November 13, 2012
Item No. 6
Supporting Document No. 4

SAN DIEGO REGIONAL
WATER QUALITY
CONTROL BOARD

2012 SEP -5 P 3:38

County of San Diego

RICHARD E. CROMPTON
DIRECTOR

DEPARTMENT OF PUBLIC WORKS

5510 OVERLAND AVE, SUITE 410
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September 5, 2012

Julie Chan, P.G., Chief
Cleanup and Land Discharge Branch
CA Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Dear Ms. Chan:

783251: oosibodu

Please see below the San Diego County Sanitation District's and Engineer of Record's comments to TENTATIVE ORDER NO. R9-2012-0054, WASTE DISCHARGE EQUIREMENTS FOR THE SAN DIEGO COUNTY SANITATION DISTRICT-HARMONY GROVE SERVICE AREA, HARMONY GROVE WATER RECLAMATION PLANT, SAN DIEGO COUNTY.

1. Please change throughout the Order the name of Discharger from "San Diego County Sanitation District-Harmony Grove Service Area" to "San Diego County Sanitation District".

2. Title of the Order. It appears that a space is missing between "FOR" and "THE."

3. Page 3, I. Table 4. Please correct facilities contact name and mailing address as follows:

   Milica Kaludjerski Schipper
   5500 Overland Avenue
   Suite 315
   San Diego, CA 92123-1248

4. In several sections of the Tentative Order (including, but not limited to: B.1, C.5, Attachment C.I. Table C-1), the average dry weather flow of 180,000 gallons per day is referenced as if it would be the maximum effluent flow rate. For example, on page 3, B.1, it is indicated that "...applied for waste discharge requirements to discharge up to 180,000 gallons per day (gpd) of disinfected tertiary treated wastewater..."

5. On page 7, C.5, also indicates that the average monthly effluent flow from the plant shall not exceed 180,000 gpd. The plant will have to discharge at a higher flow rate during wet weather or after peak flow conditions to empty the wet weather basin and prepare for the next wet weather
season and avoid possible spills or discharge to surface waters. We suggest that the effluent flow rate limit is set at the average monthly effluent flow to 541,000 gpd or 376 gpm (please see the attached calculations from Dexter Wilson engineering).

6. Page 4, B.5. Please revise the last sentence to read, "There will also be another separate concrete below grade basin at the plant site, **which** will provide..."

7. Page 4, B.6.c. Please revise the first sentence to read "Effluent produced...in an onsite storage tank, and the effluent **will be** used for..."

8. Page 6, B.19. and F.3. The County requests modification of the salt and nutrient management plan (SNMP) requirements addressed in the Provision F.3 of the proposed revised Tentative Order. Compared to the City of Escondido's discharge, County's contribution to the Escondido Groundwater Basin shall be less than 2-percent. The County proposes to replace F.3 with the following:

   F.3 The State Water Resources Control Board *Recycled Water Policy* states that the appropriate way to address salt and nutrient issues is through the development of regional or sub regional salt and nutrient management plans. The development of the salt and nutrient management plans is expected to be a cooperative effort among local water and wastewater entities and local salt/nutrient contributing stakeholders. As the major recycled water producer and purveyor within the basin, it is anticipated that the City of Escondido and/or Rincon Del Diablo Water District will lead the development of a salt and nutrient management plan for the Escondido groundwater basin. This Order requires the Discharger to participate as a stakeholder in the City's and/or Water District's effort to develop a salt and nutrient management plan for the Escondido groundwater basin

9. Page 8, D.1, Table 6. We understand that the effluent limitation for TDS is based on the groundwater quality objectives for the Escondido HAS, which is 1,000 mg/L. It also appears that the Regional Board staff reviewed effluent TDS data from the Meadowlark WRP (927 mg/L), whose service area is supplied with the same potable water source as the Harmony Grove Village (referenced in Attachment C, II.C. Table C-2), to determine the expected effluent TDS concentration from the Harmony Grove WRP. While it is our intention to meet the effluent TDS limitation, it is possible that compliance may become challenging beyond our control if the TDS in the potable water supply increases. TDS concentrations in the potable water supply could increase due to a combination of water conservation measures and/or increased reliance on water supplies from the Colorado River, which has a significantly higher TDS concentration than water from the State Water Project. We request that the following or similar statement be added to the Tentative Order:

"Discharges with TDS concentrations exceeding 1,000 mg/L would not be considered a violation if the TDS concentration in the potable water supply within the Harmony Grove Service Area is greater than 700 mg/L."

