ATTACHMENT F

Mitigation Project PC-05-01

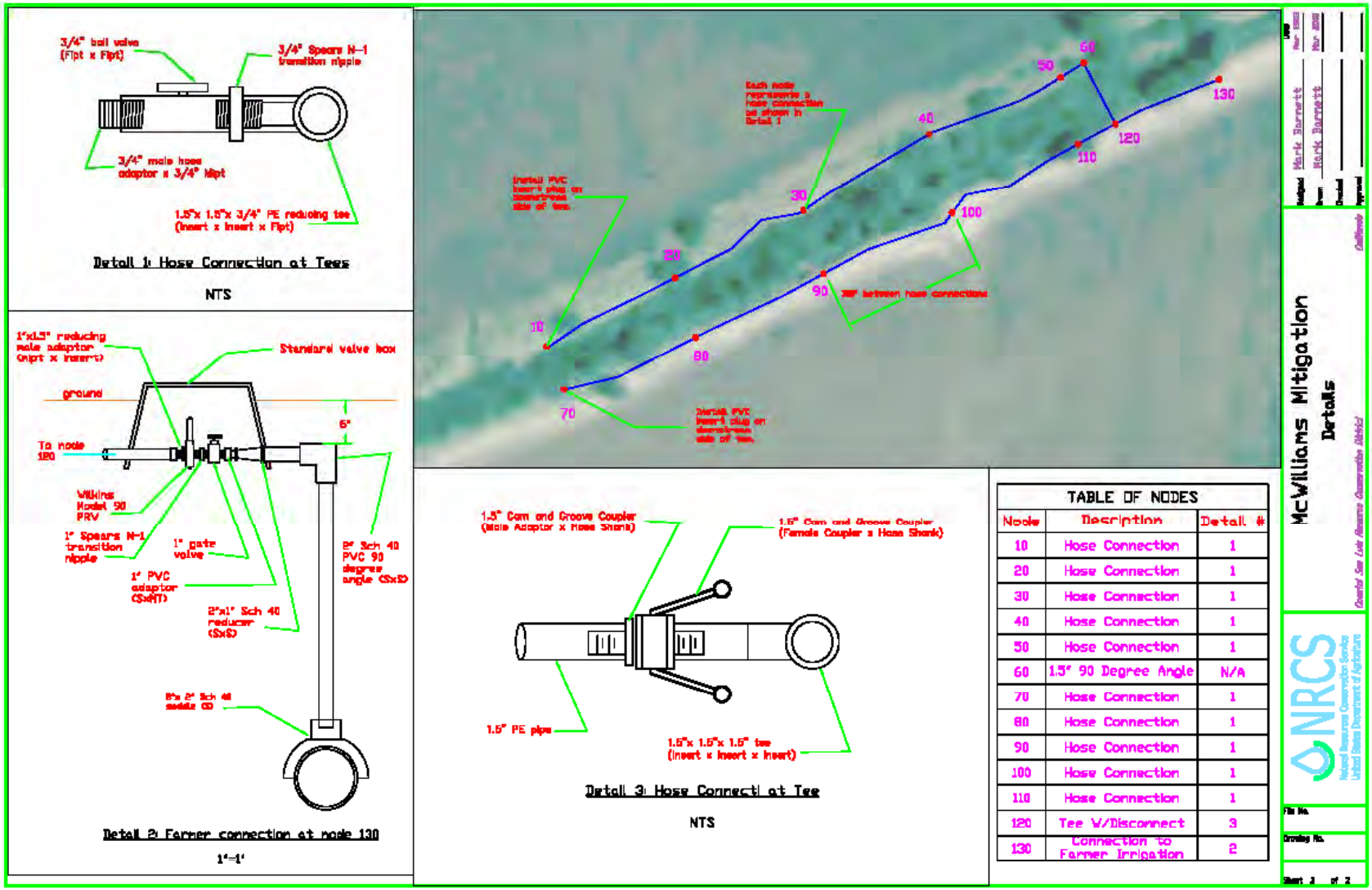

Figure 143. Detail drawing of preliminary design of irrigation system for mitigation plantings.

Project: The watering system would be connected to an existing farm irrigation line.

Figure 144. Installed electric fence.

Figure 145. Installed electric fence.

Project: To improve the water quality of San Bernardo Creek, the RCD helped fund an off creek water supply system and 4,705 feet of riparian fence and 3,700 feet of upland fencing.

Figure 146. Substantial erosion due to debris jam.

Figure 147. Good canopy, clear of debris and reduction in erosion.

Project: Typical photos of a creek in need of clearing and snagging.

Figure 148. This reach needed pruning up for canopy and clearing debris jams.

Figure 149. CCC crew members pruning up larger willow for canopy.

Project: Typical photos of a creek in need of vegetation management and debris removal.

ATTACHMENT F

WRP Riparian Forest Vegetation Management and Debris Removal PC-05-12

Figure 150. Riparian forest thinned to improve diversity.

Figure 151. Pruned to encourage under story growth.

Project: Photos of pruning and thinning for vegetation management and debris removal.

Figure 152. Mass of willow and debris jams blocking creek and fish passage and deflecting flow.

Figure 153. Pruned to encourage canopy and fish passage.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

Figure 154. Failed culvert.

Figure 155. Failed culvert.

Figure 156. Extended downspout with new nipple.

Figure 157. Compacting fill over new culvert

Figure 158. Improved entrance to new culvert.

Figure 159. Completed road.

Project: During a major storm event, a culvert failed on an access road which led to scouring and erosion of the road as well as making the road impassable.

Grade Stabilization Turri Road Ranch House PC-05-15

Figure 160. View of headcut, looking from left bank to right bank.

Figure 161. Looking downstream at entrance of existing rock culvert.

Figure 162. Another view of head cut.

Figure 163. Sloughing bank.

Resource concern: The head cut and a sloughing bank contribute to sediment loading into Warden Creek.

ATTACHMENT F

Grade Stabilization Turri Road Ranch House PC-05-15

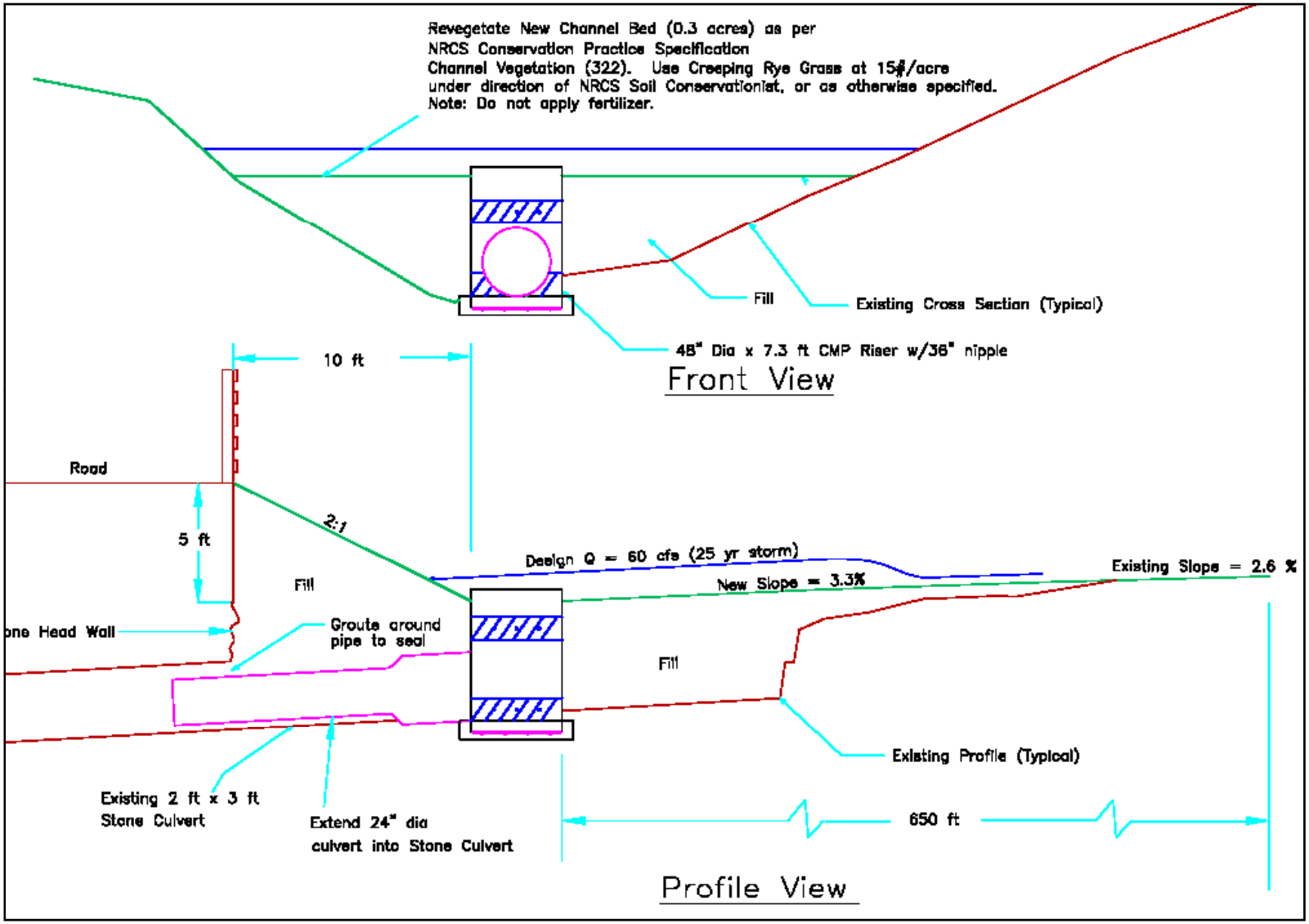

Figure 164. Diagram of drop structure and treatment of headcut.

