Future Alternative C

Description of Alternative C

Alternative C uses all of the same features as Alternative B, but builds from there to make a more thorough effort at satisfying the study goals. Alternative C incorporates some changes to detention facilities, elimination of a nuisance ditch and a channelization of the problematic upper Olivehurst Drain. Figure 13 gives an overview of the improvements considered to be part of Alternative C.

The following infrastructure components make up Alternative C:

Continued features from Alternative A/B:

- Interception of Olivehurst Drain near Griffith and Linda Avenue. The 60-inch pipe is now in Linda Avenue from the east side of Griffith to the north end of the Orchard Pond. That 60-inch pipe will be extended across private property east from Griffith Avenue for about 270 feet. At the east end, a concrete box structure will be constructed to intercept Olivehurst Drain and drop it into the 60-inch pipe.

- Gravity drain Orchard pond to the Olivehurst Interceptor. This is envisioned as twin 5-foot pipes running along the south side of Erle Road. The distance is 3600 feet. Flap gates would be required at the Interceptor end. The added runoff delivered to Orchard Pond cannot be handled by the current pumps discharging to Olivehurst Drain.

- Convert Orchard Pump Station to just one 20 cfs pump. The other two current pumps would be removed. This is a significant step towards reducing pumping costs.

- Drain most of the central East Linda Specific Plan Area utilizing linear detention. A similar idea for a channel designated the "Eastside Interceptor" in various alignments has been considered as far back as the 1992 SYDMP. In this study, the linear detention is envisioned to be 8800 feet long extending from just north of the current Orchard pond to the east around the large open parcel north, back west at North Beale Road, crossing under N. Beale Road next to the Goldfields Parkway and continuing northward up to the south side of Hammonton-Smartsville Road west of the Jehovah's Witness Church, starting again just north of Hammonton-Smartsville and ending 1400 feet north of there. The excavation is estimated to be about 245,000 cubic yards. The depth of the excavation will average slightly more than 10 feet. The bottom width is about 45 feet. The top width is about 130 feet including a 15-foot road on both sides. It would require about 27 acres of land. The dirt would probably be used for the continued construction of Goldfields Parkway (especially as it is raised to pass over the Yuba River levee), filling in nuisance detention ponds to minimize ongoing maintenance, or for other construction projects in the area. This channel will receive runoff directly from developed subsheds SP5, SP8, SP9, SP15, and SP16. It is also envisioned to receive 70% of the runoff from SP1 and SP2 on the north side of Hammonton-Smartsville Road. Under Alternative C, 30% of the runoff from those two north subsheds would continue to drain to Linda Drain.

- The road crossings for the linear detention. Restrictive culverts would be used in three spots to more fully utilize the storage capacity of the linear detention as one moves north. The locations are: at south end just before the linear channel meets the existing culverts at Linda Avenue, under N. Beale Road and under Hammonton-Smartsville Road. Each would be either a 4-foot or 3.5-foot diameter culvert placed at the bottom of the channel.

- Connection structures to Linda Drain. At the point where Linda Drain and the linear detention channel cross, there will be a connection utilizing an energy dissipating structure that will drop the Linda Drain flow from both directions into the linear detention. From the west side, it would likely require a 5 or 6 foot culvert passing under Goldfields Parkway. That would probably be 200-feet long. From the east, a concrete chute is envisioned with RSP near the bottom.

- Improve or remove seven culvert crossings on Linda Drain between station 279+45 and station 340+53. The locations and descriptions of the seven crossings were included under Alternative B.

New features added with Alternative C:

- Channelize upper Olivehurst Drain from Wood Ln. to Linda Avenue. This would mean excavating the bottom of the ditch by typically about 4 feet for a length of 3700 feet. The width of the bottom would be 6 feet at the upper end above N. Beale Road and 8 feet for the part of the ditch between N. Beale Road and Linda Avenue. Total excavated volume is estimated to be approximately 4400 cubic yards.

- Improve and lower seven culverts on upper Olivehurst Drain. All but two are small driveway/farm crossings. The ones that are not are the N. Beale Road culverts and the Lago Road crossing. The crossings included are:

    - N. Beale Road at Station 195+84. Existing culverts to be replaced by double 48-inch diameter.
    - Lago Road at Station 181+86. Existing pipes to be replaced by twin 54-inch diameter.
    - Farm crossing at Station 179+26. Replace existing culvert with triple 48-inch diameter.
    - Fenceline crossing at Station 177+12. Replace existing culvert with triple 48-inch diameter.
    - Driveway at Station 174+58. Replace 3 small culverts with triple 48-inch diameter.
    - Church driveway at Station 172+16. Replace existing culverts with triple 48-inch diameter.
    - Farm crossing at Station 170+73. Replace existing culvert with triple 48-inch diameter.

- Build a 6 acre, 4-foot deep pond in the western Butler Property. The existing pond just west of College View Estates will be absorbed. Excavate approximately 36,000 cubic yards. The storage may be incorporated in the planned park as a low play field, dog park or similar facility. Use the excavated pond material as fill on the adjacent lower elevation portions of the western Butler Property and to fill College View Estates Pond (if not already done). The fill on the Butler Property will be graded to maintain a minimum elevation of 68 feet (NGVD 29). Other timing or methods to solve the historic flooding problems on this property could be considered. Permanent solutions for this area will be easier to achieve once the Eastside Interceptor is in place.

- Elimination of Country Club Park Ditch. Before the Olivehurst Interceptor was completed, this ditch conveyed the entire Linda Drain runoff. However, it has been isolated and now only conveys a small amount of local runoff. The ditch will be replaced with about 1150 feet of 18-inch pipe and 1100 feet of 24-inch pipe, then backfilled and graded to match existing topography. The drainage will route into the 30-inch pipe at Oakwood Drive. As is the current situation, the runoff ends up in the Edgewater Ditch.

FUTURE GOLDFIELDS PARKWAY

LINDA DRAIN WATERSHED

LINDA DRAIN

HAMMONTON SMARTSVILLE RD.

YUBA RIVER SOUTH LEVEE

CONNECTION STRUCTURES FROM LINDA DRAIN TO LINEAR DETENTION

BUTLER POND

IMPROVE 7 CULVERTS BETWEEN

8800' LINEAR DETENTION POND W/ RESTRICTIONS AT LINDA AVE, N. BEALE RD & HAM-SMARTSVILLE RD

OLIVEHURST DRAIN WATERSHED

OLIVEHURST DRAIN

N. BEALE ROAD

RAISE AREAS W/ MATERIAL FROM BUTLER POND

FERNWOOD DITCH

GRIFFITH AVE

CHANNELIZE OLIVEHURST DRAIN FROM WOOD LN TO LINDA AVE & IMPROVE 7 CULVERTS BETWEEN

60"x270' CONNECTION FROM OLIVEHURST DRAIN TO (E)60"

ELIMINATE COUNTRY CLUB DITCH AND REPLACE WITH CULVERT

ORCHARD DETENTION POND

ELIMINATE 3 x 20CFS PUMPS AND REPLACE W/ SINGLE 20CFS PUMP

EDGEWATER POND

OLIVEHURST INTERCEPTOR

EAST LINDA SPECIFIC PLAN BOUNDARY

TWIN 5'x3600' GRAVITY DRAIN TO OLIVEHURST INTERCEPTOR

OLIVEHURST DRAIN

ERLE ROAD

EDGEWATER DITCH

SOUTHERN PACIFIC RAILROAD

OLIVEHURST INTERCEPTOR POND

OLIVEHURST INTERCEPTOR

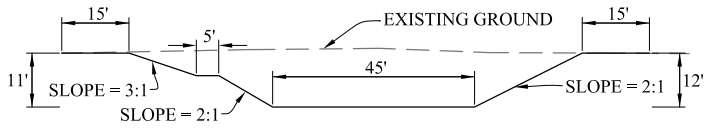
REEDS CREEK

APPROXIMATE FLOOD EASEMENT DEEDED TO SACRAMENTO & SAN JOAQUIN DRAINAGE DISTRICT

LEGEND

- LATERAL
- DETENTION POND
- DRAINAGE BASIN BOUNDARY
- EAST LINDA SPECIFIC PLAN BOUNDARY

0 250 500 1000 2000



LINEAR DETENTION SECTION
N.T.S.

FIGURE 13
ALTERNATIVE C
OVERVIEW OF IMPROVEMENTS
YUBA COUNTY, CALIFORNIA

Hydraulic Model for Alternative C

The features discussed above have been added to the unsteady HEC-RAS model to represent Alternative C. The future condition HEC-1 hydrographs have been introduced at appropriate locations via DSS. Generally, under this alternative as compared with Alternative B, the Butler Pond (and use of fill) keeps water in the ditch in that area, and the improvement of upper Olivehurst Drain drops the local runoff in that area into the ditch. Meanwhile, as in Alternative A and B, the interception of Olivehurst Drain at Linda Avenue greatly reduces flows south of there adjacent to Griffith Avenue. The future Eastside subdivision just east of the Montrose subdivision has much higher peak runoff than the land currently produces, but it is assumed to route underground to the Orchard Pond collector at the south end of Griffith. The Alternative C HEC-RAS model continues to reflect that connection. The HEC-RAS model also contains the large gravity drain from Orchard Pond to the Olivehurst Interceptor. The Alternative C HEC-RAS model simulates the Orchard Pond pumping to be just the 20 cfs nuisance pump. The model also includes the improved culverts at seven locations on Linda Drain. Since the intent is to simulate the most demanding conditions on downstream facilities, the modeling considers the elimination of Sierra Vista Pond. Since Linda Drain cannot accommodate the direct runoff from the Sierra Vista subdivision, the model routes such runoff into the linear detention instead. This was done as a conservative approach to the HEC-RAS modeling to cover the possibility that a developer at that location may eventually desire to undertake a project to eliminate the pond and route the Sierra Vista runoff to the Eastside Interceptor via an underground pipeline.