We feel that this language would allow us to provide recycled water and augment water supplies in our region without receiving violations for conditions that are beyond our control.

10. Page B-5, To avoid problems, it would be beneficial to identify the specific effluent monitoring locations (please see the attached marked-up drawing), of the tentative monitoring program, as follows:

    II. EFFLUENT MONITORING REQUIREMENTS
    The Discharger shall monitor the effluent quality at a point between the end of the chlorine contact basin and the entry to the tertiary effluent wet well in accordance Table B-1. Recycled water effluent flow shall be monitored after the gravity filters.

11. Page B-5, Table B-1, Please change reporting frequency to quarterly or annually for constituents that are sampled quarterly (from chloride to fluoride).

12. Page B-5, 1st Paragraph. Reference to Table C-1 should be revised to Table B-1

13. Page B-5. Table B-1. Effluent monitoring requirements for TDS appears to be missing.

14. Page C-4, Table C-2, please change HAARF chloride concentration to 189 mg/L.

15. Page C-5, B. Please change date to "The Discharger certified a final Environmental Impact Report for this project on February 7, 2007."

16. Page C-5, III. A. Please change sentence "This order serves as a master reclamation permit..." to waste discharge requirements.

17. Page C-7, Table C-4. The effluent limitation for Total Nitrogen should be 15 mg/L per Page 8, D.1, Table 6. Effluent Limitations.

If you have any questions or require additional information, please phone me at 858-694-2718 or email at Milica.Kaludjerski@sdcounty.ca.gov.

Sincerely,

Milica Kaludjerski Schipper, PE
DPW Unit Manager
Department of Public Works
Wastewater Managemnt

cc: Daniel Brogadir; Tim Wellman; Dexter Wilson; John Odermatt; Fisayo Osibodu

SECTION 1

PROCESS DESIGN CRITERIA

Influent Flow

Pumping rate from Harmony Grove Sewer Lift Station

One force main: One pump = 250 gpm
Two pumps = 500 gpm

Two force mains = 900 gpm

INFLUENT FLOW REGIMES		
Flow	**gpd**	**gpm**
24 Hour Total		
Average Dry Weather Flow (215 gpd/edu)	180,000	125
Peak Monthly Dry Weather Flow (1.2 x average)	216,000	150
Wet Weather Flow (2.11 average)	380,000	264
1 Hour Peak		
Dry Weather (2.42 x average)	436,000	303
Wet Weather (4.0 x average)	720,000	500
WASTEWATER STRENGTH		
Strength	**mg/l**	**lbs/day**
Average (Including recirculation flow loads)		
BOD	363.8	546.1
SS	413.4	620.6
TKN	52.9	79.4
NH_3-N	31.4	47.1
Peak Month (1.2 times Average) (Including recirculation flow loads)		
BOD	363.8	655.4
SS	413.4	744.7
TKN	52.9	95.3
NH_3-N	31.4	56.6
TEMPERATURE		
	High	**Low**
Air	105°F	30°F
Sewage	90°F	70°F

Discharge Specifications

Recycled water effluent from the Harmony Grove Water Reclamation Plant shall meet the definition of "disinfected tertiary recycled water" in CCR Title 22 Section 60301.230 and "filtered wastewater" in Section 60301.320. These definitions are incorporated by reference, prospective, including future changes to the incorporated provisions as the changes take effect.

a. The median concentration of total coliform bacteria measured in the disinfected recycled water effluent from the Harmony Grove WRP shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters, utilizing the bacteriological results of the last seven days for which analyses have been completed; and the number of total coliform bacteria shall not exceed a MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed a MPN of 240 total coliform bacteria per 100 milliliters.

b. Turbidity measurement of the recycled water effluent from the Harmony Grove WRP shall not exceed a daily average value of 2 NTU, shall not exceed 5 NTU more than 5% of the time during a 24-hour period, and shall not exceed 10 NTU at any time.