Solution: Install drop structure to eliminate head cut; backfill around drop structure; fill in head cut to support sloughing bank.

Figure 165. Drop structure prior to placement.

Figure166. Placed drop structure.

Figure 167. Looking downstream at riprap around drop.

Figure 168. Headcut backfilled.

Construction: A large drop structure was installed to channel flow under the historic stone bridge without erosion.

Figure 169. Installed drop structure and grate.

Figure 170. Looking upstream at outlet under stone bridge. Revegetated slopes are sprouting.

Figure 171. Looking upstream at drop structure and restored headcut during storm.

Completed project: Looking downstream towards drop and grate, looking upstream at drop and grate during large storm, looking upstream at outlet of existing rock culvert during storm.

Figure 172. Looking upstream at drop structure and restored headcut, over a year after installation

Figure 173. Looking upstream at outlet and recontoured/ revegetated banks.

Post-implementation photos: A site visit conducted December 1, 2008 found the stabilized headcut and drop structure on the upstream side of the rock bridge in good condition and functioning well, and the recontoured and revegetated banks on the downstream site stable with no signs of scour or down cutting.

Figure 174. Road in need of repair.

Figure 175. Road in need of repair.

Project: The proposed project consists of reworking an existing road to improve drainage. Existing culverts may be replaced with rolling dips or armored crossings. New water control structures will be added along certain reaches.

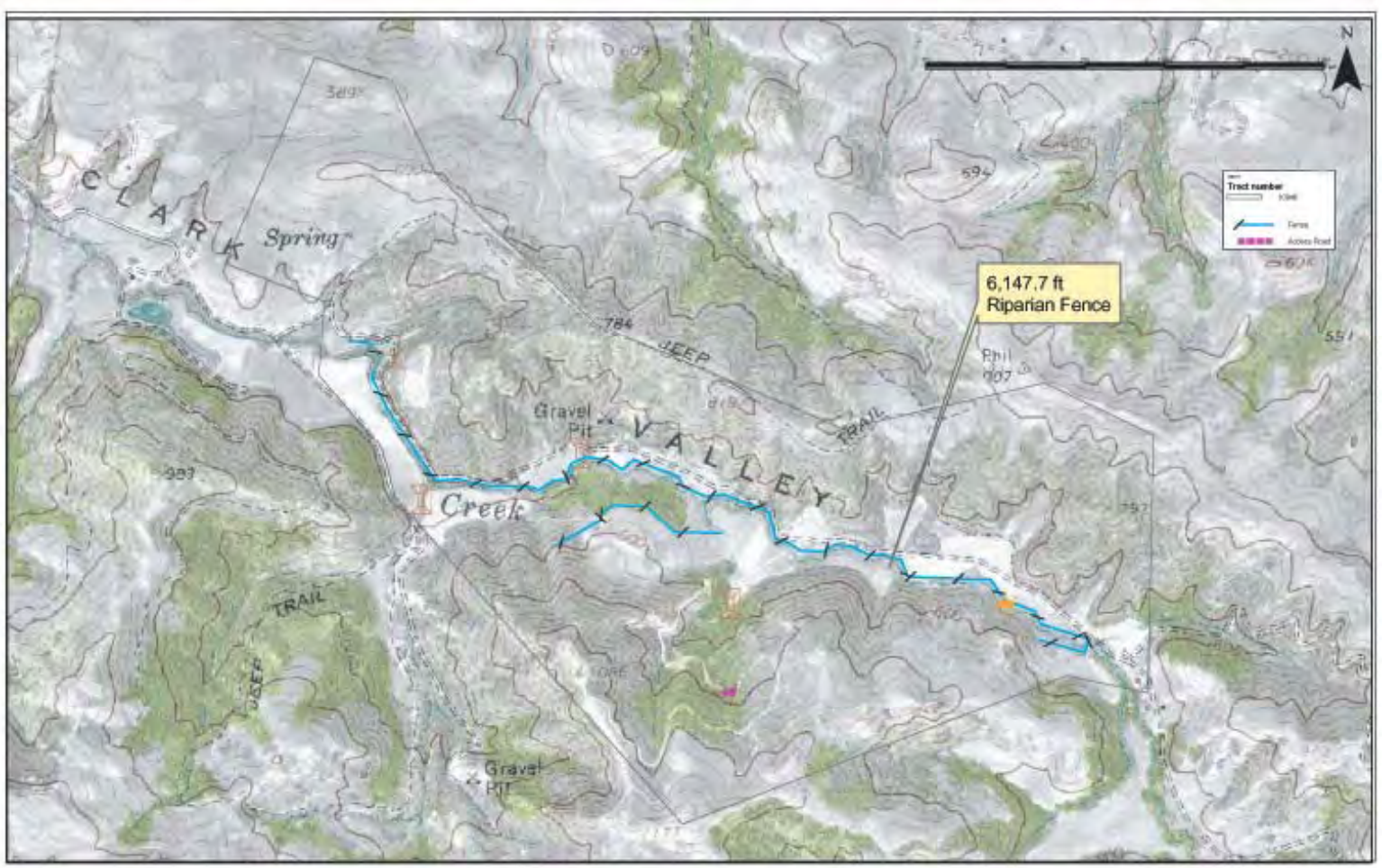

Figure 176. Preliminary plan map of some riparian fencing.

Project: The total amount of fencing will actually be over 15,000 feet.

Figure 177. Five fallen Eucalyptus trees into Cilantro field.

Figure 178. Landowner describes the problem.

Figure 179. Bucking up those fallen Eucalyptus was a huge job.

Figure 180. Silt fence from WRP violation site across Warden Creek can be seen in the distance.

Project: Emergency assistance with fallen Eucalyptus blocking Warden Creek.

Figure 181. Excavator and operator lifting trees out with chain and bucket so as not to disturb banks.

Figure 182. CCC crews chained trees and root wads so excavator could lift them out.

Figure 183. Root wad lifted with chain and excavator out of creek.

Figure 184. Root wad lifted with excavator bucket to field to be bucked up, once it was lifted out of creek.

Project: Emergency assistance with fallen Eucalyptus blocking Warden Creek.

Figure 185. Fallen trees bucked up and debris removal needed.

Figure 186. Channel ready for high flows of storm season

Figure 187. Pruning and debris removal needed for this reach.

Project: Typical photos of a creek in need of vegetation management and debris removal.

Figure 188. CCC Crews pruning up some larger willows.

Figure 189. Aerial view of equestrian facility adjacent to tributary to Los Osos Creek.

Resource concern: To minimize waste management problems associated with a 50 horse capacity boarding facility that borders a blue line stream.