Under existing conditions, the undeveloped shed XIA(S) drains to the Linda Drain/Edgewater Ditch that runs north to south through the property. Once developed, the runoff will be routed underground to convenient locations. Under Alternative C, the runoff is modeled to route 10% to the Edgewater Ditch, 20% to the Olivehurst Interceptor on the east and 70% to the junction point just south of XIA(S) where the Edgewater Ditch (Linda Drain) meets the Olivehurst Interceptor.

The same modeling assumptions discussed earlier apply to this future conditions Alternative C hydraulic model.

The HEC-RAS geometry screen for the Alternative C hydraulic model is shown in Figure 14 to give an idea of the components included in the models. Easily visible by comparison of the existing conditions model shown in Figure 4 to that of the Alternative C model shown in Figure 14 is:

- The elimination of the Sierra Vista Pond
- The addition of the Eastside Interceptor linear detention channel
- The addition of Butler Pond
- The diversion of Olivehurst Drain at Linda Avenue to the linear detention channel
- The gravity drain from Orchard Pond to the Olivehurst Interceptor

Less visible, but in the details of the HEC-RAS model, are all the other features of Alternative C.

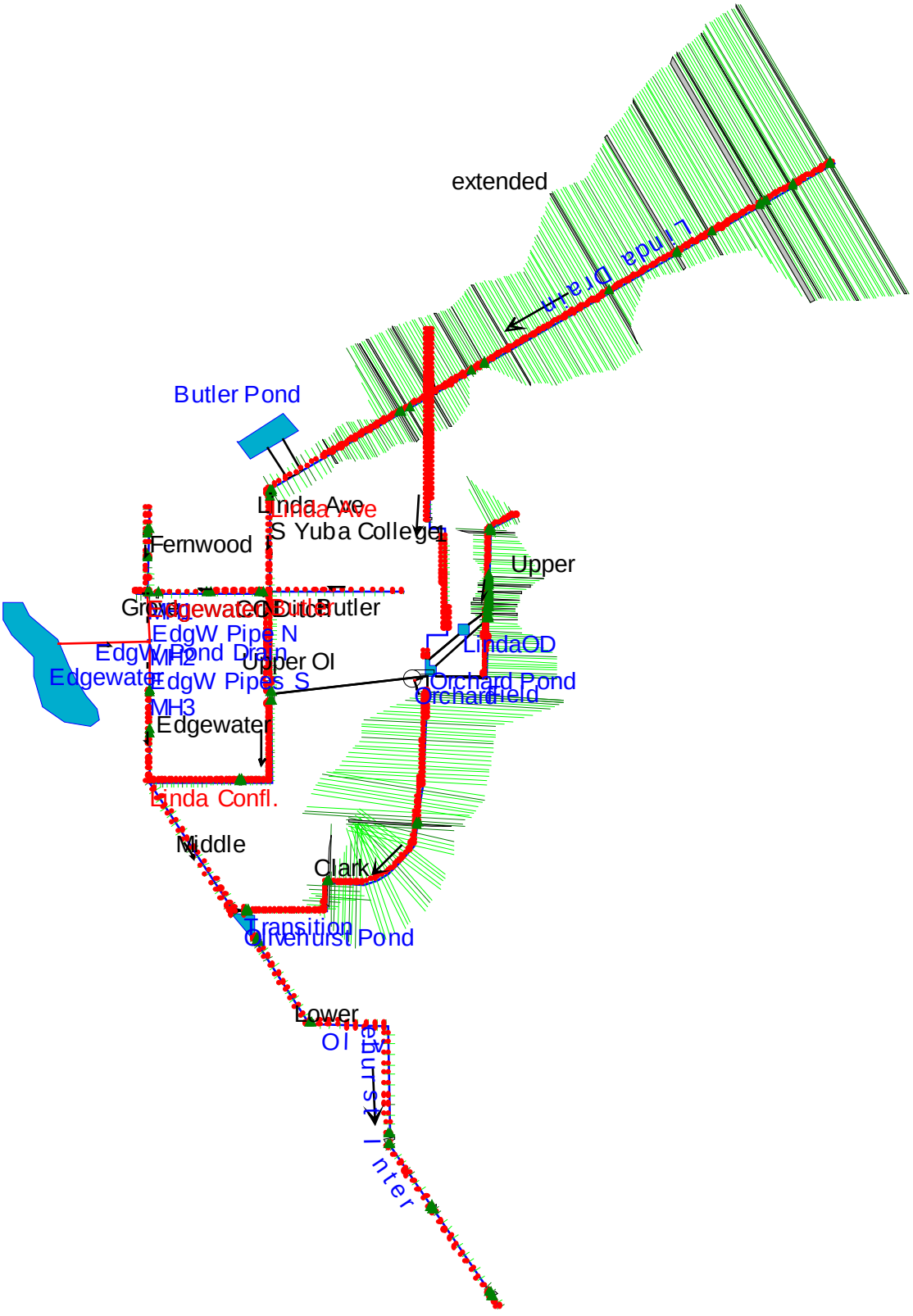


Figure 14 – HEC-RAS Geometry Screen for this Study under Future Alternative C.

Predicted Peak Water Surface Elevations and Flows for Alternative C

Some of the 100-year and 10-year calculated water elevations and flow rates for future conditions under Alternative C are shown in Table 8. More complete results may be found in Appendix F, including the profile data for stage versus location for different storm events.

Table 8
Future Alternative C HEC-RAS Indications of Peak WSELs and Flows at Various Locations in the South Yuba Drainage Master Plan Area.

Location	10-year Storm		100-year Storm	
	Computed Peak WSEL, (feet NGVD 29)	Peak Flow, cfs	Computed Peak WSEL, (feet NGVD 29)	Peak Flow, cfs
Olivehurst Interceptor at Reeds Creek, Sta 6+71	57.10	221	60.00	396
Olivehurst Interceptor below pond, Sta 108+60	59.62	221	61.63	402
Olivehurst Interceptor Pond	60.47	n/a	61.86	n/a
Edgewater Ditch at Erle Road, Sta 277+66	61.16	83	62.51	129
Edgewater Pond	61.31	n/a	62.42	n/a
Olivehurst Interceptor at Erle Road, Sta 200+00	61.67	240	62.97	373
Linda Drain at N. Beale Road, Sta 253+98	65.09	86	66.24	147
Butler Pond	65.51	n/a	66.65	n/a
Linda Drain near Alberta Avenue, Sta 304+34	66.98	2	67.79	6
Linda Drain at upstream side of Griffith Avenue, Sta 326+48	67.84	26	68.34	44
Linda Drain at east border of East Linda Specific Plan, Sta 340+95	69.02	25	69.63	42
Linda Drain at Brophy Road, Sta 455+27	78.31	33	79.53	58
Olivehurst Drain at junction with Interceptor, Sta 20+00	60.48	30	61.87	37
Olivehurst Drain south of Erle Road pond outfall, Sta 106+54	63.96	21	64.22	21

Orchard Pond	61.91	n/a	64.34	n/a
Olivehurst Drain south Griffith Road at pond inlet structure, Sta 149+25	64.54	50	65.54	75
Olivehurst Drain at Linda Avenue, Sta 169+33	63.60	0	65.52	0
Olivehurst Drain at N. Beale Road, Sta 195+43	67.26	27	68.09	46
Olivehurst Drain west of Wood Ln., Sta 206+02	67.86	5	68.72	10