Expected Discharge Parameters (non-regulated)

BOD	<5 mg/l
SS	<5 mg/l
NH_3-N	~1 mg/l
NO_3-N	~9 mg/l
Total Nitrogen – N	<10 mg/l

SECTION 5

TERTIARY GRAVITY FILTERS

The March 23, 2012 Submittal included a total of four (4) filter bays. County review comments indicated that the County wished to have five (5) filter bays. The current plan shows five (5) filter bays. The calculations below reflect the design for four (4) filter bays on the basis that the fifth filter bay is for excess or redundant capacity.

Upstream of the filters are flash mixing tanks and flocculation tanks. Two flash mixing tanks are provided, and each filter has a dedicated flocculation tank. Polymer can be added to each of the two separate 500 gallon flash mixers to feed the filters. Flows from secondary treatment, off-quality effluent, or wet weather storage can be directed to either or both of the flash mixer tanks. From the flash mixers the flow proceeds to the flocculation tanks and then to the gravity filters.

Additional piping and valving is provided in the gravity filter gallery which allows 1, 2, 3, 4, or 5 filters to be fed from one or both of the flash mixing basins. Influent piping and valving also allow the possibility for one flash mixer to feed one or two filters while the other flash mixer feeds four or three filters, respectively.

Effluent piping and valving allow the filtered effluent to be routed to the chlorine contact basin or to bypass the chlorine contact tank and discharge to the effluent pump wet well. The valving to accomplish this is not comprehensive enough to permit any filter or combination of filters to discharge to the bypass pipe; rather, Filters 1 and 2 (on the east side of the filter bank) can be directed to the bypass piping while Filters 3, 4,and 5 (or any combination thereof) flow to the clearwell and to the chlorine contact tank.

The capacity of each filter is a maximum of approximately 150,000 gpd. This provides for a total peak filtration capacity of about 750,000 gpd. This is based on the peak filter flow rate of 5 gallons per minute per square foot and a filter area of 20.9 square feet.

With this set up the filters could be fed combine flow from both secondary effluent, off-quality effluent, and wet weather storage simultaneously by blending the flow in the flash mixers. The filters could also be isolated into separate sets so that the off-quality effluent

or wet weather storage could be sent to one group of filters while the other group of filters filtered secondary effluent from the Aeromod system.

Filter backwash water is collected in the Mudwell located on the back side of the filter bays. The Mudwell has a 6" gravity drain line which extends to the Plant Drain Pump Station.

Filtered Effluent

The filtered effluent will discharge and flow by gravity to the chlorine contact tank system. Upstream of the chlorine contact system the filtered effluent shall flow through the Off Quality Diversion Vault where sodium hypochlorite will be injected into the pipeline. The sodium hypochlorite will be evenly distributed in the pipeline flow stream by means of an inline static mixer.

Initial Filter Startup

During the initial start-up of the plant, the filters will experience low influent flows. The filter manufacturer recommends that the minimum surface loading rate for these filters should not be less than 1.0 gpm/ft2. With a filter area of 20.9 ft2, and with one filter operating, this is equivalent to around 21 gpm flow. The initial start-up flow of 18,000 gpd is 13 gpm average. Therefore, the manufacturer recommends adding a recirculation pump which will draw filtered effluent from the clearwell and pump it back to the filter inlet box to supplement the plant influent flow and sufficiently increase the filter surface loading rate beyond the recommended minimum surface loading rate.

Tertiary Gravity Filters Process Equipment

The blowers, air compressors, and controls for the Tertiary Gravity Filters process are located in a separate room which is part of the Equipment Building. The blower air and compressed air will be routed from this room to the Gravity Filters. This equipment design is still under development and therefore is not shown in this progress submittal.

The typical equipment manufacturers for the equipment to be supplied by Severn-Trent include:

Backwash Air Blowers – GE Roots, Gardener Denver, MD Pneumatic, or equal
Filter System Valves – Dezurik, Pratt, Valmatic, GA or equal
Backwash Water Pumps – Goulds, Grundfos, Flowserve, or equal
Instrument Air Compressor – Ingersoll-Rand, Kaeser, Atlas Copco, or equal
Coagulant System – PulsaFeeder, Prominent, LMI, Neptune, or equal
Main Control Panel – Allen-Bradley

SECTION 5

TERTIARY GRAVITY FILTERS

COAGULATION/FLOCCULATION BASINS

One basin will be provided upstream of each of the five (5) filter bays.

Size for 30 minutes detention time under Peak Monthly Dry Weather flow with two (2) filter bays not in service.