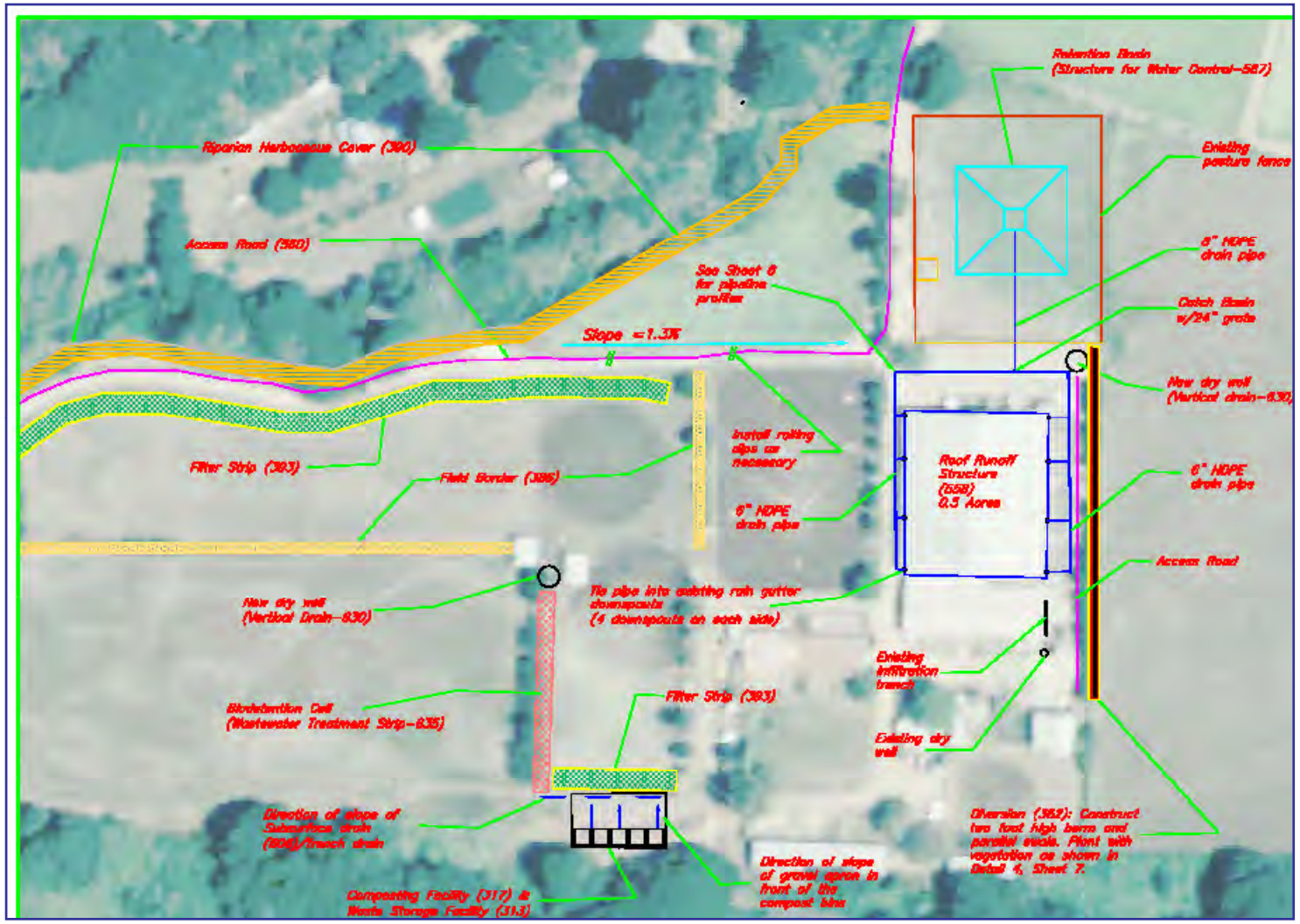

Figure 190. Layout of three-phase conservation plan.

Solution: Develop a Comprehensive Conservation Plan composed of three phases; as consistent with Phase 1, the compost facility, filter strip and field borders were installed in 2008.

Figure 191. Contractor tying steel for pad.

Figure 192. Pouring concrete.

Figure 193. Inter-lock blocks off-loaded from truck, prior to placement on pad.

Figure 194. Finished pad.

Construction: A concrete pad was poured to provide an impermeable surface on which to compost manure.

Figure 195. Blocks creating 5-bin compost facility.

Figure 196. View of one 15' x 15' x 5' bin.

Figure 197. The first bin beginning to be filled with manure.

Figure 198. Closer view of 4 of 5 bins.

Completed project: The landowners began storing manure in the bins for composting as soon as facility was completed.

ATTACHMENT F

WRP Riparian Forest Vegetation Management and Debris Removal PC-06-10

Figure 199. Riparian forest before thinning.

Figure 200. Riparian forest thinned to improve diversity.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

ATTACHMENT F

Los Osos Creek WRP Vegetation Management and Debris Removal PC-06-11

Figure 201. Debris jams and fallen trees caught in the debris jams needed to be removed to allow fish passage and reduce erosion.

Figure 202. Channel cleared of debris jams and barriers.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

Figure 203. Site shown is just below development site of the upper spring in pasture 1. Note the hoof prints in the mud.

Figure 204. An existing non-functional water trough under scores the lack of an available off creek water supply for cattle.

Resource concern: Impaired water quality and riparian vegetation due to cattle in creek (parameters of concern include pathogens) and limited cattle access to an off creek water supply.

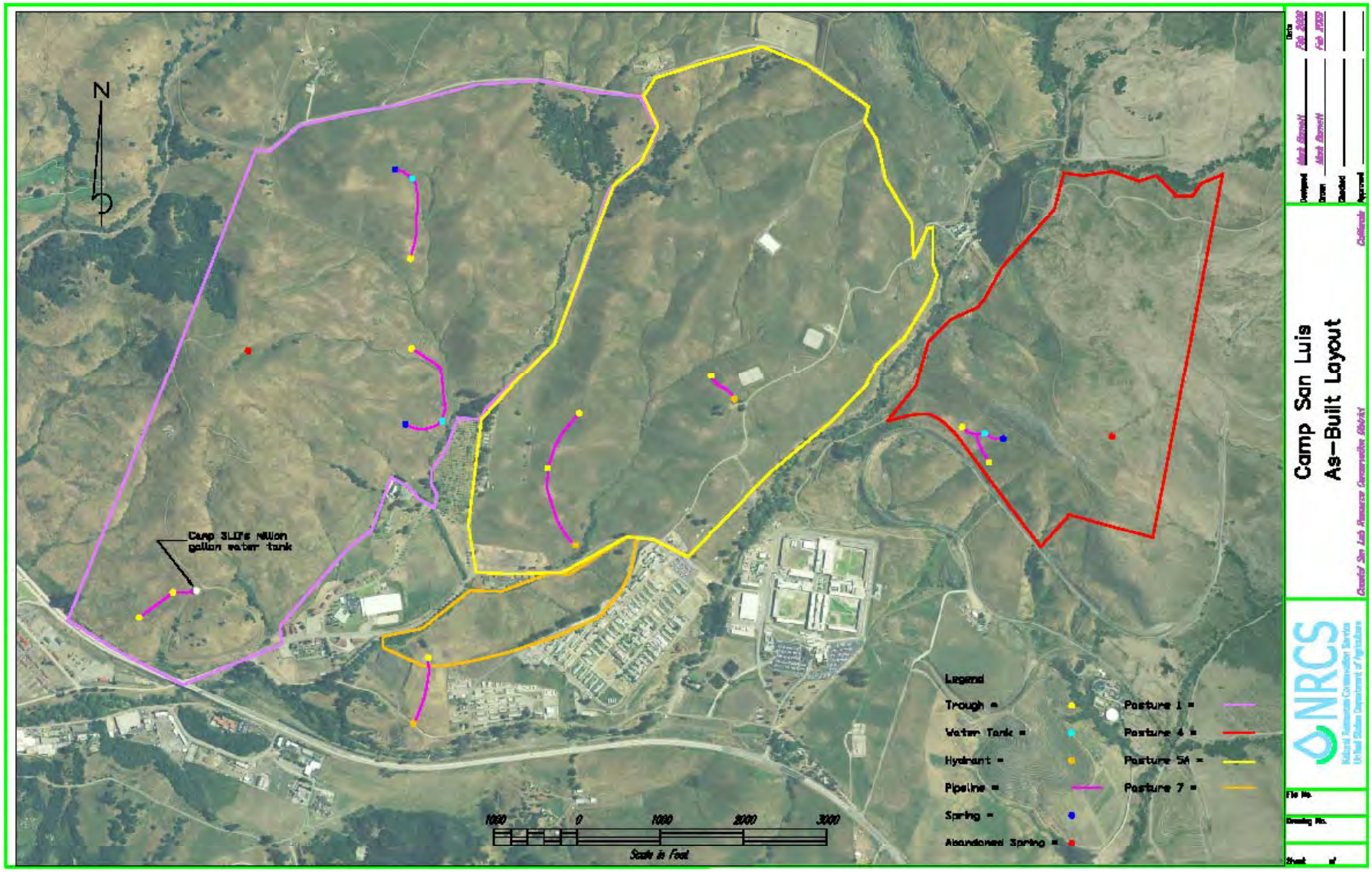

Figure 205. Camp SLO as-built drawing

Project: The Camp SLO project encompassed four pasture areas; pasture 1, pasture 4, pasture 5A and pasture 7.

Figure 206. Development of upper spring in pasture 1.

Figure 207. Ripping pipe in from upper spring in pasture 1 to trough.

Figure 208. Development of lower spring in pasture 1.

Figure 209. Installation of trough in pasture 5A.

Figure 210. Installation of storage tank just below lower spring in pasture 1.

Figure 211. Installation of storage tank and pipeline to troughs in pasture 4.

Construction: The project included installing over 3500 feet of pipeline and 3 tanks to supply 10 watering troughs.

Figure 212. Trough supplied from lower fire hydrant in field 5A.

Figure 213. Trough from upper spring in pasture 1 shown in the distance.

Figure 214. SWRCB project tour group shown at completed lower spring in pasture 1, with storage tank downhill.

Figure 215. Trough from lower spring in pasture 1.

Completed project: Figures 50 through 53 show installed components of off-creek watering system at Camp San Luis.

Figure 216. This reach included pruning willow in the center of the channel and pruning up larger willow for canopy on the banks.

Figure 217. Landowner works this reach on his own with frog monitor.

