be responsible to provide the PLC programming and human machine interface ("HMI") integration for these signals into its control system. The Project Company shall provide adequate means of ingress and egress to the Water Authority for the operations, maintenance, repair and replacement of the Water Authority Interface Cabinet.

6.4.5 Risk Management and Safety. To the extent required by Applicable Law, the Project Company shall prepare and maintain a risk management prevention program and a process safety and management plan.

6.4.6 Water Authority Communication with Project Contractors. The Project Company shall provide the Water Authority with access to the Project Contractors pursuant to subsection 12.1(E) (Water Authority Access to and Communications with Project Contractors) of this Water Purchase Agreement.

6.5. WATER AUTHORITY REVIEW

6.5.1 General. The Water Authority will review the Project Company's operation, maintenance, repair and replacement of the Project throughout the Term. The Water Authority may assign one or more persons to observe the operation and maintenance of the Project, to review repair and replacement records, and to provide coordination assistance to the Project Company to assure that the operation of the Plant is fully integrated into the operation of the Water Authority Distribution System.

6.5.2 Monthly Coordination Meetings. As required by Section 8.2 (Service Coordination) of this Water Purchase Agreement, monthly coordination meetings between the Project Company and the Water Authority shall be held at the Plant Site or other mutually agreeable location. The Chief Operator and a Project Company Representative shall attend these meetings. The purpose of these meetings is to review management, operational, performance, and planning matters for the Project, maintenance issues, the monthly operations reports, condition of the Project, safety, housekeeping of the Plant Site, compliance with Applicable Law, Governmental Approvals and the Performance Guarantees, staffing issues, invoicing issues, public relations, and other relevant issues. The Project Company shall distribute copies of documentation of these meetings to all attendees and shall maintain a chronological file of such documentation, which upon request, will be made available to the Water Authority.

6.5.3 Periodic Maintenance Inspections and Testing. The Water Authority may perform annual, maintenance inspections of the Project as provided in Section 10.4 (Periodic Maintenance Inspections) of this Water Purchase Agreement.

6.5.4 Review at End of Term. Requirements for the review of the Plant related to the Expiration Date are provided in Section 10.7 (Project Assets Transfer Condition) of this Water Purchase Agreement and Appendix 11 (End of Term Project Condition Requirements).

6.5.5 Security Plan. At least 180 days before the initiation of the Performance Test, the Project Company shall prepare and submit for the Water Authority's review and comment, a Security Plan as required by Section 8.7 (Security) of this Water Purchase Agreement. The Security Plan shall address security for the Plant Site and all improvements thereon. After receipt and consideration of the Water Authority's comments, the Project Company shall submit a final Security Plan to the Water Authority prior to the initiation of the Operating Period. This plan shall be periodically updated to address changing threat conditions and when

security equipment or systems are added or modified. If the Security Plan is changed in any Contract Year, then the updated Security Plan shall be submitted to the Water Authority with a summary of the new or modified equipment or systems within 60 days of the end of that Contract Year. The Project Company shall comply with the Security Plan throughout the Operating Period. The Water Authority intends to keep confidential all information and materials relating to security at the Plant Site, including the Security Plan, irrespective of whether the Project Company has requested the Water Authority to keep any such information and materials confidential.

6.5.6 Minimum Requirements for the Security Plan. The Project Company's Security Plan shall include at a minimum, the following information:

- (a) A general description of the Project Company's security threats including (i) security measures and procedures for prevention, detection, and response to terrorism, (ii) vandalism, (iii) sabotage, (iv) natural disasters, (v) theft, (vi) accident, (vii) assault on employees, and (viii) cross-connection contamination.
- (b) A risk analysis of critical areas on the Plant Site and measures to secure them. Critical areas include, but are not limited to, chemical storage and feed facilities, control room and systems, electrical systems (including transformers), clearwell, laboratory, pump station, and flow control systems.
- (c) A description of the Project Company's zoning or subzoning of the Plant Site into multiple levels of security.
- (d) A description of the intrusion detection and surveillance systems.
- (e) A description of all security alarms and how and where they will be monitored to ensure a rapid and effective response.
- (f) A description of means to track Project Company's staff, vendors, visitors, Water Authority staff, and all other persons on the Plant Site.
- (g) A vulnerability assessment of the Plant which shall include, but not be limited to, a review of pipes and constructed conveyances, operationally critical long lead time equipment or spare parts, physical barriers, water collection, pretreatment, treatment, storage and distribution facilities, electronic, computer or other automated systems which are utilized by the Water Authority Distribution System, the use, storage, or handling of various chemicals and the operation and maintenance of such system, as consistent with all Applicable Law.
- (h) An emergency response plan for the Plant which shall also include actions, procedures, and identification of equipment which can obviate or significantly lessen the impact of terrorist attacks or other intentional actions on the public health and the safety and supply of drinking water provided to communities and individuals, as consistent with Applicable Law.
- (i) Coordination with the Water Authority during periods of elevated risk.

6.5.7 Operating Protocol. The Project Company shall prepare the Operating Protocol in cooperation with the Water Authority. The Project Company shall be responsible for the preparation of the Operation Protocol, which shall be subject to the Water Authority's approval. The Operating Protocol shall include at a minimum, the following information:

- (a) Procedures to be verified before routine start-up or shut-down of flow of Product Water from the Plant;
- (b) Procedures for emergency start-up or shut-down of flow of Product Water from the Plant;
- (c) Procedures for the Project Company to communicate weekly forecast of Product Water production for consideration in the Water Authority's weekly operating plan development meeting;
- (d) Operations and maintenance communications procedures and requirements;
- (e) Operational procedures including Product Water pump operations to avoid creating material Hydraulic transients in accordance with the final hydraulic transient analysis described in Section 3C1.4 (Water Authority Product Water Pumping System and Surge Control Design Requirements) of Appendix 3 (Project Design and Construction Work);
- (f) Procedures for the Project Company's scheduling of planned maintenance outage to provide adequate schedule for warranty inspections and any requisite warranty repairs of the Product Water Pipeline Improvements and the Water Authority Improvements within 730 days after the Commercial Operation Date;
- (g) Alternative operations procedures reflecting all reasonable Water Authority Distribution System operating scenarios, including sending Product Water south; and
- (h) Proposed Plant configuration and procedures for the Hot Standby Condition Test (as defined below).

6.5.8 Operating Mode Change Performance Test. During the Second Operating Period, the Project Company shall perform an Operating Mode Change performance test to demonstrate the Plant's capability to produce Product Water during and after Operating Mode Changes (the "Operating Mode Change Performance Test"). The Project Company shall deliver to the Water Authority 30 days written notice prior to the commencement of an Operating Mode Change Performance Test, accompanied by a written schedule of the of Operating Mode Changes and Flow Rates that will be used as part of the test. Such schedule shall be subject to the Water Authority's approval (which shall not be unreasonably withheld). The Operating Mode Change Performance Test is to be conducted, and the results calculated, in accordance with the Contract Standards. The Project Company shall keep the Water Authority continuously apprised of the specific schedule, and changes therein, for the commencement and re-performance of the Operating Mode Change Performance Test.

To meet the requirements of the Operating Mode Change Performance Test, the Project Company must:

1. Demonstrate that the reverse osmosis cascade and post-treatment systems consistently deliver Product Water which meets the Product Water Quality Guarantee during and after Operating Mode Changes when switching from: 3 Pump Mode to 2 Pump Mode; 2 Pump Mode to 1 Pump Mode; 1 Pump Mode to Shutdown Mode; Shutdown Mode to 1 Pump Mode; 1 Pump Mode to 2 Pump Mode; and 2 Pump Mode to 3 Pump Mode.
2. Demonstrate that the reverse osmosis cascade and post-treatment systems consistently deliver Product Water which meets the Product Water Quality Guarantee during

and after Operating Mode changes in Automatic Mode (as defined in subsection 4.2.2(j) of Appendix 4 (Mechanical Completion Requirements)).

3. Sample Product Water for the specific quality parameters at the sampling locations, frequencies and concentration limits found in Table 6-1 of this Appendix.

4. Operate the Plant during Operating Mode Changes without undertaking any extraordinary operating measures.

5. Operate at Water Authority requested levels for chlorine, and the chlorine to ammonia ratio (allowing for the permitted variance for each of these quality parameters), at all times consistent with Table 6-2 of this Appendix.

6.5.9 Operating Mode Change Performance Test Report. The following data shall be collected and reported to Water Authority by Project Company upon completion of the Operating Mode Performance Test:

- (a) A summary of the sampling results data consistent with the sampling requirements contained in Tables 6-1 and 6-2 of this Appendix in tabular form; and
- (b) The details of the sampling results data consistent with the sampling requirements contained in Tables 6-1 and 6-2 of this Appendix.

6.5.10 Review of the Operating Mode Change Performance Test Report by the Water Authority. The Water authority shall review the data provided by the Project Company pursuant to Section 6.5.9 (Operating Mode Change Performance Test Report) of this Appendix. If such data and report is complete, within seven days, the Water Authority shall deliver to the Project Company written determination as to whether the Project Company passed or failed the Operating Mode Change Performance Test. If the Water Authority determines that the Project Company failed the Operating Mode Change Performance Test, then it shall also provide an explanation of the basis for that determination.

6.5.11 Failure to Meet the Operating Mode Change Performance Test.

- (a) During the Operating Mode Change Performance Test, if any Product Water fails to meet the water quality parameters identified in Tables 6-1 and 6-2 of this Appendix shall constitute a failure of the Operating Mode Change Performance Test. At such time, the Operating Mode Change Performance Test shall cease until the condition is remedied. The next Operating Mode Change Performance Test shall repeat each step and demonstrate compliance with each criteria set forth in subsection 6.5.8 (Operating Mode Change Performance Test) of this Appendix.
- (b) If the Project Company fails the Operating Mode Change Performance Test, all water produced by the Plant during the duration of any subsequent Operating Mode Change shall be deemed either Off-Specification Water or Unacceptable Water until such time as the Project Company passes the Operating Mode Change Performance Test. For the purposes of this subsection, the duration of an Operating Mode Change shall be the longer of either: (i) four hours from the beginning of a material change in RO production Flow Rate related to an Operating Mode Change; (ii) from the beginning of a material change in RO production flow rate until the Water Authority's demand flow rate is achieved related to a pump mode change, whichever is longer.

6.5.12 Hot Standby Condition Test.

- (a) Hot Standby Condition Test. During the first Contract Year, the Project Company shall perform a test conducted in accordance with this subsection (the “Hot Standby Condition Test”) to confirm electricity usage during a period when: (i) the Plant is operating with a 0.0 MGD Product Water output, and (ii) configured in manner so that the Plant could, within 24 hours, operate in Three Pump Mode at 83.7 CFS (multiplied by the Supply Commitment Reduction Percentage) (“Hot Standby Condition”). The Project Company shall describe the proposed Plant configuration and procedures for the Hot Standby Condition Test in the Operating Protocol.
- (b) Hot Standby Condition Test Requirements. The Hot Standby Condition Test is to be conducted and calculate the results in accordance with the Contract Standards, and shall include the following:
 - (i) Confirmation that the Plant configuration used for the Hot Standby Condition Test conforms to the Plant configuration for the Hot Standby Condition in the Operating Protocol.
 - (ii) The Plant is maintained in a Hot Standby Condition for a minimum of 24 hours.
 - (iii) The kilowatt-hours (“kWh”) on the SDG&E billing meters shall be read at the beginning and at the end of the Hot Standby Condition Test and the time of each such reading shall be recorded. If there is more than one meter, all applicable meters shall be read simultaneously.
 - (iv) All meter readings shall be logged, dated with the time of the reading recorded, and signed by the individuals conducting the meter readings.
- (c) Notice. The Project Company shall deliver to the Water Authority a 10 day written notice prior to the commencement of the Hot Standby Condition Test. The Project Company shall keep the Water Authority continuously apprised of the specific proposed schedule, and changes therein, for the commencement of the Hot Standby Condition Test.
- (d) Hot Standby Condition Report. Within five Business Days after the completion of the Hot Standby Condition Test, the Project Company shall deliver to the Water Authority a report detailing the results of the Hot Standby Condition Test (the “Hot Standby Condition Test Report”).
 - (i) The Hot Standby Condition Test Report shall include:
 - (a) All data, logs, and calculations used in measuring the electricity usage during the Hot Standby Condition Test.
 - (b) The total Plant power consumption, as determined by the kWh readings from the power supplier’s meters used by SDG&E for billing purposes.
 - (c) The result of the Hot Standby Condition Test shall be average power, in kW, and shall be calculated as follows: (i) the kWh on the SDG&E billing meters readings at the beginning of the Hot

Standby Condition Test shall be subtracted from the kWh readings from each such meter at the end of the Hot Standby Condition Test; (ii) the consumption determined from each such set of meter readings shall be added to determine total Plant consumption in kWh; (iii) the total consumption in kWh shall be divided by the recorded duration of the Hot Standby Condition Test, measured in hours, to compute the average power, in kW, for the Hot Standby Condition; and (iv) the recorded duration shall be computed as the time interval in hours between the SDG&E billing meters readings at the beginning and the end of the Hot Standby Condition Test.

- (d) Confirmation that the Plant configuration for the Hot Standby Condition Test conformed to the Operating Protocol.
 - (e) If the Hot Standby Condition Test was aborted, the causes and resolution.
- (ii) The Hot Standby Condition Test report shall be signed and sealed by an engineer licensed in California and certified as true, complete and correct by an officer of the Project Company and an Officer of the Operating Service Provider.
- (e) Calculation of Standby Charge After Hot Standby Condition Test. The Project Company shall use the power consumption established pursuant to item (d)(i)(c) of this subsection in the calculation of the Standby Charge for the remainder of the Term.

Table 6-1
Product Water Quality Sampling Parameters, Frequencies and Limitations

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method		All Values Less Than	All Values Greater Than	All Values Within Range
Total Dissolved Solids	2540C	Discharge of the Product Water Pump Station	4 Grabs per Mode Change	mg/L	375		
Boron	3120B	Discharge of the Product Water Pump Station	1 Grab per Mode Change	mg/L	1.0		
Turbidity	2130B	Discharge of the Product Water Pump Station	Continuous ⁽²⁾	NTU	0.8		
pH	4500	Discharge of the Product Water Pump Station	Continuous ⁽²⁾	SU			8.5 ± 0.2
Calcium	3500	Discharge of the Product Water Pump Station	1 Grab per Mode Change	mg/L as CaCO ₃		>40	
Carbonate Alkalinity	2320	Discharge of the Product Water Pump Station	4 Grabs per Mode Change	mg/L as CaCO ₃		>45	
Fluoride	4500	Discharge of the Product Water Pump Station	1 Grab per Mode Change	mg/L			0.7 ± 0.1

Notes to Table 6-1:

1. All methods taken from current EPA methods or Standard Methods On Line, published by APHA, AWWA, ASTM, and WEF.
2. Continuous monitoring, data storage and trending values shall not be taken at more than 15 minute intervals.

Table 6-2 <u>Product Water Quality Sampling Parameters, Frequencies and Limitations</u>							
Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method		Minimum ⁽²⁾	Payment Set Point ⁽⁴⁾	Maximum ⁽³⁾
Total Chlorine Residual	TBD	Discharge of the Product Water Pump Station	Continuous ⁽⁵⁾	mg/L as Cl ₂	1.5 mg/l	2.75 ± 0.3 mg/l	4.0 mg/L
Chlorine/Ammonia Ratio	Calculated Value	Discharge of the Product Water Pump Station	1 Grab per Mode Change		4.0	5.0 ± 0.2	6.0

Notes to Table 6-2:

1. All methods taken from current EPA methods or Standard Methods On-Line, published by APHA, AWWA, ASTM, and WEF.
2. Minimum - cannot be below any time.
3. Maximum - cannot be exceeded at any time.
4. At Water Authority requested Total Chlorine Residual and Chlorine/Ammonia Ratio, Permitted Variance of +/- 0.3 and +/- 0.2 respectively.
5. Continuous monitoring, data storage and trending values at not more than 15 minute intervals shall be used in all calculations

APPENDIX 7
INSURANCE REQUIREMENTS

APPENDIX 7

INSURANCE REQUIREMENTS

7.1. INSURANCE DURING THE CONSTRUCTION PERIOD

The Project Company shall obtain and keep in force, or cause to be obtained and kept in force, the following policies of insurance, in accordance with the terms of this Section. Copies of these policies shall be delivered to the Water Authority promptly if requested from the Project Company. Each policy shall be obtained and be in-force prior to the performance of any work or commencement of any activity intended to be insured by each policy. At the Project Company's option, the Project Company may provide any or all of the following insurance policies by means of a Contractor Controlled Insurance Program ("CCIP"). In such case, (a) the limits for Commercial General Liability insurance shall equal or exceed the limits set forth in subsection 7.1.3 (Commercial General Liability) of this Appendix for on-site activities and (b) the limits for Commercial General Liability insurance may be less than the limits set forth in subsection 7.1.3 (Commercial General Liability) of this Appendix for off-site operations, but in no event less than \$1,000,000 per occurrence/aggregate.

7.1.1 Builder's Risk. A builder's insurance policy obtained on an "all risks" coverage basis, covering all Construction Work, other than design (including testing and commissioning) at the Plant Site. Coverage shall include risks while in transit and at any temporary off-site location; all materials, supplies, machinery, fixtures and equipment intended to become a permanent part of the Project or for permanent use in the Project or incidental to the construction; all temporary structures at the Plant Site that are to be used in or incidental to the fabrication, erection, testing, or completion of the Project to the extent the cost thereof is included in the Construction Work upon which the Monthly Water Purchase Payments are based, while on or about the Plant Site awaiting or during construction. The builder's risk policy:

- (a) shall be maintained until the Commercial Operation Date;
- (b) shall be in an amount not less than the \$535,000,000;
- (c) shall be written on an all risk basis, including coverage for flood, water damage and terrorism (excluding loss from a non-certified act of terrorism that involves nuclear, biological or chemical materials, and subject to a \$20 million aggregate sublimit for flood coverage);
- (d) shall include coverage for delay costs, including the loss of revenue, loss of investment income, continued payment of debt service, and a covered loss ensuing as a result of design error, subject to a \$111 million sublimit;
- (e) shall include loss arising from earthquake and earth movement, subject to a \$20 million aggregate sublimit;
- (f) Equipment in transit or stored at off-site locations shall be subject to a \$20 million sublimit.
- (g) may include deductibles or self-insured retentions of five percent of the loss or \$250,000, whichever is less, but such deductible or self-insured retention shall not be a recoverable cost under this Water Purchase Agreement, except as provided in subsection 7.7.3 (Earthquake Insurance Deductibles) of this Appendix with respect to loss from earthquakes and earth movement.

Named Insureds: Project Company and EPC Contractor

First Loss Payee: Plant Bondholders, as their interests may appear

7.1.2 Professional Liability Insurance. A professional liability errors and omissions insurance policy, which policy shall:

- (a) be in an amount not less than \$10 million per claim and in the aggregate;
- (b) be on a “claims-made” basis; and
- (c) have an extended reporting or discovery “tail” period, or be renewed for a period, of not less than ten years after the Contract Date.

Such policy shall have a retroactive date effective before the commencement of any design.

The practice professional liability policy of the primary design professional shall be specifically in excess of any project-specific professional liability errors and omissions policy. However, should the Project professional liability insurance limit be reduced by claims or losses, the design professional’s practice policy shall become excess to any remaining (reduced) portion of the Project professional liability policy. The primary design professional shall maintain its practice policy until the statute of repose expires in an amount not less than \$20 million. Such practice policy shall not include any exclusionary language relating to construction joint ventures or partnerships or both.

Named Insureds: All entities providing professional design services

Indemnified Parties: Project Company and EPC Contractor

7.1.3 Commercial General Liability. A commercial general liability insurance policy, written on an occurrence basis and covering liabilities arising out of the construction of the Project, including independent contractors, products and completed operations, personal and advertising liability, and liability assumed under an insured contract, and (unless covered under separate professional liability insurance) professional services provided in connection with the construction of the Project. The policy shall not contain exclusions for property damage from explosion, collapse or underground hazard, or inadvertent construction defects. The products and completed operations liability coverage shall be maintained for a period of not less than 10 years following the Commercial Operation Date or the Termination Date, whichever occurs first. The insurance shall apply separately for each insured against whom a claim is made or a lawsuit is brought, subject only to the insurance policy limits of liability. This insurance policy shall:

- (a) have coverage for any one occurrence or claim of not less than \$50 million per occurrence and a \$50 million aggregate limit applicable solely to the construction of the Project, which requirement may be met with any combination of primary and excess coverage so long as the excess coverage is written on a “follow form” or umbrella basis;
- (b) be maintained throughout the Term until the Commercial Operation Date; and
- (c) have a ten years completed operations coverage tail.

Named Insureds: Project Company and EPC Contractor

Additional Insureds: Water Authority, Plant Bondholders and Operating Service Provider

7.1.4 Commercial Automobile Liability. A commercial automobile liability insurance policy with limits of liability of not less than \$5,000,000 per accident, which requirement may be met by any combination of primary and excess coverage so long as the excess is written on a “follow form” basis. The insurance must cover liability arising from any motor vehicle, including owned, hired or non-owned vehicles, assigned to or used in connection with the construction of the Project.

Named Insureds: The vehicle owner

Additional Insureds: Project Company, EPC Contractor, Water Authority, Plant Bondholders and Operating Service Provider

7.1.5 Worker’s Compensation and Employer’s Liability. A worker’s compensation insurance policy as required by Applicable Law, and employer’s liability insurance having coverage limits of \$1,000,000 for each accident, \$1,000,000 for disease (each employee), and \$1,000,000 for disease (policy limit).

7.1.6 Contractor Pollution Liability. A contractor pollution liability insurance policy, supplied by the EPC Contractor, written on an occurrence form with limits of not less than \$5 million and a \$5 million project aggregate limit, covering liability due to pollution caused by or exacerbated by construction activities. If the policy is provided on a “claims made” form, the Project Company shall cause the EPC Contractor to continue such coverage, either through policy renewals or purchase of an extended discovery period, if such coverage is available, for not less than three years following the Commercial Operation Date.

Named Insured: Project Company, EPC Contractor and Subcontractors

Additional Insured: Water Authority

7.1.7 Pollution Legal Liability. A pollution legal liability insurance policy, supplied by the Project Company, provided on a “claims made” form with limits of not less than \$5 million and a \$5 million project aggregate limit, covering third party bodily injury and property damage, remediation costs for known and unknown pollution conditions, and first party property damage. The Project Company shall continue such coverage, either through policy renewals or purchase of an extended discovery period, if such coverage is available, for not less than three years following the Commercial Operation Date.

Named Insured: Project Company, EPC Contractor and Subcontractors

Additional Insured: Water Authority

7.2. INSURANCE DURING THE OPERATING PERIOD

The Project Company shall obtain and keep in force, or cause to be obtained and kept in force, throughout the Operating Period the following insurance coverage:

7.2.1 Property. An all risk property insurance policy (excluding earthquake) on a stated amount basis for the Full Insurable Value insuring all buildings, improvements (other than tenants’ improvements in the Project) and equipment (other than tenants’ equipment) that are built or placed on the Plant Site, and including coverage for business interruption, extra expense and expediting expense, subject to a \$20 million aggregate sublimit for flood coverage

(\$20 million flood sublimit excluded from Boiler and Machinery coverage as set forth in subsection 7.2.2 (Boiler and Machinery) of this Appendix).

Name Insureds: Project Company, EPC Contractor, Operating Service Provider and Water Authority

First Loss Payee: Plant Bondholders, as their interests may appear

7.2.2 Boiler and Machinery. A boiler and machinery insurance policy with limits of liability of not less than \$100 million per loss, insuring those objects as defined in the comprehensive object definition that are in use or connected and ready for use and are located on the Plant Site, and including coverage for business interruption, extra expense and expediting expense.

Named Insureds: Project Company, EPC Contractor, Operating Service Provider and Water Authority

First Loss Payee: Plant Bondholders, as their interests may appear

7.2.3 Business Interruption. The business interruption insurance policies required by subsections 7.2.1 (Property) and 7.2.2 (Boiler and Machinery) of this Appendix shall be provided with limits of liability in such amounts as are necessary to compensate the Project Company for direct loss of income and earnings for 12 months resulting from or attributable to any of the perils required to be insured against under the policies referred to in subsections 7.2.1 (Property) and 7.2.2 (Boiler and Machinery) of this Appendix, including losses resulting from interference with or prevention of access to the Plant Site or the Project, in each case in whole or in part, as a result of such perils or for any other reason.

Named Insured: Project Company, EPC Contractor and Operating Service Provider

First Loss Payee: Plant Bondholders, as their interests may appear

7.2.4 Commercial General Liability. A commercial general liability insurance policy insuring against liability of the Project Company and the Operating Service Provider with respect to the Project or arising out of the Contract Services, written on an occurrence basis and covering liabilities arising out of premises, operations, independent contractors, products and completed operations, personal and advertising liability, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). The insurance shall (a) apply separately for each insured against whom a claim is made or a lawsuit is brought, subject only to the insurance policy limits of liability and (b) have coverage for any one occurrence or claim of not less than \$25 million, which requirement may be met by any combination of primary and excess coverage so long as the excess coverage is written on a "follow form" basis.

Named Insured: Project Company, EPC Contractor and Operating Service Provider

Additional Insureds: Water Authority and Plant Bondholders

7.2.5 Commercial Automobile Liability. A commercial automobile liability insurance policy with limits of liability of not less than \$2,000,000 per accident, which requirement may be met by any combination of primary and excess coverage so long as the excess coverage is written on a "follow form" basis. The insurance must cover liability arising from any motor vehicle, including owned, hired or non-owned vehicles, assigned to or used in connection with the operation and maintenance of the Project.

Named Insured: The vehicle owner

Additional Insureds: Project Company, Water Authority, Plant Bondholders and Operating Service Provider

7.2.6 Worker's Compensation and Employer's Liability. A worker's compensation insurance policy as required by Applicable Law, and employer's liability insurance having coverage limits of \$1,000,000 for each accident, \$1,000,000 for disease (each employee), and \$1,000,000 for disease (policy limit).

7.2.7 Pollution Legal Liability. A pollution legal liability insurance policy for a building owner having coverage for any one occurrence or claim of not less than \$5 million and a \$5 million project aggregate limit, covering third party bodily injury and property damage, remediation costs for known and unknown pollution conditions, and first party property damage.

Named Insured: Project Company, the EPC Contractor and the Operating Service Provider

Additional Insureds: Water Authority

7.2.8 Operating Service Provider Pollution Liability. During the Operating Period, the Operating Service Provider shall maintain in full force and effect an accidental pollution liability insurance policy written on an occurrence form with limits of not less than \$5 million and a \$5 million project aggregate limit.

Named Insured: Operating Service Provider

Additional Insured: Project Company, Water Authority

7.2.9 Earthquake and Earth Movement. An earthquake and earth movement insurance policy, including land movement, landslide, settlement, subsidence, lateral support, and mudslide, having coverage for any one occurrence or claim of not less than \$20 million and a \$20 million project aggregate limit.

Named Insureds: Project Company and EPC Contractor

7.2.10 Other. Any other form of insurance and with such limits, in such form, in amounts and for risks as the Water Authority, acting reasonably, may require from time to time. The Monthly Water Purchase Payment shall be adjusted ([through a Direct Payment]) to reflect the cost of any such additionally required insurance.

7.3. FULL INSURABLE VALUE

7.3.1 Determining Full Insurable Value. For the purposes of this Appendix, "Full Insurable Value" of any building, improvement, equipment or other property shall be determined by the Project Company, acting reasonably, at the time the insurance is initially taken out and thereafter at least once every 12 months, and the Project Company shall promptly notify the Water Authority in writing of each such determination, provided that the Water Authority may at any time (but not more frequently than once in any 12 month period), by written notice to the Project Company, require the Full Insurable Value of any building, improvement, equipment or other property to be redetermined by an independent qualified appraiser designated by the Project Company's insurance agent/broker and approved by the property insurance company. The Project Company shall cause such redetermination to be

made promptly and the results of such redetermination communicated in writing to the Water Authority.

7.3.2 Adequacy of Contemplated Insurance. In addition to the determination of Full Insurable Value, as part of the periodic review contemplated in the subsection 7.3.1 (Determining Full Insurable Value) of this Appendix, the Project Company shall determine whether the policies set out in Section 7.2 (Insurance During the Operating Period) of this Appendix and the limits of such policies are adequate for the Project, and the Project Company shall promptly notify the Water Authority in writing of each such determination, provided that the Water Authority may at any time (but not more frequently than once in any 12 month period), by written notice to the Project Company, require the policies or the limits of such policies be redetermined, in the manner described in the preceding paragraph. The Project Company shall cause such redetermination to be made promptly and the results of such redetermination communicated in writing to the Project Company and to the Water Authority. The Annual Water Reference Price shall be adjusted to reflect the any reduced or increased cost of any Water Authority-directed insurance redetermination.