216,000 gpd = 150 gpm

150 gpm x 30 minutes = 4,500 gallons total volume for 3 basins

Then each basin is 4,500 gallons ÷ 3 basins = 1,500 gallons or 200 cu.ft.

Coag/Floc Tank size for each filter bay is:

5.75' W x 5.75' L x 6' D = 198 cu.ft.

Check detention time for Wet Weather flow of 410,000 gpd through the filters:

410,000 gpd = 285 gpm

For 4-filter operation, 1,500 gallons ÷ (285 gpm ÷ 4 tanks) = 21 minutes detention

For 3-filter operation, 1,500 gallons ÷ (285 gpm ÷ 3 tanks) = 16 minutes detention

Check detention time for Average Dry Weather flow of 180,000 gpd through the filters:

180,000 gpd = 125 gpm

For 3-filter operation, 1,500 gallons ÷ (125 gpm ÷ 3 tanks) = 36 minutes detention

For 2-filter operation, 1,500 gallons ÷ (125 gpm ÷ 2 tanks) = 24 minutes detention

SECTION 5

TERTIARY GRAVITY FILTERS – FILTER BAYS

Normal Operation – No Return Flow from Wet Weather Storage

Number of filter beds = 4
Maximum hydraulic loading rate = 5 gpm/sq ft
Maximum design flowrate: Use maximum loading rate with one filter bed not in service
Maximum design flowrate = Wet Weather Scenario, flow is 380,000 gpd

Design criteria per Severn Trent:

- Maximum specific solids loading = 0.67 lbs/sf
- Backwash rate = 5 gpm/sf
- Backwash duration = 24.2 minutes
- Influent TSS = 20 mg/l
- Effluent TSS = 3 mg/l

Backwash volume, estimated at 7% of filter flowrate = 30,000 gpd
Then maximum wet weather flow through filters is = 410,000 gpd = 285 gpm
Add 10% safety factor = 313.5 gpm
Filter area needed: 313.5 gpm ÷ 5 gpm/sf = 62.7 sf with one filter bed out of service
Four filter beds, each bed = 62.7 sf ÷ 3 = 20.9 sf
Total filter area = 20.9 sf x 4 = 83.6 sf

Under Wet Weather Scenario, determine number of backwashes needed per day:

- (20 mg/l – 3 mg/l) x 0.41 mgd x 8.34 = 58.2 lbs/day filtered
- Max. loading of filters = 0.67 lbs/sf x 20.9 sf x 3 filters = 42.0 lbs per cycle
- Backwash cycles = 58.2 lbs/day ÷ 42.0 lbs/cycle = 1.4 cycles per day
- Then total backwash volume = 1.4 cycles/day x 83.6 sf x 5 gpm/sf x 24.2 min = 14,162 gallons
- Thus, the estimate of 30,000 gpd backwash volume is conservative

Hydraulic Loading Rate:

- Wet Weather Flow, 380,000 gpd plus filtrate of 30,000 gpd = 410,000 gpd = 285 gpm
- Add 10% safety factor = 313.5 gpm

Three filter beds in service = 20.9 sf x 3 = 62.7 sf
Loading rate is: 313.5 gpm ÷ 62.7 sf = 5.0 gpm/sf

Four filters in service = 20.9 sf x 4 = 83.6 sf
Loading rate is: 313.5 gpm ÷ 83.6 sf = 3.75 gpm/sf
Peak Month Flow, 216,000 gpd plus filtrate of 30,000 gpd plus 90,000 gpd from off-quality storage = 336,000 gpd = 234 gpm
Add 10% safety factor = 257.4 gpm
Three filter beds in service = 20.9 sf x 3 = 62.7 sf
Loading rate is: 257.4 gpm ÷ 62.7 sf = 4.11 gpm/sf

Four filters in service = 20.9 sf x 4 = 83.6 sf
Loading rate is: 257.4 gpm ÷ 83.6 sf = 3.08 gpm/sf

Backwash flow rate = 5 gpm/sf
Backwash air scour rate = 3.0 icfm/sf

RETURN FLOW FROM WET WEATHER STORAGE ADDED MAXIMUM EFFLUENT FLOW CALCULATION

Use a maximum flow rate of 4.5 gpm/sf for 4 filters
4.5 gpm/sf x 20.9 sf/filter x 4 = 376.2 gpm = 541,000 gpd