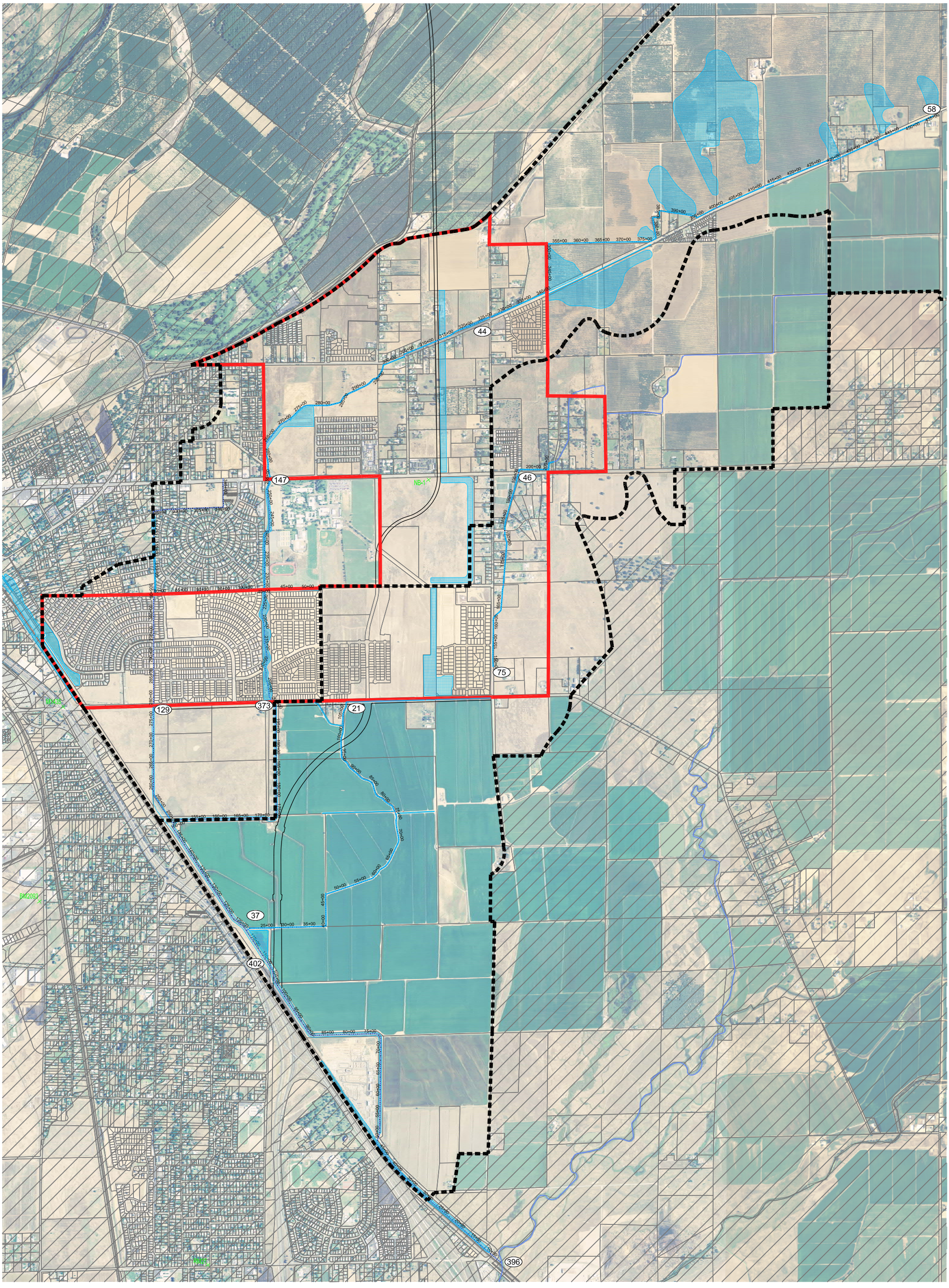
Flood Maps for Alternative C

The future conditions 100-year water surface elevations have been used with the topographic information to produce a modified flood map for the study area representing the Alternative C infrastructure and the increased runoff associated with development in the East Linda Specific Plan. The map is shown in Figure 15. The intent with Alternative C is to solve the remaining flooding issues within the East Linda Specific Plan Area not resolved under Alternative B. The historic flooding on the west Butler Property has been successfully corrected by excavating a pond and using the material as fill on the surrounding low areas. This approach may not be the only way to address the parcel. However, if other approaches are taken, they will benefit from the other improvements included in Alternatives B and C, in particular, the construction of the Eastside Interceptor linear detention channel. The map shows that the problems on upper Olivehurst Drain above Linda Avenue can be eliminated by channelization and culvert upgrades. The elimination of the Sierra Vista Pond has been shown to be technically feasible. The map shows the 100-year water surface boundaries in the entire region under study.

The main accomplishment of the Alternative C infrastructure is to successfully accommodate the increased peak runoff from development within the East Linda Specific Plan and the General Plan Area XIA(S). This alternative resolves the remaining flooding issues in the East Linda Specific Plan Area left by Alternative B. In particular:

- The flooding in Upper Olivehurst Drain along Griffith Avenue and extending northward across N. Beale Road to Wood Lane is eliminated.
- The flooding on the south side of Yuba College from Butler Ditch is eliminated.
- The flooding on Linda Drain from the east side of the East Linda Specific Plan Area down to and including the west portion of the Butler Property is eliminated.
- Although south of the focus area of this study, the Olivehurst Drain below Erle Road conveys far less flow under this alternative and shows no flooding outside the channel.

From a comparison of Table 4 with Table 8 it is evident that peak flows delivered southward from the SYDMP area to Reeds Creek are reduced below current conditions for both the 10-year and 100-year storm. Furthermore, Alternative C produces lower outflow numbers than Alternative B (or Alternative A).



LEGEND

- LATERAL
- FLOODED AREAS
- DRAINAGE BASIN BOUNDARY
- (100) 100 YEAR PEAK FLOWS, CFS
- EAST LINDA SPECIFIC PLAN BOUNDARY

0 250 500 1000 2000

FIGURE 15
SOUTH YUBA DRAINAGE MASTER PLAN ALTERNATIVE C 100-YR FLOOD PLAIN
YUBA COUNTY, CALIFORNIA

Persistent Storm Drainage Problem Areas for Alternative C

Goal of Minimizing the County Costs with Pump Stations, Ditches and Distributed Small Detention Facilities

Under this Alternative C, the models suggest that all residual flooding issues within the East Linda Specific Plan Area have been resolved. The goal of minimizing the County costs associated with pump stations, ditches and distributed small detention facilities has been largely accomplished. The nuisance ditch between Country Club Estates and the Edgewater subdivision has been eliminated. Total pumping in the SYDMP area has been reduced to just one 20 cfs nuisance pump. As with Alternative B, the volume of Orchard Pond combined with the linear detention is not sufficient to completely eliminate the pumping at Orchard Pond. The added runoff collected from an expanded portion of the East Linda Specific Plan Area, even with the gravity drains to the Olivehurst Interceptor, still requires a minimal amount of pumping so that a dead pool does not eliminate needed storage in Orchard Pond. The bottom of Orchard Pond is significantly lower than the invert of the Olivehurst Interceptor, so gravity cannot fully drain the pond. Without a pump, the WSEL in Orchard Pond is predicted to rise above the design level of 64.5 feet (NGVD29) during a 100-year event. To completely eliminate the pumping at Orchard Pond, the decision would need to be made to live with a dead pool in the pond and build a nearby facility to provide approximately 50 acre-feet of additional storage, or allow Orchard Pond to rise above the design level, or restrict the amount of development allowed within the East Linda Specific Plan Area.

Except where they need to remain for compelling local engineering reasons, all distributed nuisance ponds can be eliminated under Alternative C. Included for elimination under this alternative is the County-maintained pond at College View Estates. The Alternative C does introduce a new local pond at the west Butler Property. The excavation of Butler Pond will produce enough material to raise the Butler Property as required and fill the College View Estates Pond, if it has not been filled previously under Alternative B using material from the linear detention channel. Existing detention facilities that cannot be eliminated under this Alternative C are: Edgewater Pond, Orchard Pond, and the Olivehurst Interceptor Pond. While the Butler pond has been included in Alternative C, other local solutions may exist that maintain the needed storage and produce the necessary fill for the area.

Alternatives – Costs, Phasing, Permitting and Maintenance Considerations

Costs

Alternative A

The estimated costs of the major work proposed in the Alternative A improvements are summarized below. A more detailed breakdown can be found in Appendix G in spreadsheet format.

- Goldfields Parkway Trunk Main from Tiptoe Lane to Orchard Pond.

Land Costs	$75,000
Infrastructure Costs	$2,178,662

- Gravity Drain from Orchard Pond to the Olivehurst Interceptor.

Land Costs	$49,000
Infrastructure Costs	$1,625,242

- Olivehurst Drain at Linda Avenue Connection to 60-inch Pipe in Linda Avenue.

Land Costs	$8,000
Infrastructure Costs	$81,422

- Revision of the Controllers for Orchard Pump Station.

Upgrade Costs	$10,000

- Eliminate College View Estates Pond.

Infrastructure Costs	$49,495

- Area XIA(S) Pond and Outlet.

Land Costs	$125,000
Infrastructure Costs	$390,758

Alternative A Subtotal	$4,592,579
Design/Permitting/Contingencies/Round-off	$1,217,421
Alternative A Budget Total	$5,810,000

Alternative B

The estimated costs of the major work proposed in the Alternative B improvements are summarized below. A more detailed breakdown can be found in Appendix G in spreadsheet format.

- Gravity Drain from Orchard Pond to the Olivehurst Interceptor (As in Alternative A).

Land Costs	$49,000
Infrastructure Costs	$1,625,242

- Olivehurst Drain at Linda Avenue Connection to 60-inch Pipe (As in Alternative A).

Land Costs	$8,000
Infrastructure Costs	$81,422

- Goldfields Parkway Linear Detention Channel ("Eastside Interceptor").

Land Costs	$585,000
Excavation Costs	$1,225,000
Infrastructure Costs	$224,293

- Convert Orchard Pump Station to one 20 CFS Nuisance Pump.

Infrastructure Costs	$15,000

- Improve/Remove Culvert Crossings on Linda Drain.

Infrastructure/Culvert Costs	$73,232

- Eliminate College View Estates Pond.

Infrastructure Costs	$40,909

Alternative B Subtotal	$3,927,098
Design/Permitting/Contingencies/Round-off	$1,040,902
Alternative B Budget Total	$4,968,000

Alternative C

The estimated costs of the major work proposed in the Alternative C improvements are summarized below. A more detailed breakdown can be found in Appendix G in spreadsheet format.