7.4. WAIVER OF SUBROGATION RIGHTS, AND OTHER POLICY REQUIREMENTS

7.4.1 EPC Contractor Waiver of Subrogation. The EPC Contractor and its insurers providing the insurance required under subsections 7.1.1 (Builder's Risk), 7.1.2 (Professional Liability Insurance), 7.1.3 (Commercial General Liability), 7.1.4 (Commercial Automobile Liability), 7.1.5 (Worker's Compensation and Employer's Liability), 7.1.6 (Contractor Pollution Liability), and 7.1.7 (Pollution Legal Liability) of this Appendix shall waive any right of subrogation they may have against the Water Authority, the Water Authority Indemnites and those for whom the Water Authority is in law responsible, whether or not the damage is caused by its act, omission or negligence.

7.4.2 Project Company Waiver of Subrogation. The Project Company and its insurers providing the insurance required under subsections 7.2.1 (Property), 7.2.2 (Boiler and Machinery), 7.2.3 (Business Interruption), 7.2.4 (Commercial General Liability), 7.2.5 (Commercial Automobile Liability), 7.2.6 (Worker's Compensation and Employer's Liability), 7.2.7 (Pollution Legal Liability), and 7.2.9 (Earthquake and Earth Movement) of this Appendix shall waive any rights of subrogation they may have against any Water Authority Indemnatee, whether or not the damage is caused by its act, omission or negligence.

7.4.3 Non-Recourse to Water Authority. All insurance policies shall provide that the insurers shall have no recourse against the Water Authority for payment of any premium or assessment and shall contain a severability of interest provision in regard to mutual coverage liability policies. The coverages provided by mutual coverage liability insurance policies required pursuant to this Water Purchase Agreement shall be the primary source of any restitution or other recovery for any injuries to or death of persons or loss or damage to property incurred as a result of an inaction or inaction of the Project Company, of their respective suppliers, employees, agents, representatives, or invitees, that fall within these coverages and also within the coverages of any liability insurance or self-insurance program maintained by the Water Authority.

7.5. GENERAL POLICY REQUIREMENTS

Each policy of insurance required under this Appendix shall:

- (a) be written on a project or location specific basis with project or site specific dedicated limits;
- (b) be issued by a Qualified Insurer;

- (c) be in a form approved by the Water Authority, such approval not to be unreasonably withheld;
- (d) be non-contributing with and shall apply only as primary and not excess to any other insurance, self-insurance, or other risk financing program available to the Water Authority;
- (e) contain an undertaking by the insurers to notify the Water Authority and the Plant Bondholders in writing not less than 30 days before any material change, cancellation or termination; and
- (f) where the Water Authority is an additional insured, insure the Water Authority Indemnitees.

7.6. EVIDENCE OF INSURANCE

Upon the issue of a policy of insurance, and otherwise upon request by the Water Authority, the Project Company shall deliver to the Water Authority and to the Operating Service Provider (to the extent of coverage under which it is an additional insured) a copy of policy endorsements and certificates. The Project Company, acting reasonably, may redact proprietary information from the copy of the policies delivered to the Water Authority. Upon request by the Water Authority, the Project Company shall deliver proof of payment of premiums for insurance required to be effected pursuant to this Appendix. No review or approval of any insurance certificate or insurance policy by the Water Authority shall derogate from or diminish the Water Authority's rights under this Water Purchase Agreement.

7.7. DEDUCTIBLES

7.7.1 Deductibles During the Construction Period. Except as provided in subsection 7.7.3 (Earthquake Insurance Deductibles) of this Appendix, any of the policies of insurance required under Section 7.1 (Insurance During the Construction Period) of this Appendix during the Construction Period may provide that the amount payable in the event of any loss shall be reduced by a deductible amount designated by the Project Company and approved by the Water Authority, such approval not to be unreasonably withheld. During the Construction Period, the Project Company shall pay the amount deducted from the insurance moneys payable in the event of any loss, and the amount shall be included as Insurance Proceeds or Insurance Receivables.

7.7.2 Deductibles During the Operating Period. Except as provided in subsection 7.7.3 (Earthquake Insurance Deductibles) of this Appendix, any of the policies of insurance required under Section 7.2 (Insurance During the Operating Period) of this Appendix during the Operating Period may provide that the amount payable in the event of any loss shall be reduced by a deductible amount designated by the Project Company and approved by the Water Authority, such approval not to be unreasonably withheld. The Project Company shall pay the amount deducted from the insurance moneys payable in the event of any loss, and the amount shall be included as Insurance Proceeds or Insurance Receivables.

7.7.3 Earthquake Insurance Deductibles. The policy of insurance required under subsections 7.1.1 (Builder's Risk) and 7.2.9 (Earthquake and Earth Movement) of this Appendix may, with respect to loss arising from earthquakes and earth movement, provided that the amount payable in the event of such loss shall be reduced by a deductible amount of five percent of the loss or \$250,000, whichever is less, of the \$20 million sub-limit insurance requirement.

7.8. SUBCONTRACTORS

The Project Company shall be responsible for ensuring that all Subcontractors performing the Construction Work and the Operating Work secure and maintain all insurance coverages (including workers' compensation insurance) and other financial sureties required by the laws of the State in connection with their presence at the Plant Site and the performance of their duties pursuant to their respective Subcontracts.

APPENDIX 8
SUPPLEMENTAL PERFORMANCE GUARANTEE REQUIREMENTS

APPENDIX 8

SUPPLEMENTAL PERFORMANCE GUARANTEE REQUIREMENTS

8.1. PURPOSE

This Appendix sets forth the requirements for certain Performance Guarantees and the additional standards for the Project, described in Section 9.2 (Product Water Quality Guarantee) of this Water Purchase Agreement.

8.2. PERFORMANCE GUARANTEES

8.2.1 Product Water Quality Guarantee.

- (a) Generally. The Project Company shall design, construct and operate the Plant in such a manner that the Product Water produced and delivered is in compliance with all Applicable Law, including all mandatory primary and secondary drinking water standards established by the CDPH as identified in Title 22 of the California Code of Regulations and all mandatory federal drinking water regulations (e.g., primary maximum contaminant levels (MCLs) promulgated by United States Environmental Protection Agency (EPA)). For the purposes of this Appendix, "Recommended" Secondary Maximum Contaminant Levels pursuant to Table 64449-B stated in §64449 of the Title 22 of the California Code of Regulations for Total Dissolved Solids, Specific Conductance, Chloride, and Sulfate are not considered mandatory in terms of compliance with regulatory standards. The "Upper" and "Short Term" standards for Total Dissolved Solids, Specific Conductance, Chloride and Sulfate delineated in §64449, Table 64449-B shall be considered mandatory. In addition, all Product Water shall be in compliance with the additional standards listed in Tables 8-1 and 8-2 of this Appendix ("Additional Standards"). If the Project Company New Domestic Water Supply Permit contains any water quality or treatment standards for the Plant which are more stringent than those identified in Title 22 of the California Code of Regulations, Project Company shall comply with such standards.

All analytical methods used to demonstrate compliance shall be performed in accordance with methods approved by CDPH. If a particular parameter does not have a method approved by CDPH, methods currently approved by the EPA or contained in the most recent edition of the "Standards Methods Online-Standard Methods for the Examination of Water and Wastewater" shall be acceptable. All laboratory testing necessary either to demonstrate Product Water compliance with Applicable Law or Contract Standards shall be performed by a laboratory certified by CDPH for drinking water.

- (b) Off-Specification Product Water and Unacceptable Water. All Product Water output shall be in compliance with all Applicable Laws and the Contract Standards. Notwithstanding the footnotes to Tables 8-1 and 8-2 of this Appendix, if a sample taken in accordance with Tables 8-1 and 8-2 does not comply with the limits shown, then all treated water output produced by the Plant between the time such non-compliant sample is taken and the time the next sample is taken that demonstrates that the treated water output meets all the Product Water Quality Standards shall be deemed to be Off-Specification Product Water or Unacceptable Water. The Project Company is permitted to sample the output of the Plant more frequently than the sampling frequencies

set forth in Tables 8-1 and 8-2 of this Appendix. Additional samples taken shall not increase the sample size for compliance during the applicable period. The original sample schedule and frequency shall be maintained if additional samples are taken.

Table 8-1 Additional Standards							
Quality Parameter	Analytical Method⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method⁽²⁾		Central Tendency⁽³⁾	Extreme⁽⁴⁾	Maximum⁽⁵⁾
Total Dissolved Solids	2540C	Discharge Point of the Product Water Pump Station	3 Grabs per Week	mg/L	320	375	600 ⁽⁸⁾
Chloride	4110B	Discharge Point of the Product Water Pump Station	3 Grabs per Week	mg/L	120	150	
Bromide	4110B	Discharge Point of the Product Water Pump Station	3 Grabs per Week	mg/L	[0.4]	[0.7]	
Boron	3120B	Discharge Point of the Product Water Pump Station	Daily grab	mg/L	0.75	1.0 ⁽¹⁰⁾	
Turbidity	2130B	Discharge Point of the Product Water Pump Station	Continuous ⁽⁶⁾	NTU	0.5	0.8	1.0
SDS DBP – TTHM ⁽⁸⁾	5710C	Discharge Point of the Product Water Pump Station	Weekly Grab	µg/L		56	80
SDS DBP – HAA ⁽⁸⁾	5710D	Discharge Point of the Product Water Pump Station	Weekly Grab	µg/L		43	60
Temperature	2550	Discharge Point of the Product Water Pump Station	Daily Grab	°F	-	85°F	
Total Coliform Bacteria ⁽⁷⁾	9221	Discharge Point of the Product Water Pump Station	Daily Grab	MPN/100mL	Non-detect ("ND")	ND	ND
E. Coli Bacteria ⁽⁷⁾	9221	Discharge Point of the Product Water Pump Station	Daily Grab	MPN/100mL	ND	ND	ND
pH	4500	Discharge Point of the Product Water Pump Station	Continuous ⁽⁶⁾		8.5	8.5 ± 0.2	8.5 ± 0.5

Table 8-1 Additional Standards							
Quality Parameter	Analytical Method⁽¹⁾	Sampling		Units	Concentration Limits		
		Sampling Location	Sample Frequency and Method⁽²⁾		Central Tendency⁽³⁾	Extreme⁽⁴⁾	Maximum⁽⁵⁾
Calcium	3500	Discharge Point of the Product Water Pump Station	3 Grabs per Week	mg/L as CaCO ₃		>40	
Carbonate Alkalinity	2320	Discharge Point of the Product Water Pump Station	3 Grabs per Week	mg/L as CaCO ₃		>45	
Langelier Saturation Index (LSI)	TBD	Discharge Point of the Product Water Pump Station	3 Grabs per Week ⁽¹¹⁾			>0 ⁽¹⁰⁾	<1
Calcium Carbonate Precipitation Potential (CCCP)		Discharge Point of the Product Water Pump Station	Weekly Grab ⁽¹¹⁾			>0 ⁽¹⁰⁾	<10
Fluoride	4500	Discharge Point of the Product Water Pump Station	Daily Grab	mg/L	See Footnote 9		
Iron	200.7	Discharge Point of the Product Water Pump Station	Weekly Grab	mg/L			0.07
Manganese	200.8	Discharge Point of the Product Water Pump Station	Weekly Grab	mg/L			0.02
Lead	3111	Discharge Point of the Product Water Pump Station	Weekly Grab	µg/L			MCL
Copper	3111	Discharge Point of the Product Water Pump Station	Weekly Grab	mg/L			MCL
Aluminum (if aluminum salts are used in treatment process)	3111	Discharge Point of the Product Water Pump Station	Weekly Grab	mg/L			0.20

Footnotes to Table 8-1:

1. Analytic Method: All methods taken from Standard Methods On-Line, published by APHA, AWWA, and WEF or current EPA methods.
2. Sample Period: Concentration limits are calculated for this period.
3. Central Tendency Concentration Limit: Concentration limits cannot be exceeded in more than 50% of samples taken over the applicable period, which shall be (i) daily for continuous samples and samples collected every 15 minutes; and (ii) monthly, for samples collected daily (excluding Boron), weekly or three times per week, and (iii) the Contract Year, for samples collected weekly and Boron. The first sample in any period and any subsequent sample in the period to exceed the said 50% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Central Tendency value will be referred to as a Compliant Sample. The output produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in Table 8-1 of this Appendix. Additional Product Water samples taken shall not increase the sample size for determining compliance with the Central Tendency Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Central Tendency value shall be considered a Compliant Sample. The sample set for the Central Tendency Concentration Limit shall be reset for each applicable sampling period.
4. Extreme Concentration Limit: Concentration limits cannot be exceeded in more than 10% of samples taken over the applicable period, which shall be (i) daily for continuous samples and samples collected every 15 minutes; and (ii) monthly, for samples collected daily (excluding Boron), weekly or three times per week, and (iii) the Contract Year, for samples collected weekly and Boron. The first sample in any period and any subsequent sample in the period to exceed the said 10% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Extreme value will be referred to as a Compliant Sample. The output produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in Table 8-1 of this Appendix. Additional Product Water samples taken shall not increase the sample size for determining compliance with the Extreme Tendency Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Extreme Tendency value shall be considered a Compliant Sample. The sample set for the Extreme Tendency Concentration Limit shall be reset for each applicable sampling period.
5. Maximum Concentration Limit: Concentration limits cannot be exceeded at any time.
6. Continuous Sampling: Samples are taken on 15 minute intervals.
7. E. Coli Bacteria: Replicate and replacement sampling protocols apply per Title 22 of the California Code of Regulations before a finding of non-compliance applies.
8. Simulated Distribution System (SDS) Disinfection By Product Formation (DBP) tests will be used to determine compliance with THM and HAA requirements for the samples collected at the compliance point. Product Water is to be collected for the SDS tests and held with no modifications in a water bath. The following describes the test conditions:
 - (a) pH: No adjustment to collected sample.
 - (b) Temperature: Same as Product Water at time of collection $\pm 3^{\circ}\text{C}$.
 - (c) Total Cl_2 residual at test end: No adjustment to collected sample.

(d) 48 ± 2 hours.

Sampling must be conducted daily during the first 30 days in which Product Water is produced and during the Performance Test.

9. Concentration Limit Permitted Variance: Concentration Limit for this parameter is 0.7 ± 0.1 and shall be maintained at all times within the given precision limits for this parameter.
10. Extreme Concentration Limit: Concentration limits cannot be exceeded in more than 5% of samples taken over the applicable period, which shall be monthly, for samples collected daily or three times per week, and the Contract Year, for samples collected weekly. The first sample in any period and any subsequent sample in the period to exceed the said 5% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Extreme value will be referred to as a Compliant Sample. The output produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in Table 8-1 of this Appendix. Additional Product Water samples taken shall not increase the sample size for determining compliance with this Tendency Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Tendency value shall be considered a Compliant Sample. The sample set for the Extreme Concentration Limit shall be reset for each applicable sampling period.
11. Sample Frequency and Method: Daily sampling required following a negative value reading until a positive value reading is restored.

8.2.2 Right of Water Authority to Direct Parameter Levels. The Water Authority has determined that to prudently operate its system, that it will be necessary to periodically vary the Chloramine Residual and the Chlorine to Ammonia ratio pursuant to Table 8-2 of this Appendix.

Table 8-2
Product Water Chlorination Levels

Quality Parameter	Analytical Method ⁽¹⁾	Sampling		Units	Concentration Limits			Permitted Variance ⁽⁷⁾
		Sample Location	Sample Frequency and Type ⁽³⁾		Minimum ⁽⁴⁾	Payment Set Point ⁽⁶⁾	Maximum ⁽⁵⁾	
Total Chlorine Residual		Discharge of the Product Water Pump Station	Every 15 Minutes	mg/L as Cl ₂	1.5	2.75	4.0	±0.3 ⁽⁸⁾
Chlorine to Ammonia Ratio ⁽²⁾		Discharge of the Product Water Pump Station	Daily		4.0	5.0	6.0	±0.2 ⁽⁹⁾

Footnotes to Table 8-2:

- Analytic Method: All methods taken from *Standard Methods On Line*, published by APHA, AWWA, and WEF or current EPA methods.
- Chlorine to Ammonia Ratio Quality Parameter: This parameter shall be based on measurements of average total chlorine and total ammonia residuals, as recorded in the Plant's SCADA system.
- Sample Period: Concentration limits are calculated for this period.
- Minimum Concentration Limit: Concentration limits cannot be below at any time.
- Maximum Concentration Limit: Concentration limits cannot be exceeded at any time.
- Payment Set Point: As part of its Firm Daily Demand Volume, the Water Authority shall specify the required level of each quality parameter set forth in this Table which the Product Water is to contain. The specified level for any Product Water quality parameter shall not be less than the applicable Minimum value nor more than the Maximum applicable value. In the event that the level specified by the Water Authority is not equal to the applicable Payment Set Point value, the payments to Project Company shall be adjusted as set forth below. The aggregate of all adjustments for the applicable Billing Period shall be added to or deducted from the amounts due to Project Company for such Billing Period.
 - Total Chlorine: ((Requested level) minus (Target)) times (Product Water delivered in such Day (MG)) times **[8.327 ((lbs*L)/mg)]** times **(\$0.6/lbs Cl₂)**
 - Ammonia: ((Requested level) minus (Target)) times (Product Water delivered in such Day (MG)) times **[8.327 ((lbs*L)/mg)]** times **(\$0.5/lbs NH₃)**
- Concentration Limit Permitted Variance: Product Water must meet the Water Authority's requested levels of each quality parameter in this Table, allowing for the permitted variance for each such quality parameter.

8. Total Chlorine Residual Permitted Variance: This quality parameter cannot be exceeded in more than 5% of samples taken each day, with no sample exceeding a maximum of twice the permitted variance. The first sample in the day and any subsequent sample in the day to exceed the said 5% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Permitted Variance will be referred to as a Compliant Sample. Any sample that exceeds the maximum Permitted Variance will also be deemed a Non-Compliant Sample. The output volume produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water.
9. Chlorine to Ammonia Ratio Permitted Variance: This quality parameter cannot be exceeded in more than 5% of samples taken each month, with no sample exceeding a maximum of twice the Permitted Variance. The first sample in the month and any subsequent sample in the month to exceed the said 5% limit will each be referred to hereinafter as a Non-Compliant Sample, and the first subsequent sample to any Non-Compliant Sample showing compliance with the Permitted Variance will be referred to as a Compliant Sample. Any sample that exceeds the maximum Permitted Variance will also be deemed a Non-Compliant Sample. The output volume produced from the time that a Non-Compliant Sample is taken to the time that the applicable Compliant Sample is taken shall be deemed Off-Specification Product Water or Unacceptable Water. The Project Company shall be permitted to sample the Product Water more frequently than the sampling frequencies required in Table 8-2 of this Appendix. Additional Product Water samples taken shall not increase the sample size for determining compliance with this Permitted Variance Concentration Limit during the applicable period. The original sampling schedule and frequency for the applicable sampling period shall be maintained if additional samples are taken within any applicable sampling period. However, any additional sample taken that demonstrates compliance with the Permitted Variance Concentration Limit shall be considered a Compliant Sample. The sample set for this Permitted Variance Concentration Limit shall be reset for each applicable period.

8.3. SPECIFIED RAW SEAWATER QUALITY PARAMETERS

8.3.1 **Raw Seawater Quality – Specified Parameters.** Table 8-4 of this Appendix sets forth the Specified Raw Seawater Quality Parameters referenced in subsection 9.13(B) (Raw Seawater Quality-Specified Parameters) of this Water Purchase Agreement.

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
Aluminum (µg/L)	N/A	200
Antimony (µg/L)	N/A	10
Arsenic (µg/L)	N/A	50
Barium (µg/L)	N/A	50
Beryllium (µg/L)	N/A	50
Cadmium (µg/L)	N/A	50
Chloride (mg/L)	N/A	21,000
Chromium, total (µg/L)	N/A	50
Color (Units)	N/A	30
Copper (µg/L)	N/A	50
Cyanide (µg/L)	N/A	200
Fluoride (mg/L)	N/A	10
Iron (µg/L)	N/A	500
Lead (µg/L)	N/A	15
Manganese (µg/L)	N/A	50
MBAS (mg/L)	N/A	0.5
Mercury (µg/L)	N/A	1
Nickel (µg/L)	N/A	100
Nitrate (mg/L as NO ₃)	N/A	10
Nitrite (mg/L as N)	N/A	1

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
Odor (TON)	N/A	20
Selenium (µg/L)	N/A	50
Silver (µg/L)	N/A	100
Strontium (mg/L)	N/A	25
Sulfate (mg/L)	N/A	2,800
Thallium (µg/L)	N/A	2
Turbidity (NTU)	N/A	24
Radioactivity (pCi/L)		
Gross alpha	N/A	15
Gross beta	N/A	500
Radium 226 and 228	N/A	5
Strontium 90	N/A	8
Tritium	N/A	500
Uranium	N/A	20
Volatile Organics (µg/L)		
Benzene	N/A	10
Bromoform	N/A	50
Carbon tetrachloride	N/A	10
Chlorodibromomethane	N/A	10
Chloroform	N/A	50
1,2-Dichlorobenzene	N/A	600
1,3-Dichlorobenzene	N/A	600
1,4-Dioxane	N/A	10

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
1,4-Dichlorobenzene	N/A	10
Dichlorobromomethane	N/A	50
1,1-Dichloroethane	N/A	5
1,2-Diphenylhydrazine	N/A	5
1,2-Dichloroethane	N/A	5
1,1-Dichloroethylene	N/A	6
t-1,2-Dichloroethylene	N/A	6
Dichloromethane	N/A	5
1,2-Dichloropropane	N/A	5
1,3-Dichloropropene	N/A	5
Ethylbenzene	N/A	700
Monochlorobenzene	N/A	70
MTBE	N/A	5
Styrene	N/A	100
1,1,2,2-Tetrachloroethane	N/A	10
Tetrachloroethylene	N/A	5
Toluene	N/A	150
1,2,3-Trichlorobenzene	N/A	50
1,2,4--Trichlorobenzene	N/A	70
1,1,1-Trichloroethane	N/A	200
1,1,2-Trichloroethane	N/A	5
1,2,3-Trichloropropane	N/A	5
2,4-Dichlorophenol	N/A	5

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
2,4-Dimethylphenol	N/A	5
2,4,6-Trichlorophenol	N/A	5
2,4-Dinitrophenol	N/A	5
2,4-Dinitrotoulene	N/A	5
2,6-Dinitrotoulene	N/A	5
2-Butanone (MEK)	N/A	5
Naphthalene	N/A	170
Trichloroethylene	N/A	5
Trichlorofluoromethane	N/A	150
1,1,2-Trichlorotrifluoroethane	N/A	1200
Vinyl Chloride	N/A	5
Xylenes	N/A	1750
Synthetic Organics (µg/L unless otherwise indicated)		
Alachlor	N/A	2
Atrazine	N/A	3
gamma-BHC (Lindane)	N/A	2
Bentazon	N/A	18
Carbofuran	N/A	18
Chlordane	N/A	1
2,4-D	N/A	70
2,4-DB	N/A	70
2,4-DDD	N/A	1
2,4-DDE	N/A	1

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
2,4-DDT	N/A	1
Dalapon	N/A	200
1,2-Dibromo-3-chloropropane	N/A	2
Di (2-ethylhexyl)adipate	N/A	400
Di (2-ethylhexyl)phthalate	N/A	4
Dinoseb	N/A	7
Diquat	N/A	20
Endothall	N/A	100
Endrin	N/A	2
Ethylene dibromide	N/A	1
Glyphosate	N/A	700
Heptachlor	N/A	1
Heptachlor epoxide	N/A	1
Hexachlorobenzene	N/A	1
Hexachlorocyclopentadiene	N/A	50
1-Methylnaphthalene	N/A	1
2-6-Dimethylnaphthalene	N/A	1
2-6 Dinitrotoulene	N/A	2
2-3-5-Trimethylnaphthalene	N/A	1
Methoxychlor	N/A	1
Methyl Isobutyl kethone (MIBK)	N/A	120
Mirex	N/A	1
Molinate	N/A	20

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
Oxamyl	N/A	200
Pentachlorophenol	N/A	1
Picloram	N/A	500
Polychlorinated biphenyls (PCBs)	N/A	5
Simazine	N/A	4
2,4,5-T	N/A	5
2,4,5-TP (Silvex)	N/A	50
Thiobencarb	N/A	1
Toxaphene	N/A	3
Microbials (MPN/ 100 ml)		
Total Coliform -	N/A	50,000
Fecal Coliform	N/A	5,000
Enterococci	N/A	5,000
Other Parameters (mg/L)		
Alkalinity (as CaCO ₃)	N/A	150
Boron	N/A	5.0
Bromide	N/A	90
Bicarbonate (as CaCO ₃)	N/A	150
Biological Oxygen Demand (BOD)	N/A	10
Calcium	N/A	500
Magnesium	N/A	2,520
Oil & Grease	N/A	1
pH (Units)	N/A	8.3

Table 8-4
Specified Raw Seawater Quality Parameters^{(1), (2), (3),}

	Minimum Concentration	Maximum Concentration
Potassium	N/A	822
Sodium	N/A	11,000
TDS (mg/L)	28,000	34,500
Total Chlorine (mg/L as Cl ₂)	N/A	2
Total Silica	N/A	6
Temperature (daily average), °Celsius ^{(4),(5)}	12	30
Total Hardness	N/A	12,400
Total Organic Carbon (TOC)	N/A	8
Total Suspended Solids (TSS) (mg/L)	N/A	30

Notes to Table 8-4:

1. Samples for Raw Seawater Analyses: These samples shall be obtained at a sampling station located at the Raw Seawater intake pump station.
2. Raw Seawater Uncontrollable Circumstance Sampling: Any sample (excluding temperature) used for asserting or validating an Uncontrollable Circumstance shall be from a third-party laboratory certified in accordance with Applicable Laws and Governmental Approvals and have all requisite individual certifications to appropriate for each such analysis. The analytical method PQL will need to be established, stated in the Uncontrollable Circumstance claim, and the result will need to be above the method's PQL to be valid. Immediately upon discovering that a Raw Seawater sample is outside of the Specified Raw Seawater Quality Parameter maximum or minimum concentration found in this Table, and if the Project Company seeks to preserve its option to assert a Uncontrollable Circumstance, the Project Company shall take a split sample to be used as a quality assurance/quality control ("QA/QC") confirmation sample. Both of the split samples (confirmation sample duplicates) need to be analyzed. If either of the confirmation duplicate sample results that are not within 10 percent of original sample outside of the Specified Raw Seawater Quality Parameter maximum or minimum, a third sample shall be taken and not less than eight hours later to valid the conditions.
3. Raw Seawater Detection Limits: Detection limits for all analyses shall conform to CDPH or current industry standards. Practical Quantification Limits ("PQL") and other laboratory QA/QC reports shall be provided for all sample analyses. All analytic results expressed below method PQL shall be expressed as the PQL, unless otherwise required by CDPH or Applicable Law.
4. Raw Seawater Uncontrollable Circumstance Sampling - Temperature: Any sample used for asserting or validating an Uncontrollable Circumstance for temperature shall be

conducted by qualified personnel using field analytical equipment independently calibrated in accordance with a certified State, EPA, or other Standard Method. Immediately upon discovering that a Raw Seawater temperature sample is outside of the Specified Raw Seawater Quality Parameter maximum or minimum concentration found in Table 8-4, and if the Project Company seeks to preserve its option to assert a Uncontrollable Circumstance, the Project Company shall take a replicate and split sample to be used as a QA/QC confirmation sample. Both of the split samples (confirmation sample duplicates) need to be analyzed. If either of the confirmation duplicate sample results that are not within 10 percent of original sample outside of the Specified Raw Seawater Quality Parameter maximum or minimum, a third sample shall be taken and not less than eight hours later to validate the conditions.

5. Raw Seawater Temperatures Below 14° Celsius: For temperatures below 14° Celsius, daily Plant production shall be limited to 50 MGD (which is equal to 153 Acre-Feet).

APPENDIX 9
ELECTRICITY CHARGE

APPENDIX 9**ELECTRICITY CHARGE**

This Appendix sets forth the calculation methodology for determination of the Electricity Charge and its various components throughout the Term, in accordance with Section 17.7 (Electricity Charges) of this Water Purchase Agreement (the “Water Purchase Agreement”). The mathematical examples provided herein are for illustrative purposes only, unless otherwise specified in the accompanying text.