SUMMARY OF FILTER LOADING RATES

FILTER LOADING RATES			
Flow, gpd	**4 Filters in Service, gpm/sf**	**3 Filters in Service, gpm/sf**	**5 Filters in Service**
180,000	1.5	2.0	--
216,000	1.8	2.4	--
380,000	3.2	4.2	--
410,000	3.4	4.5	--
541,000	4.5	--	3.6

WET WEATHER FLOW SCENARIO

- NO RETURN FLOW FROM OFF-QUALITY EFFLUENT
- CENTRIFUGE NOT IN OPERATION
- NO SLUDGE WASTING

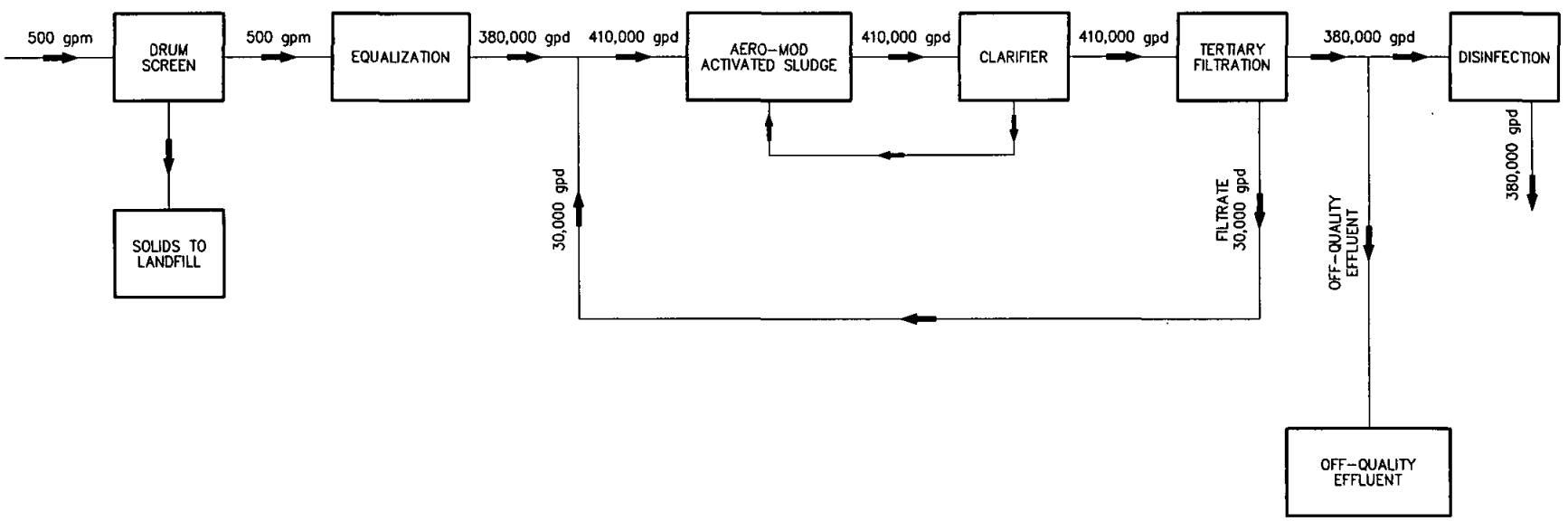
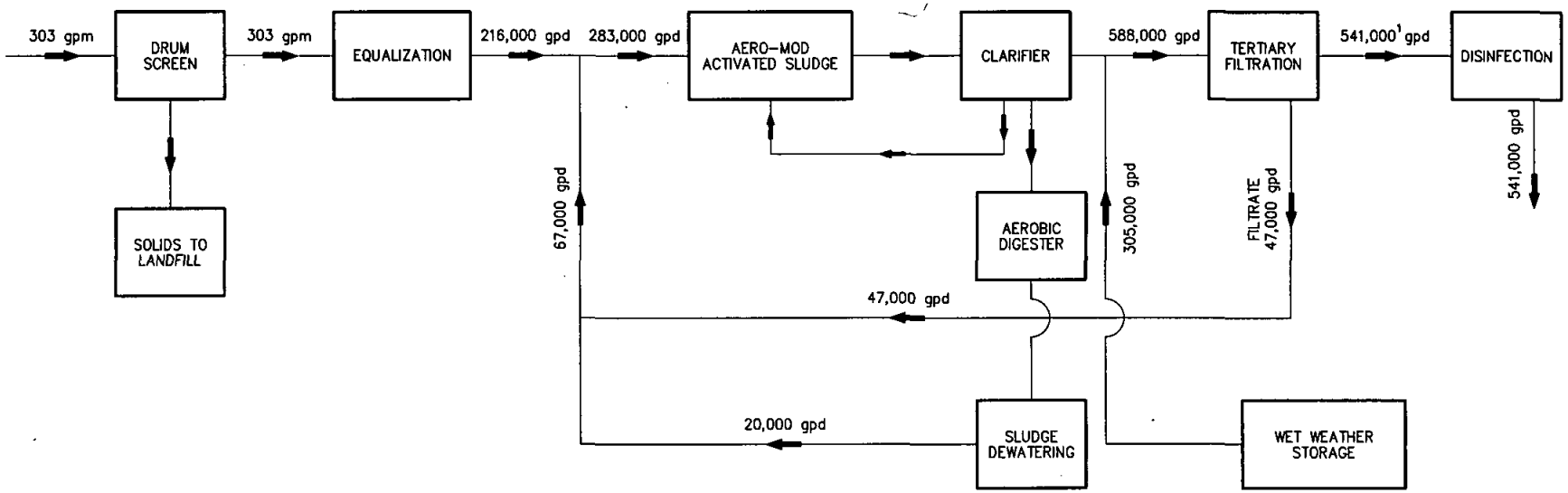