- Gravity Drain from Orchard Pond to the Olivehurst Interceptor (As in Alternative A).
  - Land Costs $49,000
  - Infrastructure Costs $1,625,242

- Olivehurst Drain at Linda Avenue Connection to 60-inch Pipe (As in Alternative A).
  - Land Costs $8,000
  - Infrastructure Costs $81,422

- Goldfields Parkway Linear Detention Channel (As in Alternative B).
  - Land Costs $585,000
  - Excavation Costs $1,225,000
  - Infrastructure Costs $224,293

- Convert Orchard Pump Station to one 20 CFS Nuisance Pump (As in Alternative B).
  - Infrastructure Costs $15,000

- Improve/Remove Culvert Crossings on Linda Drain (As in Alternative B).
  - Infrastructure/Culvert Costs $73,232

- Upper Olivehurst Drain Channelization and Culvert Improvement
  - Land Costs $115,000
  - Excavation Costs $67,500
  - Infrastructure/Culvert Costs $143,329

- Construct Butler Pond.
  - Land Costs $125,000
  - Excavation Costs $241,246

- Eliminate College View Estates Pond.
  - Infrastructure Costs $32,323

- Eliminate Country Club Ditch.
  - Infrastructure Costs $349,343

Alternative C Subtotal	$4,922,931
Design/Permitting/Contingencies/Round-off	$1,305,069
Alternative C Budget Total	$6,228,000

Phasing Requirements

Since it is likely that all of any one alternative will not be funded at one time or by one funding source, it is important to consider the necessary staging or phasing of individual units of this overall Drainage Master Plan. Furthermore, there are many units or projects which are common to more than one of the alternatives presented. Still, completion of any given alternative is not necessarily compatible with each of the other alternatives. An exception is Alternative B transitioning to Alternative C. Since Alternative C includes all improvements of Alternative B, nothing is lost in moving from Alternative B to Alternative C. A transition to or from Alternative A and one of the other alternatives should not be considered because they involve incompatible approaches.

Within a given alternative, phasing should be completed so that the available infrastructure can keep up with the demands expected of it. Extensive residential and commercial development within the East Linda Specific Plan Area cannot precede the necessary downstream infrastructure needed to accommodate the resulting higher peak runoff. Although different orders could be considered, the following is the suggested sequence for each of the alternatives.

Phasing for Alternative A:

1. Connection of 60-inch Pipe in Linda Avenue
   Phase 1 will support the development of subshed SP17.
2. Goldfields Parkway Trunk Main
   Phase 2 will support the development of 50% (179 acres) of any combination of subsheds SP5, SP8, SP9, SP10, SP15, and SP16.
3. Gravity Drain from Orchard Pond to Olivehurst Interceptor
4. Change Pump Controllers at Orchard Pond
   Phases 3 and 4 will support the remaining development of subsheds SP5, SP8, SP9, SP10, SP15, and SP16.
5. Construction of the XIA(S) Pond or Alternative Detention Expansion.
   Phase 5 will support the commercial development of subshed XIA(S) south of Erle Rd.

Phasing for Alternative B:

1. Connection of 60-inch Pipe in Linda Avenue
   Phase 1 will support the development of subshed SP17.
2. Goldfields Parkway Linear Detention Channel (“Eastside Interceptor”)
   Phase 2 will support the development of 50% (179 acres) of any combination of subsheds SP5, SP8, SP9, SP10, SP15, and SP16.
3. Gravity Drain from Orchard Pond to Olivehurst Interceptor
4. Change Pumps at Orchard Pond to one Nuisance Pump
   Phases 3 and 4 will support the remaining development of subsheds SP5, SP8, SP9, SP10, SP15, and SP16.
5. Complete the Connection Structures between Linda Drain and the Linear Detention Channel (unless already completed as part of #2 above)

6. Improve Culverts on Linda Drain
   Phases 5 and 6 will support the development of subsheds SP1, SP2, SP3, SP6 and XIA(S).

Phasing for Alternative C – as above, followed by:

7. Construct Butler Pond
   Phase 7 will support the development of Subsheds SP7 and SP12.
8. Upper Olivehurst Drain Channelization
   Phase 8 will support the development of subsheds SP13 and SP14.
9. Eliminate Country Club Ditch

Environmental and Permitting Considerations

Implementation of the improvements suggested in this report will require adoption by the County of one of the alternative plans and the appropriate environmental assessment of the project. Every attempt must be made to minimize adverse environmental effects of the storm drainage system.

Federal, State and local agencies will be involved in the environmental assessment and the required permit processing for the improvements. Those may include, for example, the State Reclamation Board, the U.S. Army Corps of Engineers, State and Federal Wildlife agencies, the California Regional Water Quality Control Board, and the U S Environmental Protection Agency (EPA).

Of the projects considered in the three alternatives presented in this report, the channelization of upper Olivehurst Drain could prove to present the most significant environmental and permitting challenges. The County must strive to balance concerns regarding environmental effects, capital and operating costs, property rights, and economic impacts.

Maintenance and Operations

While storm drainage facilities within the County have historically been well maintained, it is impossible to overstate the importance of effective maintenance in the overall storm water management effort. Without maintenance, drainage facilities will deteriorate, and their design capacities will be reduced by accumulations of sediments, weeds and debris. Not only will they fail to function as intended, but they will become hazards and a blight on the County landscape. The construction of additional facilities in the future increases the maintenance burden. It is imperative that sufficient maintenance manpower and equipment be made available to ensure proper function and community acceptance.

As stated in goal 4 of this study, an attempt has been made to minimize County maintenance and operations costs by eliminating pumping stations, ditches and small distributed detention ponds. This effort may partially offset the increased burden associated with the new facilities proposed in the three alternatives presented. The alternatives use varying levels of underground pipes, open channels, detention, and/or pumping facilities. And, of course, those differing types of facilities call for differing levels of maintenance

and operations efforts. The County will naturally consider the potential maintenance and operations costs in selecting not only which alternative to pursue but also to prioritize the projects within a preferred alternative.

The drainage area covered by this SYDMP already has many miles of open channels and ditches in use. Alternatives B and C add a little over a mile of new open channel. Ditches and channels tend to be quite demanding in regard to maintenance. It is recommended that trees and thick vegetation such as grasses, cattails and blackberry bushes should be removed within the banks annually. Channel floor and banks should be mown wherever possible. Debris should be removed. Trees adjacent to ditches should be pruned such that the leaves are above the bank level. It is suggested further that every five years excess sediment should be removed to restore the original channel dimensions.

Summary and Recommendations

The basic purpose of this report was to update the South Yuba Drainage Master Plan from 1992 and to meet the following multiple specific goals: (1) to integrate past studies which utilized separate hydrologic/hydraulic models for East Linda, Upper Linda Drain, and Upper Olivehurst Drain into a single model for current conditions; (2) to develop future conditions hydrologic/hydraulic models representing the effects of potential development within the East Linda Specific Plan; (3) to identify alternative drainage projects which, when completed, will provide adequate storm drainage for existing as well as future development within the East Linda Specific Plan; (4) to identify alternative drainage projects which, when completed, will minimize the County maintenance and operating costs associated with pump stations, ditches and distributed small detention facilities; (5) to serve as the basis for nexus study for an update of impact fees; (6) to provide a guide for right-of-way acquisition; and (7) to provide the analysis to facilitate the design and construction of future drainage infrastructure.

The purpose and specific goals have been met to varying degrees with Alternatives A, B and C. The integrated hydrologic/hydraulic models are ready for use as planning tools. While great progress toward goal 4 was indicated by the analysis, completely eliminating pump stations appears to be difficult. Even with Alternative C, a small nuisance pump will be necessary at Orchard Pond. The trade-off for being able to eliminate pump stations altogether would be to require significant new detention volume near Orchard Pond, or to allow Orchard Pond to experience peak water levels above the design level, or to scale back on the amount of development allowed within the East Linda Specific Plan Area and the General Plan Area XIA(S). Since none of those approaches seemed palatable, the minimal pumping at Orchard Pond was retained in the alternatives presented.

The recommended alternative for the ultimate infrastructure system is Alternative C. The complete realization of Alternative C would include the following main components: (1) connection of 60-inch pipe in Linda Avenue; (2) construct Eastside Interceptor linear detention channel; (3) gravity drain from Orchard Pond to Olivehurst Interceptor; (4) change pumps at Orchard Pond to one nuisance pump; (5) improve seven culverts on Linda Drain; (6) construct Butler Pond; (7) channelization and improved culverts on upper Olivehurst Drain; (8) eliminate Country Club Ditch; and (9) eliminate nuisance ponds that the County maintains. The first five of these components embody Alternative B. From a cost perspective, Alternative B is lowest. However, Alternative B transitions smoothly to Alternative C, and some of the individual parts of Alternative C provide a large benefit for a relatively low cost (the upper Olivehurst Drain channelization being the prime example). Thus, as per the phasing discussed earlier in this report, a reasonable approach to the ultimate may be to begin with Alternative B and build into Alternative C as funding and development allow. Alternative A has a medium cost but a relatively low benefit and should probably only be considered if it is determined that an underground trunk main is preferred over an open detention channel.