Project: Typical photos of a creek in need of vegetation management and debris removal.

ATTACHMENT F

Walter's Gun Club PC-07-07

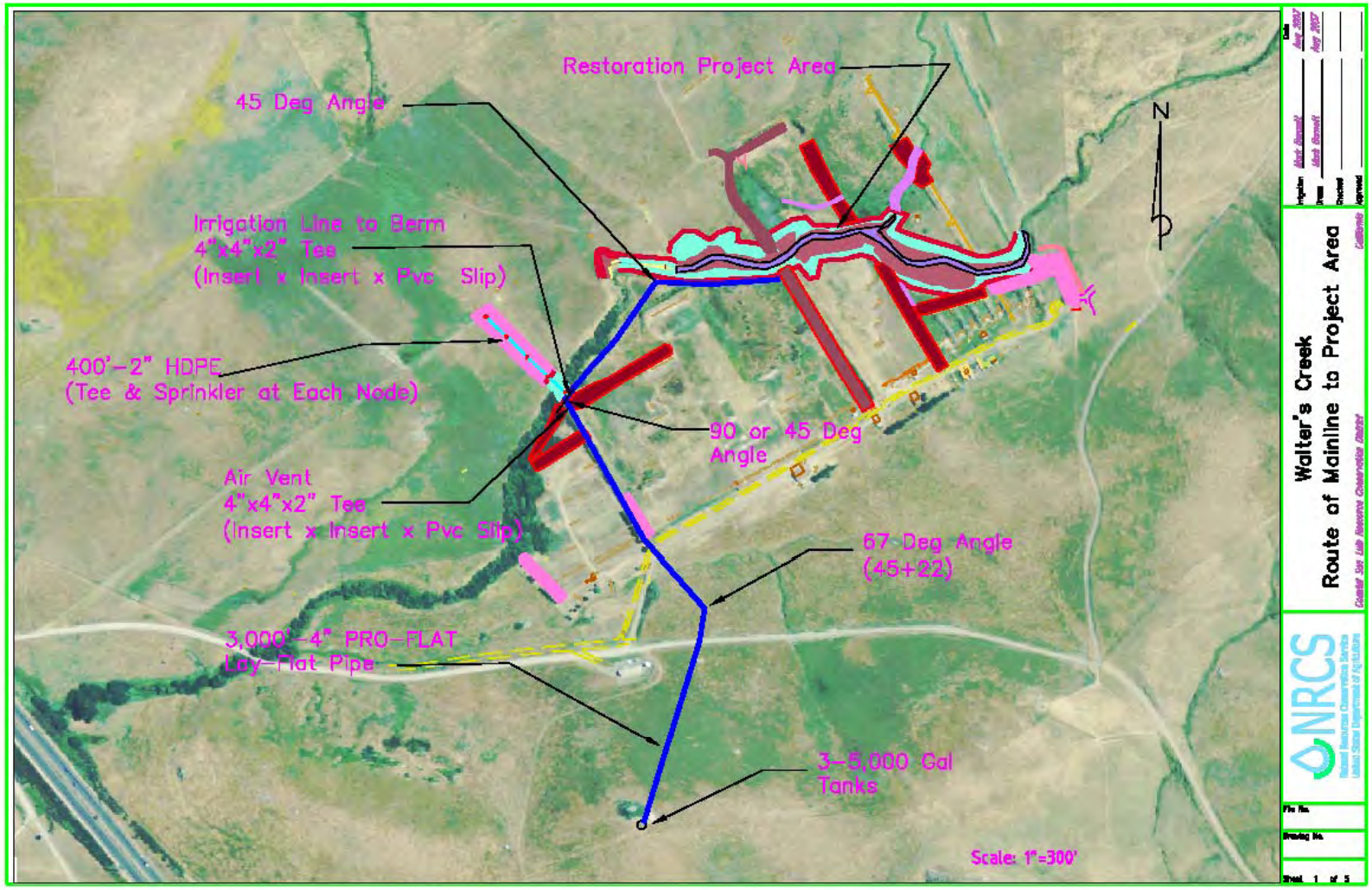

Figure 218. Layout of irrigation system main line from top of hill to control valves.

Project: The MBNEP requested that the CSLRCD design and provide construction management of an irrigation system that would sustain the newly planted riparian re-vegetation.

ATTACHMENT F

Walter's Gun Club PC-07-07

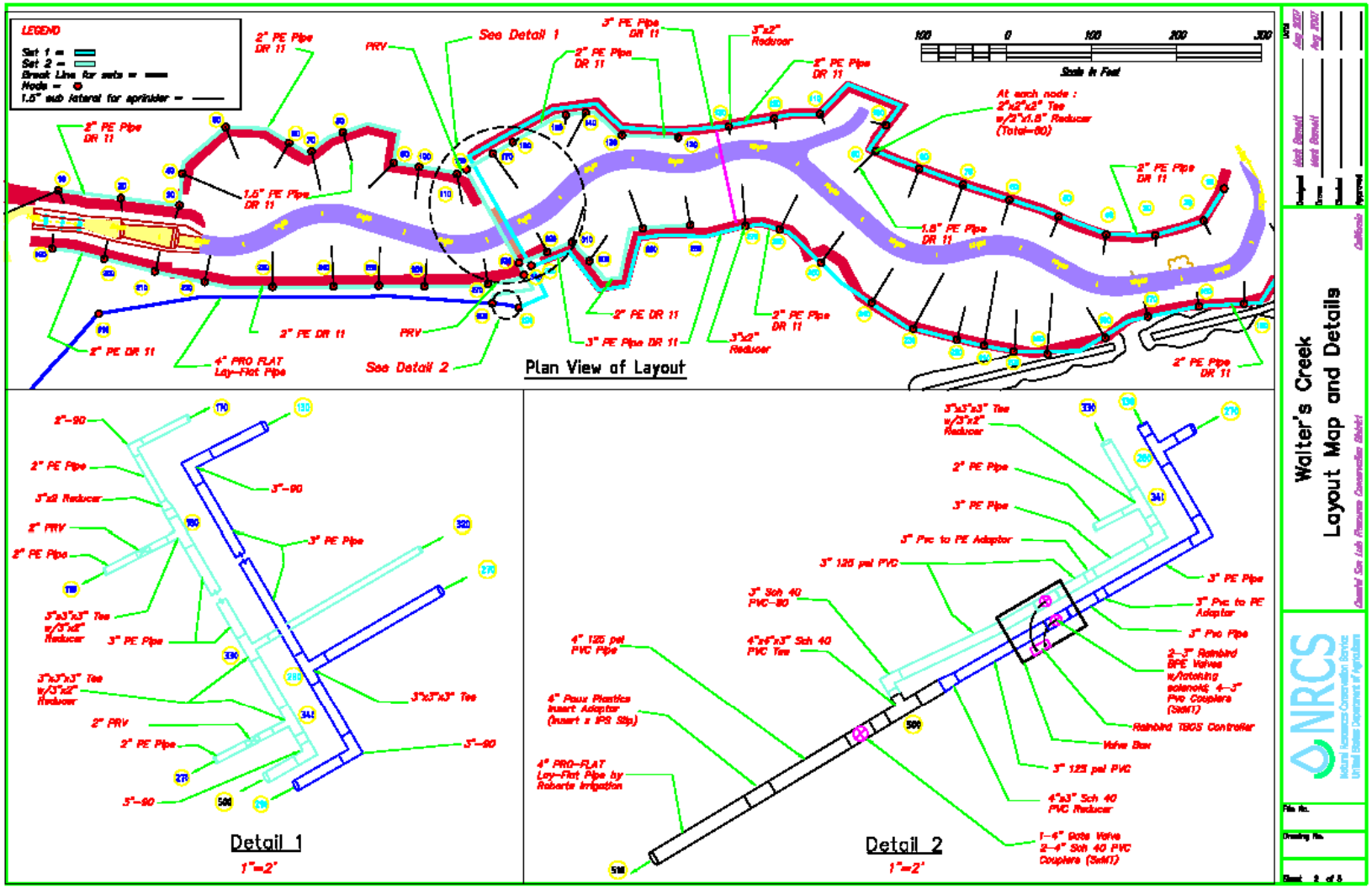

Figure 219. Layout of irrigation system and details of main line and valve set up.

Project: The two irrigation sets which are turn on and off automatically with an automated valve.