9.1. THE ELECTRICITY CHARGE

9.1.1 Electricity Charge. The “Electricity Charge” for each Billing Period shall be an amount, expressed in dollars per Acre Foot (\$/AF), equal to the sum of the Fixed Electricity Charge and the Variable Electricity Charge for such Billing Period, each as hereinafter defined and determined. The fixed Electricity Charge will be calculated annually in advance of each Contract Year, and it will be based on the Minimum Annual Demand Commitment. It will be revised during the Contract Year if the tariff rates change. The Variable Electricity Charge will be calculated monthly in arrears for each Billing Period, and it will be based on the Monthly Delivered Water Units and the current tariff rates during the Billing Period. A summary sample computation of the Electricity Charge for each Billing Period of an illustrative Contract Year is shown in the following table:

Table 9-1**Summary Sample Computation of the Electricity Charge (\$/AF)**

Month	Fixed Electricity Charge	Variable Electricity Charge	Total Electricity Charge
July	73.13	448.46	521.59
August	73.13	448.46	521.59
September	73.13	449.90	523.03
October	73.13	429.21	502.34
November	73.13	439.66	512.79
December	73.13	441.86	514.99
January	73.13	432.68	505.81
February	73.13	376.15	449.28
March	73.13	438.46	511.60
April	73.13	439.85	512.98
May	73.13	450.27	523.40
June	73.13	451.72	524.86

9.2. ELECTRICITY CONSUMPTION**9.2.1 Guaranteed Energy Consumption.**

- (a) Total Guaranteed Energy Consumption. “Total Guaranteed Energy Consumption” during each Billing Period shall be the kilowatt-hours of electricity calculated using the Power Guarantee Formulas and equal the sum of the On-Peak Guaranteed Energy Consumption, the Semi-Peak Guaranteed Energy Consumption, and the Off-Peak Guaranteed Energy Consumption.

- (b) On-Peak Guaranteed Energy Consumption. “On-Peak Guaranteed Energy Consumption” during each Billing Period shall be the kilowatt-hours of electricity calculated during SDG&E On-Peak Rate Periods based on the Power Guarantee Formulas and equal to the sum of the Guaranteed Specific Energy Consumption Amount for all 15 minute periods during On-Peak hours.
- (c) Semi-Peak Guaranteed Energy Consumption. “Semi-Peak Guaranteed Energy Consumption” during each Billing Period shall be the kilowatt-hours of electricity calculated during SDG&E Semi-Peak Rate Periods based on the Power Guarantee Formulas and equal to the sum of the Guaranteed Specific Energy Consumption Amount for all 15 minute periods during Semi-Peak hours.
- (d) Off-Peak Guaranteed Energy Consumption. “Off-Peak Guaranteed Energy Consumption” during each Billing Period shall be the kilowatt-hours of electricity calculated during SDG&E Off-Peak Rate Periods based on the Power Guarantee Formulas and equal to the sum of the Guaranteed Specific Energy Consumption Amount for all 15 minute periods during Off-Peak hours.
- (e) Guaranteed Specific Energy Consumption Rate. “Guaranteed Specific Energy Consumption Rate” shall be the kilowatt-hours per thousand gallons (kWh/kgal) for each 15 minute period calculated using the Power Guarantee Formulas set forth in this subsection. Each month will be divided into 15 minute periods. Each 15 minute period will have its own Guaranteed Specific Energy Consumption Rate (kWh/kgal), as calculated pursuant to this subsection.
- (i) Power Guarantee Formulas. The Power Guarantee Formulas require three variables and result in the Guaranteed Specific Energy Consumption Rate in kWh/kgal for that period. The three variables are shown below and will be recorded for each 15 minute period of operations during the Billing Period:

Symbol	Variable Description	Unit of Measure
Q	Product Water Flow Rate	MGD
TDS	Seawater Total Dissolved Solids*	mg/l
T	Seawater Temperature*	°C

* Actual value as measured at the intake pit sampling point at the end of each 15 minute period

Depending on the Product Water Flow Rate, expressed in equivalent MGD assuming the flow rate was continuous over an entire day, one of four calculations will be used to produce the Guaranteed Specific Energy Consumption Rate for each 15 minute period.

- (a) Guaranteed Specific Energy Consumption Rate for One Pump Mode. For One Pump Mode, the Guaranteed Specific Energy Consumption Rate shall be as follows: **[Note: Modification to be added to include Flow Rates down to 12 MGD and intake temperatures below 14°C.]**

$$\begin{aligned}
 &= 91.914387451668 - 3.8524795482509 \times Q - \\
 &0.0029282325852424 \times \text{TDS} + 0.30653540997084 \times T + \\
 &0.074967969341097 \times Q^2 + 3.9737002996794\text{E-}08 \times \text{TDS}^2 - \\
 &0.0021863779489905 \times T^2 + 0.00002973043558543 \times Q \times
 \end{aligned}$$

$$\text{TDS} \cdot -0.0082455886504917 \times Q \times T - 0.0000023551873157782 \times \text{TDS} \times T + 0.72 + [5.04]$$

For illustrative purposes, using assumed inputs of $Q = 20.0$ MGD, $\text{TDS} = 33,500$ mg/l, and $T = 22.0$ °C, the Guaranteed Specific Energy Consumption Rate for One Pump Mode = $11.59 + 0.72 + 5.04 = 17.35$ kWh/kgal

- (b) Guaranteed Specific Energy Consumption Rate for Two Pump Mode. For Two Pump Mode, the Guaranteed Specific Energy Consumption Rate shall be as follows:

$$= 39.440044040402 - 0.82716000458555 \times Q - 7.2402861447362 \times 10^{(-4)} \times \text{TDS} - 0.024305837397357 \times T + 2.222614582509 \times 10^{(-5)} \times Q \times \text{TDS} + 0.72 + [5.04]$$

For illustrative purposes, using assumed inputs of $Q = 38.0$ MGD, $\text{TDS} = 30,000$ mg/l, and $T = 24.0$ °C, the Guaranteed Specific Energy Consumption Rate for Two Pump Mode = $11.04 + 0.72 + 5.04 = 16.80$ kWh/kgal

- (c) Guaranteed Specific Energy Consumption Rate for Three Pump Mode When the Flow Rate is Between 48.0 - 53.49 MGD. For Three Pump Mode when the Flow Rate is between 48.0 - 53.49 MGD, the Guaranteed Specific Energy Consumption Rate shall be as follows:

$$= -85.540317351847 + 4.8604139852367 \times Q - 1.8053939570046 \times 10^{-3} \times \text{TDS} + 0.38145466797851 \times T - 0.053247134055229 \times Q^2 + 1.7601299568608 \times 10^{-8} \times \text{TDS}^2 + 5.9902760601242 \times 10^{-4} \times T^2 + 1.7314982177605 \times 10^{-5} \times Q \times \text{TDS} - 5.6200213254797 \times 10^{-3} \times Q \times T - 4.596022946823 \times 10^{-6} \times \text{TDS} \times T + 0.72 + [5.04]$$

For illustrative purposes, using assumed inputs of $Q = 53.0$ MGD, $\text{TDS} = 29,000$ mg/l, and $T = 26.0$ °C, the Guaranteed Specific Energy Consumption Rate for One Pump Mode = $10.66 + 0.72 + 5.04 = 16.42$ kWh/kgal

- (d) Guaranteed Specific Energy Consumption Rate for Three Pump Mode when the Flow Rate is Between 53.5 - 54.0 MGD. For Three Pump Mode when the Flow Rate is from 53.5 - 54.0 MGD, the Guaranteed Specific Energy Consumption Rate shall be as set out in Table 9-2 of this Appendix:

Table 9-2

TDS, ppm	28,000	33,500	34,500
Feed Water Temp, C	Plant kWh/kgal	Plant kWh/kgal	Plant kWh/kgal
14	10.42	11.04	11.71
16	10.24	10.98	11.48
18	10.21	10.93	11.29
20	10.15	10.87	11.1
22	10.10	10.81	10.96
24	10.10	10.69	10.83
26	10.10	10.57	10.73
28	10.10	10.45	10.65
30	10.10	10.33	10.58
Intake Pump Station	0.72		
Product Pump station	5.04		

Linear Interpolation for other operating conditions:

- (1) for a seawater temperature not given in this Table, a linear interpolation will be done in order to determine the value of the Guaranteed Specific Energy Consumption Rate at that temperature.
- (2) if the actual seawater TDS is not equal to one of the three concentration levels set forth in this Table, a linear interpolation will be done in order to determine the Guaranteed Specific Energy Consumption Rate at that TDS level.

For example: If the temperature is 17.5°C and the salinity is 30,000 mg/l (for product flow rate above 53.5 MGD), a linear interpolation will be done for the temperature and salinity as shown in this Table:

Table 9-3

Linear Interpolation Calculation Example

TDS mg/l	T °C	SE kWh/kgal	TDS mg/l	T °C	SE kWh/kgal	TDS mg/l	T °C	SE kWh/kgal
28,000	16	10.24	33,500	16	10.98	30,000	16	10.509
28,000	18	10.21	33,500	18	10.93	30,000	18	10.472
28,000	17.5	10.218	33,500	17.5	10.943	30,000	17.5	10.481

For illustrative purposes, using assumed inputs of Q = 53.8 MGD, TDS = 33,500 mg/l, and T = 28.0 °C, the Guaranteed Specific

Energy Consumption Rate for Three Pump Mode when the Flow Rate is between 53.5 to 54.0 MGD = $10.45 + 0.72 + 5.04 = 16.21$ kWh/kgal

- (f) Guaranteed Specific Energy Consumption Amount. “Guaranteed Specific Energy Consumption Amount” is equal to the amount of kilowatt-hours (kWh) consumed during each 15 minute period. It is calculated as the product of (i) the Guaranteed Specific Energy Consumption Rate (kWh/kgal) and (ii) the amount of Product Water delivered, expressed in thousand gallons (kgal), during the applicable 15 minute period. For example: (i) 16.57 kWh/kgal x (ii) 562.5 kgal = 9,320.6 kWh. Each month will be divided into 15 minute periods. Each 15 minute period will have its own Guaranteed Specific Energy Consumption Amount (kWh).

For illustrative purposes, assuming an annual demand of 48,000 Acre Feet per year, Table 9-4 of this Appendix demonstrates a hypothetical Contract Year’s Guaranteed Energy Consumption.

Table 9-4
Guaranteed Energy Consumption (kWh)

Month	On-Peak	Semi-Peak	Off-Peak	Total
July	5,671,015	7,291,305	14,258,552	27,220,871
August	5,671,015	7,291,305	14,258,552	27,220,871
September	5,488,079	7,056,101	13,798,598	26,342,778
October	2,500,288	10,834,583	14,668,358	28,003,230
November	2,345,186	10,162,474	13,758,426	26,266,086
December	1,414,563	6,129,774	8,298,771	15,843,107
January	882,978	3,826,236	5,180,135	9,889,349
February	614,704	2,663,718	3,606,265	6,884,688
March	1,737,247	7,528,071	10,191,850	19,457,167
April	2,354,030	10,200,796	13,810,308	26,365,134
May	5,691,550	7,317,707	14,310,182	27,319,438
June	5,507,951	7,081,652	13,848,563	26,438,166

9.2.2 Guaranteed Demand.

- (a) Guaranteed Non-Coincident Maximum Demand. “Guaranteed Non-Coincident Maximum Demand” for the Billing Period shall be the power demand, expressed in kilowatts (kW), equal to the highest Guaranteed Specific Energy Consumption Amount during the Billing Period divided by 0.25 hours. For example: $9,320.6 \text{ kWh} \div 0.25 \text{ hours} = 37,282.4 \text{ kW}$.
- (b) Guaranteed On-Peak Maximum Demand. “Guaranteed On-Peak Maximum Demand” for the Billing Period shall be the highest power demand, expressed in kilowatts (kW), equal to the Guaranteed Specific Energy Consumption Amount during SDG&E On-Peak Rate Periods minute period for the Billing Period divided by 0.25 hours. For example: $9,000.0 \text{ kWh} \div 0.25 \text{ hours} = 36,000.0 \text{ kW}$. Note that if the Guaranteed Non-Coincident Maximum Demand occurs during an On-Peak period, it will equal the Guaranteed On-Peak Maximum Demand for that Billing Period.

For illustrative purposes, assuming an annual demand of 48,000 Acre Feet per year, Table 9-5 of this Appendix demonstrates a hypothetical Contract Year’s Guaranteed Demand.

Table 9-5
Guaranteed Demand (kW)

Month	Guaranteed Non-Coincident Max Demand	Guaranteed On-Peak Maximum Demand
July	37,283	37,283
August	37,283	37,283
September	37,283	37,283
October	37,418	37,418
November	39,568	39,568
December	39,182	39,182
January	40,331	40,331
February	40,309	40,309
March	38,777	38,777
April	37,553	37,553
May	37,418	37,418
June	37,418	37,418

9.2.3 Adjustment to Guaranteed Specific Energy Consumption Rate. The Guaranteed Specific Energy Consumption Rates shall be adjusted pursuant to this subsection. If the total energy consumption of the Project for the 4th full Contract Year after the Commercial Operation date is less than 90% of the Total Guaranteed Energy Consumption for such Contract Year, then commencing at the beginning of the 5th full Contract Year after the Commercial Operation Date each Guaranteed Specific Energy Consumption Rate shall be reduced by the percentage amount by which such total energy consumption is less than 90% of such Total Guaranteed Energy Consumption. For example, if such total energy consumption is 85% of such Total Guaranteed Energy Consumption, each Guaranteed Specific Energy Consumption Rate shall be reduced by 5%.

9.3. THE ELECTRICITY TARIFF

9.3.1 The Electricity Tariff. The “Electricity Tariff” means the least-cost electricity rate structure offered by the Electricity Supplier, taking into account the Project’s demand for uninterruptable power supply, and the pricing provisions set forth in this Appendix. Currently, the Electricity Tariff is San Diego Gas & Electric’s (SDG&E) AL-TOU + EECC tariff, which is shown in Table 9-6 of this Appendix:

Table 9-6
Sample Electricity Tariff

	Winter	Summer
Applicable Dates	Oct 1 - Apr 30	May 1 - Sep 30
Time of Use Periods		
On-Peak	5pm-8pm weekdays	11am-6pm weekdays
Semi-Peak	6am-5pm weekdays & 8pm-10pm weekdays	6am-11am weekdays & 6pm-10pm weekdays
Off-Peak	10pm-6am weekdays, plus weekends & holidays	10pm-6am weekdays, plus weekends & holidays
SDG&E Applicable Rates: (AL-TOU + EECC + Taxes)		
Schedule AL- TOU, > 12 MW, Primary Substation (UDC Charges)		
Distance Adjustment Fee (\$/Ft)	3.13	3.13
Customer Charge, Primary @ Sub, (\$/mo)	26,185.08	26,185.08
Non-Coincident Max Demand (\$/kW)	5.71	5.71
On-Peak Max Demand (\$/kW)	0.43	2.06
On-Peak (\$/kWh)	0.00779	0.00834
Semi-Peak (\$/kWh)	0.00696	0.00696
Off-Peak (\$/kWh)	0.00662	0.00662
Schedule EECC, Primary Substation, for AL-TOU (Commodity Charges)		
On-Peak (\$/kWh)	0.08056	0.08528
Semi-Peak (\$/kWh)	0.07400	0.06907
Off-Peak (\$/kWh)	0.05498	0.04983
Max On-Peak Demand (\$/kW)	0.16	5.08
Taxes & DWR Bond Charge		
DWR Bond Charge (\$/kWh)	0.00513	0.00513
State Regulatory (\$/kWh)	0.00022	0.00022
State Surcharge (\$/kWh)	0.00024	0.00024

9.3.2 The Electricity Supplier. The “Electricity Supplier” means SDG&E or an electricity supplier designated by the Water Authority pursuant to subsection 8.4(B) (Alternative Electricity Suppliers) of this Water Purchase Agreement.

9.3.3 Changes to the Electricity Charge Schedule. The Electricity Tariff is expected to change from time to time over the Term, reflecting changes in the electricity rate structure made by the Electricity Supplier, a change in the Electricity Supplier, or other factors. The components of the Electricity Charge other than the Electricity Tariff are expected to change less frequently over the Term. However, such other components may change from time to time as a result of or as a result of other events described in subsection 17.13(B) (Adjustments to the Unit Price) of this Water Purchase Agreement.

In the event of a change in the Electricity Tariff or other components of the Electricity Charge, Poseidon shall prepare and deliver to the Water Authority a revised Electricity Charge Schedule reflecting the change or changes, which shall apply for both the Fixed and Variable Electricity Charges if there have been changes to both charges. The new Electricity Charge Schedule shall be deemed effective as of the date that the change or changes go into effect, and the parties shall recalculate the Monthly Water Purchase Payments in accordance with the new Electricity Charge Schedule, and shall determine the amount of overpayment or underpayment, if any. The revised Electricity Tariff, and associated calculations of overpayment or underpayment, shall be prepared, to the extent reasonably possible, during the Billing Period after which the change to the Electricity Tariff or other components of the Electricity Charge took effect and no later than two full Billing Periods after the changes took effect. Any amounts overpaid or underpaid shall be added to or credited against the next Monthly Water Purchase Payment following such determination.

As the Fixed Electricity Charge is a dollar-per-Acre Foot amount paid on Base Product Water Deliveries, it is likely that the Fixed Electricity Charge revenue will not match the fixed electricity costs incurred in any given Billing Period. If the SDG&E fixed charges change during the Contract Year, in addition to the revision of the Electricity Charge Schedule in the Billing Period following the change and the calculations of overpayment or underpayment from the Billing Period during which the change occurred, there will also need to be an annual true up. This annual true up will ensure that the Fixed Electricity Charge revenue for the Contract Year matches the fixed electricity costs incurred during the same Contract Year. Any amounts overpaid or underpaid for the Contract Year shall be added to or credited against the next Monthly Water Purchase Payment following such determination.

9.4. THE FIXED ELECTRICITY CHARGE

9.4.1 Fixed Electricity Charge. The “Fixed Electricity Charge” for each Contract Year shall be the dollar-per-Acre Foot amount that is the sum of the Distance Adjustment Fee, Customer Service Charge, the Fixed Demand Charge, and the Standby Charge for the Contract Year divided by the Minimum Annual Demand Commitment. The Fixed Electricity Charge represents the fixed electricity costs of the project that are incurred when the project is in a standby, non-production mode. The Fixed Electricity Charge will be calculated annually in advance of each Contract Year, and it will be revised during the Contract Year if the tariff rates change.

- (a) The Distance Adjustment Fee. The “Distance Adjustment Fee” for each Contract Year shall be the amount determined prior to the Contract Year as the product of 1) the Distance Adjustment Fee (\$/Foot/month), 2) the distance, measured in feet, from the SDG&E substation to the meter on the Plant Site, and 3) 12 months. A sample computation of the Distance Adjustment Fee for an illustrative Contract Year is shown in Table 9-7 of this Appendix:

Table 9-7

Sample Computation of the Distance Adjustment Fee

Distance from Meter to Substation (Ft)	Distance Adjustment Fee (\$/ft/mo)	Distance Adjustment Fee (\$/mo)	Distance Adjustment Fee (\$/Yr)
1,860	3.13	5,821.80	69,861.60

- (b) The Customer Service Charge. The “Customer Service Charge” for each Contract Year shall be the amount determined prior to the Contract Year as the product of 1) the applicable SDG&E fixed monthly dollar and 2) 12 months. The Customer Service Charge is a fixed monthly dollar amount due regardless of

electricity consumed. A sample computation of the Customer Service Charge for an illustrative Contract Year is shown in Table 9-8 of this Appendix:

Table 9-8
Sample Computation of the Customer Service Charge

Customer Service Charge (\$/mo)	Customer Service Charge (\$/Yr)
26,185.08	314,220.96

- (c) The Fixed Demand Charge. The “Fixed Demand Charge” for each Contract Year shall be the amount determined as the product of 1) 50% of the highest Guaranteed Non-Coincident Maximum Demand from the preceding Contract Year, expressed in kilowatts (kW), 2) the applicable monthly SDG&E AL-TOU Non-Coincident Maximum Demand Charge (\$/kW), and 3) 12 months. The highest Non-Coincident Maximum Demand from the preceding Contract Year is an assumed number in Table 9-9 of this Appendix. 50% of the highest Non-Coincident Demand from the preceding Contract Year is considered a fixed charge because it is billed by SDG&E as a cost to the Project regardless of water production/electricity consumption. A sample computation of the Fixed Demand Charge for an illustrative Contract Year is shown in Table 9-9 of this Appendix:

Table 9-9
Sample Computation of the Fixed Demand Charge

50% of highest Non-Coincident Maximum Demand from Preceding Contract Year (kW)	Non-Coincident Maximum Demand Charge (\$/kW)	Fixed Demand Charge \$/mo)	Fixed Demand Charge (\$/Yr)
19,810	5.71	113,117.25	1,357,407.02

- (d) The Standby Charge. The “Standby Charge” for each Contract Year shall be the charge for the amount of power that would be demanded and energy that would be consumed if the Plant was in Hot Standby Condition (as defined in Appendix 6 (Operating and Maintenance Standards)), not producing any Product Water. The average power in Hot Standby Condition shall initially be assumed to be 2,500 kW, but the final Hot Standby Condition average power to be used to calculate the Standby Charge shall be established during a Hot Standby Condition Test conducted in accordance with Appendix 6. For the remainder of this Appendix, 2,500 kW will be used for the purposes of sample computations.

The Standby Charge for each Contract Year is calculated as product of 1) the Monthly Standby Consumption (kWh), 2) the Average Standby Electricity Rate (\$/kWh), and 3) 12 months. Monthly Standby Consumption is the product of 1) 2,500 kW, 2) 24 hours per day, and 3) 30.42 days per month (2500 kW x 24 hours x 30.42 days/mo = 1,825,200 kWh). The Average Standby Electricity Rate is calculated for each Contract Year. As the Standby Charge is a fixed charge that consists of SDG&E rates and charges that would otherwise be considered variable if the Plant was producing water, the portion of the \$/month Standby Charge associated with Monthly Delivered Water Units will reduce the Variable Electricity Charge for each month. A sample computation of the Standby Charge for an illustrative Contract Year is shown in Table 9-10 of this Appendix:

Table 9-10
Sample Computation of the Standby Charge (\$)

Monthly Standby Consumption (kWh/mo)	Average Standby Electricity Rate (\$/kWh)	Standby Charge (\$/Mo)	Standby Charge (\$/Yr)
1,825,200	0.0808	147,403.79	1,768,845.49

A sample computation of the Fixed Electricity Charge for an illustrative Contract Year is shown in Table 9-11 of this Appendix:

Table 9-11
Sample Computation of the Fixed Electricity Charge

Distance Adjustment Fee (\$/Yr)	Customer Service Charge (\$/Yr)	Fixed Demand Charges (\$/Yr)	Standby Charges (\$/Yr)	Total Fixed Charges (\$/Yr)	Minimum Annual Demand Commitment (Af/Yr)	Fixed Electricity Charge (\$/AF)
69,861.60	314,220.96	1,357,407.02	1,768,845.49	3,510,335.06	48,000	73.13

9.5. THE VARIABLE ELECTRICITY CHARGE

9.5.1 Variable Electricity Charge. The “Variable Electricity Charge” for each Billing Period shall be the per-Acre Foot amount equal to the variable electricity costs of the project that result from the Power Guarantee Formulas and are incurred when the project is producing water. The Variable Electricity Charge will be calculated monthly in arrears for each Billing Period, and it will be based on the Monthly Delivered Water Units and the current tariff rates during the Billing Period. There are two types of variable electricity costs: Energy Charges and Demand Charges. Energy Charges are calculated based on kilowatt-hours of energy consumption (\$/kWh) and Demand Charges are calculated based on kilowatts of power utilized (\$/kW). The portion of the monthly Standby Charge associated with Monthly Delivered Water Units, which is billed via the Fixed Electricity Charge, will be subtracted from the variable charges in order to calculate the Variable Electricity Charge for each month. Any Standby Charges associated with Monthly Unexcused Demand Shortfall Units and Monthly Unscheduled Outage Units will not be subtracted from the variable charges. Thus, the amount of the monthly Standby Charge that will be subtracted from the variable charges equals Monthly Delivered Water Units divided by Monthly Base Product Water Deliveries times the monthly Standby Charge. The result of this calculation is assumed to be 100% in the below sample calculations. The Variable Electricity Charge shall be determined at the end of the Billing Period and shall be equal to (1) the Energy Charges plus the Demand Charges less the Standby Charges for Monthly Delivered Water Units for the Billing Period divided by (2) the Monthly Delivered Water Units for such Billing Period.

9.5.2 Energy Charges. The “Energy Charges” for each Billing Period shall be the dollar amount that results from the sum of:

- (a) the product of (i) the On-Peak Guaranteed Energy Consumption (kWh) and (ii) the On-Peak Energy Rates (\$/kWh);
- (b) the product of (i) the Semi-Peak Guaranteed Energy Consumption (kWh) and (ii) the Semi-Peak Energy Rates (\$/kWh);

- (c) the product of (i) the Off-Peak Guaranteed Energy Consumption (kWh) and (ii) the Off-Peak Energy Rates (\$/kWh); and
- (d) the product of (i) the Total Guaranteed Energy Consumption (kWh) and (ii) the DWR Bond Charge (\$/kWh) + State Regulatory (\$/kWh) + State Surcharge (\$/kWh).

The Total Guaranteed Energy Consumption is the sum of the On-Peak Guaranteed Energy Consumption, Semi-Peak Guaranteed Energy Consumption, and Off-Peak Guaranteed Energy Consumption. Total Guaranteed Energy Consumption is used when calculating the DWR Bond Charge, State Regulatory, and State Surcharge. Guaranteed Energy Consumption is explained in more detail in subsection 9.2.1 (Guaranteed Energy Consumption) of this Appendix.

Table 9-12
Guaranteed Energy Consumption (kWh)

Month	On-Peak	Semi-Peak	Off-Peak	Total
July	5,671,015	7,291,305	14,258,552	27,220,871
August	5,671,015	7,291,305	14,258,552	27,220,871
September	5,488,079	7,056,101	13,798,598	26,342,778
October	2,500,288	10,834,583	14,668,358	28,003,230
November	2,345,186	10,162,474	13,758,426	26,266,086
December	1,414,563	6,129,774	8,298,771	15,843,107
January	882,978	3,826,236	5,180,135	9,889,349
February	614,704	2,663,718	3,606,265	6,884,688
March	1,737,247	7,528,071	10,191,850	19,457,167
April	2,354,030	10,200,796	13,810,308	26,365,134
May	5,691,550	7,317,707	14,310,182	27,319,438
June	5,507,951	7,081,652	13,848,563	26,438,166

Based on the current applicable SDG&E AL-TOU and EECC tariff schedules, the following tariffs are considered Energy Charges: AL-TOU On-Peak, AL-TOU Semi-Peak, AL-TOU Off-Peak, EECC On-Peak, EECC Semi-Peak, and EECC Off-Peak. Additionally there are taxes and other charges that are included in the Energy Charges: DWR Bond Charge, State Regulatory, and State Surcharge.

Table 9-13
Current Summarized SDG&E Energy Rates (\$/kWh)

Month	On-Peak	Semi-Peak	Off-Peak	Taxes & Other
July	0.09362	0.07603	0.05645	0.00559
August	0.09362	0.07603	0.05645	0.00559
September	0.09362	0.07603	0.05645	0.00559
October	0.08835	0.08096	0.06160	0.00559
November	0.08835	0.08096	0.06160	0.00559
December	0.08835	0.08096	0.06160	0.00559
January	0.08835	0.08096	0.06160	0.00559
February	0.08835	0.08096	0.06160	0.00559
March	0.08835	0.08096	0.06160	0.00559
April	0.08835	0.08096	0.06160	0.00559
May	0.09362	0.07603	0.05645	0.00559
June	0.09362	0.07603	0.05645	0.00559

The rates in the Table 9-13 of this Appendix are the sum of the relevant On-Peak, Semi-Peak, and Off-Peak \$/kWh rates shown in Table 9-14 of this Appendix. The “Taxes & Other” column in Table 9-13 of this Appendix is the sum of the DWR Bond Charge, State Regulatory, and State Surcharge shown in Table 9-14 of this Appendix.

Table 9-14

Current Detailed SDG&E Energy Rates (\$/kWh)

Month	AL-TOU On-Peak	AL-TOU Semi-Peak	AL-TOU Off-Peak	EECC On-Peak	EECC Semi-Peak	EECC Off-Peak	DWR Bond Charge	State Regulatory	State Surcharge
Jul	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Aug	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Sep	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Oct	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Nov	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Dec	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Jan	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Feb	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Mar	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Apr	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
May	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Jun	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024

The charges shown in Table 9-15 of this Appendix are the product of the values in Table 9-12 and Table 9-13 of this Appendix. E.g. July On-Peak Energy Charge (\$/month) = July On-Peak Guaranteed Energy Consumption (kWh) x July On-Peak SDG&E Energy Rate (\$/kWh): \$530,920.41 = 5,671,015 kWh x 0.09362 \$/kWh.