As listed under goal 4, it is recommended that Yuba County move away from distributed detention facilities with local benefit to a planned system with larger detention facilities providing regional benefit. The alternatives presented in this Drainage Master Plan are consistent with that goal. Future development within

the East Linda Specific Plan Area and General Plan Area XIA(S) should follow this SYDMP to utilize the existing Edgewater, Orchard and Olivehurst Interceptor Ponds.

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Appendix

Appendix A

Existing Conditions HEC-1 Output
100-year Storm

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *               JUN   1998              *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   06MAY11  TIME  10:40:09   *
 *                                       *
 *****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX           X
X     X  X        X     X         XX
X     X  X        X                X
XXXXXXX  XXXX     X        XXXXX   X
X     X  X        X                X
X     X  X        X     X          X
X     X  XXXXXXX   XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

    1         ID  East Linda and Olivehurst Drain Watersheds      - 100 year storm
              * Existing conditions 2011
    2         IT      10 01JAN10       0     721                    2000
    3         IO       5

    4         KK  IA1
    5         KM  Rice Fields east of Brophy Rd., north of H-S rd.
    6         KO                                    22
    7         BA   .6641
    8         PB    4.16
    9         IN       5
   10         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   11         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   12         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   13         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   14         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   15         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   16         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   17         PI   0.007   0.007    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   18         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   19         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   20         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.02    0.02
   21         PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
   22         PI    0.02    0.02    0.02    0.02    0.02    0.02   0.021   0.021   0.021   0.021
   23         PI   0.021   0.021   0.028   0.028   0.028   0.028   0.028   0.028   0.037   0.037
   24         PI   0.037    0.08    0.13    0.32    0.18    0.08    0.08   0.037   0.037   0.037
   25         PI   0.028   0.028   0.028   0.028   0.028   0.028   0.021   0.021   0.021   0.021
   26         PI   0.021   0.021    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
   27         PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
   28         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   29         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   30         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   31         PI    0.01    0.01    0.01    0.01    0.01    0.01   0.007   0.007   0.007   0.007
   32         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   33         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   34         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   35         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   36         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
```

```
   37          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   38          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007       0       0
   39          PI       0       0       0       0       0       0       0       0       0       0
   40          PI       0       0       0       0       0       0       0       0       0       0
   41          PI       0       0       0       0       0       0       0       0       0       0
   42          PI       0       0       0       0       0       0       0       0       0       0
   43          PI       0       0       0       0       0       0       0       0       0       0
   44          PI       0       0       0       0       0       0       0       0       0       0
   45          PI       0       0       0       0       0       0       0       0       0       0
   46          PI       0       0       0       0       0       0       0       0       0       0
   47          PI       0       0       0       0       0       0       0       0       0       0
   48          PI       0       0       0       0       0       0       0       0       0       0
   49          PI       0       0
   50          LS           77.2       2
   51          UD   4.586
   52          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE  2

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


   53          KK  STO-I1
   54          KM  4" Ponding in Basin IA1 95% of area
   55          KO                                      22
   56          RS       1    ELEV      85
   57          SA       0     200     400     400
   58          SE    84.9      85  85.333      86
   59          SL      85       3      .6      .5
   60          SS  85.333    1000     2.5     1.5
   61          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   62          KK  IVA1
   63          KM  Rural residential on H-S Rd 3/4 east of Brophy
   64          KO                                      22
   65          BA   0.178
   66          LS             82       5
   67          UD   1.038
   68          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   69          KK  Node1
   70          KM  Residences about 3/4 mile east of Brophy Rd.
   71          KO                                      22
```

```
   72          HC       2
   73          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   74          KK  1 Rout
   75          KM  Route next to Hammonton-Smartsville Rd to Brophy
   76          KO                                      22
   77          RD    5900   .0015    .050            TRAP       3       1
   78          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   79          KK  IVA2
   80          KM  Rice fields in Brophy area south of H-S rd.
   81          KO                                      22
   82          BA  1.0583
   83          LS             81       1
   84          UD   4.17
   85          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   86          KK  STO-IV
   87          KM  4" Ponding in Basin IVA2 - 95% of area
   88          KO                                      22
   89          RS       1    ELEV      85
   90          SA       0     322     644     644
   91          SE    84.9      85  85.333      86
   92          SL      85       3      .6      .5
   93          SS  85.333    1000     2.5     1.5
   94          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   95          KK  IA2
   96          KM  Orchards north of Brophy Rd. and of H-S rd.
   97          KO                                      22
   98          BA  0.7628
   99          LS           76.2       2
  100          UD   3.636
1                                    HEC-1 INPUT                                        PAGE  3

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  101          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  102          KK  STO-I2
  103          KM  4" Orchard Ponding in Basin IA2 33% of area
  104          KO                                      22
```

```
105          RS       1    ELEV      75
106          SA       0      81     162     162
107          SE    74.9      75  75.333      76
108          SL      75       2      .6      .5
109          SS  75.333    1000     2.5     1.5
110          ZW   A=SYDMP  C=FLOW F=EXISTING2011

111          KK  IA3
112          KM  Rural Residential just west of Brophy Rd.
113          KO                                     22
114          BA  0.1239
115          LS           76.4       5
116          UD   1.295
117          ZW   A=SYDMP  C=FLOW F=EXISTING2011

118          KK  Node2
119          KM  Near Brophy School
120          KO                                     22
121          HC       4
122          ZW   A=SYDMP  C=FLOW F=EXISTING2011

123          KK  2 Rout
124          KM  From Brophy School area to Mobile Home park.
125          KO                                     22
126          RD    5900    .001     .05            TRAP       3       2
127          ZW   A=SYDMP  C=FLOW F=EXISTING2011

128          KK  IIA1
129          KM  Orchards, Ag north of H-S rd. North of trailer park
130          KO                                     22
131          BA  1.1469
132          LS           56.8       1
133          UD   7.474
134          ZW   A=SYDMP  C=FLOW F=EXISTING2011

135          KK  STOII1
136          KM  4" Orchard Ponding in Basin IIA1 33% of area
137          KO                                     22
138          RS       1    ELEV      75
139          SA       0     121     242     242
140          SE    74.9      75  75.333      76
141          SL      75       3      .6      .5
```

```
          142          SS  75.333    1000     2.5     1.5
          143          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                        HEC-1 INPUT                                                    PAGE  4

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          144          KK  VA1
          145          KM  Rural residential on H-S incl. Trailer Park
          146          KO                                      22
          147          BA  0.0298
          148          LS             68      20
          149          UD   0.663
          150          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          151          KK  Node3
          152          KM  Near Trailer Park on H-S rd.
          153          KO                                      22
          154          HC       3
          155          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          156          KK  3 Rout
          157          KM  From Mobile Home park to Sierra Vista Subdivision
          158          KO                                      22
          159          RD    5900  .00085     .05            TRAP       4       1
          160          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          161          KK  VA2
          162          KM  Orchards both sides of H-S Rd. west of Trailer Park
          163          KO                                      22
          164          BA   .2267
          165          LS           75.9       2
          166          UD   1.076
          167          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          168          KK  STOVA2
          169          KM  4" Orchard Ponding in Basin VA2 - 33% of area
          170          KO                                      22
          171          RS       1    ELEV      77
          172          SA       0      24      48      48
          173          SE    76.9      77  77.333      78
          174          SL      77       2      .6      .5
```

```
 175          SS  77.333     200     2.5     1.5
 176          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 177          KK  VA3
 178          KM  Sierra Vista Subdivision - all flows to Pond
 179          KO                                      22
 180          BA  0.0480
 181          LS              87      35
 182          UD   0.296
 183          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 184          KK  STOVA3
 185          KM  Pond at Sierra Vista
 186          KO                                      22
 187          RS       1    ELEV      65
 188          SA       0    1.37     2.8     4.3    5.85    7.48
 189          SE      65      66      67      68      69      70
 190          SL   65.75     1.8      .6      .5
 191          SS    69.9     100     2.5     1.5
1                                      HEC-1 INPUT                                                PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 192          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 193          KK  IIA2
 194          KM  Orchards, Farm north of H-S rd.
 195          KO                                      22
 196          BA  0.3261
 197          LS              52       1
 198          UD   5.955
 199          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 200          KK  STOII2
 201          KM  4" Orchard Ponding in Basin IIA2 33% of area
 202          KO                                      22
 203          RS       1    ELEV      75
 204          SA       0      35      70      70
 205          SE    74.9      75  75.333      76
 206          SL      75       2      .6      .5
 207          SS  75.333    1000     2.5     1.5
 208          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
  209          KK  Node4
  210          KM  Hammonton-Smartsville Rd at Sierra Vista subdivision
  211          KO                                      22
  212          HC       4
  213          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  214          KK  4 Rout
  215          KM  Routing from Sierra Vista to south of Dantoni Rd
  216          KO                                      22
  217          RD    4500   .0005    .045            TRAP       5       2
  218          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  219          KK  IIIA
  220          KM  Subbasin IIIA
  221          KO                                      22
  222          BA   .2644
  223          LS            77.8       2
  224          UD   2.359
  225          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  226          KK  STO-3
  227          KM  4" Ponding in Basin IIIA 10% of area
  228          KO                                      22
  229          RS       1    ELEV      70
  230          SA       0       8      17      17
  231          SE    69.9      70  70.333      71
  232          SL      70       2      .6      .5
  233          SS  70.333     200     2.5     1.5
  234          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE  6