ATTACHMENT F

Walter's Gun Club PC-07-07

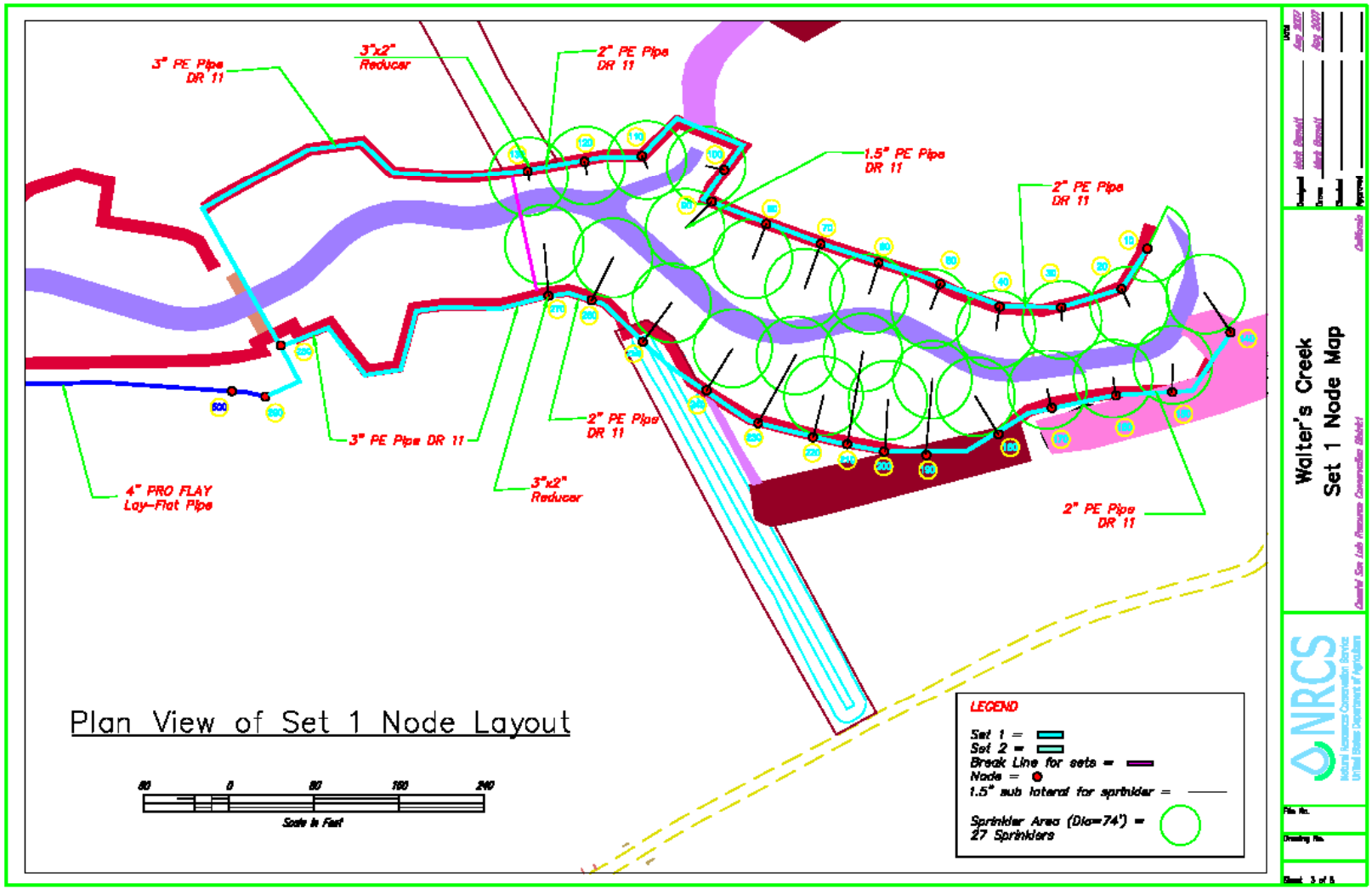

Figure 220. Layout and node map for set one.

Project: Based on 47 sprinklers, in one hour set two theoretically uses 8,460 gallons of water.

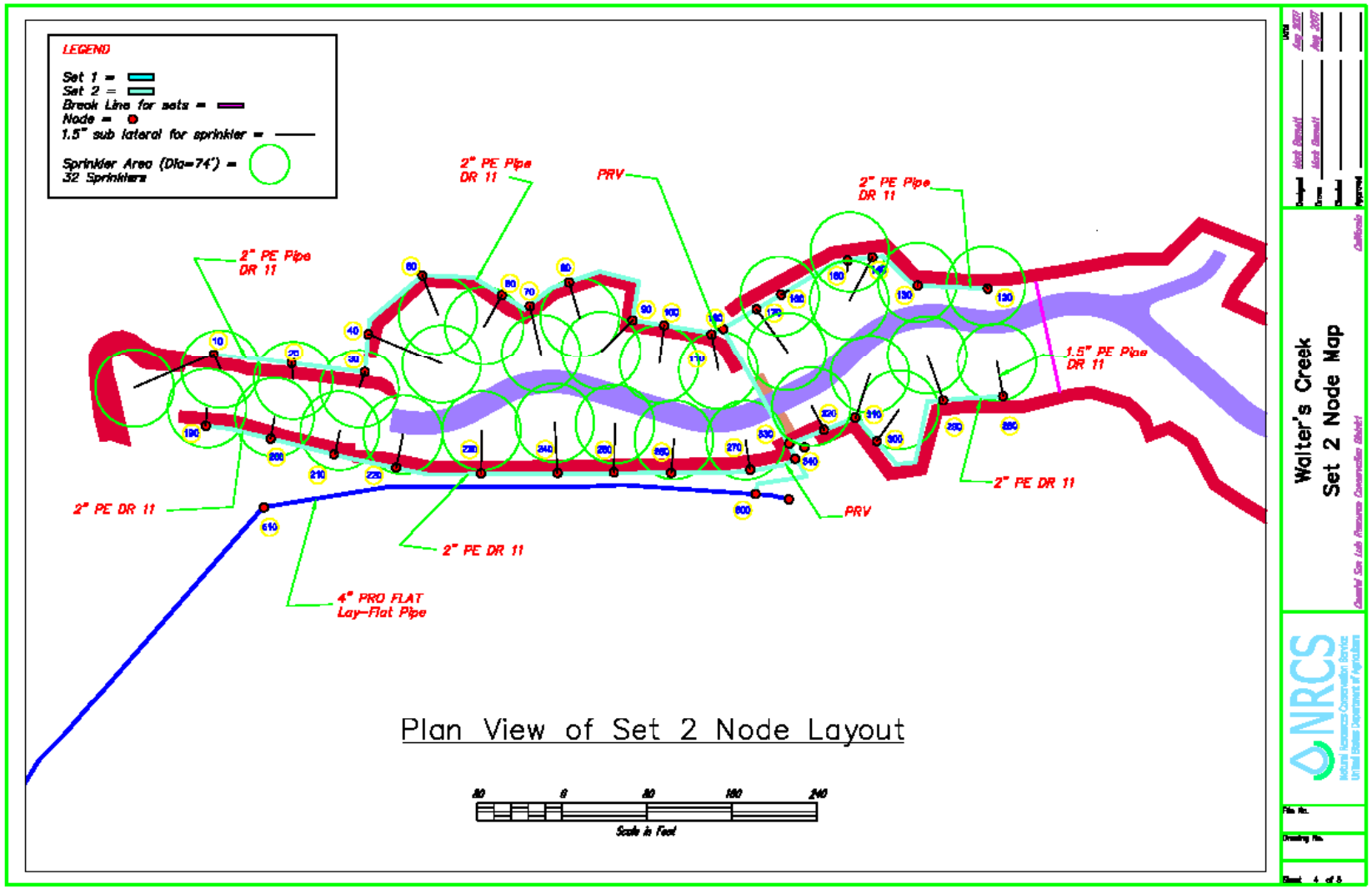

Figure 221. Layout and node map for set two.

Project: Based on 42 sprinklers, in one hour set one theoretically uses 7,560 gallons of water.