Table 9-15

Sample Computation of the Energy Charges (\$)

Month	On-Peak	Semi-Peak	Off-Peak	Taxes & Other	Total Energy Charges
July	530,920.41	554,357.90	804,895.23	152,164.67	2,042,338.21
August	530,920.41	554,357.90	804,895.23	152,164.67	2,042,338.21
September	513,793.94	536,475.39	778,930.87	147,256.13	1,976,456.33
October	220,900.48	877,167.83	903,570.88	156,538.05	2,158,177.24
November	207,197.21	822,753.88	847,519.05	146,827.42	2,024,297.56
December	124,976.66	496,266.48	511,204.27	88,562.97	1,221,010.37
January	78,011.07	309,772.09	319,096.34	55,281.46	762,160.96
February	54,309.12	215,654.64	222,145.92	38,485.40	530,595.08
March	153,485.78	609,472.61	627,817.94	108,765.57	1,499,541.89
April	207,978.54	825,856.44	850,715.00	147,381.10	2,031,931.08
May	532,842.87	556,365.23	807,809.76	152,715.66	2,049,733.52
June	515,654.39	538,417.97	781,751.38	147,789.35	1,983,613.08

9.5.3 Demand Charges. The “Demand Charges” for each Billing Period shall be the amount equal to the dollar amount that results from the sum of:

- (a) the product of the (i) the Guaranteed Non-Coincident Maximum Demand (kW) less the kilowatts billed via the fixed charge and (ii) SDG&E AL-TOU Non-Coincident Maximum Demand charge (\$/kW);

- (b) the product of the (i) the Guaranteed On-Peak Maximum Demand (kW) and (ii) SDG&E AL-TOU On-Peak Maximum Demand charge (\$/kW); and
- (c) the product of the (i) the Guaranteed On-Peak Maximum Demand (kW) and (ii) SDG&E EECC On-Peak Maximum Demand charge (\$/kW).

Table 9-16
Guaranteed Demand (kW)

Month	Guaranteed Non-Coincident Max Demand	50% of highest Guaranteed Non-Coincident Maximum Demand from Preceding Contract Year (billed via the fixed charge)	Non-Coincident Max Demand (Less the amount billed via the fixed charge)	Guaranteed On-Peak Maximum Demand
July	37,283	(19,810)	17,472	37,283
August	37,283	(19,810)	17,472	37,283
September	37,283	(19,810)	17,472	37,283
October	38,750	(19,810)	18,939	38,750
November	39,607	(19,810)	19,796	39,607
December	38,039	(19,810)	18,229	38,039
January	37,739	(19,810)	17,929	37,739
February	24,841	(19,810)	5,031	24,841
March	39,579	(19,810)	19,769	39,579
April	39,621	(19,810)	19,810	39,621
May	37,418	(19,810)	17,607	37,418
June	37,418	(19,810)	17,607	37,418

Based on the current applicable SDG&E AL-TOU and EECC tariff schedules, the following charges are considered Demand Charges: AL-TOU Non-Coincident Max Demand (Less the amount billed via the fixed charge), AL-TOU On-Peak Max Demand, and EECC Max On-Peak Demand.

Table 9-17
Current SDG&E Demand Rates (\$/kW)

Month	ALTOU Non-Coincident Max Demand	AL-TOU On-Peak Max Demand	EECC Max On-Peak Demand
July	5.71	2.06	5.08
August	5.71	2.06	5.08
September	5.71	2.06	5.08
October	5.71	0.43	0.16
November	5.71	0.43	0.16
December	5.71	0.43	0.16
January	5.71	0.43	0.16
February	5.71	0.43	0.16
March	5.71	0.43	0.16
April	5.71	0.43	0.16
May	5.71	2.06	5.08
June	5.71	2.06	5.08

The charges shown in Table 9-18 of this Appendix are the product of the values in Table 9-16 and Table 9-17 of this Appendix. E.g. September EECC Max On-Peak Demand Charge (\$/month) = September Guaranteed On-Peak Maximum Demand (kW) x September EECC Maximum On-Peak Demand Rate (\$/kW): \$189,395 = 37,283 kW x 5.08 \$/kW. A sample computation of the Demand Charges for each Billing Period of an illustrative Contract Year is shown in Table 9-18 of this Appendix:

Table 9-18
Sample Computation of the Demand Charges (\$)

Month	ALTOU Non-Coincident Max Demand (Less the amount billed via the fixed charge)	AL-TOU On-Peak Max Demand	EECC Max On-Peak Demand	Total Demand Charges
July	99,766	76,802	189,395	365,963
August	99,766	76,802	189,395	365,963
September	99,766	76,802	189,395	365,963
October	108,143	16,662	6,200	131,005
November	113,037	17,031	6,337	136,405
December	104,088	16,357	6,086	126,531
January	102,373	16,228	6,038	124,640
February	28,726	10,682	3,975	43,382
March	112,879	17,019	6,333	136,231
April	113,117	17,037	6,339	136,493
May	100,537	77,080	190,081	367,698
June	100,537	77,080	190,081	367,698

A sample computation of the Variable Electricity Charge for each Billing Period of an illustrative Contract Year is shown in Table 9-19 of this Appendix:

Table 9-19
Sample Computation of the Variable Electricity Charge

Month	Total Energy Charges	Total Demand Charges	Less: Standby Charges	Total Variable Charges	Delivered Water Units (Acre-Feet)	Variable Charge (\$/AF)
July	2,042,338	365,963	(147,404)	2,260,897	5,042	448.46
August	2,042,338	365,963	(147,404)	2,260,897	5,042	448.46
September	1,976,456	365,963	(147,404)	2,195,015	4,879	449.90
October	2,158,177	131,005	(147,404)	2,141,779	4,990	429.21
November	2,024,298	136,405	(147,404)	2,013,299	4,579	439.66
December	1,221,010	126,531	(147,404)	1,200,137	2,716	441.86
January	762,161	124,640	(147,404)	739,397	1,709	432.68
February	530,595	43,382	(147,404)	426,573	1,134	376.15
March	1,499,542	136,231	(147,404)	1,488,369	3,395	438.46
April	2,031,931	136,493	(147,404)	2,021,021	4,595	439.85
May	2,049,734	367,698	(147,404)	2,270,027	5,042	450.27
June	1,983,613	367,698	(147,404)	2,203,907	4,879	451.72

9.6. THE AVERAGE STANDBY ELECTRICITY RATE

9.6.1 Average Standby Electricity Rate. In the calculation of the Standby Charge, the Average Standby Electricity Rate is required. The “Average Standby Electricity Rate” for each Contract Year shall be the dollar-per-kilowatt-hour (\$/kWh) amount equal to the total electricity costs of the project assuming it was in Hot Standby Condition for the entire Contract Year divided by the kilowatt-hours that would have been consumed in Hot Standby Condition for the Contract Year. The Average Standby Electricity Rate will be calculated annually in advance of each Contract Year, and it will be revised during the Contract Year if the tariff rates change. The Average Standby Electricity Rate consists of both on-peak demand charges and energy charges. In the calculation of the Average Standby Electricity Rate, it is assumed that the 2,500 kW of average power is consistent throughout every hour of every month during the Contract Year. This assumption is used in calculating both the demand and energy portions of the Average Standby Electricity Rate. There are two types of electricity costs included in the calculation of the Average Standby Electricity Rate: Energy Charges and Demand Charges. Energy Charges are calculated based on kilowatt-hours of energy consumption (\$/kWh) and Demand Charges are calculated based on kilowatts of power utilized (\$/kW). A sample computation of the Average Standby Electricity Rate for an illustrative Contract Year is shown in Tables 9-20 and 9-21 of this Appendix:

Table 9-20
Annual Standby Consumption

Month	Power Demand (kW)	Total Energy (kWh)	% of On-Peak Energy Hours/ Month	% of Semi-Peak Energy Hours/Month	% of Off-Peak Energy Hours/Month	On-Peak Energy (kWh)	Semi-Peak Energy (kWh)	Off-Peak Energy (kWh)
Jul	2,500	1,860,000	20.8%	26.8%	52.4%	387,500	498,214	974,286
Aug	2,500	1,860,000	20.8%	26.8%	52.4%	387,500	498,214	974,286
Sep	2,500	1,800,000	20.8%	26.8%	52.4%	375,000	482,143	942,857
Oct	2,500	1,860,000	8.9%	38.7%	52.4%	166,071	719,643	974,286
Nov	2,500	1,800,000	8.9%	38.7%	52.4%	160,714	696,429	942,857
Dec	2,500	1,860,000	8.9%	38.7%	52.4%	166,071	719,643	974,286
Jan	2,500	1,860,000	8.9%	38.7%	52.4%	166,071	719,643	974,286
Feb	2,500	1,680,000	8.9%	38.7%	52.4%	150,000	650,000	880,000
Mar	2,500	1,860,000	8.9%	38.7%	52.4%	166,071	719,643	974,286
Apr	2,500	1,800,000	8.9%	38.7%	52.4%	160,714	696,429	942,857
May	2,500	1,860,000	20.8%	26.8%	52.4%	387,500	498,214	974,286
Jun	2,500	1,800,000	20.8%	26.8%	52.4%	375,000	482,143	942,857
Total Annual Standby kWh		21,900,000						

Total Annual Standby Consumption for the purpose of calculating the Average Standby Electricity Rate using the illustrative Contract Year in Table 9-20 of this Appendix is 21,900,000 kWh. Total Standby Consumption for any given month in Table 9-20 of this Appendix is the product of 1) Power Demand (kW), 2) 24 hours per day, and 3) days in the month. The Total Energy is then applied across the On, Semi, and Off-Peak periods using the percentages in Table 9-20 of this Appendix.

Table 9-21
Summary of the SDG&E rates included in the calculation of the Average Standby Electricity Rate

	Demand Rate (\$/kW)	Energy Rates (\$/kWh)			
Month	On-Peak Max Demand	On-Peak	Semi-Peak	Off-Peak	Taxes & Other
July	7.14	0.09362	0.07603	0.05645	0.00559
August	7.14	0.09362	0.07603	0.05645	0.00559
September	7.14	0.09362	0.07603	0.05645	0.00559
October	0.59	0.08835	0.08096	0.06160	0.00559
November	0.59	0.08835	0.08096	0.06160	0.00559
December	0.59	0.08835	0.08096	0.06160	0.00559
January	0.59	0.08835	0.08096	0.06160	0.00559
February	0.59	0.08835	0.08096	0.06160	0.00559
March	0.59	0.08835	0.08096	0.06160	0.00559
April	0.59	0.08835	0.08096	0.06160	0.00559
May	7.14	0.09362	0.07603	0.05645	0.00559
June	7.14	0.09362	0.07603	0.05645	0.00559

The On-Peak Max Demand \$/kW rate in Table 9-21 of this Appendix is the sum of the AL-TOU On-Peak Max Demand and the EECC Max On-Peak Demand rates in Table 9-22 of this Appendix. The On-Peak, Semi-Peak, and Off-Peak \$/kWh rates in Table 9-21 of this Appendix are the sum of the On-Peak, Semi-Peak, and Off-Peak \$/kWh rates shown in Table 9-22 of this Appendix. The “Taxes & Other” column in Table 9-21 is the sum of the DWR Bond Charge, State Regulatory, and State Surcharge shown in Table 9-22 of this Appendix.

Table 9-22

Detail of the rates included in the calculation of the Average Standby Electricity Rate

Month	AL-TOU On-Peak Max Demand	EECC Max On-Peak Demand	AL-TOU On-Peak	AL-TOU Semi-Peak	AL-TOU Off-Peak	EECC On-Peak	EECC Semi-Peak	EECC Off-Peak	DWR Bond Charge	State Regulatory	State Surcharge
Jul	2.06	5.08	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Aug	2.06	5.08	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Sep	2.06	5.08	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Oct	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Nov	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Dec	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Jan	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Feb	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Mar	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
Apr	0.43	0.16	0.00779	0.00696	0.00662	0.08056	0.07400	0.05498	0.00513	0.00022	0.00024
May	2.06	5.08	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024
Jun	2.06	5.08	0.00834	0.00696	0.00662	0.08528	0.06907	0.04983	0.00513	0.00022	0.00024

The estimated costs shown in Table 9-23 of this Appendix are the product of the values in Table 9-20 and Table 9-21 of this Appendix. E.g. August On-Peak Energy standby cost (\$/month) = August On-Peak Standby Energy Consumption (kWh) x August On-Peak SDG&E Energy Rate (\$/kWh): \$36,277.75 = 387,500 kWh x 0.09362 \$/kWh.

Table 9-23

Calculation of the Total Annual Standby Costs for input to the Average Standby Electricity Rate

Month	Demand Charges (\$)	Energy Charges (\$)				Total (\$)
	On-Peak Max Demand	On-Peak	Semi-Peak	Off-Peak	Taxes & Other	
July	17,850.00	36,277.75	37,879.23	54,998.43	10,397.40	157,402.81
August	17,850.00	36,277.75	37,879.23	54,998.43	10,397.40	157,402.81
September	17,850.00	35,107.50	36,657.32	53,224.29	10,062.00	152,901.11
October	1,475.00	14,672.41	58,262.29	60,016.00	10,397.40	144,823.10
November	1,475.00	14,199.11	56,382.86	58,080.00	10,062.00	140,198.96
December	1,475.00	14,672.41	58,262.29	60,016.00	10,397.40	144,823.10
January	1,475.00	14,672.41	58,262.29	60,016.00	10,397.40	144,823.10
February	1,475.00	13,252.50	52,624.00	54,208.00	9,391.20	130,950.70
March	1,475.00	14,672.41	58,262.29	60,016.00	10,397.40	144,823.10
April	1,475.00	14,199.11	56,382.86	58,080.00	10,062.00	140,198.96
May	17,850.00	36,277.75	37,879.23	54,998.43	10,397.40	157,402.81
June	17,850.00	35,107.50	36,657.32	53,224.29	10,062.00	152,901.11
Total Annual Standby Costs for input to the Average Standby Electricity Rate						1,768,651.66

A sample computation of the Average Standby Electricity Rate for an illustrative Contract Year is shown in the Table 9-24 of this Appendix:

Table 9-24
Average Standby Electricity Rate

Total annual Standby Costs (\$)	Total annual Standby Consumption (kWh)	Average Standby Electricity Rate (\$/kWh)
1,768,652	21,900,000	0.0808

**APPENDIX 10
TO THE CARLSBAD SEAWATER DESALINATION PROJECT
WATER PURCHASE AGREEMENT**

SCHEDULES RELATING TO THE MONTHLY WATER PURCHASE PAYMENTS

Contents

- Section 1 Water Unit Price and Annual Operating Period Contracted Shortfall Unit Price**
- Section 2 Water Units and Monthly Payments (Example A)**
- Section 3 Water Units and Monthly Payments (Example B)**
- Section 4 Annual True-Ups and Tracking Account Adjustments**
- Section 5 Cabrillo Raw Seawater Intake System Improvements**

Section 1

Water Unit Price and Annual Operating Period Contracted Shortfall Unit Price

Table 1.1
Debt Service Charge

This schedule will be replaced with a revised schedule at financial closing. The revised schedule will reflect the actual debt service on the Plant Bonds.

Contract Year Ending	Plant Bond Principal (\$s)	Plant Bond Interest (\$s)	Plant Bond Debt Service (\$s)	Minimum Annual Demand Commitment (AF)	Debt Service Charge (\$/AF)
6/30/2016	-	21,042,800	21,042,800	32,000.0	657.59
6/30/2017	-	31,564,200	31,564,200	48,000.0	657.59
6/30/2018	-	31,564,200	31,564,200	48,000.0	657.59
6/30/2019	-	31,564,200	31,564,200	48,000.0	657.59
6/30/2020	-	31,564,200	31,564,200	48,000.0	657.59
6/30/2021	570,000	31,564,200	32,134,200	48,000.0	669.46
6/30/2022	1,410,000	31,530,000	32,940,000	48,000.0	686.25
6/30/2023	2,315,000	31,445,400	33,760,400	48,000.0	703.34
6/30/2024	3,300,000	31,306,500	34,606,500	48,000.0	720.97
6/30/2025	4,360,000	31,108,500	35,468,500	48,000.0	738.93
6/30/2026	5,510,000	30,846,900	36,356,900	48,000.0	757.44
6/30/2027	6,750,000	30,516,300	37,266,300	48,000.0	776.38
6/30/2028	8,085,000	30,111,300	38,196,300	48,000.0	795.76
6/30/2029	9,525,000	29,626,200	39,151,200	48,000.0	815.65
6/30/2030	11,075,000	29,054,700	40,129,700	48,000.0	836.04
6/30/2031	12,745,000	28,390,200	41,135,200	48,000.0	856.98
6/30/2032	14,540,000	27,625,500	42,165,500	48,000.0	878.45
6/30/2033	16,465,000	26,753,100	43,218,100	48,000.0	900.38
6/30/2034	18,535,000	25,765,200	44,300,200	48,000.0	922.92
6/30/2035	20,755,000	24,653,100	45,408,100	48,000.0	946.00
6/30/2036	23,135,000	23,407,800	46,542,800	48,000.0	969.64
6/30/2037	25,685,000	22,019,700	47,704,700	48,000.0	993.85
6/30/2038	28,420,000	20,478,600	48,898,600	48,000.0	1,018.72
6/30/2039	31,345,000	18,773,400	50,118,400	48,000.0	1,044.13
6/30/2040	34,480,000	16,892,700	51,372,700	48,000.0	1,070.26
6/30/2041	37,835,000	14,823,900	52,658,900	48,000.0	1,097.06
6/30/2042	41,420,000	12,553,800	53,973,800	48,000.0	1,124.45
6/30/2043	45,255,000	10,068,600	55,323,600	48,000.0	1,152.58
6/30/2044	49,355,000	7,353,300	56,708,300	48,000.0	1,181.42
6/30/2045	53,730,000	4,392,000	58,122,000	48,000.0	1,210.88
10/31/2045	19,470,000	389,400	19,859,400	16,000.0	1,241.21
Any Extension Term.....					1,241.21

Note: This Table 1.1 sets forth the Debt Service Charge for each Contract year in accordance with subsection 17.4 (A) (Debt Service Charge). This table may be revised based on the results of the Performance Test in accordance with subsection 9.4 (C) (Decrease to the Fixed Unit Price and the Annual Operating Period Shortfall Payment Unit Price) and from time to time in accordance with subsection 17.13 (B) (Adjustments to the Unit Price).

Table 1.2
Equity Return Charge

This schedule will be replaced with a revised schedule at financial closing. The revised schedule will reflect "shaping" of the equity return charge around actual debt service on the Plant Bonds.

Contract Year Ending	Annual Equity Return Target Amount (\$s)	Minimum Annual Demand Commitment (AF)	Equity Return Charge (\$/AF)
6/30/2016	9,005,991	32,000.0	281.44
6/30/2017	14,977,591	48,000.0	312.03
6/30/2018	16,482,911	48,000.0	343.39
6/30/2019	18,025,864	48,000.0	375.54
6/30/2020	19,607,390	48,000.0	408.49
6/30/2021	20,413,455	48,000.0	425.28
6/30/2022	20,918,946	48,000.0	435.81
6/30/2023	21,443,278	48,000.0	446.73
6/30/2024	21,978,187	48,000.0	457.88
6/30/2025	22,531,339	48,000.0	469.40
6/30/2026	23,095,425	48,000.0	481.15
6/30/2027	23,669,063	48,000.0	493.11
6/30/2028	24,261,500	48,000.0	505.45
6/30/2029	24,872,010	48,000.0	518.17
6/30/2030	25,490,498	48,000.0	531.05
6/30/2031	26,128,097	48,000.0	544.34
6/30/2032	26,780,975	48,000.0	557.94
6/30/2033	27,451,227	48,000.0	571.90
6/30/2034	28,136,582	48,000.0	586.18
6/30/2035	28,835,705	48,000.0	600.74
6/30/2036	29,558,190	48,000.0	615.80
6/30/2037	30,298,969	48,000.0	631.23
6/30/2038	31,054,211	48,000.0	646.96
6/30/2039	31,836,319	48,000.0	663.26
6/30/2040	32,628,034	48,000.0	679.75
6/30/2041	33,444,238	48,000.0	696.75
6/30/2042	34,280,149	48,000.0	714.17
6/30/2043	35,137,527	48,000.0	732.03
6/30/2044	36,014,376	48,000.0	750.30
6/30/2045	36,920,237	48,000.0	769.17
10/31/2045	12,610,200	16,000.0	788.14
Any Extension Term.....			788.14

Note: This Table 1.2 sets forth the Equity Return Charge for each Contract year in accordance with subsection 17.4 (B) (Equity Return Charge). This table may be revised based on the results of the Performance Test in accordance with subsection 9.4 (C) (Decrease to the Fixed Unit Price and the Annual Operating Period Shortfall Payment Unit Price) and from time to time in accordance with subsection 17.13 (B) (Adjustments to the Unit Price). The Annual Equity Return Target Amounts set forth in this table shall be the basis for the present value computation set forth in subparagraph (3) of subsection 23.1 (B) (Project Assets Purchase Price).

Table 1.3
Annual Operating Period Shortfall Payment Unit Price

This schedule will be replaced with a revised schedule at financial closing. The revised schedule will reflect actual debt service on the Pipeline Bonds.

Contract Year Ending	Pipeline Bond Principal (\$s)	Pipeline Bond Interest (\$s)	Net Deposits to DSRF (\$s)	Fees (\$s)	Annual Pipeline Bond Costs (\$s)	Minimum Annual Demand Commitment (AF)	Annual Operating Period Shortfall Pmt Unit Price (\$/AF)
6/30/2016	-	9,114,000	(100,672)	107,468	9,120,796	32,000.0	285.02
6/30/2017	-	13,671,000	(150,381)	163,877	13,684,496	48,000.0	285.09
6/30/2018	-	13,671,000	(150,381)	167,974	13,688,593	48,000.0	285.18
6/30/2019	-	13,671,000	(150,381)	172,173	13,692,792	48,000.0	285.27
6/30/2020	-	13,671,000	(27,881)	176,478	13,819,597	48,000.0	287.91
6/30/2021	245,000	13,671,000	22,074	180,890	14,118,964	48,000.0	294.15
6/30/2022	610,000	13,656,300	22,271	185,412	14,473,983	48,000.0	301.54
6/30/2023	1,005,000	13,619,700	21,478	190,047	14,836,226	48,000.0	309.09
6/30/2024	1,430,000	13,559,400	22,217	194,798	15,206,415	48,000.0	316.80
6/30/2025	1,890,000	13,473,600	21,800	199,668	15,585,069	48,000.0	324.69
6/30/2026	2,385,000	13,360,200	25,253	204,660	15,975,113	48,000.0	332.81
6/30/2027	2,925,000	13,217,100	24,687	209,777	16,376,564	48,000.0	341.18
6/30/2028	3,505,000	13,041,600	22,837	215,021	16,784,458	48,000.0	349.68
6/30/2029	4,125,000	12,831,300	27,231	220,397	17,203,927	48,000.0	358.42
6/30/2030	4,800,000	12,583,800	24,778	225,906	17,634,485	48,000.0	367.39
6/30/2031	5,520,000	12,295,800	25,926	231,554	18,073,280	48,000.0	376.53
6/30/2032	6,295,000	11,964,600	27,794	237,343	18,524,737	48,000.0	385.93
6/30/2033	7,130,000	11,586,900	27,714	243,277	18,987,891	48,000.0	395.58
6/30/2034	8,025,000	11,159,100	30,725	249,358	19,464,183	48,000.0	405.50
6/30/2035	8,990,000	10,677,600	28,956	255,592	19,952,149	48,000.0	415.67
6/30/2036	10,020,000	10,138,200	30,160	261,982	20,450,342	48,000.0	426.05
6/30/2037	11,125,000	9,537,000	31,468	268,532	20,962,000	48,000.0	436.71
6/30/2038	12,310,000	8,869,500	30,226	275,245	21,484,971	48,000.0	447.60
6/30/2039	13,575,000	8,130,900	33,985	282,126	22,022,011	48,000.0	458.79
6/30/2040	14,935,000	7,316,400	32,185	289,179	22,572,764	48,000.0	470.27
6/30/2041	16,385,000	6,420,300	35,092	296,409	23,136,801	48,000.0	482.02
6/30/2042	17,940,000	5,437,200	34,651	303,819	23,715,670	48,000.0	494.08
6/30/2043	19,600,000	4,360,800	35,931	311,415	24,308,146	48,000.0	506.42
6/30/2044	21,375,000	3,184,800	36,092	319,200	24,915,092	48,000.0	519.06
6/30/2045	23,270,000	1,902,300	(276,895)	327,180	25,222,585	48,000.0	525.47
10/31/2045	8,435,000	56,233	-	111,786	8,603,020	16,000.0	537.69
Any Extension Term.....							537.69

Note: This Table 1.3 sets forth the Annual Operating Period Shortfall Payment Unit Price in accordance with the term so defined in Section 1.1 (Definitions). This table may be revised based on the results of the Performance Test in accordance with subsection 9.4 (C) (Decrease to the Fixed Unit Price and the Annual Operating Period Shortfall Payment Unit Price) and from time to time in accordance with subsection 9.11 (K) (Adjustments to the Annual Operating Period Shortfall Payment Unit Price).

Table 1.4
Fixed and Variable Operating Charge

This schedule will be replaced with a revised schedule at financial closing. The revised schedule will reflect escalation of the amounts to the actual date of financial closing.

Fixed Operating Charge (\$/AF)	399.93
Variable Operating Charge (\$/AF)	100.98

Note: This Table 1.4 sets forth the Fixed Operating Charge and the Variable Operating Charge in accordance with Section 17.5 (Operating Charges). This table may be revised based on the results of the Performance Test in accordance with subsection 9.4 (C) (Decrease to the Fixed Unit Price and the Annual Operating Period Shortfall Payment Unit Price) and from time to time in accordance with subsection 17.13 (B) (Adjustments to the Unit Price).

Table 1.5
Fixed and Variable Electricity Charge

See Appendix 9 - Electricity Charge

Section 2

Water Units and Monthly Payments (Example A)

The Tables in this section present a hypothetical example of water deliveries for a sample Contract Year. The Tables present an example (Example A) of a Contract Year in which Monthly Excused Demand Shortfall Units, Monthly Unexcused Demand Shortfall Units, Monthly Excused Supply Shortfall Units, Monthly Unexcused Supply Shortfall Units, and Monthly Unscheduled Outage Allowance Units are all produced from Billing Period to Billing Period throughout the Contract Year. Annual true-up payment calculations and tracking account adjustments corresponding with Example A are presented in Section 4 of this Appendix. There is no expectation that the water production illustrated in Example A will be experienced. Instead, Example A is for illustrative purposes only.

Table 2.1
Illustrative Scheduling of Maximum Monthly Supply Commitment
and Minimum Monthly Demand Commitment

Example A

(Units are Acre Feet of Product Water)

Maximum Annual Supply Commitment..... 56,000.0

Minimum Annual Demand Commitment..... 48,000.0

Illustrative Monthly Scheduling - Example A

Month	Maximum Monthly Supply Commitment	Minimum Monthly Demand Commitment
July	4,700.0	4,700.0
August	4,700.0	4,700.0
September	4,700.0	4,500.0
October	4,700.0	4,000.0
November	4,700.0	4,000.0
December	4,700.0	3,500.0
January	4,700.0	3,000.0
February	4,300.0	3,000.0
March	4,700.0	3,000.0
April	4,700.0	4,200.0
May	4,700.0	4,700.0
June	4,700.0	4,700.0
Total	56,000.0	48,000.0

Note: The illustrative Maximum Monthly Supply Commitment shown in this Table 2.1 is scheduled in accordance with subsection 9.5 (Maximum Monthly Supply Commitment and Adjusted Monthly Supply Commitment). The illustrative Minimum Monthly Demand Commitment shown in this Table 2.1 is scheduled in accordance with subsection 9.6 (Minimum Monthly Demand Commitment).

Table 2.2
Monthly Product Water Orders, Demand Shortfalls, and Adjusted Monthly Supply
Commitment Throughout an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Maximum Monthly Supply Commitment	Minimum Monthly Demand Commitment	Monthly Product Water Orders	Monthly Demand Shortfall Units		Adjusted Monthly Supply Commitment
				Excused	Unexcused	
July	4,700.0	4,700.0	4,800.0	-	-	4,700.0
August	4,700.0	4,700.0	4,600.0	100.0	-	4,600.0
September	4,700.0	4,500.0	4,300.0	-	200.0	4,300.0
October	4,700.0	4,000.0	4,800.0	-	-	4,700.0
November	4,700.0	4,000.0	4,100.0	-	-	4,100.0
December	4,700.0	3,500.0	3,725.0	-	-	3,725.0
January	4,700.0	3,000.0	4,500.0	-	-	4,500.0
February	4,300.0	3,000.0	3,500.0	-	-	3,500.0
March	4,700.0	3,000.0	3,500.0	-	-	3,500.0
April	4,700.0	4,200.0	4,800.0	-	-	4,700.0
May	4,700.0	4,700.0	4,700.0	-	-	4,700.0
June	4,700.0	4,700.0	4,700.0	-	-	4,700.0
Total	56,000.0	48,000.0	52,025.0	100.0	200.0	51,725.0

Adjusted Annual Supply Commitment..... 51,725.0

Note: This Table 2.2 presents illustrative Monthly Product Water Orders and Adjusted Monthly Supply Commitments for each Billing Period in accordance with subsection 9.5 (B) (Adjusted Monthly Supply Commitment Defined) and the resulting Adjusted Annual Supply Commitment in accordance with subsection 9.3 (D) (Adjusted Annual Supply Commitment). This Table 2.2 presents a hypothetical categorization of the Monthly Demand Shortfall Units in accordance with subsection 17.2 (B) (Monthly Demand Shortfall Units).