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  235          KK  VIA
  236          KM  Rural residential south of H-S rd., west of Griffith
  237          KO                                      22
  238          BA    .155
  239          LS            80.1       5
  240          UD    1.22
  241          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
KK  STOVIA
KM  4" Ponding in Basin VIA - 10% of area
KO                                      22
RS       1    ELEV      75
SA       0       5      10      10
SE    74.9      75  75.333      76
SL      75       2       .6      .5
SS  75.333     200     2.5     1.5
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Node5
KM  Linda Drain just south of Dantoni Rd.
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  eLinda
KM  Linda Drain Routing toward Yuba College
KO                                      22
RD     100   .0003    .045            TRAP       5       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  6 Rout
KM  Routing to NW Corner Yuba College
KO                                      22
RD    3800   .0003    .045            TRAP       5       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IXA(N)
KM  Subbasin IXA(N) (north of Beale Road)
KO                                      22
BA  0.1047
LS            84.3      30
UD     .43
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Dunn
KM  42 Inch Culvert along Linda Ave
KO                                      22
RD     800   .0004    .015            CIRC     3.5       0
ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  278         KK  VIIA-N
  279         KM  Subbasin VIIA(N) North of Linda Drain
  280         KO                                      22
  281         BA   .2938
  282         LS           78.9      10
  283         UD     .83
  284         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  285         KK  XIIA
  286         KM  Subbasin XIIA College View residential
  287         KO                                      22
  288         BA     .05
  289         LS             85      40
  290         UD     .25
  291         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  292         KK  VIIA-M
  293         KM  Subbasin VIIA(M) Between Linda Drain and N. Beale Rd.
  294         KO                                      22
  295         BA   .1109
  296         LS           77.8       4
  297         UD     .83
  298         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  299         KK  VIIA-S
  300         KM  Subbasin VIIA(S) South of N. Beale Rd.
  301         KO                                      22
  302         BA    .225
  303         LS           84.5      35
  304         UD     .74
  305         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  306         KK  Beale
  307         KM
  308         KO                                      22
  309         HC       6
  310         ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
          311          KK  Colleg
          312          KM  Linda Drain adjacent to Yuba College
          313          KO                                      22
          314          RD    2511  .00075    .035            TRAP      12       2
          315          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          316          KK  VIIIA
          317          KM  Subbasin VIIIA east of College
          318          KO                                      22
          319          BA   .5438
          320          LS           78.8       6
          321          UD      .8
          322          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                    PAGE  8

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          323          KK  Butler
          324          KM  Ditch that runs to the south boundary of Yuba College
          325          KO                                      22
          326          RD    1900   .0003    .035            TRAP       4       1
          327          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          328          KK  Node13
          329          KM  Combine Node 11, Subbasin VIIA, Subbasin VIIIA, and Subbasin XIIA
          330          KO                                      22
          331          HC       2
          332          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          333          KK  Oliv_3
          334          KM  Routing from Node 13 to Erle Road
          335          KO                                      22
          336          RD    2640   .0003    .035            TRAP      30       3
          337          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          338          KK  XIIIA
          339          KM  Subbasin XIIIA (Most of Edgewater East of Oakwood)
          340          KO                                      22
          341          BA   .2953
          342          LS           83.6      40
```

```
 343          UD     .50
 344          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 345          KK  Erle_2
 346          KM  Combine Node 13 and Subbasin XIIIA
 347          KO                                    22
 348          HC       2
 349          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 350          KK  Oliv_2
 351          KM
 352          KO                                    22
 353          RD    2750   .0003    .022           TRAP      15       3
 354          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 355          KK  Oliv_1
 356          KM
 357          KO                                    22
 358          RD    2790   .0003    .022           TRAP      15       3
 359          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 360          KK  XA
 361          KM  Subbasin XA
 362          KO                                    22
 363          BA   .0391
 364          LS           81.4      30
 365          UD     .33
 366          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE  9

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


 367          KK  9 Rout
 368          KM  Route from Grove Ave. area to N. Edgewater
 369          KO                                    22
 370          RD    2500  .00018    .015           CIRC       5
 371          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 372          KK  IXA(S)
 373          KM  Subbasin IXA (south of Beale Road)
 374          KO                                    22
```

```
BA   .0766
LS             83      30
UD     .23
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IXA(E)
KM  Subbasin IXA (east of Edgewater culverts and Oakwood Drive)
KO                                      22
BA  0.0578
LS           80.8      25
UD     .23
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Park
KM  Southwest corner of Country Club Estates
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Edgwtr
KM  Double 60" pipes through Edgewater Subdivision
KO                                      22
RD    1980  .00030    .015            CIRC       5
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  XIA(N)
KM  Subbasin XIA (Subbasin XIA north of Erle Road) West Edgewater
KO                                      22
BA   .2828
LS             85      35
UD     .50
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Erle_1
KM  Combine Node 26 and Subbasin XIA (North Erle)
KO                                      22
HC       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Linda
KM  Route from Erle Road to Railroad (Ditch Cleaned in 1995)
KO                                      22
```

```
          411          RD    2270   .0003    .022            TRAP      10       2
          412          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                        HEC-1 INPUT                                                    PAGE 10

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          413          KK  XIA(S)
          414          KM  Subbasin XIA (Subbasin XIA south of Erle Road)
          415          KO                                      22
          416          BA     .35
          417          LS           79.5       1
          418          UD     .75
          419          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          420          KK  Node28
          421          KM  Combine Node Erle_1, Node Erle_2, and Subbasin XIA(S)
          422          KO                                      22
          423          HC       3
          424          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          425          KK  11Rout
          426          KM  Route flows to new detention basin
          427          KO                                      22
          428          RD    3060   .0003    .022            TRAP      25       3
          429          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          430          KK  IB1
          431          KM  Subbasin IB1 - east part of old IB - north of Beale Rd.
          432          KO                                      22
          433          BA   .4813
          434          LS           78.5       1
          435          UD   8.528
          436          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          437          KK  STO-IB
          438          KM  4" Ponding in Basin IB1 - rice fields
          439          KO                                      22
          440          RS       1    ELEV      75
          441          SA       0     147     293     293
          442          SE    74.9      75  75.333      76
          443          SL      75       3      .6      .5
```

```
 444          SS  75.333    1000     2.5     1.5
 445          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 446          KK  OD_1
 447          KM  Routing fromSubbasin IB1 to mid-IB2
 448          KO                                      22
 449          RD    4000    .001     .06            TRAP       3       2
 450          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 451          KK  IB2
 452          KM  Subbasin IB2 - middle area of former IB
 453          KO                                      22
 454          BA  0.5492
 455          LS           70.6       2
 456          UD   2.437
 457          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE 11

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 458          KK  STOIB2
 459          KM  4" Ponding in Basin IB2 - Orchards and fields
 460          KO                                      22
 461          RS       1    ELEV      75
 462          SA       0      88     176     176
 463          SE    74.9      75  75.333      76
 464          SL      75       3      .6      .5
 465          SS  75.333    1000     2.5     1.5
 466          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 467          KK  N_IB2
 468          KM  Mid region IB2
 469          KO                                      22
 470          HC       2
 471          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 472          KK  OD_2
 473          KM  Routing from IB2 to Wood Ln.
 474          KO                                      22
 475          RD    4000    .001     .06            TRAP       3       2
 476          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
 477          KK  IB3
 478          KM  Subbasin IB3 - Wood Ln and Trailer park residential
 479          KO                                      22
 480          BA  0.1075
 481          LS           77.5      15
 482          UD   1.124
 483          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 484          KK  N_IB3
 485          KM  Wood Ln at Olivehurst Drain
 486          KO                                      22
 487          HC       2
 488          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 489          KK  OD_3
 490          KM  Olivehurst Drain from Wood Ln to Lago Rd
 491          KO                                      22
 492          RD    2600    .001     .06            TRAP       3       2
 493          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 494          KK  IIB1
 495          KM  Ponding Ag area along Beale Rd.
 496          KO                                      22
 497          BA   .0834
 498          LS             73       2
 499          UD    .556
 500          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                        PAGE 12

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 501          KK  STO-B1
 502          KM  4" Ponding Basin IIB1 - 50% of area - spill to Beale
 503          KO                                      22
 504          RS       1    ELEV      75
 505          SA       0      13      27      27
 506          SE    74.9      75  75.333      76
 507          SL      75       2      .6      .5
 508          SS  75.333     200     2.5     1.5
 509          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
KK  IIB3
KM  Rural residential along Griffith
KO                                      22
BA   .1877
LS           77.6      15
UD   1.509
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Lago
KM  Lago Rd. area
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  OD_4
KM  Olivehurst Drain from Lago Rd to inlet structure
KO                                      22
RD    4100    .001     .06            TRAP       3       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IIB2
KM  Ponding Ag area east side of drainage
KO                                      22
BA   .1208
LS             69       1
UD   1.044
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  STO-B2
KM  4" Ponding Basin IIB2 - 50% of area - spill to Griffith
KO                                      22
RS       1    ELEV      75
SA       0      19      38      38
SE    74.9      75  75.333      76
SL      75       2      .6      .5
SS  75.333     200     2.5     1.5
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IIB5
KM  Montrose and Orchard subdivisions - drain to pond
KO                                      22
```

```
          546          BA    .368
          547          LS             87      38
          548          UD    .312
1                                        HEC-1 INPUT                                                    PAGE 13