EXHIBIT A-1
WET WEATHER FLOW PROCESS SCHEMATIC

HARMONY GROVE
WATER RECLAMATION PLANT

PEAK MONTHLY FLOW SCENARIO

- CENTRIFUGE IN OPERATION
- WET WEATHER RETURN FLOWS



1. REQUIRES AVERAGE CHLORINE DOSE OF 5.7 mg/L TO MEET CT REQUIREMENTS

EXHIBIT A-2
PEAK MONTHLY FLOW PROCESS SCHEMATIC
HARMONY GROVE WATER RECLAMATION PLANT

08-01-2012

HARMONY GROVE WATER RECLAMATION PLANT

EFFLUENT FLOW MONITORING POINT

OFF-QUALITY DIVERSION VAULT

8" FILTER EFFLUENT

1" SODIUM HYPOCHLORITE

EFFLUENT QUALITY MONITORING POINT

8" OFF-QUALITY FILL

CHLORINE CONTACT

TERTIARY EFFLUENT WET WELL

OFF-QUALITY STORAGE

2" WHARF HEAD AND HOSE BIBB

8" EFFLUENT OVERFLOW

2 1/2" OFF-QUALITY RETURN

10" OFF-QUALITY OVERFLOW

GRAVITY FILTERS

2" WHARF HEAD AND HOSE BIBB

4" PLANT WATER

6" DRAIN

BLOWER AIR COMPRESSED AIR

8" FILTER EFFLUENT

8" EFFLUENT OVERFLOW

4" PLANT WATER

2 1/2" DRAIN

2" PLANT WATER

POLYMER

POLYMER

1" SODIUM HYPOCHLORITE

SPARE SLUDGE BIN

CHEMICAL STORAGE

FILTER EQUIPMENT

AERO-MOD PROCESS CONTROL

SLUDGE DEWATERING

1" POTABLE WATER

AERO-MOD PROCESS TANKS

6" SCREENED SEWAGE (EQUALIZED FLOW)