Table 2.3
Monthly Delivered Water Units and Monthly Supply Shortfall Units
for an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Adjusted Monthly Supply Commitment	Monthly Delivered Water Units	Monthly Supply Shortfall Units		
			Unscheduled		
			Excused	Outage	Unexcused
July	4,700.0	4,800.0	-	-	-
August	4,600.0	4,600.0	-	-	-
September	4,300.0	4,300.0	-	-	-
October	4,700.0	3,700.0	-	-	1,000.0
November	4,100.0	4,100.0	-	-	-
December	3,725.0	2,725.0	-	1,000.0	-
January	4,500.0	4,500.0	-	-	-
February	3,500.0	950.0	-	-	2,550.0
March	3,500.0	3,000.0	-	-	500.0
April	4,700.0	4,800.0	-	-	-
May	4,700.0	4,700.0	-	-	-
June	4,700.0	4,650.0	-	50.0	-
Total	51,725.0	46,825.0	-	1,050.0	4,050.0

Note: This Table 2.3 presents illustrative Monthly Delivered Water Units, Monthly Supply Shortfall Units, and a hypothetical categorization of Monthly Supply Shortfall Units in accordance with subsection 17.2 (C) (Monthly Supply Shortfall Units).

Table 2.4
Base Product Water Deliveries and Monthly Payments
for an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Base Product Water Deliveries				Units Purchased	
	Monthly Delivered Water Units	Unexcused Demand Shortfall Units	Monthly Unscheduled Outage Units	Cummulative Base Water Units	At Sum of Fixed and Variable Charges	Units Purchased at Fixed Charge
July	4,800.0	-	-	4,800.0	4,800.0	-
August	4,600.0	-	-	9,400.0	4,600.0	-
September	4,300.0	200.0	-	13,900.0	4,300.0	200.0
October	3,700.0	-	-	17,600.0	3,700.0	-
November	4,100.0	-	-	21,700.0	4,100.0	-
December	2,725.0	-	1,000.0	25,425.0	2,725.0	1,000.0
January	4,500.0	-	-	29,925.0	4,500.0	-
February	950.0	-	-	30,875.0	950.0	-
March	3,000.0	-	-	33,875.0	3,000.0	-
April	4,800.0	-	-	38,675.0	4,800.0	-
May	4,700.0	-	-	43,375.0	4,700.0	-
June	4,625.0	-	-	48,000.0	4,625.0	-
Total	46,800.0	200.0	1,000.0		46,800.0	1,200.0

Note: This Table 2.4 records monthly and cumulative Base Product Water Deliveries for Example A in accordance with subsection 17.2 (Base Product Water Deliveries) and the monthly payments associated therewith in accordance with subsection 17.8 (Monthly Payments).

Table 2.5
Additional Product Water Deliveries and Monthly Payments
for an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Additional Product Water Deliveries			Units Purchased at Variable Charge
	Monthly Delivered Water Units	Cummulative Additional Water Units	Cummulative Base plus Additional Water Units	
July	-	-	4,800.0	-
August	-	-	9,400.0	-
September	-	-	13,900.0	-
October	-	-	17,600.0	-
November	-	-	21,700.0	-
December	-	-	25,425.0	-
January	-	-	29,925.0	-
February	-	-	30,875.0	-
March	-	-	33,875.0	-
April	-	-	38,675.0	-
May	-	-	43,375.0	-
June	25.0	25.0	48,025.0	25.0
Total	25.0			25.0

Note: This Table 2.5 records monthly and cumulative Additional Product Water Deliveries for Example A in accordance with subsection 17.3 (Additional Product Water Deliveries) and the monthly payments associated therewith in accordance with subsection 17.8 (Monthly Payments).

Table 2.6
Excused and Unexcused Supply Shortfall Units
for an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Monthly Excused Supply Shortfall Units	Monthly Unexcused Supply Shortfall Units	Excused And Unexcused Supply Shortfall Units
July	-	-	-
August	-	-	-
September	-	-	-
October	-	1,000.0	1,000.0
November	-	-	-
December	-	-	-
January	-	-	-
February	-	2,550.0	2,550.0
March	-	500.0	500.0
April	-	-	-
May	-	-	-
June	-	-	-
Total	-	4,050.0	4,050.0

Note: This Table 2.6 records Monthly Excused and Unexcused Supply Shortfall Units in accordance with subsection 9.11 (C) (2) (Monthly Excused and Unexcused Supply Shortfall Units).

Table 2.7
Minimum Demand Progress Benchmark
for an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Monthly Delivered + Unexcused Demand + Unscheduled Outage Units	Cumulative	Minimum Monthly Demand Commitment	Cumulative	Minimum Demand Progress Benchmark
July	4,800.0	4,800.0	4,700.0	4,700.0	100.0
August	4,600.0	9,400.0	4,700.0	9,400.0	-
September	4,500.0	13,900.0	4,500.0	13,900.0	-
October	3,700.0	17,600.0	4,000.0	17,900.0	(300.0)
November	4,100.0	21,700.0	4,000.0	21,900.0	(200.0)
December	3,725.0	25,425.0	3,500.0	25,400.0	25.0
January	4,500.0	29,925.0	3,000.0	28,400.0	1,525.0
February	950.0	30,875.0	3,000.0	31,400.0	(525.0)
March	3,000.0	33,875.0	3,000.0	34,400.0	(525.0)
April	4,800.0	38,675.0	4,200.0	38,600.0	75.0
May	4,700.0	43,375.0	4,700.0	43,300.0	75.0
June	4,650.0	48,025.0	4,700.0	48,000.0	25.0
Total	48,025.0		48,000.0		

Note: This Table 2.7 records the Minimum Demand Progress Benchmark in accordance with subsection 9.11 (C) (1) (Minimum Demand Progress Benchmark).

Table 2.8
Monthly Operating Period Shortfall Payment Units and Restoration Units
for an Illustrative Contract Year

Example A continued

(Units are Acre Feet of Product Water)

Month	Excused and Unexcused Supply Shortfall Units	Minimum Demand Progress Benchmark	Monthly Operating Period Shortfall Payment Units	Monthly Operating Period Shortfall Restoration Payment Units	Monthly Operating Period Shortfall Payment Unit Tracking Account	
					Opening Balance	Closing Balance
July	-	100.0	-	-	-	-
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	1,000.0	(300.0)	300.0	-	-	300.0
November	-	(200.0)	-	100.0	300.0	200.0
December	-	25.0	-	200.0	200.0	-
January	-	1,525.0	-	-	-	-
February	2,550.0	(525.0)	525.0	-	-	525.0
March	500.0	(525.0)	-	-	525.0	525.0
April	-	75.0	-	525.0	525.0	-
May	-	75.0	-	-	-	-
June	-	25.0	-	-	-	-
Total	4,050.0	275.0	825.0	825.0		

Note: This Table 2.8 records Monthly Operating Period Shortfall Payment Units in accordance with subsection 9.11 (C) (3) (Monthly Operating Period Shortfall Payment Units), Monthly Operating Period Shortfall Restoration Payment Units in accordance with subsection 9.11 (D) (1) (Monthly Operating Period Shortfall Restoration Payment Units), and the running balance and adjustments to the Monthly Operating Period Shortfall Payment Unit Tracking Account in accordance with subsection 9.11 (C) (5) (Monthly Operating Period Shortfall Payment Unit Tracking Account).

Section 3

Water Units and Monthly Payments (Example B)

The Tables in this section present a hypothetical example of water deliveries for a sample Contract Year. The Tables present an example (Example B) of a Contract Year in which significant shortfalls are experienced in order to illustrate the application of relevant provisions of the Water Purchase Agreement. Annual true-up payment calculations and tracking account adjustments corresponding with Example B are presented in Section 4 of this Appendix. There is no expectation that the water production illustrated in Example B will be experienced. Instead, Example B is for illustrative purposes only.

Table 3.1
Illustrative Scheduling of Maximum Monthly Supply Commitment
and Minimum Monthly Demand Commitment

Example B

(Units are Acre Feet of Product Water)

Maximum Annual Supply Commitment.....	56,000.0
Minimum Annual Demand Commitment.....	48,000.0

Illustrative Monthly Scheduling - Example A

Month	Maximum Monthly Supply Commitment	Minimum Monthly Demand Commitment
July	4,700.0	4,700.0
August	4,700.0	4,700.0
September	4,700.0	4,500.0
October	4,700.0	4,000.0
November	4,700.0	4,000.0
December	4,700.0	3,500.0
January	4,700.0	3,000.0
February	4,300.0	3,000.0
March	4,700.0	3,000.0
April	4,700.0	4,200.0
May	4,700.0	4,700.0
June	4,700.0	4,700.0
Total	56,000.0	48,000.0

Note: The illustrative Maximum Monthly Supply Commitment shown in this Table 3.1 is scheduled in accordance with subsection 9.5 (Maximum Monthly Supply Commitment and Adjusted Monthly Supply Commitment). The illustrative Minimum Monthly Demand Commitment shown in this Table 3.1 is scheduled in accordance with subsection 9.6 (Minimum Monthly Demand Commitment).

Table 3.2
Monthly Product Water Orders, Demand Shortfalls, and Adjusted Monthly Supply
Commitment Throughout an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Maximum Monthly Supply Commitment	Minimum Monthly Demand Commitment	Monthly Product Water Orders	Monthly Demand Shortfall Units		Adjusted Monthly Supply Commitment
				Excused	Unexcused	
July	4,700.0	4,700.0	4,700.0	-	-	4,700.0
August	4,700.0	4,700.0	4,000.0	700.0	-	4,000.0
September	4,700.0	4,500.0	4,300.0	-	200.0	4,300.0
October	4,700.0	4,000.0	4,000.0	-	-	4,000.0
November	4,700.0	4,000.0	4,000.0	-	-	4,000.0
December	4,700.0	3,500.0	3,500.0	-	-	3,500.0
January	4,700.0	3,000.0	3,000.0	-	-	3,000.0
February	4,300.0	3,000.0	3,000.0	-	-	3,000.0
March	4,700.0	3,000.0	3,000.0	-	-	3,000.0
April	4,700.0	4,200.0	4,000.0	-	200.0	4,000.0
May	4,700.0	4,700.0	4,500.0	-	200.0	4,500.0
June	4,700.0	4,700.0	4,500.0	-	200.0	4,500.0
Total	56,000.0	48,000.0	46,500.0	700.0	800.0	46,500.0
Adjusted Annual Supply Commitment.....						46,500.0

Note: This Table 3.2 presents illustrative Monthly Product Water Orders and Adjusted Monthly Supply Commitments for each Billing Period in accordance with subsection 9.5 (B) (Adjusted Monthly Supply Commitment Defined) and the resulting Adjusted Annual Supply Commitment in accordance with subsection 9.3 (D) (Adjusted Annual Supply Commitment). This Table 3.2 presents a hypothetical categorization of the Monthly Demand Shortfall Units in accordance with subsection 17.2 (B) (Monthly Demand Shortfall Units).

Table 3.3
Monthly Delivered Water Units and Monthly Supply Shortfall Units
for an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Adjusted Monthly Supply Commitment	Monthly Delivered Water Units	Monthly Supply Shortfall Units		
			Unscheduled		
			Excused	Outage	Unexcused
July	4,700.0	4,700.0	-	-	-
August	4,000.0	4,000.0	-	-	-
September	4,300.0	4,300.0	-	-	-
October	4,000.0	4,000.0	-	-	-
November	4,000.0	4,000.0	-	-	-
December	3,500.0	1,000.0	-	1,630.0	870.0
January	3,000.0	2,500.0	500.0	-	-
February	3,000.0	3,000.0	-	-	-
March	3,000.0	3,000.0	-	-	-
April	4,000.0	4,000.0	-	-	-
May	4,500.0	4,500.0	-	-	-
June	4,500.0	4,500.0	-	-	-
Total	46,500.0	43,500.0	500.0	1,630.0	870.0

Note: This Table 3.3 presents illustrative Monthly Delivered Water Units, Monthly Supply Shortfall Units, and a hypothetical categorization of Monthly Supply Shortfall Units in accordance with subsection 17.2 (C) (Monthly Supply Shortfall Units).

Table 3.4
Base Product Water Deliveries and Monthly Payments
for an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Base Product Water Deliveries				Units Purchased At Sum of Fixed and Variable Charges	Units Purchased at Fixed Charge
	Monthly Delivered Water Units	Unexcused Demand Shortfall Units	Monthly Unscheduled Outage Units	Cummulative Base Water Units		
July	4,700.0	-	-	4,700.0	4,700.0	-
August	4,000.0	-	-	8,700.0	4,000.0	-
September	4,300.0	200.0	-	13,200.0	4,300.0	200.0
October	4,000.0	-	-	17,200.0	4,000.0	-
November	4,000.0	-	-	21,200.0	4,000.0	-
December	1,000.0	-	1,630.0	23,830.0	1,000.0	1,630.0
January	2,500.0	-	-	26,330.0	2,500.0	-
February	3,000.0	-	-	29,330.0	3,000.0	-
March	3,000.0	-	-	32,330.0	3,000.0	-
April	4,000.0	200.0	-	36,530.0	4,000.0	200.0
May	4,500.0	200.0	-	41,230.0	4,500.0	200.0
June	4,500.0	200.0	-	45,930.0	4,500.0	200.0
Total	43,500.0	800.0	1,630.0		43,500.0	2,430.0

Note: This Table 3.4 records monthly and cumulative Base Product Water Deliveries for Example B in accordance with subsection 17.2 (Base Product Water Deliveries) and the monthly payments associated therewith in accordance with subsection 17.8 (Monthly Payments).

Table 3.5
Additional Product Water Deliveries and Monthly Payments
for an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Additional Product Water Deliveries			Units Purchased at Variable Charge
	Monthly Delivered Water Units	Cummulative Additional Water Units	Cummulative Base plus Additional Water Units	
July	-	-	4,700.0	-
August	-	-	8,700.0	-
September	-	-	13,200.0	-
October	-	-	17,200.0	-
November	-	-	21,200.0	-
December	-	-	23,830.0	-
January	-	-	26,330.0	-
February	-	-	29,330.0	-
March	-	-	32,330.0	-
April	-	-	36,530.0	-
May	-	-	41,230.0	-
June	-	-	45,930.0	-
Total	-	-	-	-

Note: This Table 3.5 records monthly and cumulative Additional Product Water Deliveries for Example B in accordance with subsection 17.3 (Additional Product Water Deliveries) and the monthly payments associated therewith in accordance with subsection 17.8 (Monthly Payments).

Table 3.6
Monthly Operating Period Shortfall Payment Units
for an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Monthly Excused Supply Shortfall Units	Monthly Unexcused Supply Shortfall Units	Excused And Unexcused Supply Shortfall Units
July	-	-	-
August	-	-	-
September	-	-	-
October	-	-	-
November	-	-	-
December	-	870.0	870.0
January	500.0	-	500.0
February	-	-	-
March	-	-	-
April	-	-	-
May	-	-	-
June	-	-	-
Total	500.0	870.0	1,370.0

Note: This Table 3.6 records Monthly Excused and Unexcused Supply Shortfall Units in accordance with subsection 9.11 (C) (2) (Monthly Excused and Unexcused Supply Shortfall Units).

Table 3.7
Minimum Demand Progress Benchmark
for an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Monthly Delivered + Unexcused Demand + Unscheduled Outage Units	Cumulative	Minimum Monthly Demand Commitment	Cumulative	Minimum Demand Progress Benchmark
July	4,700.0	4,700.0	4,700.0	4,700.0	-
August	4,000.0	8,700.0	4,700.0	9,400.0	(700.0)
September	4,500.0	13,200.0	4,500.0	13,900.0	(700.0)
October	4,000.0	17,200.0	4,000.0	17,900.0	(700.0)
November	4,000.0	21,200.0	4,000.0	21,900.0	(700.0)
December	2,630.0	23,830.0	3,500.0	25,400.0	(1,570.0)
January	2,500.0	26,330.0	3,000.0	28,400.0	(2,070.0)
February	3,000.0	29,330.0	3,000.0	31,400.0	(2,070.0)
March	3,000.0	32,330.0	3,000.0	34,400.0	(2,070.0)
April	4,200.0	36,530.0	4,200.0	38,600.0	(2,070.0)
May	4,700.0	41,230.0	4,700.0	43,300.0	(2,070.0)
June	4,700.0	45,930.0	4,700.0	48,000.0	(2,070.0)
Total	45,930.0		48,000.0		

Note: This Table 3.7 records the Minimum Demand Progress Benchmark in accordance with subsection 9.11 (C) (1) (Minimum Demand Progress Benchmark).

Table 3.8
Monthly Operating Period Shortfall Payment Units and Restoration Units
for an Illustrative Contract Year

Example B continued

(Units are Acre Feet of Product Water)

Month	Excused and Unexcused Supply Shortfall Units	Minimum Demand Progress Benchmark	Monthly Operating Period Shortfall Payment Units	Monthly Operating Period Shortfall Restoration Payment Units	Monthly Operating Period Shortfall Payment Unit Tracking Account	
					Opening Balance	Closing Balance
July	-	-	-	-	-	-
August	-	(700.0)	-	-	-	-
September	-	(700.0)	-	-	-	-
October	-	(700.0)	-	-	-	-
November	-	(700.0)	-	-	-	-
December	870.0	(1,570.0)	870.0	-	-	870.0
January	500.0	(2,070.0)	500.0	-	870.0	1,370.0
February	-	(2,070.0)	-	-	1,370.0	1,370.0
March	-	(2,070.0)	-	-	1,370.0	1,370.0
April	-	(2,070.0)	-	-	1,370.0	1,370.0
May	-	(2,070.0)	-	-	1,370.0	1,370.0
June	-	(2,070.0)	-	-	1,370.0	1,370.0
Total	1,370.0	(16,790.0)	1,370.0	-		

Note: This Table 3.8 records Monthly Operating Period Shortfall Payment Units in accordance with subsection 9.11 (C) (3) (Monthly Operating Period Shortfall Payment Units), Monthly Operating Period Shortfall Restoration Payment Units in accordance with subsection 9.11 (D) (1) (Monthly Operating Period Shortfall Restoration Payment Units), and the running balance and adjustments to the Monthly Operating Period Shortfall Payment Unit Tracking Account in accordance with subsection 9.11 (C) (5) (Monthly Operating Period Shortfall Payment Unit Tracking Account).

Section 4

Annual True-Ups and Tracking Account Adjustments

The Tables in this section present hypothetical examples of annual true-up and tracking account computations reflective of sample Contract Years. The columns labeled Example A and Example B present annual true-up and tracking account computations reflective of Example A presented in Section 2 of this Appendix 10 and Example B presented in Section 3 of this Appendix, respectively. Additional examples are included to illustrate the application of the annual true-up and tracking account computations to Contract Years with different water production characteristics. There is no expectation that the water production examples presented herein will be experienced. Instead, these example computations set forth in this Section 4 are for illustrative purposes only.

Table 4.1
Annual Operating Period Shortfall Payment True-Up
for Illustrative Contract Years (Units are Acre Feet)

	<u>Example A</u>	<u>Example B</u>	<u>Example X</u>
<u>Selected Delivery Results for Sample Contract Year</u>			
Monthly Excused Supply Shortfall Units	0.0	500.0	750.0
Monthly Unexcused Supply Shortfall Units	4,050.0	870.0	450.0
Monthly Operating Period Shortfall Payment Units	4,050.0	1,370.0	1,200.0
Additional Product Water Deliveries	25.0	0.0	8,000.0
Excess Product Water Deliveries	0.0	0.0	500.0
<u>1. Annual Unexcused Supply Shortfall Units Reduction</u>			
Excess Product Water Deliveries	0.0	0.0	500.0
Monthly Unexcused Supply Shortfall Units	4,050.0	870.0	450.0
Reduction in Unexcused Supply Shortfall Units	0.0	0.0	450.0
<u>2. Annual Excused Supply Shortfall Unit Reduction</u>			
Additional Product Water Deliveries and Remaining Excess			
Product Water Deliveries	25.0	0.0	8,050.0
Monthly Excused Supply Shortfall Units	0.0	500.0	750.0
Reduction in Excused Supply Shortfall Units	0.0	0.0	750.0
<u>3. Adjusted Annual Operating Period Shortfall Payment Units</u>	4,050.0	1,370.0	0.0

Note: This Table 4.1 presents illustrative examples of certain calculations related to the computation of the Annual Operating Period Shortfall Payment True-Up Charge in accordance with subsection 9.11 (F) (Annual Operating Period Shortfall Payment True-Up Charge).

Table 4.2
Sample Tracking Account Calculations
for Illustrative Contract Years (Units are Acre Feet)

	<u>Example A</u>	<u>Example B</u>	<u>Example Y</u>
<u>Selected Delivery Results for Sample Contract Year</u>			
Monthly Excused Supply Shortfall Units	0.0	500.0	1,500.0
Monthly Excused Demand Shortfall Units	100.0	700.0	2,000.0
Base Product Water Deliveries	48,000.0	45,930.0	46,750.0
Additional Product Water Deliveries	25.0	0.0	0.0
Excess Product Water Deliveries	0.0	0.0	0.0
<u>Excused Demand Shortfall Unit Tracking Account</u>			
1. Hypothetical opening balance	4,000.0	3,990.0	4,690.0
2. Additions for current year Excused Demand Shortfall Units (Lesser of (a) or (b) below)			
(a) Monthly Excused Demand Shortfall Units	100.0	700.0	2,000.0
(b) Allocable Base Product Water Delivery shortfall	0.0	1,207.5	714.3
3. Reductions for Curing Prior Year Excused Demand Balance			
Allocable Additional and Excess Water Deliveries	10.0	0.0	0.0
Units applied to cure prior prior year balance	10.0	0.0	0.0
4. Closing balance	3,990.0	4,690.0	5,404.3
<u>Excused Supply Shortfall Unit Tracking Account</u>			
1. Hypothetical opening balance	6,000.0	5,985.0	6,485.0
2. Additions for current year Excused Supply Shortfall Units (Lesser of (a) or (b) below)			
(a) Monthly Excused Supply Shortfall Units	0.0	500.0	1,500.0
(b) Allocable Base Product Water Delivery shortfall	0.0	862.5	535.7
3. Reductions for Curing Prior Year Excused Demand Balance			
Allocable Additional and Excess Water Deliveries	15.0	0.0	0.0
Units applied to cure prior prior year balance	15.0	0.0	0.0
4. Closing balance	5,985.0	6,485.0	7,020.7

Note: This Table 4.2 presents illustrative examples of changes to the Excused Supply Shortfall Unit Tracking Account and the Excused Demand Shortfall Unit Tracking Account in accordance with subsection 17.3 (B) (Changes to the Excused Demand Shortfall Unit Tracking Account Balance) and subsection 17.3 (C) (Changes to the Excused Supply Shortfall Unit Tracking Account Balance). These examples assume that the Minimum Annual Demand Commitment is 48,000 acre feet.

Section 5

Cabrillo Raw Seawater Intake System Improvements

The following Tables present an illustrative example of the financing of the Cabrillo Raw Seawater Intake System Improvements, and the associated adjustments to the Debt Service Charge and Equity Return Charge, in accordance with subparagraph (1) of subsection 4.8 (B) (Obligation to Construct Cabrillo Raw Seawater Intake System Improvements Constitutes a Change in Law; Limitations). The example assumes that the cap on negotiated lump sum amount applies to the cost of such improvements. The date of implementation, the inflation of the lump sum amount to the date of implementation, the construction period for such implementation, and the debt structure and terms of issuance, are for illustrative purposes only.

Table 5.1
Illustrative Bond Issuance to Finance
Cabrillo Raw Seawater Intake System Improvements

Financing Assumptions

Date of Financing	12/1/2019
Escalated Cap Amount (\$)	25,299,345
Construction Period (months)	18
In-Service Date	6/1/2021
Debt Service Reserve Requirement (months)	6
Costs of Issuance (% of par)	2.00%
Assumed Debt Rate	6.00%

Illustrative Bond Sizing

Capital Cost of Intake System Modification	25,299,345
Costs of Issuance	591,000
Debt Service Reserve Fund	997,150
Capitalized Interest	2,659,500
Contingency	3,005
Total	<u>29,550,000</u>

Table 5.2
Illustrative Debt Service on Financing of
Cabrillo Raw Seawater Intake System Improvements

Contract Year Ending	Intake System Bond Principal (\$s)	Intake System Bond Interest (\$s)	Intake System Debt Service (\$s)
7/1/2021	-	147,750	147,750
7/1/2022	80,000	1,773,000	1,853,000
7/1/2023	130,000	1,768,200	1,898,200
7/1/2024	185,000	1,760,400	1,945,400
7/1/2025	245,000	1,749,300	1,994,300
7/1/2026	310,000	1,734,600	2,044,600
7/1/2027	380,000	1,716,000	2,096,000
7/1/2028	455,000	1,693,200	2,148,200
7/1/2029	535,000	1,665,900	2,200,900
7/1/2030	625,000	1,633,800	2,258,800
7/1/2031	715,000	1,596,300	2,311,300
7/1/2032	820,000	1,553,400	2,373,400
7/1/2033	925,000	1,504,200	2,429,200
7/1/2034	1,040,000	1,448,700	2,488,700
7/1/2035	1,165,000	1,386,300	2,551,300
7/1/2036	1,300,000	1,316,400	2,616,400
7/1/2037	1,445,000	1,238,400	2,683,400
7/1/2038	1,600,000	1,151,700	2,751,700
7/1/2039	1,765,000	1,055,700	2,820,700
7/1/2040	1,940,000	949,800	2,889,800
7/1/2041	2,125,000	833,400	2,958,400
7/1/2042	2,330,000	705,900	3,035,900
7/1/2043	2,545,000	566,100	3,111,100
7/1/2044	2,775,000	413,400	3,188,400
7/1/2045	3,020,000	246,900	3,266,900
11/1/2045	1,095,000	21,900	1,116,900
Total	29,340,000	27,941,700	57,281,700

Table 5.3
Illustrative Adjustments to Capital Charges Resulting from Financing of
Cabrillo Raw Seawater Intake System Improvements

Contract Year Ending	Debt Service to be included in Debt Service Charge (\$s)	Adjustment to Debt Service Charge (\$/AF)	Equity Charge to be included in Equity Return Charge (\$s)	Adjustment to Equity Return Charge (\$/AF)
7/1/2021	118,200	29.55	64,030	16.01
7/1/2022	1,482,400	30.88	787,565	16.41
7/1/2023	1,518,560	31.64	807,254	16.82
7/1/2024	1,556,320	32.42	827,436	17.24
7/1/2025	1,595,440	33.24	848,122	17.67
7/1/2026	1,635,680	34.08	869,325	18.11
7/1/2027	1,676,800	34.93	891,058	18.56
7/1/2028	1,718,560	35.80	913,334	19.03
7/1/2029	1,760,720	36.68	936,168	19.50
7/1/2030	1,807,040	37.65	959,572	19.99
7/1/2031	1,849,040	38.52	983,561	20.49
7/1/2032	1,898,720	39.56	1,008,150	21.00
7/1/2033	1,943,360	40.49	1,033,354	21.53
7/1/2034	1,990,960	41.48	1,059,188	22.07
7/1/2035	2,041,040	42.52	1,085,667	22.62
7/1/2036	2,093,120	43.61	1,112,809	23.18
7/1/2037	2,146,720	44.72	1,140,629	23.76
7/1/2038	2,201,360	45.86	1,169,145	24.36
7/1/2039	2,256,560	47.01	1,198,374	24.97
7/1/2040	2,311,840	48.16	1,228,333	25.59
7/1/2041	2,366,720	49.31	1,259,041	26.23
7/1/2042	2,428,720	50.60	1,290,517	26.89
7/1/2043	2,488,880	51.85	1,322,780	27.56
7/1/2044	2,550,720	53.14	1,355,850	28.25
7/1/2045	2,613,520	54.45	1,389,746	28.95
11/1/2045	893,520	55.85	474,830	29.68

APPENDIX 11

END OF TERM PROJECT CONDITION REQUIREMENTS

APPENDIX 11

END OF TERM PROJECT CONDITION REQUIREMENTS

11.1. PURPOSE

The purpose of this Appendix is to detail the protocol and procedures to be followed if the Water Authority exercise its right to purchase the Project Assets pursuant to Section 23.1 (Project Assets Purchase Option During the Term) or Section 23.4 (Project Assets Purchase Option at the Expiration Date) of this Water Purchase Agreement.