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

          549          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          550          KK  IIB4
          551          KM  Grassland east of Griffith - Boardman Ranch, etc.
          552          KO                                      22
          553          BA   .1698
          554          LS             78       1
          555          UD   1.254
          556          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          557          KK  Griff
          558          KM  Collector at south Griffith Rd
          559          KO                                      22
          560          HC       4
          561          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          562          KK  Mont
          563          KM  Orchard/Montrose Pond
          564          KO                                      22
          565          RS       1    ELEV    53.9
          566          SV       0    .435  53.247     100     119
          567          SE    53.9      54      60    65.2    67.3
          568          SQ       0       0      20      20      40      40      60      60      87     135
          569          SQ     135
          570          SE    53.9   54.14   54.15   54.89    54.9   55.39    55.4   63.93   64.93   65.93
          571          SE      67
          572          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          573          KK  OD_5
          574          KM  Routing from Montrose Pond down O.D. to first crossing
          575          KO                                      22
          576          RD    3200  .00036    .045           TRAP       5     1.5
          577          ZW   A=SYDMP  C=FLOW F=EXISTING2011

          578          KK  IIIB1
```

```
  579          KM  Subbasin IIIB1 - North part of "Woodbury" Rice Fields
  580          KO                                      22
  581          BA   .5733
  582          LS             80       1
  583          UD   5.419
  584          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  585          KK  STO3B1
  586          KM  4" Ponding in Basin IIIB1 - 90% of area
  587          KO                                      22
  588          RS       1    ELEV      65
  589          SA       0     165     330     330
  590          SE    64.9      65  65.333      66
  591          SL      65       3      .6      .5
  592          SS  65.333    1000     2.5     1.5
  593          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE 14

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  594          KK  IIIB2
  595          KM  Subbasin IIIB2 - East part of "Woodbury" Rice Fields
  596          KO                                      22
  597          BA   .4339
  598          LS           79.5       1
  599          UD   3.156
  600          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  601          KK  STO3B2
  602          KM  4" Ponding in Basin IIIB2 - 90% of area
  603          KO                                      22
  604          RS       1    ELEV      65
  605          SA       0     125     250     250
  606          SE    64.9      65  65.333      66
  607          SL      65       3      .6      .5
  608          SS  65.333    1000     2.5     1.5
  609          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  610          KK  Cross1
  611          KM  Crossing in Rice fields
  612          KO                                      22
```

```
 613          HC       3
 614          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 615          KK  OD_6
 616          KM  Routing from first crossing to second down O.D.
 617          KO                                      22
 618          RD    2900  .00036    .045            TRAP       5     1.5
 619          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 620          KK  IIIB3
 621          KM  Subbasin IIIB3 - West part of "Woodbury" Rice Fields
 622          KO                                      22
 623          BA   .3191
 624          LS             81       1
 625          UD   5.066
 626          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 627          KK  STO3B3
 628          KM  4" Ponding in Basin IIIB3 - 90% of area
 629          KO                                      22
 630          RS       1    ELEV      65
 631          SA       0      92     184     184
 632          SE    64.9      65  65.333      66
 633          SL      65       2      .6      .5
 634          SS  65.333    1000     2.5     1.5
 635          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 636          KK  Cross2
 637          KM  Crossing in Rice fields
 638          KO                                      22
 639          HC       2
 640          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE 15

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 641          KK  OD_6
 642          KM  Routing down O.D. (Clark) to Olivehurst Pond
 643          KO                                      22
 644          RD    2600  .00077    .045            TRAP       5     1.5
 645          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
646          KK  Node23
647          KM  Combine Node28 and Clark
648          KO                                      22
649          HC       2
650          ZW   A=SYDMP  C=FLOW F=EXISTING2011

651          KK  Det
652          KM  Detention Pond From Station 111+89 thru 95+38
653          KO                                      22
654          RS       1    ELEV      55
655          SV       0    3.16    21.6      40
656          SE   54.68   55.95      60      64
657          SL      55      50      .6      .5
658          SS      60      30     2.5     1.5
659          ZW   A=SYDMP  C=FLOW F=EXISTING2011

660          KK  15Rout
661          KM  Route flows from new detention basin to NE corner Norcal
662          KO                                      22
663          RD    3245   .0003    .022            TRAP      15       3
664          ZW   A=SYDMP  C=FLOW F=EXISTING2011

665          KK  IC(N)
666          KM  Subbasin IC (northern 50% of subbasin C)
667          KO                                      22
668          BA   .3601
669          LS           79.3       1
670          UD     3.5
671          ZW   A=SYDMP  C=FLOW F=EXISTING2011

672          KK  STOIC
673          KM  4" Ponding in Basin IC(N) - 90% of area
674          KO                                      22
675          RS       1    ELEV      60
676          SA       0     103     207     207
677          SE    59.9      60  60.333      61
678          SL      60       3      .6      .5
679          SS  60.333    1500     2.5     1.5
680          ZW   A=SYDMP  C=FLOW F=EXISTING2011

681          KK  Node30
```

```
 682          KM  Combine Node23 and Subbasin C (northern 50%)
 683          KO                                      22
 684          HC       2
 685          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE 16

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 686          KK  16Rout
 687          KM  Route flows from NE corner Norcal to SE corner Norcal
 688          KO                                      22
 689          RD    2375   .0003    .022            TRAP      15       3
 690          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 691          KK  IIC(S)
 692          KM  Subbasin IIC (southern 50% of Subbasin C)
 693          KO                                      22
 694          BA   .3601
 695          LS           79.3       1
 696          UD     3.5
 697          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 698          KK  STOIIC
 699          KM  4" Ponding in Basin IIC(S) - 90% of area
 700          KO                                      22
 701          RS       1    ELEV      60
 702          SA       0     103     207     207
 703          SE    59.9      60  60.333      61
 704          SL      60       3      .6      .5
 705          SS  60.333    1500     2.5     1.5
 706          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 707          KK  NorCal
 708          KM  Subbasin NorCal Lumber)
 709          KO                                      22
 710          BA   .0922
 711          LS           87.8      10
 712          UD      .2
 713          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 714          KK  Node31
```

```
          715           KM  Combine Node30 and Subbasin C ( southern 50%)(SE corner Norcal)
          716           KO                                      22
          717           HC       3
          718           ZW   A=SYDMP  C=FLOW F=EXISTING2011

          719           KK  Perini
          720           KM  Route flows from Hale Road to Reeds Creek
          721           KO                                      22
          722           RD    3915   .0003     .03            TRAP      12       2
          723           ZW   A=SYDMP  C=FLOW F=EXISTING2011
          724           ZZ
1*************************************                                  *************************************
 *                                   *                                 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                             *    U.S. ARMY CORPS OF ENGINEERS     *
 *               JUN   1998              *                             *    HYDROLOGIC ENGINEERING CENTER    *
 *            VERSION 4.1                *                             *          609 SECOND STREET          *
 *                                       *                             *       DAVIS, CALIFORNIA 95616       *
 *  RUN DATE   06MAY11  TIME  10:40:09   *                             *           (916) 756-1104            *
 *                                       *                             *                                     *
 *************************************                                  *************************************
```

East Linda and Olivehurst Drain Watersheds - 100 year storm

```
   3 IO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN          10  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1JAN10  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ         721  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      6JAN10  ENDING DATE
                      NDTIME        0000  ENDING TIME
                       ICENT          20  CENTURY MARK

                 COMPUTATION INTERVAL     .17 HOURS
```

TOTAL TIME BASE 120.00 HOURS

ENGLISH UNITS

DRAINAGE AREA	SQUARE MILES
PRECIPITATION DEPTH	INCHES
LENGTH, ELEVATION	FEET
FLOW	CUBIC FEET PER SECOND
STORAGE VOLUME	ACRE-FEET
SURFACE AREA	ACRES
TEMPERATURE	DEGREES FAHRENHEIT

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
	HYDROGRAPH AT									
+		IA1	81.	17.50	71.	35.	12.	.66		
	ROUTED TO									
+		STO-I1	5.	32.17	5.	5.	5.	.66		
+									85.22	32.50
	HYDROGRAPH AT									
+		IVA1	62.	13.17	30.	12.	4.	.18		
	2 COMBINED AT									
+		Node1	62.	13.17	31.	14.	8.	.84		
	ROUTED TO									
+		1 Rout	58.	13.83	31.	14.	8.	.84		
	HYDROGRAPH AT									
+		IVA2	158.	16.83	135.	64.	22.	1.06		
	ROUTED TO									

```
+                    STO-IV        6.   32.50          6.          6.          6.       1.06
+                                                                                    85.25       32.67

          HYDROGRAPH AT
+                    IA2         102.   16.33         86.         39.         13.        .76

          ROUTED TO
+                    STO-I2       51.   21.33         45.         21.         10.        .76
+                                                                                    75.37       21.33

          HYDROGRAPH AT
+                    IA3          31.   13.33         17.          7.          2.        .12

          4 COMBINED AT
+                    Node2        88.   13.67         68.         45.         25.       2.79

          ROUTED TO
+                    2 Rout       80.   14.50         67.         45.         25.       2.79

          HYDROGRAPH AT
+                    IIA1         34.   23.00         33.         21.          7.       1.15

          ROUTED TO
+                    STOII1        5.   37.67          5.          5.          4.       1.15
+                                                                                    75.20       37.67