ATTACHMENT F

Walter's Gun Club PC-07-07

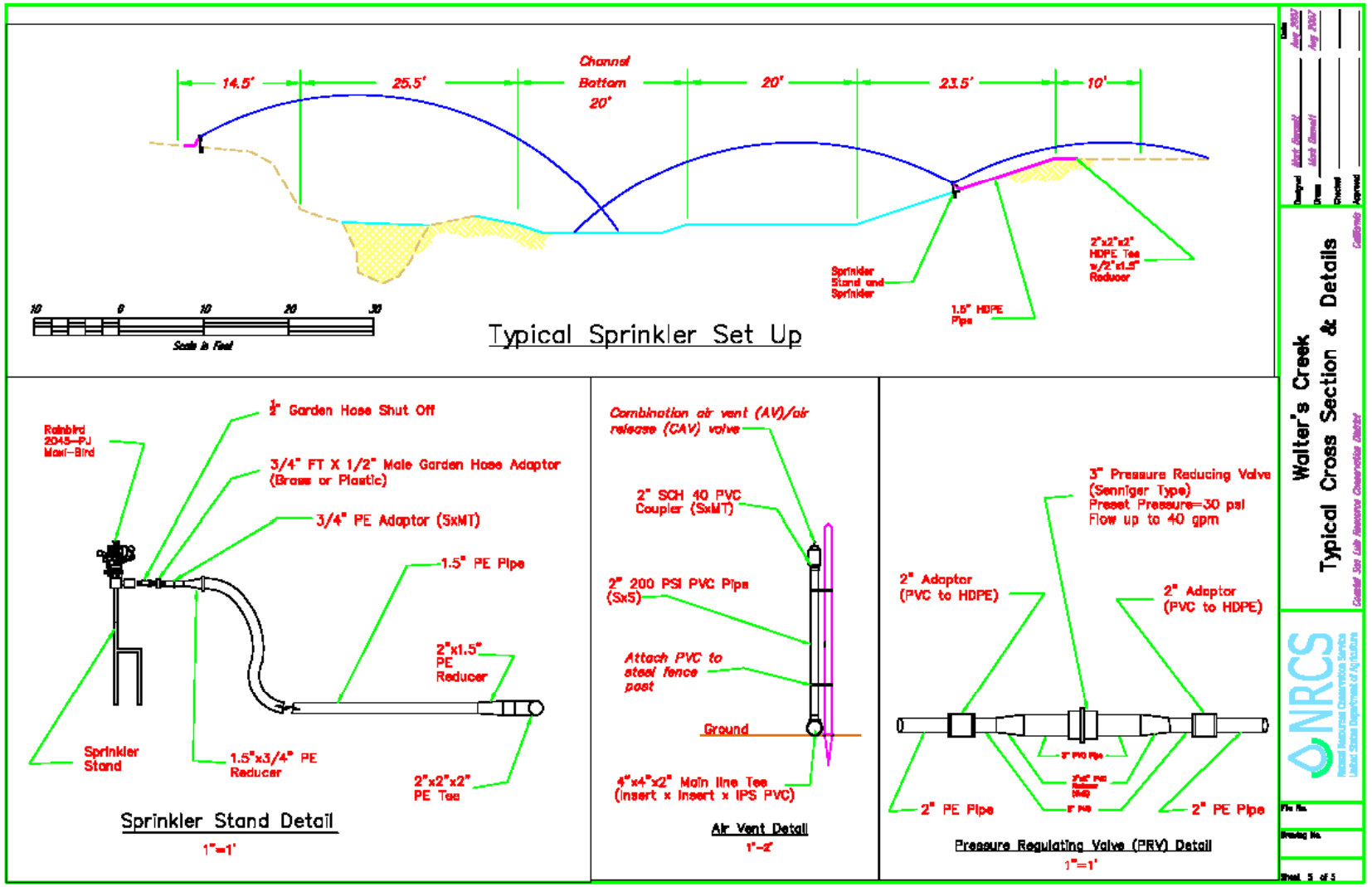

Figure 222. Layout of typical cross section and sprinkler detail.

Project: Mounted on each sprinkler stand is a PJ rainbird sprinkler with a minimum pressure requirement of 25 psi.

ATTACHMENT F

Walter's Gun Club PC-07-07

Figure 223. CCC crew leader installing 4" dia. Lay flat hose main line.

Figure 224. Three 5,000 gallon tanks on hill.

Figure 225. Cleaning rocks out of pipe.

Figure 226. View of pipeline and sprinkler

Figure 227. Completed project

Figure 228. Completed project

Construction and Completed project: Assembly of pictures showing installation of irrigation system and completed project.

ATTACHMENT F

WRP Riparian Forest Vegetation Management and Debris Removal PC-07-10

Figure 229. Debris jams and barriers will be removed and dead trees can be thinned to allow light in and encourage understory.

Figure 230. Canopy is maintained, but increased light encourages native understory.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

ATTACHMENT F

Los Osos Creek WRP Vegetation Management and Debris Removal PC-07-11

Figure 231. The channel looked remarkably clear this year due to a combination of light rain and reduced debris.

Figure 232. The channel, though clear, did catch a great deal of sediment in the 07-08 rainy season.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

ATTACHMENT F

Comprehensive Ranch Plan PC-08-01

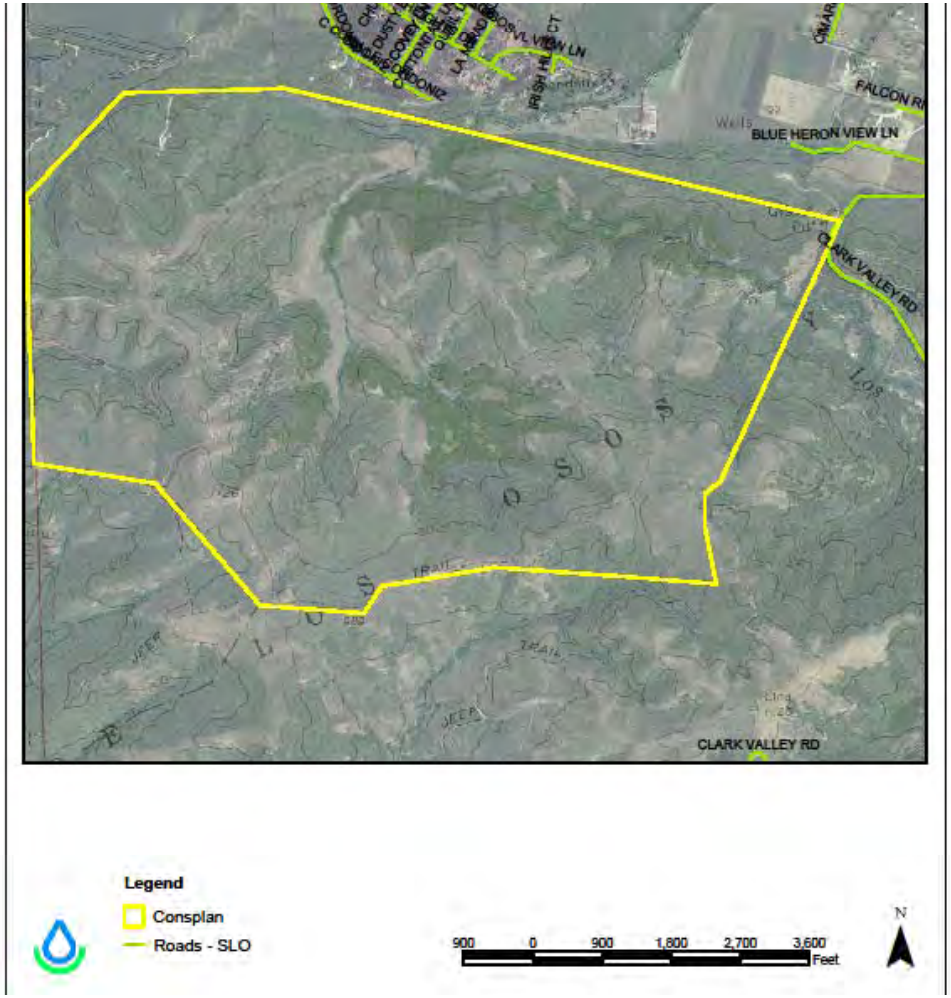

Figure 233. Preliminary Conservation Plan Map

Project: This project developed a preliminary comprehensive conservation plan to improve the grazing value of the land while at the same time improving the water quality of Los Osos creek.