8" SECONDARY EFFLUENT

3" WET WEATHER STORAGE

10" MAIN DRAIN LINE

6" TERTIARY EFFLUENT

4" SCREENED SEWAGE

COMP. AIR / BLOWER PACKAGES

COMP. AIR / BLOWER PACKAGE

6" FLOOR DRAIN

EQUALIZATION BLOWER AIR

SLUDGE TO CENTRIFUGE

10" OFF-QUALITY OVERFLOW

EQUALIZATION BASINS

2" WHARF HEAD AND HOSE BIBB

PLANT DRAIN SUMP

10" AIR TO ODOR CONTROL

4" PLANT WATER

4" SITE DRAIN

3" WET WEATHER STORAGE

10" SCREENED SEWAGE

20" AIR TO ODOR CONTROL

FUTURE ODOR SYSTEM PAD

1" POTABLE WATER

SITE DRAIN SUMP

6" FORCE MAINS FROM SEWER LIFT STATION

RINCON DEL DIABLO MWD RECYCLED WATER METER

6" TERTIARY EFFLUENT

SDG&E TRANSFORMER

POTABLE WATER AIR GAP SYSTEM

4" SEWER LATERAL

1" POTABLE WATER

OPERATIONS CENTER

HEADWORKS

EMERGENCY GENERATOR

FUTURE ODOR SYSTEM PAD

1" POTABLE WATER

MATCHLINE WET WEATHER PIPING PLAN

MATCHLINE PIPING PLAN

CONTROL

SLUDGE DEWATERING

MATCHLINE WET WEATHER PIPING PLAN

MATCHLINE PIPING PLAN

FUTURE ODOR SYSTEM PAD

1" POTABLE WATER

MAGNETIC FLOW METER IN VAULT

WET WEATHER PIPING PLAN

SCALE: 1" = 20'

PIPING PLAN

SCALE: 1" = 10'

10 0 10 20 FEET

SCALE: 1" = 10'

DEXTER WILSON ENGINEERING, INC.
CONSULTING ENGINEERS
2234 FARADAY AVENUE
CARLSBAD, CA 92008 (760) 438-4422

REGISTERED PROFESSIONAL ENGINEER ANDREW M. GLEN No. 41015 Exp. 3/31/13 CIVIL STATE OF CALIFORNIA

RECORD PLAN	SD COUNTY DPW WASTEWATER
BY: DATE:	APPROVED BY:
R.C.E.	DATE:
EXPIRES:	

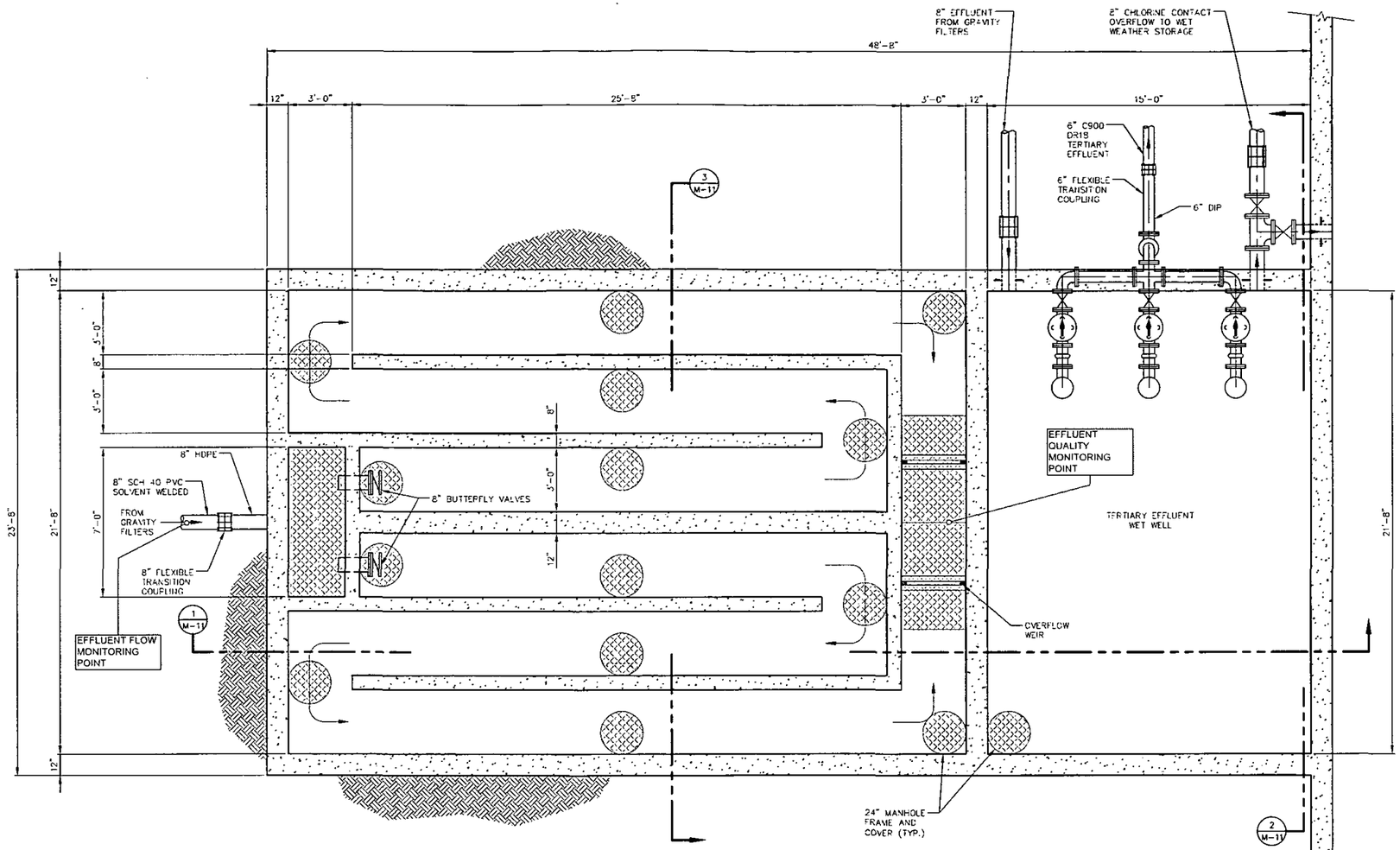
COUNTY APPROVED CHANGES			
NO.	DESCRIPTION:	APPROVED BY:	DATE:

PERMITS	PRIVATE CONTRACT
REZONE PERMIT NO.	SHEET X — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — X SHEETS
SPECIAL USE PERMIT NO.	IMPROVEMENT PLANS FOR: PIPING PLAN
TENTATIVE MAP NO.	HARMONY GROVE WATER RECLAMATION PLANT
LANDSCAPE & IRRIGATION LP. #	CALIFORNIA COORDINATE INDEX 338-1725
NOTICE OF INTENT WDID#	
BENCH MARK	APPROVED FOR MOHAMAD K. FAKHRRIDDINE COUNTY ENGINEER — ENGINEER OF WORK R.C.E. DATE:
DESCRIPTION: SEE BENCHMARK ON SHEET 2	BY: DATE: — PERMIT NO: XX
LOCATION:	
RECORD FROM:	
ELEVATION: DATUM:	

C-4

Aug. 30, 2012 \\PACDC\Dwg\105011-55\1_Submittal_HGWRP\GS\Construction Files\DWG\C-4_HGWRP_SITE_PIPING_PLAN.dwg

08-01-2012



CHLORINE CONTACT PLAN
SCALE: 3/8" = 1'-0"

N

0 1 2 3 FEET
SCALE: 3/8" = 1'-0"

M-11

COUNTY APPROVED CHANGES			
NO.	DESCRIPTION:	APPROVED BY:	DATE:

PERMITS
REZONE PERMIT NO.
SPECIAL USE PERMIT NO.
TENTATIVE MAP NO.
LANDSCAPE & IRRIGATION LF #
NOTICE OF INTENT WDID#

BENCH MARK
DESCRIPTION: SEE BENCHMARK ON SHEET 2
LOCATION:
RECORD FROM:
ELEVATION: DATUM:

PRIVATE CONTRACT

SHEET X	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	X SHEETS

IMPROVEMENT PLANS FOR:
CHLORINE CONTACT PLAN
HARMONY GROVE WATER RECLAMATION PLANT
CALIFORNIA COORDINATE INDEX 338-1725

APPROVED FOR
MOHAMAD K. FAKHRIDDINE
COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK
R.C.E. DATE:
PERMIT NO: XX

RECORD PLAN	SD COUNTY DPW WASTEWATER
BY: DATE:	
R.C.E.	APPROVED BY:
EXPIRES:	DATE:

DEXTER WILSON ENGINEERING, INC.
CONSULTING ENGINEERS
2234 FARADAY AVENUE
CARLSBAD, CA 92008 (760) 438-4422

REGISTERED PROFESSIONAL ENGINEER ANDREW M. OVEN No. 41015 Exp. 3/31/13 CIVIL STATE OF CALIFORNIA

HARMONY GROVE WATER RECLAMATION PLANT

Aug 30, 2012 \\PACFICVD-p1\81501-90\8_Submittal_HGWRP\CS\Construction Files\DWG\M-11_HGWRP_CHLORINE-CONTACT_PLAN.dwg