The Project Company and Water Authority shall jointly retain the services of the Independent Evaluator to perform the assessments set forth in this Appendix to determine whether (i) the Project operationally meets the Minimum Performance Criteria, and (ii) the Project has been maintained in accordance with the terms and conditions of this Water Purchase Agreement. The Independent Evaluator will assess the Project's performance and condition in accordance with subsection 10.3(C) (Final Evaluation of the Plant) of this Water Purchase Agreement, Section 10.6 (Exit Performance Requirements) of this Water Purchase Agreement, and Section 10.7 (Project Assets Transfer Condition) of this Water Purchase Agreement.

11.2. INDEPENDENT EVALUATOR RESPONSIBILITIES

The Independent Evaluator shall have the following responsibilities in connection with the final evaluation of the Project in accordance with subsection 10.3(C) (Final Evaluation of the Plant) of this Water Purchase Agreement and Section 10.6 (Exit Performance Requirements) of this Water Purchase Agreement:

- (a) Conduct the final evaluation of the Project using the listing of Project Structures created by the Project Company in the Asset Registry.
- (b) Perform the functional evaluation of the Project Structures and include in the final evaluation report.
- (c) Perform the structural integrity evaluation of the Project Structures and include in the final evaluation report.
- (d) Perform an evaluation of whether the Project met the End of Term Performance Evaluation Requirements (as defined below) during a period (the "End of Term Performance Evaluation Period") of six consecutive Billing Periods, designated by the Project Company in a written notice to the Water Authority, commencing no later than: (i) 60 days after the Water Authority has delivered its notice (pursuant to subsection 23.5(B)(1) (Notice of Intent Required for Certain Purchase Options)) of its intent to exercise its Project Assets Purchase Option during the Term; and (ii) 90 days after the Water Authority has delivered its notice (pursuant to subsection 23.5(B)(2) (Notice of Intent Required for Certain Purchase Options)) of its intent to exercise its Project Assets Purchase Option on the Expiration Date.
- (e) Conduct a Joint Inspection and Survey (as defined below).

11.3. FINAL EVALUATION OF THE PROJECT STRUCTURES

Project Structures are required to be transferred to the Water Authority in the condition and state of repair in accordance with this Appendix. Within 15 days after the Water Authority has delivered its notice pursuant to subsection 23.5(B)(1) (Notice of Intent Required for Certain Purchase Options) of its intent to exercise its Project Assets Purchase Option during the Term, or its notice pursuant to subsection 23.5(B)(2) (Notice of Intent Required for Certain Purchase Options) of its intent to exercise its Project Assets Purchase Option on the Expiration Date, the Independent Evaluator shall conduct the final evaluation of the Project Structures using the listing created by the Project Company in the Asset Registry.

11.3.1 Functionality Evaluation. As part of the final evaluation of the Project at the end of the Term, the Independent Evaluator shall determine the functionality of the Project Structures. The functionality evaluation shall determine if the Project Structures operate properly and perform the function for which they were intended. The Project Structures to be evaluated as part of the functionality evaluation are the following:

- (a) All buildings (including HVAC ducts and louvers, and architectural features), and concrete tanks;
- (b) All piping with an original service life greater than 20 years, both underground and exposed; and
- (c) All valves, gates and weirs with an original service life greater than 20 years together with hydraulic systems.
- (d) Pipes shall be checked to assure that they are free of blockage, that fluids can be conveyed and that there is no leakage. Detection, transmission and recording instrumentation shall be checked.
- (e) As part of the functionality evaluation of the Project Structures, the Independent Evaluator will assign a functionality rating of Level 1 to 5. The rating shall utilize the following criteria:
 - (i) 5 - Excellent Overall Condition. Asset or structure fully functional as designed with no visible defects or wear.
 - (ii) 4 - Good Overall Condition. Asset or structure functions as needed for current operating conditions, visible signs of minor defects and wear are less than expected.
 - (iii) 3 - Fair Overall Condition. Asset or structure functions as needed for current operating conditions, visible sign of moderate defects and expected wear.
 - (iv) 2 - Poor Overall Condition. Asset or structure operable, but does not function as needed for current operating conditions. Visible signs of major defects and wear are more than expected. There may be personnel safety issues.
 - (v) 1- Inoperable. Asset or structure is non-functional, requires major repair or replacement to restore operation.

The Independent Evaluator shall note its field observations on Water Authority-approved functional evaluation data collection forms. The findings of the functionality evaluation shall be tabulated on a spreadsheet such as in the Baseline Project Record. An example tabulation is presented in Table 11-1 of this Appendix.

For purposes of this Water Purchase Agreement, Level 3 (Fair Overall Condition) of a Project Structure shall be characterized by normal wear and tear related to the damage that naturally and inevitably occurs as a result of normal use or aging. This is a form of wear that occurs when a Project Structure is used according to manufacturer's instructions and is properly maintained. Examples of Level 3 (Fair Overall Condition) and unacceptable condition (which would be either Level 2 (Poor Overall Condition) or Level 1 (Inoperable)) ("Unacceptable Condition") are characterized in the following table:

Table 11-1 EXAMPLES OF LEVEL 3 FAIR OVERALL CONDITION AND UNACCEPTABLE CONDITION		
<u>Project Element</u>	<u>Level 3</u> <u>Fair Overall Condition</u>	<u>Level 1 or 2</u> <u>Unacceptable Condition</u>
Concrete	Abrasion, minor hairline cracks, small chips, and isolated small stains	Exposed rebar, spalling, water leakage, compromised structural integrity, chipping and peeling of coatings or paint on coated or painted concrete
Steel	Minor rust, discoloration, minor nicks	Compromised structural integrity; visible bending, corrosion that adversely affects function, chipping and peeling of coatings or paint on coated or painted steel
Architectural	Faded paint or discoloration on surfaces	Cracked windows; chipping and peeling of coatings or paint on coated or painted surfaces; broken or missing tiles
HVAC ducts and louvers	Minor bending or nicking on ducts and louvers	Corroded or cut ducts, non-connected duct sections; clogged or non-functional louvers; missing pieces of insulation on insulated ducts

11.3.2 Structural Integrity Evaluation. As part of the final evaluation of the Project, the Independent Evaluator shall determine the structural integrity of the Project Structures. The structural integrity evaluation shall include visual inspection with photographic and video recording of all Project Structures, including, but not limited to:

- (a) Buildings and concrete structures, both above and below ground, including doors, hatches, stairways, and windows;
- (b) Walkways, roads and other paved areas;
- (c) Fencing;
- (d) Finish system – paint, sealants and other liquid applied finishes; and
- (e) Floor, ceiling, roofs and wall system – tiles, carpeting, raised floors and drop ceilings.

Structures and paved areas shall be checked for structural defects and damage, such as cracks and concrete deterioration that could reduce their remaining life. Finished systems shall be visually inspected to assure that they provide adequate coverage and afford the desired protection. Occurrence of flaking, corrosion, rot and inadequate coverage should be noted. Floor, ceiling, roofs and wall systems shall be visually inspected for excess wear and damages.

As part of the structural integrity evaluation of each Project Structure, the Independent Evaluator will assign a structural integrity rating of Level 1 to 5. The rating shall utilize the following criteria:

- (a) 5 – Excellent Overall Condition. No visible defects, cracking or wear.
- (b) 4 – Good Overall Condition. Visible signs of minor defects and wear are less than expected.
- (c) 3 – Fair Overall Condition. Visible sign of moderate defects and expected wear.
- (d) 2 – Poor Overall Condition. Visible signs of major defects and wear are more than expected.
- (e) 1 – Imminent Failure. Extremely poor overall condition; may be significant structural concerns.

The Independent Evaluator shall note its field observations on Water Authority-approved structural integrity evaluation data collection forms. The Independent Evaluator's findings of the structural integrity evaluation shall be tabulated on a spreadsheet derived from the Asset Registry. An example tabulation is presented in Table 11-2 of this Appendix. Digital photographs and videotape records made of the condition of assets, whether or not structural or other physical defects are revealed, shall be included as part of the final evaluation. The location on the digital photograph or videotape corresponding to any listed defect shall be entered in the spreadsheet with each listing.

11.4. PROJECT STRUCTURE EVALUATION REPORT AND PRODUCTS

The procedures followed to perform the evaluation set forth in Section 11.3 (Final Evaluation of the Project Structures) of this Appendix, together with the findings and results of the formal Project Structure evaluation process, shall be presented in a final evaluation report (the "Final Project Structure Evaluation Report"). Text, spreadsheets and databases shall all be prepared using a computer software program mutually agreed to by the Water Authority and the Project Company. The Independent Evaluator shall provide the Water Authority and the Project Company with preliminary drafts of all evaluation documents for review and comment.

Both the Water Authority and the Project Company shall sign final documents on each page for authentication and shall receive an authenticated copy of all final reports, databases, spreadsheets, video documentation and handwritten notes.

The Final Project Structures Evaluation Report shall consist of at least the following clearly delineated sections:

- (a) Functionality and structural integrity of the Project Structures; and
- (b) Supplemental information as may be determined by the Independent Evaluator.

11.4.2 Functionality Evaluation and Structural Integrity Evaluation. The Final Project Structure Evaluation Report shall provide the results of the functionality evaluation and the structural integrity evaluation of the Project Structures as set forth Section in 11.3 (Final Evaluation of the Plant Structures). Those assets that do not exhibit physical or structural defects, and are therefore rated Level 3 or above, shall be noted as such in the Final Project Structure Evaluation Report with a statement regarding the overall condition. The findings of the functionality evaluation shall be tabulated on a spreadsheet. For the purposes of determining the Project Company's obligations pursuant to subsection 10.3(C) (Final Evaluation of the Plant) of this Water Purchase Agreement, the Independent Evaluator shall, for structures with a functionality or structural integrity rating of Level 1 or 2, indicate in each instance what repairs would be needed to bring both functionality and structural integrity ratings to a minimum Level of 3, or as may be required pursuant to applicable Transfer Condition Requirements.

11.4.3 Supplemental Information. This section of the Final Project Structures Evaluation Report shall include all supplemental information used by the Independent Evaluator, including, but not limited to, results of diagnostic testing, Inflation Index values used, equipment supplier information, and notes and calculations to support its findings and conclusion. This supplemental information may be included as appendices or attachments to the final evaluation report.

Table 11-2 STRUCTURAL INTEGRITY EVALUATION (Hypothetical Example for Final Evaluation)				
<u>Asset Number *</u>	<u>Asset Name (& Manufacturer)</u>	<u>Structural Integrity Defect(s)</u>	<u>Structural Integrity Rating**</u>	<u>Video Location</u>
ABOVEGROUND SYSTEMS				
S4	RO Building	Cracked and leaking foundation	1	B-RO tape, index 310
S5	Building J	Broken concrete steps	2	B-J tape 1, index 130
S6	Building J	Collapsed building wall	1	B-J tape 2, index 100

Table 11-2 STRUCTURAL INTEGRITY EVALUATION (Hypothetical Example for Final Evaluation)				
<u>Asset Number *</u>	<u>Asset Name (& Manufacturer)</u>	<u>Structural Integrity Defect(s)</u>	<u>Structural Integrity Rating**</u>	<u>Video Location</u>
UNDERGROUND STRUCTURES				
S17	Operations Building	Foundation wall (east) cracked	2	B-OP tape, index 1340
S13	Pump Station	Concrete dry well in pumping station is cracked and seeping	2	RPS tape, index 560
WALKWAYS, ROADWAYS, FENCING AND OTHER PAVED STRUCTURES				
S14	Fencing	Numerous holes and broken gate.	2	RWPS tape, index 25
S15	Driveway at Plant	Numerous cracks and heaving	2	D1 tape, index 1300
S17	Concrete sidewalk at RWPS	Numerous cracks, heaving and broken curbing	2	RWPS tape, index 670
FINISH SYSTEMS (INCLUDING PAINTS AND COATING)				
S17	Chemical Building	Interior structures need paint	3	RES tape, index 2500
S18	Operations Building	Inadequate coating of walkways	2	OP tape, index 1100
S19	Building B	Exterior paint flaking	2	B-B tape, index 1400
WALL, ROOFS AND FLOORING SYSTEMS				
S20	Building C ceiling	Flaking ceiling in building C	3	B-C tape, index 250
S21	Building A office floor	Tile severely cracked in numerous locations. Significant overall wear.	2	B-A tape 2, index 450
S22	Chemical	Plywood walls buckling and	1	B-C tape, index

Table 11-2 STRUCTURAL INTEGRITY EVALUATION (Hypothetical Example for Final Evaluation)				
<u>Asset Number *</u>	<u>Asset Name (& Manufacturer)</u>	<u>Structural Integrity Defect(s)</u>	<u>Structural Integrity Rating**</u>	<u>Video Location</u>
	building	cracking		190

*Asset numbers shall be assigned in accordance with the Project Company's CMMS identification system and the Water Authority's standards.

11.5. END OF TERM PROJECT PERFORMANCE EVALUATION

The Independent Evaluator shall conduct an evaluation of the Project's performance to verify whether the End of Term Performance Evaluation Requirements (as defined below) have been met. To simulate the conditions described in subsection 5.3.2 (Product Water Output During Performance Test) of Appendix 5, during the End of Term Performance Evaluation Period, the Water Authority shall endeavor (but not have the obligation) to make Firm Daily Demand Orders for two, seven consecutive day periods in an amount equal to: (i) 378 MG; multiplied by (ii) the Supply Commitment Reduction Percentage.

11.5.1 Evaluation of Six Months of Project Performance. Within five days after the completion of the End of Term Performance Evaluation Period, the Project Company shall deliver to the Independent Evaluator relevant Project performance information from such period. Using such data, the Independent Evaluator will determine whether the Project, at such time, met the End of Term Performance Evaluation Requirements. This performance information will include sufficient information regarding Product Water delivery capacity, Product Water quality production capability, energy consumption, and chemical usage. The Independent Evaluator shall validate the adequacy of the Project performance information provided by the Project Company.

11.5.2 End of Term Performance Evaluation Requirements. The following shall constitute the requirements the Project must meet during the End of Term Performance Evaluation Period (the "End of Term Performance Evaluation Requirements"):

- (a) No Monthly Unexecused Supply Shortfall Units were recorded.
- (b) For flow rates from 0 to 48 MGD, the Project's total energy consumption did not exceed 110% of the Total Guaranteed Energy Consumption as determined pursuant to Appendix 9 (Electricity Charge). For flow rates equal to or above 48 MGD, the Project's total energy consumption did not exceed 110% of the Total Guaranteed Energy Consumption as determined pursuant to Appendix 5 (Minimum Performance Criteria and Performance Testing).
- (c) The Total Chemical Cost (as defined in Exhibit 5A of Appendix 5) did not exceed 120% of the Maximum Chemical Cost (as defined in Exhibit 5B of Appendix 5), as each are calculated pursuant to Appendix 5 (provided, however, that the weighted average Total Suspended Solids ("TSS") shall be determined using the TSS sampling frequency required pursuant to Appendix 8 (Supplemental Performance Guarantee Requirements).
- (d) The Product Water Quality Guarantee was never violated.

- (e) The Project met the requirements set forth in items (a) through (d) of this subsection without needing extraordinary operational or maintenance requirements

11.5.3 Failure to Meet the End of Term Performance Evaluation Requirements. If the Project failed to meet each of the End of Term Performance Evaluation Requirements, the Project Company shall be required to correct any Project deficiencies and demonstrate, by conducting a Performance Test in accordance with Appendix 5 (Minimum Performance Criteria and Performance Testing), that the corrections are adequate to restore the Project capability to meet the Minimum Performance Criteria (the “Exit Performance Test”). The Exit Performance Test shall be conducted in accordance with all of the applicable terms and conditions of this Water Purchase Agreement and Appendix 5 (including the requirement that the test be conducted in Three Pump Mode). Any amounts of Product Water produced by the Project in excess of that established by the Firm Daily Demand Orders during the Exit Performance Test shall (i) be the responsibility of the Project Company, (ii) not delivered to the Water Authority and (iii) not be included in the calculation of Monthly Water Purchase Payments. If the Project fails to meet the requirements of the Exit Performance Test, the Project Company shall be required to repeat the test as many times as needed until the Termination Date.

11.6. PROJECT TRANSFER CONDITION REQUIREMENTS

11.6.1 General. The Project is required to be transferred to the Water Authority in the condition and state of repair that would be in accordance with the performance of the Contract Services if the Project was customarily maintained by an operator for a similar equipment, and operated under an operation, maintenance, repair and replacement contract with similar operations, maintenance, repair, and replacement requirements as detailed below:

- (a) To have maintained the Project in accordance with the Contract Standards, to have maintained appropriate staff who have the training, experience and proficiency in the management, maintenance, repair and replacement of water treatment systems which shall be sufficient to maintain the Project, and at appropriate staffing levels.
- (b) To have operated, maintained and repaired the Project, including without limitation, repair or replacement of components, including all maintenance, repair and component replacement which may be characterized as “major” or “capital” in nature.
- (c) To have operated and maintained the Project in accordance with the Contract Standards, the manufacturer’s recommended maintenance procedures, the Electronic Operation and Maintenance Manual, and the CMMS system.
- (d) To have arranged and paid for the procurement, delivery, storage of all materials, machinery, equipment, reverse osmosis membrane elements, cartridge filters, any applicable manufacturer’s specialty tools, an adequate supply of spare parts, tools, and other consumables and supplies associated with operating, maintaining and repairing the Project.

11.6.2 Transfer Condition Requirements. Evaluate if the Project Company has maintained the Project in accordance with the operations, maintenance, repair, and replacement requirements established in this Water Purchase Agreement and that it meets the Transfer Condition Requirements.

11.7. TRANSFER CONDITION JOINT INSPECTION AND SURVEY

11.7.1 General.

Within 15 days after the Water Authority has delivered its notice pursuant to subsection 23.5(B)(1) (Notice of Intent Required for Certain Purchase Options) of its intent to exercise its Project Assets Purchase Option during the Term, or its notice pursuant to subsection 23.5(B)(2) (Notice of Intent Required for Certain Purchase Options) of its intent to exercise its Project Assets Purchase Option on the Expiration Date, the Water Authority and the Project Company shall jointly cause the Independent Evaluator to conduct an inspection and survey of the Project for the purpose of determining if the Project has been maintained in accordance with the Transfer Condition Requirements (the “Joint Inspection and Survey”). The Joint Inspection and Survey Report (as defined below) shall be completed within 45 days. This Joint Inspection and Survey shall be in separate from and in addition to all other inspections provided for in the Water Purchase Agreement.

The Water Authority shall have the right, but not the obligation, to attend or participate in any inspection and survey activities conducted by the Independent Evaluator, the Project Company or the Operation Service Provider and to any communications or meetings between the Project Company and the Operating Service Provider held on the subject of the Joint Inspection and Survey. Further, the Water Authority shall be provided access to and a copy, upon request, of all relevant information, data, material or reports prepared to document and support the Joint Inspection and Survey.

The Joint Inspection and Survey for any piece of Project Equipment shall be based upon its ability to perform its intended function, taking into consideration its performance history, renewals and replacements, time of utilization, physical condition, availability for service, service life, replacement costs and maintenance costs. The Project Company shall facilitate and allow the Independent Evaluator to conduct the following activities to establish the asset condition of the Project Equipment at the end of the Term:

- (a) Visually inspect the Project Equipment while it is in operation for:
 - (i) Appearance of Project Equipment components;
 - (a) Appearance of Project Equipment surfaces;
 - (b) Excessive vibration to the touch or noise heard;
 - (c) Excessive wear of components;
 - (d) Excessive corrosion;
 - (e) Excessive temperature of the Project Equipment or its components;
 - (f) Condition of coatings and paint; and
 - (g) Presence of leaking fluids.
- (b) Document the condition of the Project Equipment with photographs;
- (c) Observe the SCADA and other instrumentation for condition of the Project Equipment and its operating characteristics;

- (d) Monitor related instrumentation to determine the assets' physical condition and operation characteristics;
- (e) Collect any measurements, amperage draw or other readings, or other pertinent information which the Independent Evaluator deems appropriate;
- (f) Review CMMS records on applicable Project Equipment assets including, but not limited to the following:
 - (i) Complete up-to-date spare parts and consumable maintenance equipment and materials inventory;
 - (ii) Data available from any interface with energy management and control systems that provides condition based monitoring and component energy use profiles;
 - (iii) Project Equipment repair tracking by Project Equipment and its components;
 - (iv) Historical tracking of all work orders generated and sortable by equipment, date, and other equipment maintenance historic data;
 - (v) CMMS statistical data and query reports available.
- (g) Review relevant Project Equipment repair, rebuild and replacement records, and consult with manufacturers' maintenance manual and technical guidance documents;
- (h) Determine the degree of repair, replacement and renewals each applicable piece of Project Equipment has received during the Term;
- (i) Determine the utilization of the equipment (i.e. did the equipment operate for 24 hours per day or 6 hours per day); and
- (j) Inspect all readily accessible parts and surfaces for any material fit and alignment problems; excessive vibration, noise or temperature; the condition of coatings; signs of wear or excessive corrosion; and excessive leakage of any fluids.

The Joint Inspection and Survey shall also take into consideration the following:

- (a) The appropriate level of spare parts and maintenance consumables for continued reliable operation.
- (b) Obsolete and unused assets.
- (c) Normal wear and tear given the age of the Project Equipment and expected useful life.

The Independent Evaluator shall review the Project Company's Project Equipment maintenance, repair and replacement performance and compare that performance with the then current Good Management Practices in the water industry for the maintenance, repair and replacement of comparable water treatment Project Equipment.

11.7.2 Optional Predictive Testing

The Independent Evaluator may also perform predictive testing to better assess the compliance with the Transfer Condition Requirements of the critical assets of the Project Equipment. The Water Authority shall determine which items of the Project Equipment are critical assets. Such diagnostic testing could include, but is not limited to, vibration analysis, thermography, oil sampling, testing, and motor circuit analysis. In such cases, the diagnostic testing shall be conducted by manufacturer-approved personnel or other appropriate qualified service technicians. The costs for such optional predictive testing will be borne by the Water Authority and the timing of such testing will be coordinated with the Project Company so as to not materially affect Project operations.

11.8. INDEPENDENT EVALUATOR'S JOINT INSPECTION AND SURVEY REPORT

The Independent Evaluator shall produce and deliver to the Water Authority and the Project Company a report of its findings and conclusions regarding the Project Equipment conditions in a Joint Inspection and Survey report, which shall contain: (i) an opinion as to whether the condition of any component of Project Equipment has not been maintained in accordance with the Transfer Condition Requirements; (ii) a detailed description of the basis upon which any component of Project Equipment has been determined not to have been maintained in accordance with the Transfer Condition Requirements; and (iii) an estimate of the cost for the work required, for any component of Project Equipment determined not to have been maintained in accordance with the Transfer Condition Requirements, to meet the Transfer Condition Requirements (the "Joint Inspection and Survey Report").

11.9. PROJECT EQUIPMENT TRANSFER CONDITION PLAN.

If the Joint Inspection and Survey Report indicates that the Project will not be in a condition in accordance with the Transfer Condition Requirements or the Final Project Structures Evaluation Report indicates deficiencies that need to be corrected by the Project Assets Purchase Date, then within 60 days of completion of the Joint Inspection and Survey Report, the Project Company shall deliver to the Water Authority the plan that details the work the Independent Evaluator has determined is necessary to meet the Transfer Condition Requirements, and that details the work to correct any deficiencies identified in the Final Project Structures Evaluation Report together with a cost estimate and schedule for performing the proposed work (the "Transfer Condition Plan").

11.10. ESTABLISHING TRANSFER CONDITION RETAINAGE AMOUNT

Within 30 days of receipt of the Transfer Condition Plan from the Project Company, the Water Authority shall provide the Project Company written notice which: (i) assesses the adequacy of the Transfer Condition Plan; and (ii) establishes the amount of the Transfer Condition Retainage. If the Water Authority has determined that the Transfer Condition Plan is inadequate, in its written notice, the Water Authority shall direct the Project Company to amend their Transfer Condition Plan to add the corrective work and cost of that work the Water Authority has reasonably determined is necessary to comply with the Transfer Condition Requirements, in accordance with the costs provided in the Final Project Structure Evaluation Report and the Joint Inspection and Survey Report.

Any Transfer Condition Retainage established pursuant to subsection 10.7(D) (Determination of Transfer Condition Retainage) of the Water Purchase Agreement shall be based upon the final Transfer Condition Plan so established by this Section.

11.10.1 Acceptance of the Transfer Condition Plan Work.

- (a) Performance of the Transfer Condition Work and Further Inspection. The Project Company shall cause the implementation of the Transfer Condition Plan and take all other steps necessary to assure compliance with the Transfer Condition Requirements. At least 120 days prior to the Termination Date or a date that is mutually agreed upon, the Water Authority and the Project Company shall conduct a further joint inspection of the condition of the Project Equipment and Project Structures and the progress of the Transfer Condition Plan work as it relates to the Project Company meeting the Transfer Condition Requirements.
- (b) Adjustment of Transfer Condition Retainage. If 90 days prior to the Termination Date, the Project (i) has failed to demonstrate that it has the capacity to meet the End of Term Evaluation Requirements or, if applicable, the Exit Performance Test; or (ii) is not being operated or maintained in compliance with the Contract Standards, then the Water Authority may, acting reasonably, increase the amount of the Transfer Condition Retainage to make repairs and modifications to the Project that would be necessary to allow the Project to meet the requirements of the Exit Performance Test. If the Project subsequently meets the requirements of the Exit Performance Test prior to the Termination Date, the Transfer Condition Retainage shall be reduced by an appropriate amount, as reasonably determined by the Water Authority.
- (c) Transfer Condition Plan Completion Certificate. By the date that is the earlier of five Business Days after the joint inspection set forth in item (a) of this subsection or the Termination Date, the Water Authority shall either:
 - (i) Issue to Project Company a certificate confirming compliance with the Transfer Condition Requirements (the "Transfer Condition Plan Completion Certificate"); or
 - (ii) Notify the Project Company of its decision not to issue the Transfer Condition Plan Completion Certificate, setting out each respect in which the Project does not comply with the Transfer Condition Requirements and stating the Water Authority's estimate of the cost of completing all remaining work required for the Project to comply with the Transfer Condition Requirements.
- (d) Transfer Condition Retainage on the Termination Date. If the Water Authority delivers to the Project Company a Transfer Condition Plan Completion Certificate, the Water Authority shall transfer any remaining portion of the Transfer Condition Retainage to the Project Company. If the Project fails to comply with the Transfer Condition Requirements on the Termination Date, the Water Authority shall have the right to: (i) use the proceeds of the Transfer Condition Retainage to complete the Transfer Condition Plan work; or (ii) draw upon the Letter of Credit in an amount equal to the estimated value of completing such work.

APPENDIX 12
PROJECT ASSETS AND LIABILITIES

APPENDIX 12

PROJECT ASSETS AND LIABILITIES

12.1. DEFINITIONS

In addition to the definitions set forth in Section 1.1 (Definitions) of this Water Purchase Agreement, the following definitions have the meaning set forth below in this Appendix:

12.1.1 “Easement” means all of the Project Company’s rights to access or use any real property or fixtures (including by lease, license or easement) directly or indirectly used in the operation of the Plant.

12.1.2 “Indebtedness” means all (1) indebtedness of the Project Company for borrowed money, including purchase money indebtedness, bonds, debentures, capital or financing leases, equipment operating leases, non-trade payables and credit facilities, or obligations for or in respect of the deferred purchase price of goods or services, (2) obligations of the Project Company under any guaranty, letter of credit, performance credit or other contract having the effect of assuring a creditor against loss, (3) obligations of the Project Company under any interest rate, currency or other hedging contract, and (4) any prepayment penalties, premiums or fees under any of the foregoing items described under clause (1), (2) or (3).

12.1.3 “Liability” means any and all direct or indirect Indebtedness, liability, assessment, claim, loss, damage, deficiency, obligation or responsibility, expense (including, without limitation, reasonable attorneys’ fees, court costs, accountants’ fees, environmental consultants’ fees, laboratory costs and other professionals’ fees), Order, settlement payments, Taxes, fines and penalties, fixed or unfixed, choate or inchoate, liquidated or unliquidated, secured or unsecured, accrued, absolute, actual or potential, contingent or otherwise (including any Liability under any guaranties or letters of credit, or with respect to insurance loss accruals).

12.1.4 “Litigation” means any action, arbitration, mediation, audit, hearing, investigation, litigation or suit (whether civil, criminal, administrative, investigative or informal) commenced, brought, conducted or heard by or before or otherwise involving any Governmental Body, arbitrator or mediator.

12.1.5 “Order” means any order, judgment, preliminary or permanent injunction, temporary restraining order, award, citation, decree, consent decree or writ.