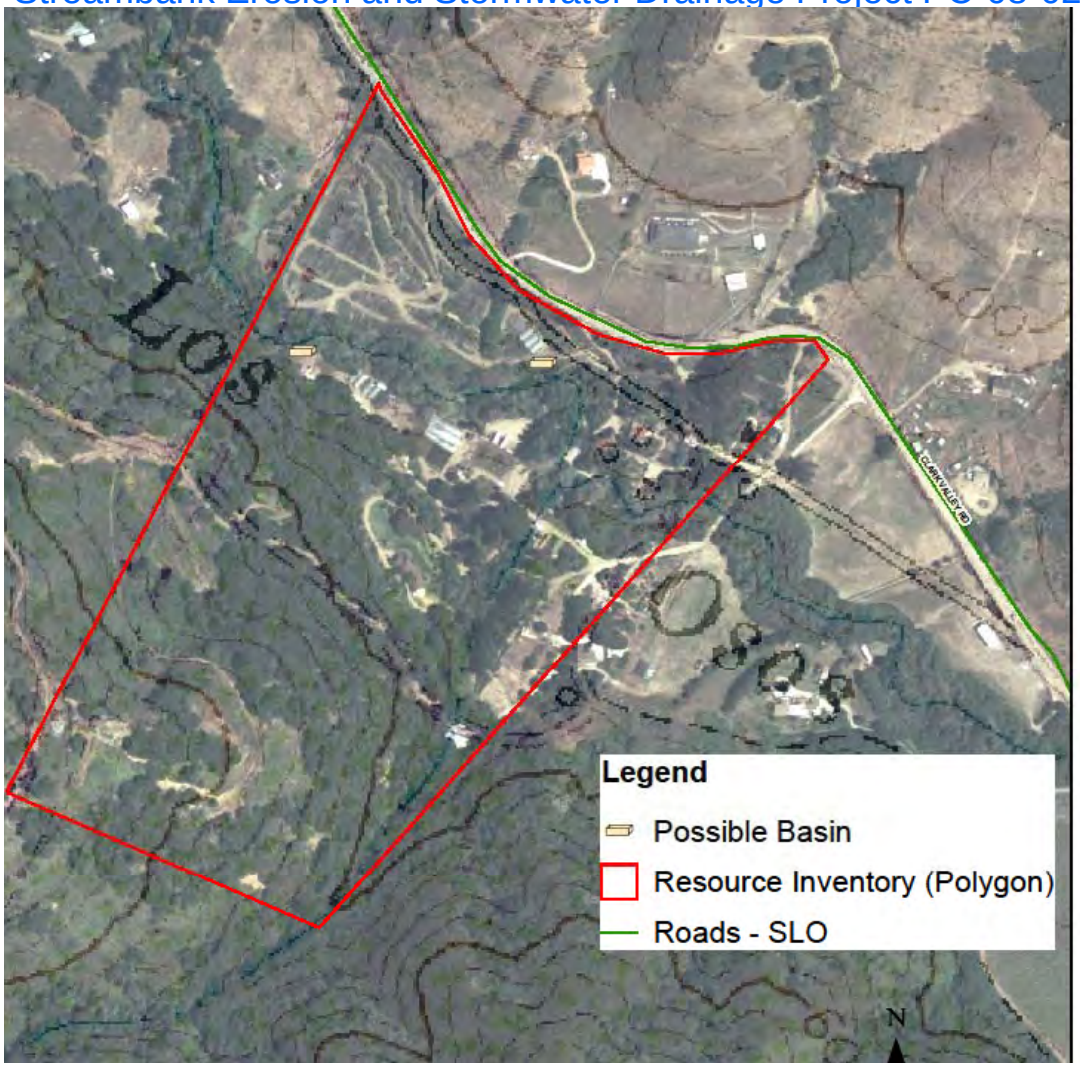

Figure 234. Preliminary conservation plan map.

Project: The RCD developed a preliminary Conservation Plan that included underground outlet pipes and energy dissipating sediment basins that would prevent stormwater runoff from sheet flowing down stream banks.

ATTACHMENT F

Warden Lake Managed Grazing System PC-08-03

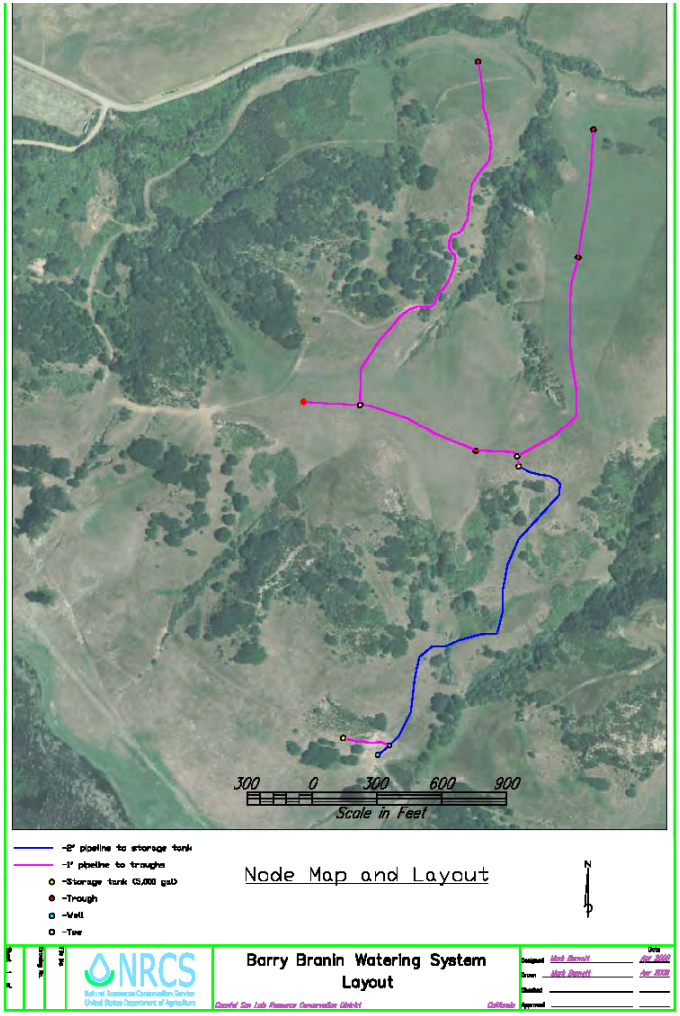

Figure 235. Preliminary layout for off-creek watering system.

Project: To protect the water quality of Warden Lake and improve the grazing value of the surrounding rangeland, the RCD developed a preliminary design for an off creek water supply system to complement riparian fencing along the north east side of Warden Lake.

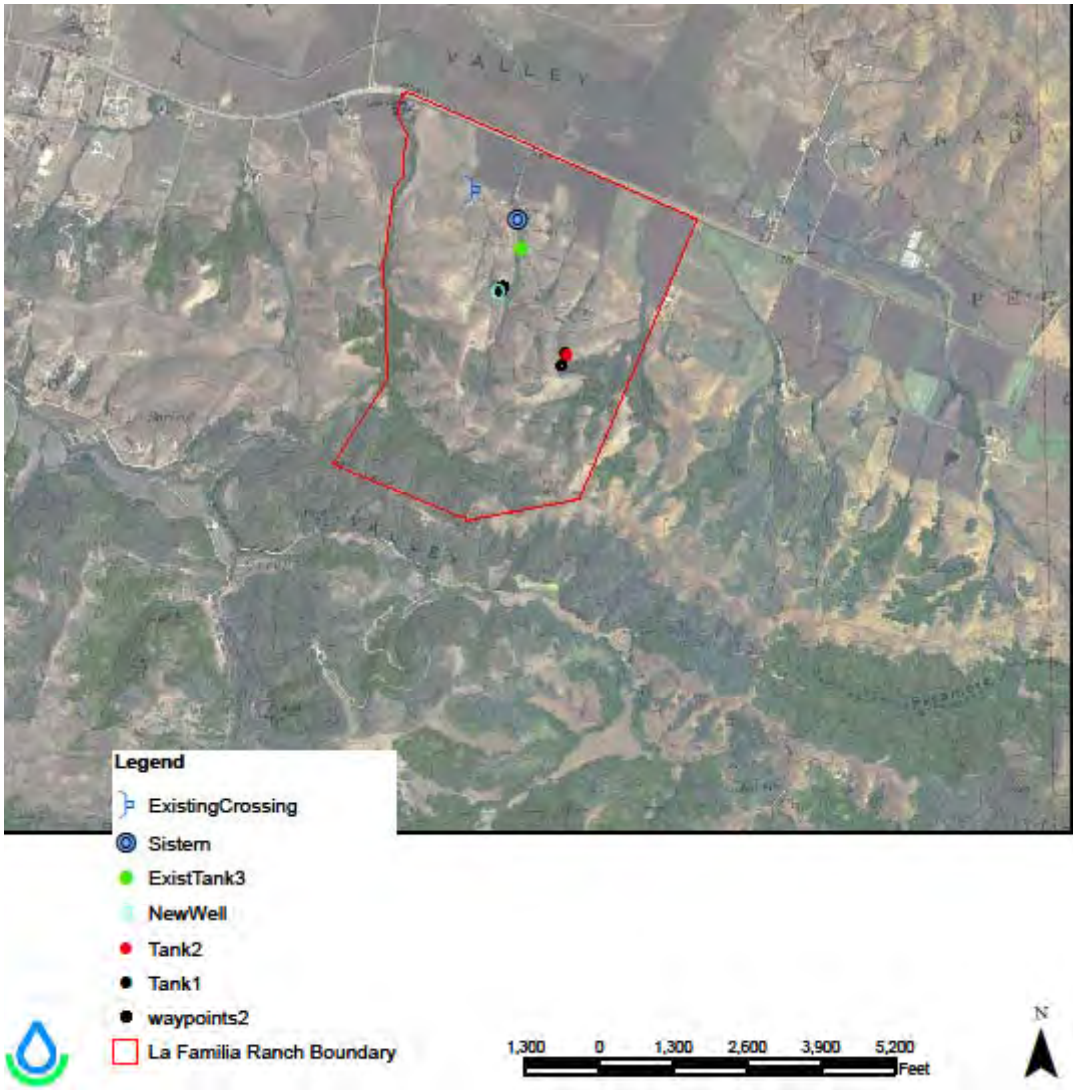

Figure 236. Preliminary Conservation Plan Map

Project: Potential to implement multiple conservation projects including grade stabilization, stream restoration, cattle watering system, and improving the irrigation system.

Figure 237. Cattle heading toward creek.

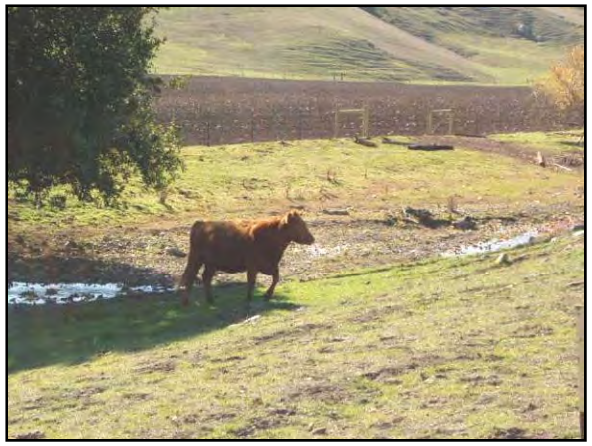

Figure 238. Coming out of the creek.