12.2. PROJECT ASSETS

The Project Assets consist of all of the Project Company’s right, title and interest in and to the following assets, rights, claims, properties and interests that the Project Company owns or in which the Project Company has any right, title or interest, other than the Excluded Assets (collectively, the “Project Assets”):

12.2.1 Plant, Plant Structures and Plant Equipment. All of the Plant, Plant Structures, Plant Equipment and other real and tangible personal property, whether owned, leased or otherwise possessed by the Project Company and located at the Plant Site or otherwise used in the operation of the Plant, including the items set forth in the Asset Registry.

12.2.2 Leased Property and Easements. All of the Project Company's Easements, including those leases and easements identified in Attachment A (Leased Property and Easements) of this Appendix.

12.2.3 Assumed Project Contracts. To the extent the Water Authority so elects, all right, title and interest of the Project Company to and under the Project Contracts (and any related contracts which govern the obligations between the Project Company and a Project Contractor or Subcontractor whose obligations have been assumed (such as a confirmation or interface agreement)) (the "Assumed Project Contracts").

12.2.4 Governmental Approvals. To the extent permitted by Applicable Law, all Governmental Approvals issued, granted, given, applied for on and before the Project Assets Purchase Date or otherwise made available by or under the authority of any Governmental Body for the ownership or operation of the Plant, including those Governmental Approvals specified in Appendix 2 (Governmental Approvals) of this Water Purchase Agreement to the extent such Governmental Approvals are assignable.

12.2.5 Books and Records. All of the Project Company's books, records, data, ledgers, files, documents, and correspondence, lists, plats, architectural plans, drawings, specifications, studies, reports, maintenance records, and other printed or written materials (in either hardcopy or electronic form) required to be kept by the Project Company pursuant to this Water Purchase Agreement, unless such documents are:

- (a) required by Applicable Law to be retained by the Project Company or a Project Contractor or Subcontractor, in which case complete copies will be delivered to the Water Authority;
- (b) income statements showing profit or loss
- (c) financial information regarding the Project Contractors; or
- (d) privileged from production pending resolution of any outstanding dispute, in which case such records will be delivered forthwith upon resolution of such dispute, provided that any records that are necessary for the performance of the Contract Obligations will be delivered to the Water Authority no later than the Termination Date.

12.2.6 Set of Construction Drawings Showing Alterations. One complete set of existing construction drawings accurately showing the current configuration of the Project and depicting and identifying all alterations made to the Project since the Commercial Operation Date.

12.2.7 Maintenance, Operation and Training Manuals. One complete set of existing, up-to-date maintenance, operation and training manuals for the Project.

12.2.8 Intangible Assets and Goodwill. All of the Project Company's intangible assets and goodwill directly related to the Project.

12.2.9 Pre-Purchase Claims - Project Assets Purchase Options Before the Expiration Date. If the Water Authority exercises its right to purchase the Project Assets pursuant to Section 23.1 (Project Assets Purchase Option During the Term) of this Water Purchase Agreement, Section 23.2 (Project Assets Purchase Option in the Event of Financing Unavailability) of this Water Purchase Agreement, or Section 23.3 (Project Assets Purchase Option Upon a Project Company Event of Default) of this Water Purchase Agreement, all of the

Project Company's claims, prepayments, refunds, causes of action, choses in action, rights of recovery, rights of set-off, and rights of recoupment of the Project Company ("Pre-Purchase Claims"), including Pre-Purchase Claims under any insurance policies or otherwise existing at law or equity. The amount of the Pre-Purchase Claims shall be reduced by an amount equal to the reasonable costs incurred by the Project Company prior to the Project Assets Purchase Date in pursuing such claims.

12.2.10 Post-Purchase Claims - All Project Assets Purchase Options. All of the Project Company's claims, prepayments, refunds, causes of action, choses in action, rights of recovery, rights of set-off, and rights of recoupment of the Project Company to the extent relating to the period from and after the Project Assets Purchase Date ("New Claims"), including New Claims under any insurance policies or otherwise existing at law or equity.

12.2.11 Computer Hardware and Software. All computer hardware and software used solely in the Contract Services, and all user's manuals, training manuals, sales programs, literature and other system and operations documentation relating to such hardware and software in any format.

12.2.12 Domain Names. All internet domain names used in or related to the Contract Services.

12.3. EXCLUDED ASSETS

Notwithstanding anything to the contrary contained in Section 12.2 (Project Assets) of this Appendix or elsewhere in this Water Purchase Agreement, the assets identified below shall not be part of the sale and purchase contemplated by this Water Purchase Agreement, are excluded from the Project Assets, and shall remain the property of the Project Company immediately after the Project Assets Purchase Date (collectively, the "Excluded Assets"):

12.3.1 All credit balances on any bank or trust accounts held by or on behalf of the Project Company on the Project Assets Purchase Date and the value of any amounts due and payable from third parties (but only when received from third parties) that would be deposited in such bank accounts.

12.4. ASSUMED LIABILITIES

On the Project Assets Purchase Date, the Water Authority shall assume liability for and agree to pay, perform and discharge, in a timely manner and in accordance with the terms thereof, all of the following (collectively, the "Assumed Liabilities"):

- (a) all of the Project Company's environmental mitigation obligations under the Governmental Approvals assumed by the Water Authority under subsection 12.2.4 (Governmental Approvals) of this Appendix (except for any such obligations arising from Project Company Fault);
- (b) the Assumed Project Contracts with respect to all periods from and after Project Assets Purchase Date, except any Liability arising from the Project Company's performance or non-performance under any Assumed Project Contract at any time prior to the Project Assets Purchase Date, whether asserted before or after such date;
- (c) all Liabilities arising out of the ownership and operation of the Project Assets subsequent to the Project Assets Purchase Date; and

- (d) all sales and use, transfer-related taxes, stamp, real property recordation fees or taxes and all other fees and or costs associated with the transfer of title of the Project Assets from the Project Company to the Water Authority.

12.5. EXCLUDED LIABILITIES

Except for the Assumed Liabilities, the Water Authority shall not assume, and shall not be deemed to have assumed by anything contained in this Appendix or this Water Purchase Agreement or otherwise, any Liability of the Project Company whatsoever (the “Excluded Liabilities”). Without limiting the generality of the foregoing, the Water Authority shall not assume, and shall not be deemed by anything contained in this Water Purchase Agreement or otherwise to have assumed any of the following Excluded Liabilities:

- (a) all Liabilities and obligations of the Project Company under this Water Purchase Agreement;
- (b) all Liabilities arising out of the operation and ownership of the Project Assets prior to the Project Assets Purchase Date;
- (c) all Liabilities or demands for any Taxes in respect of the Project Assets that are due and payable for periods at or prior to the Project Assets Purchase Date;
- (d) all Liabilities or demands arising out of any Liability or demand (whether or not asserted) or threatened or pending Litigation relating to the Project Assets for any period ending at or prior to the Project Assets Purchase Date;
- (e) all Liabilities or demands arising out of any work or Contract Obligations that were to be performed by the Project Company at or prior to the Project Assets Purchase Date, including any warranty claims relating thereto;
- (f) all Liabilities or demands, including for any interest, penalties, late charges, prepayment charges or termination fees relating to any Indebtedness outstanding as of the Project Assets Purchase Date, or Taxes resulting from cancellation of such Indebtedness, and all Liabilities relating to any arbitrage rebate Liability, audit, examination or other enforcement action by the Internal Revenue Service or other Governmental Body with respect to any Indebtedness of the Project Company;
- (g) all Liabilities or demands for fees, costs or expenses incurred by the Project Company in connection with the preparation and negotiation of the transfer of the Project Assets and the consummation of the purchase and sale of the Project Assets, including without limitation, attorneys’, accountants’ and consultants’ fees, finder’s fees, costs and expenses, regardless of when incurred;
- (h) all Liabilities or demands (contingent or otherwise) arising out of any Applicable Law with respect to the Project Assets occurring at any time before the Project Assets Purchase Date, including Liabilities arising under the Governmental Approvals relating to the Project and under Applicable Law relating to Regulated Substances;
- (i) all other Liens, Liabilities or demands of the Project Company arising out of or relating to the ownership, use or operation of the Project that are not Assumed Liabilities; and

- (j) any Liabilities arising out of or otherwise in respect of any employee benefit plan, any programs or arrangements that pay bonus, severance, change of control or similar payments, health care continuation coverage and any employment action or practice of the Project Company in connection with persons previously employed, employed or seeking to be employed by the Project Company, whether incurred prior to, on or after the Project Assets Purchase Date.

ATTACHMENT A

LEASED PROPERTY AND EASEMENTS

(1) Second Amended and Restated Ground Lease and Easement Agreement, dated as of April 7, 2010, between Cabrillo and the Project Company, as amended pursuant to the First Amendment, dated as of October 5, 2010; the Second Amendment, dated as of December 14, 2011; the Third Amendment, dated as of February 10, 2012; the Fourth Amendment, dated as of March 23, 2012; the Fifth Amendment, dated as of April 24, 2012; the Sixth Amendment, dated as of May 15, 2012; the Seventh Amendment, dated as of June 19, 2012; the Eighth Amendment, dated as of July 31, 2012; and the Ninth Amendment, dated as of August 9, 2012.

APPENDIX 13
WATER AUTHORITY IMPROVEMENTS

APPENDIX 13

WATER AUTHORITY IMPROVEMENTS

13.1. PURPOSE

The purpose of this Appendix is to: (i) describe the Water Authority Improvements, which the Water Authority will design, finance, and construct; and (ii) define the project boundary between Project Company's Pipeline Interconnection work and the Water Authority's Pipeline 3 Improvements work. The Water Authority Improvements consist of the Pipeline 3 Improvements and the TOVWTP Improvements (see Figure 1 of this Appendix).

The Water Authority Improvements are scheduled to be substantially complete 915 days following the Financial Closing Date.

13.2. WATER AUTHORITY PIPELINE 3 IMPROVEMENTS

The Pipeline 3 Improvements work consists of modifications to the Water Authority's existing Pipeline 3 to allow for its reoperation as a pumped system and modifications to the Water Authority's Pipeline 4 San Marcos vent to increase the upstream hydraulic grade in Pipeline 4 to allow water to be delivered from Pipeline 4 into Pipeline 3 through the Pipeline Interconnection.

Pipeline 3 will be reoperated as a pumped system from south to north and will require modifications for safe operation in this mode. The work generally consists of installing new steel liners inside the existing Pipeline 3 from the Pipeline Interconnection in San Marcos to a new turnout adjacent to the TOVWTP. Portals will be installed at intervals along this approximate 27,000-foot reach to allow for the installation of the steel liners. The Water Authority Pipeline 3 Improvements will connect to the Project Company's Pipeline Interconnection (See Figure 2 of this Appendix). The Project Company's northern limits of construction for the Pipeline Interconnection work related to Pipeline 3 shall correspond to Water Authority Pipeline 3 Station 2909+66 (northern joint of Water Authority Pipeline 3 pipe number 350).

The Pipeline 4 San Marcos Vent work generally consists of constructing a new fixed weir box structure upstream of, and adjacent to, the existing vent. The weir height will be set such that sufficient hydraulic grade is provided to deliver water from Pipeline 4 through the Pipeline Interconnection into Pipeline 3.

13.3. WATER AUTHORITY TOVWTP IMPROVEMENTS

The TOVWTP Improvements consist of the following new pipelines and appurtenant facilities necessary to convey the Product Water from Pipeline 3 to the TOVWTP clear wells and back into Pipeline 4 (see Figure 1 for schematic representation for this work):

- (a) Isolation valve and vault structure on Pipeline 3;
- (b) Conveyance pipeline from the Pipeline 3 turnout to existing connection points just upstream of the clear wells;
- (c) Modifications to upgrade the capacity of the existing treated water flow control facility;
- (d) Chloramination chemical feed system; and

- (e) Instrumentation and controls for receiving specified input/output (“I/O”) signals from the Plant and for control of the chloramination feed system.

[Drafting Note: PDF of Figure 1 and Figure 2 to be inserted here.]

Figure 1 – Carlsbad Desalination Project Components

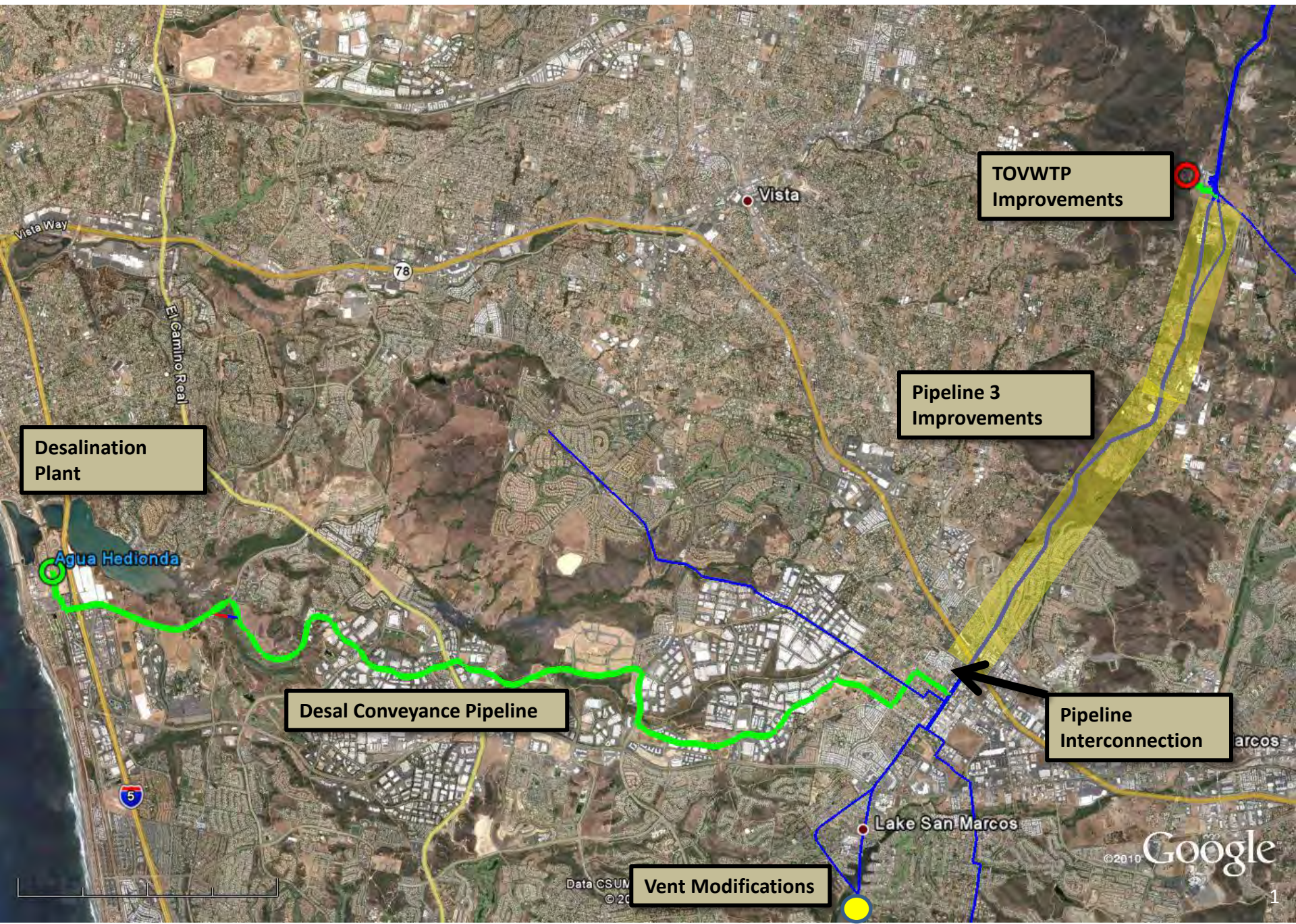
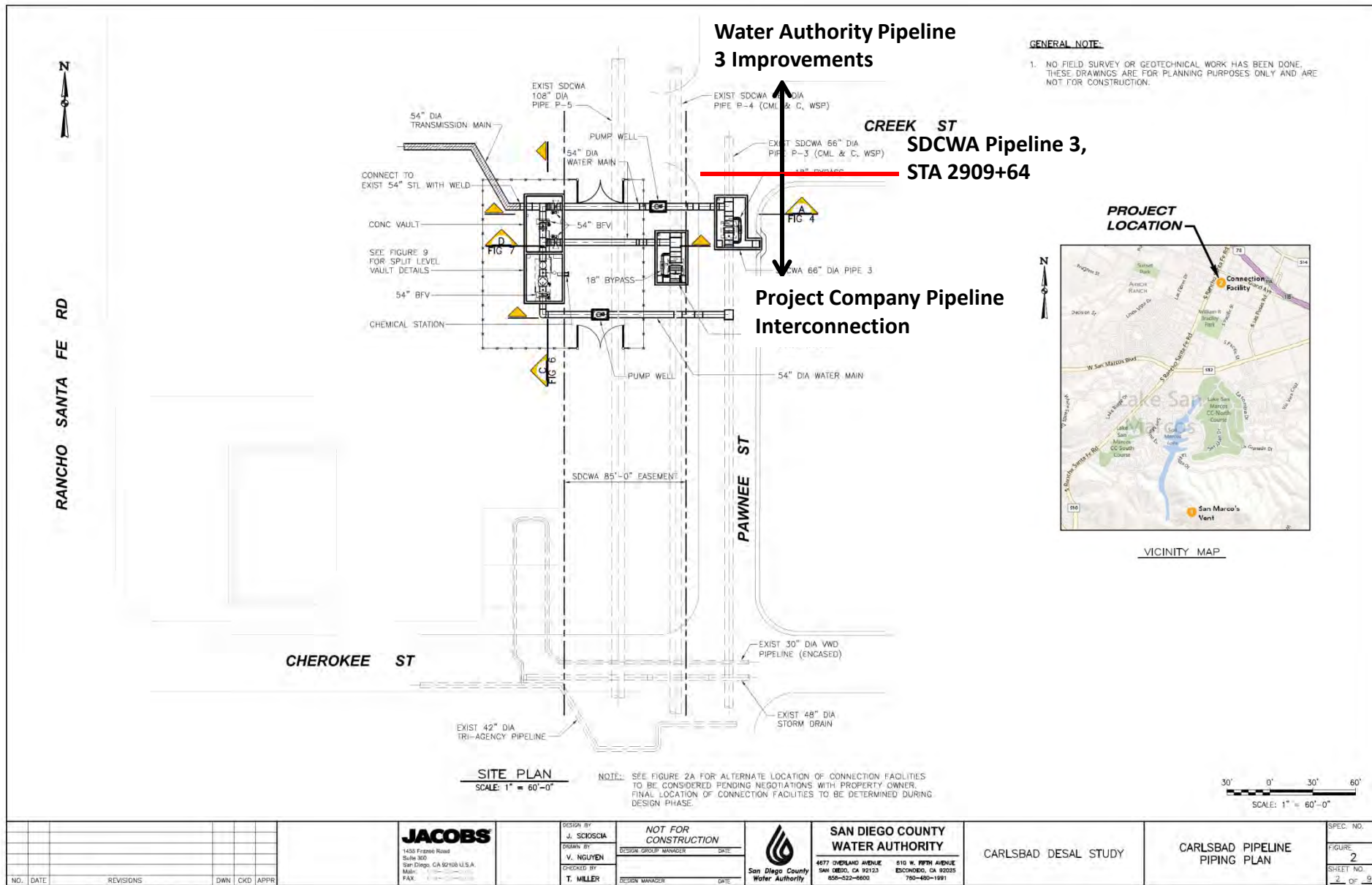


Figure 2 - Project Boundary: Water Authority Pipeline 3 Improvements and Project Company Pipeline Interconnection



APPENDIX 14

**PROJECT COMPANY AND
PROJECT CONTRACTORS INFORMATION**

APPENDIX 14

PROJECT COMPANY AND PROJECT CONTRACTORS INFORMATION

14.1. PURPOSE

14.1.1 Purpose. The purpose of this Appendix is to identify: (1) the Project Company's formation and other relevant entity-related information; (2) those Project Contractors that the Water Authority has approved for use by the Project Company in performing the Contract Services; and (3) the key management and supervisory personnel proposed to be used by the Project Company in performing the Construction Work.

14.2. PROJECT COMPANY INFORMATION

14.2.1 Project Company Information. Project Company represents and warrants that the following information regarding Project Company is true and complete as of the Contract Date:

1.	Name:	Poseidon Resources (Channelside) LP
2.	Date of Formation:	4/15/2003
3.	State of Formation:	Delaware
4.	Registration Number:	N/A
6.	Officers:	
	Name	Address
	Riva, Carlos	5780 Fleet Street, Suite 140, Carlsbad, CA 92008
	Kingman, Andrew	5780 Fleet Street, Suite 140, Carlsbad, CA 92008
	MacLaggan, Peter	5780 Fleet Street, Suite 140, Carlsbad, CA 92008
7.	Subsidiaries at the Contract Date:	N/A

14.3. PROJECT CONTRACTORS

14.3.1 Project Contractors Generally. As provided in Article 12 (Contracting and Labor Practices) of this Water Purchase Agreement, the Project Contractors shall be used by the Project Company in connection with the performance of the Contract Services. At any time during the Construction Period or the Operating Period, as applicable, the Project Company may request the Water Authority to update the list of approved Project Contractors. The Water Authority will review any suggested changes to such list in accordance with the provisions of Article 12 (Contracting and Labor Practices) of this Water Purchase Agreement. The Water Authority will have the right at any time to review and revise the then-current list of approved

Project Contractors consistent with Article 12 (Contracting and Labor Practices) of this Water Purchase Agreement.

14.3.2 Approved Project Contractors. The Project Contractors that the Water Authority has approved as of the Contract Date, and the Project Company is permitted to engage for the roles set forth below, are the following:

	Project Contractor	Role
1.	Kiewit Infrastructure West Co. and J.F. Shea Construction, Inc. ("Kiewit Shea")	EPC Contractor
2.	[IDE Entity]	Operating Service Provider
3.	IDE Americas, Inc.	Process Service Contractor

14.4. KEY INDIVIDUALS

14.4.1 Generally. As referenced in subsection 12.1(C) (Use of Project Contractors and Key Individuals) of this Water Purchase Agreement, certain key management and supervisory personnel were proposed by the Project Company and shall be used by the Project Company in connection with the performance of the Construction Work and the Operating Work (the "Key Individuals"). Any change in the Key Individuals shall be subject to review and approval (such approval not to be unreasonably withheld) of the Water Authority in accordance with subsection 12.1(C) (Use of Project Contractors and Key Individuals) of this Water Purchase Agreement. Resumes for the Key Individuals are included in Attachment 12A (Key Individuals Resumes) of this Appendix and establish the general level of qualifications for the role identified. At a minimum, all Key Individuals shall meet the registration, licensing, and certification requirements of subsection 4.5(D) (Registration, Licensing and Certification Requirements) of this Water Purchase Agreement. Further, the Chief Operator shall meet the registration, licensing, and certification requirements of subsection 8.2(A) (Project Company's Chief Operator) of this Water Purchase Agreement, and all key operations staff shall meet the minimum qualification requirements of Section 8.3 (Staffing and Personnel) of the Water Purchase Agreement and Appendix 6 (Operating and Maintenance Standards) of this Water Purchase Agreement.

14.4.2 Key Individuals. The Key Individuals are the following **(Names to be provided prior to Board consideration of Final Agreement)**:

	Project Company Party	Position	Name
1.	Project Company	Project Company Representative	
2.	IDE Technologies, Ltd.	Chief Operator	
3.	Kiewit-Shea	Plant EPC Program Manager	
4.	Kiewit-Shea	Pipeline EPC Program Manager	
5.	Kiewit-Shea	Plant Project Manager	

6.	Kiewit-Shea	Pipeline Project Manager	
7.		Individual in charge of Process Design and Plant Start-Up	
8.	Kiewit-Shea	Construction Manager – Plant	
9.	Kiewit-Shea	Construction Manager – Pipeline	
10.	Kiewit-Shea	Safety Manager	
11.	Kiewit-Shea	Quality Manager	
12.	Kiewit-Shea	Project Commissioning Manager	
13.	IDE Technologies, Ltd	Commissioning Manager	

14.4.1 Unnamed Key Individuals as of the Contract Date. To the extent not identified, within 90 days after the Financial Closing Date, the Project Company shall provide the names of the Key Individuals and their resumes for any positions set forth in subsection 14.4.2 (Key Individuals) of this Appendix. Such Key Individuals shall be subject to review and approval (such approval not to be unreasonably withheld) of the Water Authority in accordance with subsection 12.1(C) (Use of Project Contractors and Key Individuals) of this Water Purchase Agreement.

14.5. SPECIFIED PERSONNEL

14.5.1 Additional Specified Personnel. The Project Company shall provide the Water Authority with written notice in advance of any change in the personnel listed in the table below (“Specified Personnel”). The Water Authority shall deliver writing notice to the Project Company promptly (but in no event later than 14 days from receipt of such notice) describing any reasonable concerns regarding the qualifications of individuals proposed to hold such positions (or to replace the current Specified Personal). Within seven days of the delivery of the Water Authority’s notice, the parties shall meet to resolve the Water Authority’s concerns,

	Project Company Party	Position	Name
1.	Kiewit-Shea	Pipeline Design Manager	To be provided in Final Agreement
3.	Malcolm Pirnie	Lead Design Engineer (Plant)	Richard H. Kennedy, PE
4.	IDE Technologies, Ltd.	Project Manager	Ziv Shor
5.	IDE Technologies, Ltd.	Project Manager USA	Chris Johansen
6.	IDE Technologies, Ltd.	Chief Process Engineer	To be provided in Final Agreement
8.	[IDE Entity]	Operator Representative	To be provided in Final Agreement

14.5.1 Unnamed Key Individuals as of the Contract Date. To the extent not identified, within 60 days after the Financial Closing Date, the Project Company shall provide the names of the individuals proposed to hold the positions set forth in subsection 14.5.1 (Specified Personnel) of this Appendix and shall provide resumes for each such individual. The Water Authority shall have the same approval rights set forth in subsection 14.5.1 of this Appendix as for a change in Specified Personnel.

ATTACHMENT 14A

KEY INDIVIDUALS RESUMES

(To be provided by the Project Company for inclusion in Final Agreement)

APPENDIX 15
PUBLIC COMMUNICATIONS

APPENDIX 15

PUBLIC COMMUNICATIONS

15.1. PURPOSE.

This Appendix describes the methods the Project Company will use to proactively communicate the details of the Project during the Construction Period (the “Public Communications Program”). One purpose is to inform stakeholders, businesses and residents within the City of the Construction Work and its potential impacts to the community. The second purpose of the Public Communications Program is to provide Project information to the general public within San Diego County. Elements of the Public Communications Program will be implemented systematically over the course of the Project construction, based on analysis of the current needs, and in response to, overall Project goals.

15.2. ASSIGNMENT OF RESPONSIBILITY.

The Project Company will design, staff and implement the Public Communications Program during construction and into commercial operations. The Project Company will keep the Water Authority informed of Public Communications Program activities and of community inquiries, concerns and complaints. When any Public Communications Program activity or communication media includes Water Authority quotes attributed to Water Authority representatives, the Project Company will obtain final approval from the Water Authority’s Public Outreach and Conservation Department.

15.3. OBJECTIVES.

The Project Company and the Water Authority shall use a variety of methods for the Public Communications Program. These shall include, but not be limited to, neighborhood open houses, Project tours, video/slide presentations for the public, the Project website, a toll-free hotline number, and other community involvement activities, including social media. Both parties shall evaluate community needs before the Project Company selects specific outreach instruments.

15.4. LIMITATIONS.

As set forth in Sections 26.13 (Water Authority’s Confidentiality Obligations) and 26.14 (Project Company’s Confidentiality Obligations) of this Water Purchase Agreement, without written authorization of the other party, the Water Authority will not disclose Project Company Confidential Information, and the Project Company will not disclose Water Authority Confidential Information, whether for public announcement, publication in the press, radio, television or any other medium. The Project Company will obtain advance approval from the Water Authority of any quotes attributed to any representative of the Water Authority and any facts about and descriptions of the Water Authority, its mission and activities used by or on behalf of the Project Company in its press releases, advertisements, promotional materials, informational presentations, websites, social media, or other communications to or with the public generally. Any such written materials submitted by the Project Company for Water Authority approval that have not been approved within five business days shall be deemed approved. The Project Company will promptly correct or remove Water Authority information that has not received advance approval or has become obsolete or inaccurate.

15.5. PUBLIC COMMUNICATIONS PROGRAM GOALS.

The Public Communications Program will address four key elements:

- (a) Create public awareness of the Project (including anticipated benefits) within the San Diego Region. The Project Company will develop and implement a program of community communications that extends through the construction process and into commercial operation of the Project. All community communications will provide the public convenient methods of making inquiries and requesting more information, including but not limited to a telephone hotline and email address.
- (b) Educate the public about the Project. Public acceptance of any new water supply requires a clear and accurate knowledge of related technical issues. The Project Company will develop a fact-based summary of the Project to help foster public understanding of and support for the Project. This summary will also stress the need for, and importance, of the new water supply.
- (c) Maintain public knowledge of the Project's progress. Citizens of Carlsbad and San Diego County will receive regular Project updates through multiple channels (e.g., direct mail, news media, e-mail, website, speakers' bureau and face-to-face interaction).
- (d) Facilitate two-way communication between members of the community and Project officials with regard to Project issues. The Project Company will supply residents and businesses in Carlsbad numerous convenient methods of making inquiries and requesting more information specific to questions or concerns regarding the Project during construction. In anticipation of possible community concerns, the Project Company will identify foreseeable construction related impacts such as traffic, noise, and dust, and prepare mitigation plans that can be implemented to minimize these impacts.

15.6. PUBLIC COMMUNICATIONS PROGRAM ELEMENTS.

The Project Company shall implement each of the following components.

15.6.1 Stakeholder Database. Develop and maintain a comprehensive Project database that includes interested stakeholders, business and community organizations, elected officials, and residences/businesses of Carlsbad and the surrounding areas which will be directly affected by construction activities. This database will be updated continuously throughout the construction period and individuals can request to be added to the database at any time through the Project website, email or telephone hotline.

15.6.2 Regular Media Contact and Communication. The Project Company will foster new and strengthen existing relationships with representatives at local newspapers, community cable television outlets and radio stations within San Diego County. The Project Company will issue routine news releases at appropriate times during the Project construction, and present feature story ideas and photo opportunities to media. The Water Authority will have final review authority over quotes attributed to Water Authority representatives. The Project Company will develop a detailed fact sheet on construction details to distribute to reporters and other interested parties prior to construction.

15.6.3 Public Information Events. The Project Company will coordinate a variety of events to facilitate public education and outreach, including regular community update meetings.

15.6.4 Telephone Hotline and Email. To help address the need for two-way community communication, the Project Company will manage a dedicated toll-free project hotline and email address for use during construction. The Project hotline will have a recorded update message. Both the telephone hotline and email inbox will be checked daily, and all inquiries will be returned

within one business day. In preparation for incoming inquiries, the Project Company will prepare a list of frequently asked questions and responses.

15.6.5 Contractor Outreach. Construction personnel will be provided with public relations guidelines for interacting with members of the public. Project information cards with hotline, website, and email contact information will be provided to the construction manager and field superintendent. The Project Company will require its construction personnel to distribute the cards to any members of the public they interact with who have questions/concerns, redirecting the public to the designated public outreach personnel with the Project Company for a response.

15.6.6 Project Signage. Project signs will be posted in a highly publically viewed area on-site. These signs will have the Project information, hotline, website, and email contact information.

15.6.7 Construction Notices. A letter will be distributed to each residence and business in the affected neighborhoods in Carlsbad, within no less than .5 mile from the Project, prior to the commencement of the Construction Work. Additionally, for high-impact construction activities or major traffic interruptions, door hangers will be distributed to affected neighborhoods a week in advance of these activities. Regular print communications will be prepared by the Project Company for inclusion in local water bills in the City as well.

15.6.8 Community Open Houses. The Project Company will hold “open house” style events in the areas of the City affected by the Construction Work. These open houses will be held to maximize public attendance and to gain feedback, comments and concerns regarding construction schedules, truck routes or other construction impacts. Noticing for the event will include an invitation announcement that will be sent to all residences, businesses and homeowner associations within no less than .5 mile from the Project.

15.6.9 Internet-Based Communication. The Project Company will provide timely information and updates to the Water Authority for inclusion on the Water Authority’s existing website, as well as on the Project website. These updates will be on an as-needed basis to reflect changes in construction activities, such as detours, etc. Interested parties will also be updated through e-mail, as well as social media such as Facebook and Twitter for immediate notifications. The Project’s web presence will be publicized in the City’s newsletters, bill stuffers, construction signage and local media.

15.6.10 Video and Photo Sharing. Daily photos will be taken of the Construction Work on-site. These photos will be shared on the Project website. Periodic short video clips will be taken to show notable construction events and will also be posted on the Project and Water Authority websites.

15.6.11 Existing Community Publications. The Project Company will make use of existing community publications such as Carlsbad’s newsletters, the monthly Carlsbad Chamber of Commerce newsletters, homeowner association newsletters, and local newspapers to highlight specific construction events, the start of a new phase, or general Construction Work updates. The Project Company will provide general Construction Work updates for publications of regional organizations such as the San Diego Regional Chamber of Commerce and San Diego Regional Economic Development Council.

15.6.12 Existing Community Events. The Project Company will work with community organizations within San Diego County to utilize, as appropriate, public events as venues for highlighting the Project and Construction Work updates.

15.6.13 Business Outreach. The Project Company will work directly with affected businesses in the City to resolve any site access issues or construction impacts for employees and

customers. The Project Company will provide “Open During Construction” signage and will keep businesses informed through bi-monthly updates (via personal visit, email or phone calls).

15.6.14 Water Authority Updates. While all collateral materials and notifications will direct the public to the Project Company’s website or project information hotline, inevitably, members of the public will contact the Water Authority with questions or concerns. The Project Company will ensure the Water Authority’s Public Outreach and Conservation staff is kept informed of upcoming construction schedules and aware of Project contact information to redirect public inquiries about the Project. In addition, public communications and concerns of nearby residents, scheduled tours, problems etc. are included on the agenda for the preconstruction conference and for the monthly construction progress meetings referenced in Appendix 3 (Project Design and Construction Work).

15.6.15 Complaint Log. A complaint and response log will be established and managed by the Project Company. The log will include name, day, time, contact information, complaint and response. These individuals will also be added to the stakeholder database for further communications

15.6.16 Construction Site Tours. The Project Company will accommodate Water Authority tours during the construction phase of the Project when and where site safety conditions allow.

15.6.17 Detailed Outreach Plan. The Project Company will develop a detailed outreach plan within 60 days of the Contract Date (the “Outreach Plan”). The Outreach Plan will provide specific details of implementation of this Public Communications Program.

15.6.18 Early Action Outreach Plan. On the Contract Date, the Project Company will submit an early action Outreach Plan for immediate outreach tasks to be performed during the first 60 days after the Contract Date, while the detailed Outreach Plan is developed. Outreach tasks for the first 60 days will include but not be limited to notifying residents and businesses within .5 mile of the Project of this Water Purchase Agreement and the commencement of the Construction Work, establishing the toll-free project hotline and email address, installing Project signage, identifying dates, locations and target audiences for early Project Site tour opportunities, and developing the detailed fact sheet on the Construction Work described in 15.6.2 (Regular Media Contact and Communication) of this Appendix for use by the Project Company and Water Authority teams.

Appendix 16

LITIGATION

Surfrider Foundation v. California Regional Water Control Board, NO. 37-2010-00090436-CU-WM-CTL in the California 4th District Court of Appeal for the County of San Diego.

APPENDIX 17
INFORMATION PROVIDED BY THE PROJECT COMPANY

APPENDIX 17

INFORMATION PROVIDED BY THE PROJECT COMPANY

17.1. PURPOSE

The purpose of this Appendix is to document all of the information provided by the Project Company to the Water Authority upon which the Water Authority has relied during consideration of entering into the Water Purchase Agreement. This information is listed by document title on Table 17-1; author and date for each document are included where available. All documents listed herein include all applicable attachments, appendices, and/or schedules by reference. Additional documents not included in the table below as they are otherwise included as attachments to the WPA in other sections include the following:

- (a) Desalination Facility Engineering, Procurement and Construction Services Agreement between Poseidon Resources (Channelside) LP (“Owner”) and Kiewit Infrastructure West Co. and J.F. Shea Construction, Inc. (“Contractor”)
- (b) Operation, Maintenance, Repair and Replacement Agreement by and between Poseidon Resources (Channelside) LP, as Owner and [IDE Entity], as Operator
- (c) Process Services Agreement between Kiewit Shea Desalination (“General Contractor”) and IDE Americas, Inc. (“Consultant”)

Table 17-1 Information Provided by the Project Company			
Document Title		Author	Date
1.	Addendum to Commission Packet for Energy, Ocean Resources, and Federal Consistency – E-06-013, Condition Compliance – Poseidon Resources (Channelside), LLC, Addendum to Staff Report on Condition Compliance for E-06-013, Special Condition 8 – Poseidon Resources (Channelside) LLC	California Coastal Commission	October 15, 2010
2.	Cabrillo Lease PRC 8727.1, State Lands Commission (SLC)	Not available	May 10, 2007; signed August 14, 2007
3.	California Coastal Commission Hearing Staff Report F5a – Condition Compliance for CDP No. E-06-013, Special Condition 8 – Submittal of Proposed Mitigation Site and Preliminary Restoration Plan as required by the approved Marine Life Mitigation Plan	California Coastal Commission	September 22, 2010
4.	California Debt Limit Allocation Committee (CDLAC) – Application for an Allocation of the State Ceiling on Qualified Private Activity Bonds for an Exempt Facility Project	Not available	2009
5.	Carlsbad Desalination Project – Product Water Quality	© Poseidon Resources Corporation	April 5, 2005

Table 17-1
Information Provided by the Project Company

Document Title		Author	Date
6.	Carlsbad Desalination Project – Waste Stream Characterization	© Poseidon Resources Corporation	April 5, 2005
7.	Carlsbad Seawater Desalination Project - Energy Minimization and Green House Gas Reduction Plan, revised December 10, 2008 to be consistent with findings adopted by California Coastal Commission (redline) (including Table 2)	Not available	July 30, 2008; revised December 10, 2008
8.	Coastal Development Permit, Granted November 1, 2007, Issued on November 2, 2009.	Letter from Alison Dettmer, Deputy Director	November 3, 2009
9.	Consolidated Financial Statements – Poseidon Carlsbad LLC (Development Stage) – Year ended December 31, 2004 and the period from May 8, 2003 (inception) through December 31, 2003 with Report of Independent Auditors	Ernst & Young	March 31, 2005
10.	Department of Health Services – System No. 3710045 – Carlsbad Desalination Project.- Conceptual Approval	Letter from Brian Bernados, District Engineer, San Diego	October 19, 2006
11.	Desalination Facility Engineering, Procurement and Construction Services Agreement between Poseidon Resources (Channelside) LP (“Owner”) and Kiewit Infrastructure West Co. and J.F. Shea Construction, Inc. (“Contractor”), including all attachments and appendices	Not available	September 19, 2011 draft [to be updated with final contract execution date]
12.	Environmental Impact Report for Precise Development Plan and Desalination Plant – EIR 03-05 – SCH# 2004041081 final.		
13.	Employee Biographies	Not available	2010
14.	Environmental Impact Report, Response to comments, and Mitigation Monitoring and Reporting Program for Precise Development Plan and Desalination Plant – EIR 03-05 – SCH# 2004041081	City of Carlsbad	June 2006
15.	Amendment of Lease PRC 8727.1, Final SLC Cabrillo Lease	Not available	August 22, 2008; signed February 23, 2009

Table 17-1
Information Provided by the Project Company

	Document Title	Author	Date
16.	Flow, Entrainment and Impingement Minimization Plan, Carlsbad Seawater Desalination Project, San Diego Regional Water Quality Control Board, Order No. R9-2006-0065, NPDES No. CA0109223	Certified by Peter MacLaggan, Poseidon Resources Corporation	March 27, 2009
17.	Marine Life Mitigation Plan – Approved – Item W16a – Exhibit 1 – Special Condition 8 of E-06-013		November 21, 2008
18.	Operation, Maintenance, Repair and Replacement Agreement by and between Poseidon Resources (Channelside) LP, as Owner and [IDE Entity], as Operator, including all appendices	Not available	August 9, 2011 draft [to be updated with final contract execution date]
19.	Planning Commission Resolution No. 6631 – Environmental Impact Report (EIR) 03-05(A) for the Precise Development Plan and Desalination Plant Project (State Clearinghouse No. 2004041081) – Addendum Approval	Not signed	August 19, 2009
20.	Planning Commission Resolution No. 6632 - Precise Development Plan PDP 00-02(B) Amendment	Not signed	August 19, 2009
21.	Planning Commission Resolution No. 6633, Amended and Restated Encina Specific Plan 144 with Amendment 144(J) to incorporate amended Precise Development Plan 00-02(B)	Not signed	August 19, 2009
22.	Planning Commission Resolution No. 6635 - Redevelopment Permit (RP 05-12(A)) Amendment	Not signed	August 19, 2009
23.	Planning Commission Resolution No. 6636 – Habitat Management Plan Permit Amendment (HMP 05-18(A))	Not signed	August 19, 2009
24.	Poseidon Active Patents	Not available	October 18, 2010
25.	Poseidon Carlsbad, LLC And Its Wholly-Owned Subsidiary (Development Stage) – Consolidated Financial Statements – Years Ended December 31, 2006 and 2005	Friedberg, Smith & Co., P.C.	March 24, 2007
26.	Poseidon Carlsbad, LLC And Its Wholly-Owned Subsidiary (Development Stage) – Consolidated Financial Statements – Years Ended December 31, 2007 and 2006	Friedberg, Smith & Co., P.C.	April 10, 2008
27.	Poseidon Carlsbad, LLC And Its Wholly-Owned Subsidiary (Development Stage) – Consolidated Financial Statements – Years Ended December 31, 2008 and 2007	Friedberg, Smith & Co., P.C.	April 27, 2009
28.	Poseidon Carlsbad, LLC And Its Wholly-Owned Subsidiary (Development Stage) – Consolidated Financial Statements – Years Ended December 31, 2009 and 2008	Friedberg, Smith & Co., P.C.	April 21, 2010
29.	Poseidon Resources Carlsbad Desalination Project: Litigation and Regulatory Summary	Latham & Watkins, LLP	March 2, 2011

Table 17-1
Information Provided by the Project Company

	Document Title	Author	Date
30.	Process Services Agreement between Kiewit Shea Desalination ("General Contractor") and IDE Americas, Inc. ("Consultant"), including all schedules	Not available	October 17, 2011 draft [to be updated with final contract execution date]
31.	Proposed Carlsbad Project Ownership Structure	Not available	November 17, 2010
32.	Proud Partner Sponsorship Agreement - Cuyamaca Rancho State Park - Poseidon Resources	Not available	Executed January 12, 2011
33.	Ratings Presentation for the Carlsbad Desalination Project – Draft	Barclays Capital	October 2011
34.	Regional Water Quality Control Board (RWQCB) Order No. R9-2009-0038 Amending Order No. R9-2006-0065 (NPDES No. CA0109223) - Waste Discharge Requirements for the Poseidon Resources Corporation - Carlsbad Desalination Project Discharge to the Pacific Ocean via the Encina Power Station Discharge Channel	John H. Robertus, Executive Officer	May 13, 2009
35.	Binding Price Offer for the Carlsbad Seawater Desalination Facility	Kiewit-Shea	October 26, 2010
36.	RWQCB R9-2010-0073 – An Order Modifying Order No. R9-2006-0065 (NPDES No. CA0109223) – Poseidon Resources (Channelside) LLC - Carlsbad Desalination Project Discharge to the Pacific Ocean via the Encina Power Station Discharge Channel	David W Gibson, Executive Officer	May 12, 2010
37.	Second Amended and Restated Ground Lease and Easement Agreement (040710) and First Amendment (100510) – Response to Request to Review Second Amended and Restated, including Response to Request to Review Second Amended and Restated Ground Lease and Easement Agreement Between Poseidon Resources and Cabrillo Power, LLC, letter to Ken Weinberg of San Diego County Water Authority (SDCWA)	Letter from Peter MacLaggan, Vice President, Poseidon Resources (Channelside) LLP	January 25, 2011
38.	Special Conditions Contract between San Diego Gas & Electric Company and Poseidon Resources (Channelside), LLC	Not available	October 1, 2009
39.	Standard Urban Storm Water Mitigation Program (SUSMP), Water Quality Technical Report, SWMP 09-18, Poseidon Seawater Desalination Plant for Poseidon Resources (Channelside) LLC	Tetra Tech, Inc.	October 14, 2009
40.	Storm Water Pollution Prevention Plan for Poseidon Seawater Desalination Plant and Pipeline	Tetra Tech, Inc.	October 15, 2009

APPENDIX 18

WATER AUTHORITY'S DISCRIMINATION/HARASSMENT PROHIBITION POLICY

Subject: Discrimination/Harassment ProhibitionSection D - 1
Page 1 of 5**Reference/Related Policies:**

Administrative Code, Section 2.16.040, Special Review Subcommittee; Section 2.16.050, Personnel Rules, Policies and Procedures; Section 2.16.090, Fair Employment Practices
Small Contractor Opportunity and Outreach Program
California Fair Employment and Housing Act
Civil Rights Act of 1964; American's with Disabilities Act

Background:

The San Diego County Water Authority encourages and supports policies and actions that demonstrate and reinforce the Water Authority's commitment towards its organizational values including customers, employees, communication, excellence and integrity.

Consistent with these values, the Water Authority continues to pledge its commitment to provide equal access and fair treatment in the operation and administration of Water Authority employment, contracting and provision of governmental services. This policy is intended to further the Water Authority's goal to have a workplace that is free from all forms of exploitation, intimidation, unlawful discrimination, harassment and other offensive conduct. This policy governs the conduct of all Water Authority employees and consultants. Other policies govern Authority contracting practices.

To reinforce the Water Authority's commitment toward providing an appropriate work environment, the following policy prohibiting discrimination and harassment has been adopted:

Policy:

1. Unlawful discrimination toward or harassment of an employee, applicant for employment, contractor, vendor, or recipient of governmental services by any Water Authority employee, or consultant, is prohibited. This includes discrimination and harassment on the basis of race, sex, creed, national origin, veteran status, color, physical disability, mental disability, religion, age, medical condition, marital status, ancestry, citizenship, sexual orientation, or any other status protected by Federal or State statutory law. It is also the responsibility of Water Authority employees to remediate unlawful discrimination toward or harassment of an employee, applicant for employment, contractor, vendor, or

Subject: Discrimination/Harassment ProhibitionSection D - 1
Page 2 of 5

recipient of governmental services by any person on the Water Authority premises or in connection with a Water Authority service or activity.

2. Adverse employment actions based upon an employee's protected status are prohibited.
3. Managers and supervisors shall take reasonable steps to avoid engaging in personal relationships that may create claims of discrimination or sexual harassment.
4. Managers and supervisors shall promptly investigate and contact the Human Resources department on all reports or complaints of incidents of discrimination or harassment prohibited by this policy and shall investigate any known or suspected incidents.
5. Human Resources shall investigate and remediate all reports or complaints of incidents of discrimination or harassment prohibited by this policy.
6. Discipline, up to and including dismissal, shall be imposed for conduct that violates this policy. The discipline shall reflect the seriousness of the misconduct and ensure that the conduct is not repeated.
7. Retaliation is prohibited against an employee, applicant for employment, contractor, vendor, bidder, or consultant for making a complaint, bringing inappropriate conduct to the Water Authority's attention, preventing unlawful practices, or for participating in an investigation, proceeding or hearing.
8. Intentional dissemination of false, malicious, and/or reckless rumors or criticism alleging conduct in violation of this policy is also prohibited.
9. The Water Authority shall provide at least two hours of interactive sexual harassment training to managers, supervisors, and lead staff every two years, and will provide similar training to employees who are new or promoted to these positions within six months of hire or promotion as necessary, consistent with state law.
10. Prohibited Conduct - includes, but is not limited to:

Subject: Discrimination/Harassment ProhibitionSection D - 1
Page 3 of 5

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- a. **Sexual Harassment** – Sexual harassment includes, without limitation, unwelcome sexual advances, invitations or comments, requests for sexual favors, and other verbal or physical conduct of a sexual nature, which is conditioned upon withholding or granting of an employment benefit, unreasonable interference with an individual's work performance, or creation of an offensive work environment. It includes harassment based upon a person's gender or sexual orientation.
 - b. **Verbal Harassment** - Includes conduct such as epithets; patronizing terms; and derogatory jokes, comments or slurs based on race, sex, creed, national origin, veteran status, color, physical disability, mental disability, religion, age, medical condition, marital status, ancestry, or sexual orientation.
 - c. **Physical Harassment** - Includes conduct such as assault, unwanted touching, impeding or blocking movement, or any physical interference with normal work or movement when directed at an individual because of race, sex, creed, national origin, veteran status, color, physical disability, mental disability, religion, age, medical condition, marital status, ancestry, or sexual orientation.
 - d. **Visual Forms of Harassment** Includes, without limitation, posters, photographs, writings, notices, bulletins, cartoons, drawings or gestures in the workplace, or using Water Authority equipment or communications systems that is reasonably understood to convey information that is derogatory or offensive to a person or group on account of the status of the person or group because of race, sex, creed, national origin, veteran status, color, physical disability, mental disability, religion, age, medical condition, marital status, ancestry, or sexual orientation. Display of sexually oriented material is also prohibited.
 - e. **Retaliation** – Includes conduct such as unreasonable or unjustified changing of work assignments or location; uncharacteristic denial of leave requests; ostracizing, gossiping, and/or general uncooperativeness; unsupported discipline or undeserved performance evaluations; and inappropriately providing barriers to the employment process or the contractor/vendor selection process.

Subject: Discrimination/Harassment ProhibitionSection D - 1
Page 4 of 5**Discrimination/Harassment Complaint Procedure:**

1. An employee, applicant for employment, contractor, vendor, or other non-employee who has experienced discrimination or harassment by an Authority employee on the basis of race, sex, creed, national origin, veteran status, color, physical and mental disability, religion, age, medical condition, marital status, ancestry, or sexual orientation, may file a complaint with the General Manager, the Director of Human Resources or any Water Authority manager or supervisor. Complaints involving the General Manager or the General Manager's immediate staff, may be filed with the General Counsel. The option of reporting perceived harassment to the California Department of Fair Employment and Housing (DFEH) or the Federal Equal Employment Opportunity Commission (EEOC) which investigates and prosecutes complaints of prohibited discrimination or harassment is not precluded by this policy.
2. Executive staff, managers, and supervisors informally learning of a potential complaint may, and at the complainant's request shall counsel employees regarding the Water Authority's policy on discrimination/harassment and outline the available options to resolve the matter, including filing a complaint. All such matters shall be immediately reported to the Director of Human Resources who shall promptly consult with the General Counsel.
3. **Complaint** - The complaint may be provided orally or in writing to any Water Authority manager or supervisor or even the offending individual with the idea of seeking resolution through discussion(s). All complaints shall be reported to the Director of Human Resources. The General Counsel will be promptly informed of the complaint by the Human Resources Department.
 - a. The complaint should be provided as soon as possible after the incident, and should include all details on the incident(s), names of individuals involved and the names of any witnesses, and provided to the Director of Human Resources. The complaint will be promptly discussed with the General Counsel by Human Resources.
 - b. A prompt, effective, objective, and thorough investigation of the complaint, in consultation with the General Counsel, shall be conducted by the Director of Human Resources, other staff, or an outside investigator under the supervision of the Director of Human Resources. The investigation

Subject: Discrimination/Harassment ProhibitionSection D - 1
Page 5 of 5

shall include interviewing the complainant, the accused, witnesses, and supervisor; reviewing factual information collected to determine whether the alleged conduct constitutes discrimination or harassment, giving consideration to the record as a whole and the totality of circumstances, including the nature of the verbal, physical, visual, or sexual harassment and the context in which the alleged incidents occurred. A written report including the findings shall be prepared and provided to the General Manager as well as a recommendation for appropriate action.

- c. The complainant, accused, and witnesses have a right to representation in any investigatory meeting or interview that could foreseeably lead to discipline.
 - d. "CAUSE" FINDING: If it is determined that discrimination or harassment has occurred, remedial action shall be taken appropriate to the circumstances, including disciplinary actions consistent with the established disciplinary procedures set forth in Section D-2 of this Human Resources Policies and Procedures manual.
 - e. "NO CAUSE" FINDING: If it is determined that there is no reasonable cause, or insufficient evidence to substantiate a charge of discrimination or harassment, the complainant shall be notified in writing of that decision. The complainant shall be reassured that the complainant's employment conditions or business relationship will not be adversely affected by the complaint, that the Water Authority is committed to providing a workplace free of discrimination and harassment, and that any subsequent incidents should be brought forward immediately. Appropriate remedial action to assure a discrimination and harassment free work environment shall be considered and implemented if warranted by the circumstances.
5. **Confidentiality** - The privacy and rights of parties involved in a complaint will be protected consistent with the requirements for an effective investigation. Only those people who must be involved in an investigation will be given information, on a "need to know" basis. No materials pertaining to the harassment claim will be placed in the complainant's personnel file.

HARASSMENT COMPLAINT

INTERVIEW GUIDELINES FOR SUPERVISORS

The interview is one of the most important preliminary steps a supervisor can take when dealing with an alleged harassment incident. If an employee comes to you with a problem, you should be prepared to ask the kinds of questions which will give you sufficient information to take immediate corrective action or initiate an investigation. Here are the steps that you should take before the interview:

1. Encourage employees to come to you, even if they are not certain they have a problem. If nothing else, this will allow you to become aware of potential problems, allow you to do some informal counseling and monitoring, and help you build up your credibility with your employees.
2. Make certain that you locate some place at your work site where your employees can speak freely without interruptions and with confidentiality.
3. Remember that harassment victims may be angry or embarrassed and that it is up to you to get the appropriate information from them.

During the Interview:

1. Tell the victim that you cannot take any formal action without getting all the facts, but that you are committed to doing so in an impartial manner and as quickly as possible.
2. Let the victim know that you will be taking notes. Ask if that is okay in an informal interview. Explain that it will be necessary if a formal complaint is filed.
3. Be as supportive as you can without committing yourself or making promises that you may not be able to keep.
4. Tell the victim that the information given will be held in the strictest confidence and that only those people who must be involved in an investigation will be given information. The victim must be protected at all times. You must respect the victim's confidentiality.
5. Ask the following questions:
 - a. Describe what happened.

- b. Can you remember specifically exactly what the perpetrator said or did?
 - c. What did you say or do immediately after the event?
 - d. How did you feel about what occurred?
 - e. Can you give me any background about the incident? Have there been similar incidents before?
 - f. Do you have any kind of a written record of what occurred (dates, times, places, etc.)?
 - g. Did anybody else see or hear what happened?
 - h. Have you told anyone else about what happened? Who?
 - i. Do you know if anybody else has been bothered by this person? If so, who?
 - j. What would you like me to do about it?
6. Write down just enough of what the victim tells you to jog your memory. Then fill in after the interview with as much information as possible. Exception: try to write down exactly what the harasser said or did and what the victim said or did at the time of the event.
7. Listen carefully. Do not evaluate or interpret what the victim says.

After the Interview:

- 1. Once you have completed interviewing the victim, finish filling in your notes. Then make a list of the events which were described to you and a possible list of witnesses.
- 2. If you feel uncomfortable doing this kind of thing, do not feel you are alone. Most supervisors prefer to look the other way when personnel problems are involved. This is one problem, however, that you cannot ignore.
- 3. If the victim wants to keep the complaint informal, then decide whether you want to check out the information you have received or talk to the alleged perpetrator first. If the problem is minor or you think it can be handled easily by talking to the perpetrator first, start with that person. If the problem is a major one, depending on the facts, you may or may not want to notify the alleged perpetrator of the complaint. You may prefer to observe the perpetrator's conduct for yourself, then decide on subsequent action.

4. Question the perpetrator to get her/his side of the story. Be very clear about the consequences of her/his actions. Let the person know that you are taking the problem very seriously. Ask her/him to stop the offending conduct immediately. If they deny doing the act(s) in question, you will need to check out the story or possibly do a full-scale investigation. Also look to the person's past conduct if you think it is appropriate. Employees who have always behaved courteously and professionally usually do not change overnight.
5. Do not be surprised if the alleged perpetrator admits doing the act. Most people do not realize that the intent of the perpetrator does not matter. They feel that if their intentions were innocent, they have not done anything wrong. You must clearly explain to her/him that the issue is how the conduct in question was perceived by the victim.
6. If the complaint was informal and you do not want or need to do a full-scale investigation, try checking out what the victim has told you. Usually in an informal case, others have observed the conduct in question and you can bring up the subject casually.
7. If you have counseled the perpetrator and she/he has agreed to change their conduct in the future, do not think that your job is through. Now you have to monitor the workplace carefully. Has the problem truly been resolved or has it gone underground? Check back frequently with the victim. Look for subtle differences in her/his conduct. Is the victim still willing to talk about the problem or does she/he want to avoid it now? Keep your ear to the ground and make certain that retaliation is not occurring. If you suspect that retaliation is occurring, talk to the victim and openly state your concerns. Show your support. Try to get the victim to confide in you. If the victim is being retaliated against, be prepared to initiate immediate disciplinary action against the perpetrator.
8. Continue to monitor the work environment.

Extracted from "Sex and Power: Workplace Issues," Yvonne Williams, J.D. (City of San Diego , Organization Effectiveness Program), 1983.