Figure 239. Bull browsing tree in riparian area.

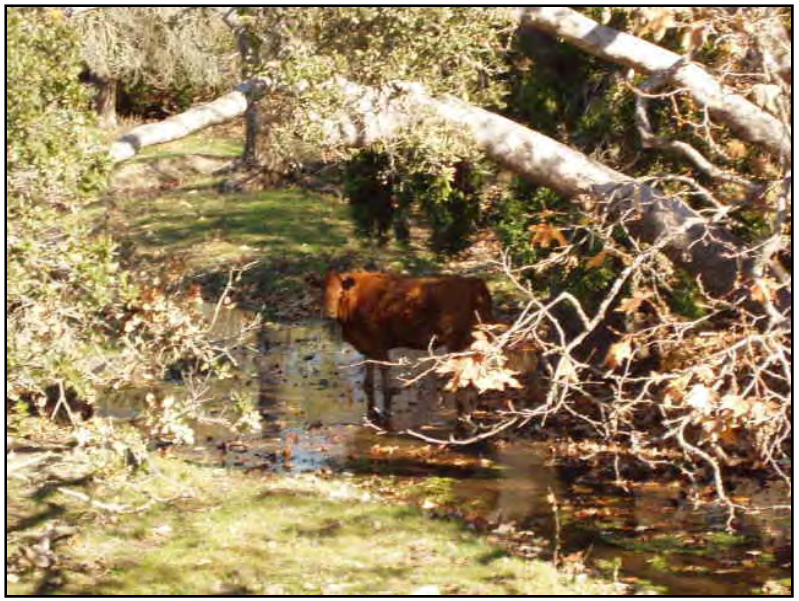

Figure 240. In the creek.

Resource concern: Impaired water quality and riparian vegetation due to cattle in creek; water quality parameters of concern include pathogens.

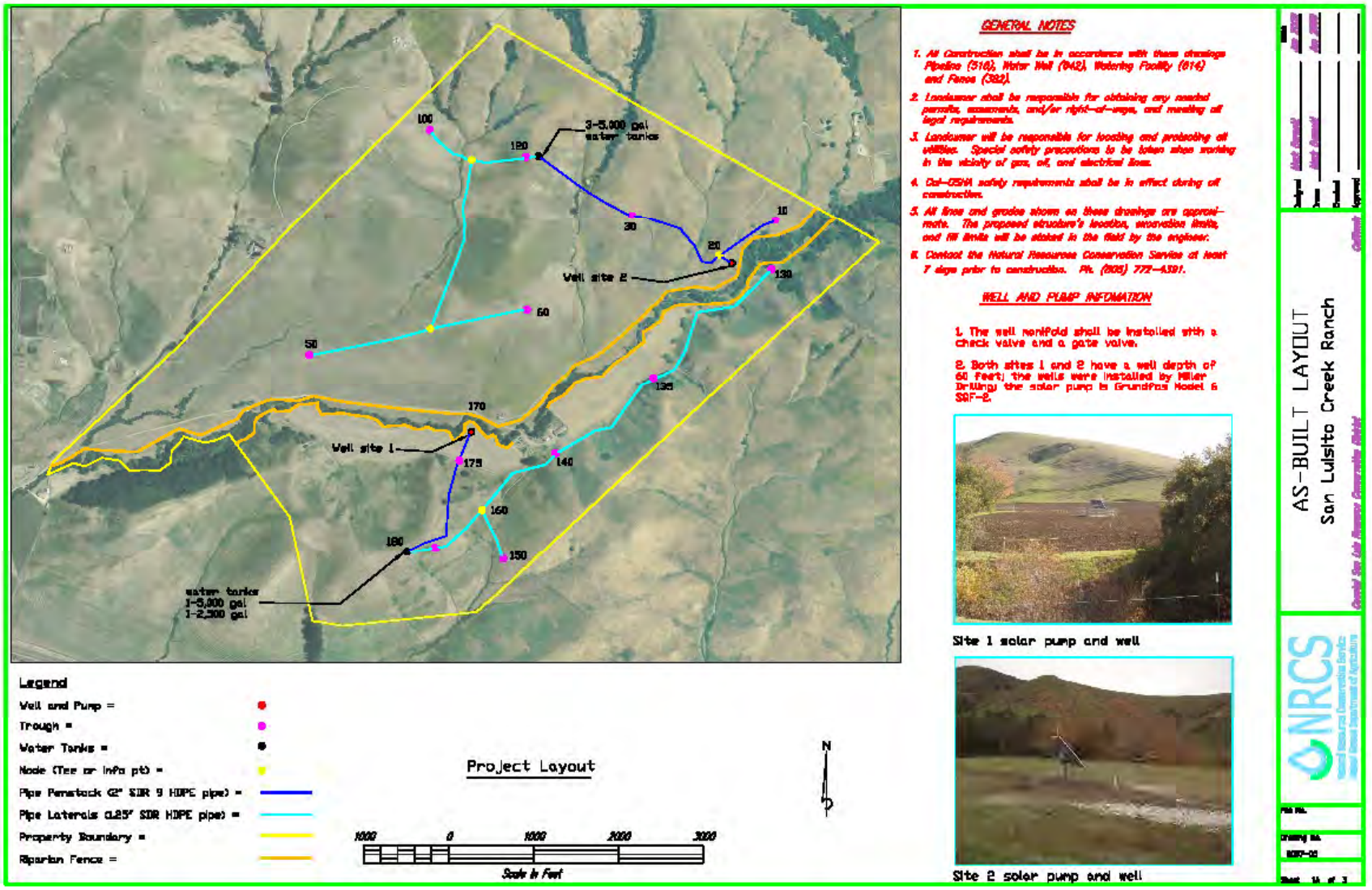

Figure 241. Layout of wells, pipeline, troughs and riparian fencing at San Luisito Creek ranch.

Solution: Prevent cattle access to creek with riparian fencing and off creek watering system.

Figure 242. Cat and spool system used to rip in pipe.

Figure 243. Ripping in pipe.

Figure 244. Backhoe used to install pipe in hayfield in order to get 48" depth.

Figure 245. Installing tee to trough #30 with fusion welder.

Figure 246. Site 1 well installation.

Figure 247. Tank install on south side of creek.

Construction: Various stages of construction, including pipe, well and tank installation.

Figure 248. Solar panel and pump manifold at well site #2.

Figure 249. Three 4,500-gallon water tanks on north side of creek.

Figure 250. Water trough #10.

Figure 251. Riparian fencing

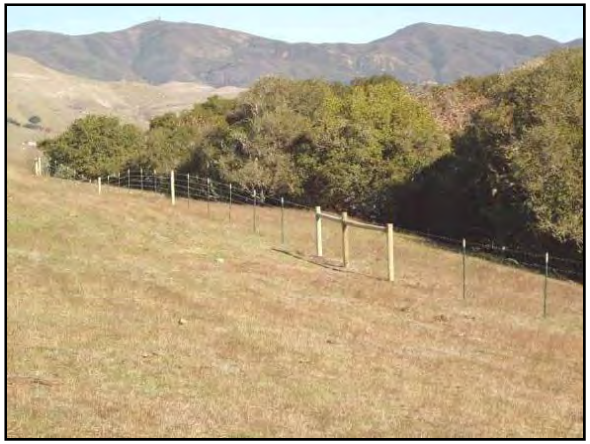

Figure 252. More riparian fencing.

Figure 253. Water trough #60.

Completed project: Two solar powered pumping plants were installed to send water from the wells to storage tanks, and then to troughs. Over 8,000 feet of riparian fencing were installed to protect the creek,

ATTACHMENT F

WRP Riparian Forest Vegetation Management and Debris Removal PC-08-08

Figure 254. The riparian forest understory is really starting to come back and the once matchstick willow is growing larger and stronger.

Figure 255. Margy Lindquist is standing on the levee. The levee is of no use any longer in this reach so we had the CCC crews punch two 4x6x6 foot holes in the levee and spread out the soil in the forest. We look forward to seeing the results from this effort in late spring.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

ATTACHMENT F

Los Osos Creek WRP Vegetation Management and Debris Removal PC-08-09

Figure 256. The channel had a larger amount of sediment and debris in 2008.

Figure 257. The CCC cleared the debris and canopy is maintained.

Project: Typical photos of a creek in need of Vegetation Management and Debris Removal.

ATTACHMENT F

Public Outreach

Figure 258. Participants of tours

Figure 259. Stuart Styles of Cal Poly gives a presentation on irrigation management to 28 local growers attending the September 2008 “Irrigation and Nutrient Management Workshop” in Morro Bay.