          HYDROGRAPH AT
+                    VA1           9.   12.67          4.          1.          1.        .03

          3 COMBINED AT
+                    Node3        83.   14.50         71.         48.         29.       3.96

          ROUTED TO
+                    3 Rout       75.   15.33         70.         48.         29.       3.96

          HYDROGRAPH AT
+                    VA2          60.   13.17         30.         12.          4.        .23

          ROUTED TO
+                    STOVA2       14.   17.83         12.          8.          4.        .23
+                                                                                    77.36       17.83
```

```
          HYDROGRAPH AT
+                      VA3          40.   12.33         10.          4.          1.        .05
          ROUTED TO
+                      STOVA3       10.   13.33          9.          4.          1.        .05
+                                                                                          66.98       13.33
          HYDROGRAPH AT
+                      IIA2          7.   21.33          7.          4.          1.        .33
          ROUTED TO
+                      STOII2        2.   32.67          2.          2.          1.        .33
+                                                                                          75.12       32.67
          4 COMBINED AT
+                      Node4        91.   15.67         82.         60.         34.       4.56
          ROUTED TO
+                      4 Rout       88.   24.17         81.         59.         34.       4.56
          HYDROGRAPH AT
+                      IIIA         48.   14.67         35.         14.          5.        .26
          ROUTED TO
+                      STO-3        42.   15.67         32.         14.          5.        .26
+                                                                                          70.47       15.67
          HYDROGRAPH AT
+                      VIA          46.   13.33         25.          9.          3.        .16
          ROUTED TO
+                      STOVIA       40.   13.83         23.          9.          3.        .16
+                                                                                          75.46       13.83
          3 COMBINED AT
+                      Node5       147.   16.00        117.         81.         42.       4.98
          ROUTED TO
+                      eLinda      147.   16.00        117.         81.         42.       4.98
          ROUTED TO
+                      6 Rout      134.   16.67        113.         81.         42.       4.98
```

	HYDROGRAPH AT							
+		IXA(N)	69.	12.50	21.	8.	3.	.10
	ROUTED TO							
+		Dunn	64.	12.50	21.	8.	3.	.10
	HYDROGRAPH AT							
+		VIIA-N	109.	12.83	46.	18.	6.	.29
	HYDROGRAPH AT							
+		XIIA	42.	12.17	11.	4.	1.	.05
	HYDROGRAPH AT							
+		VIIA-M	38.	12.83	16.	6.	2.	.11
	HYDROGRAPH AT							
+		VIIA-S	115.	12.83	46.	19.	6.	.22
	6 COMBINED AT							
+		Beale	337.	12.67	215.	127.	59.	5.77
	ROUTED TO							
+		Colleg	319.	13.00	214.	127.	59.	5.77
	HYDROGRAPH AT							
+		VIIIA	199.	12.83	84.	32.	11.	.54
	ROUTED TO							
+		Butler	172.	13.00	83.	32.	11.	.54
	2 COMBINED AT							
+		Node13	492.	13.00	296.	158.	69.	6.31
	ROUTED TO							
+		Oliv_3	424.	13.17	290.	158.	69.	6.31
	HYDROGRAPH AT							
+		XIIIA	188.	12.50	61.	25.	8.	.30
	2 COMBINED AT							
+		Erle_2	535.	12.83	343.	179.	77.	6.61

	ROUTED TO							
+		Oliv_2	497.	13.17	340.	179.	77.	6.61
	ROUTED TO							
+		Oliv_1	468.	13.33	336.	179.	77.	6.61
	HYDROGRAPH AT							
+		XA	28.	12.33	7.	3.	1.	.04
	ROUTED TO							
+		9 Rout	20.	12.33	7.	3.	1.	.04
	HYDROGRAPH AT							
+		IXA(S)	63.	12.17	15.	6.	2.	.08
	HYDROGRAPH AT							
+		IXA(E)	44.	12.17	11.	4.	1.	.06
	3 COMBINED AT							
+		Park	122.	12.17	33.	13.	4.	.17
	ROUTED TO							
+		Edgwtr	97.	12.33	32.	13.	4.	.17
	HYDROGRAPH AT							
+		XIA(N)	181.	12.50	59.	24.	8.	.28
	2 COMBINED AT							
+		Erle_1	263.	12.50	91.	37.	12.	.46
	ROUTED TO							
+		Linda	225.	12.50	90.	37.	12.	.46
	HYDROGRAPH AT							
+		XIA(S)	131.	12.83	54.	20.	7.	.35
	3 COMBINED AT							
+		Node28	737.	13.00	470.	231.	95.	7.41
	ROUTED TO							
+		11Rout	690.	13.17	466.	231.	95.	7.41

```
         HYDROGRAPH AT
+                    IB1          41.   22.17         40.        25.         9.       .48
         ROUTED TO
+                    STO-IB        5.   39.00          5.         5.         4.       .48
+                                                                                  75.21      39.17
         ROUTED TO
+                    OD_1          5.   40.17          5.         5.         4.       .48
         HYDROGRAPH AT
+                    IB2          71.   15.00         54.        22.         8.       .55
         ROUTED TO
+                    STOIB2        7.   27.33          7.         7.         5.       .55
+                                                                                  75.29      27.50
         2 COMBINED AT
+                    N_IB2        12.   34.17         12.        11.         9.      1.03
         ROUTED TO
+                    OD_2         12.   35.17         12.        11.         9.      1.03
         HYDROGRAPH AT
+                    IB3          33.   13.17         17.         7.         2.       .11
         2 COMBINED AT
+                    N_IB3        33.   13.17         18.        13.        10.      1.14
         ROUTED TO
+                    OD_3         30.   13.67         18.        13.        10.      1.14
         HYDROGRAPH AT
+                    IIB1         28.   12.67         10.         4.         1.       .08
         ROUTED TO
+                    STO-B1        4.   18.83          4.         3.         1.       .08
+                                                                                  75.22      18.83
         HYDROGRAPH AT
+                    IIB3         49.   13.67         29.        12.         4.       .19
```

	3 COMBINED AT								
+		Lago	82.	13.67	49.	26.	15.	1.41	
	ROUTED TO								
+		OD_4	76.	14.33	49.	26.	15.	1.41	
	HYDROGRAPH AT								
+		IIB2	23.	13.17	12.	5.	2.	.12	
	ROUTED TO								
+		STO-B2	4.	24.67	3.	3.	1.	.12	
+									75.21 24.83
	HYDROGRAPH AT								
+		IIB5	306.	12.33	81.	33.	11.	.37	
	HYDROGRAPH AT								
+		IIB4	45.	13.33	24.	9.	3.	.17	
	4 COMBINED AT								
+		Griff	339.	12.33	146.	66.	30.	2.07	
	ROUTED TO								
+		Mont	60.	12.17	60.	60.	30.	2.07	
+									59.94 19.00
	ROUTED TO								
+		OD_5	60.	19.17	60.	59.	30.	2.07	
	HYDROGRAPH AT								
+		IIIB1	70.	18.33	63.	33.	11.	.57	
	ROUTED TO								
+		STO3B1	6.	33.17	6.	6.	5.	.57	
+									65.24 33.50
	HYDROGRAPH AT								
+		IIIB2	72.	15.67	58.	25.	8.	.43	
	ROUTED TO								
+		STO3B2	6.	28.67	6.	6.	4.	.43	

```
+                                                                                                  65.24       28.83

        3 COMBINED AT
+                       Cross1        72.   31.17         72.         68.         38.       3.07

        ROUTED TO
+                       OD_6          72.   31.67         72.         68.         38.       3.07

        HYDROGRAPH AT
+                       IIIB3         42.   17.83         38.         19.          7.        .32

        ROUTED TO
+                       STO3B3         4.   32.17          4.          4.          3.        .32
+                                                                                                  65.25       32.33

        2 COMBINED AT
+                       Cross2        76.   31.83         76.         71.         41.       3.39

        ROUTED TO
+                       OD_6          76.   32.17         76.         71.         41.       3.39

        2 COMBINED AT
+                       Node23       729.   13.17        520.        295.        136.      10.81

        ROUTED TO
+                       Det          662.   14.00        511.        295.        136.      10.81
+                                                                                                  60.98       14.00

        ROUTED TO
+                       15Rout       637.   14.17        507.        295.        136.      10.81

        HYDROGRAPH AT
+                       IC(N)         56.   16.00         46.         21.          7.        .36

        ROUTED TO
+                       STOIC          6.   28.83          6.          5.          4.        .36
+                                                                                                  60.23       29.00

        2 COMBINED AT
+                       Node30       638.   14.17        509.        299.        140.      11.17

        ROUTED TO
```

```
+                    16Rout      623.   14.33        506.       299.       140.     11.17

         HYDROGRAPH AT
+                    IIC(S)       56.   16.00         46.        21.         7.       .36

         ROUTED TO
+                    STOIIC        6.   28.83          6.         5.         4.       .36
+                                                                                  60.23      29.00

         HYDROGRAPH AT
+                    NorCal       86.   12.17         19.         7.         2.       .09

         3 COMBINED AT
+                    Node31      637.   14.33        517.       309.       146.     11.62

         ROUTED TO
+                    Perini      610.   14.83        512.       308.       146.     11.62
1


 *** NORMAL END OF HEC-1 ***
```

Existing Conditions HEC-1 Output
10-year Storm

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *               JUN   1998              *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   06MAY11  TIME  10:50:53   *
 *                                       *
 *************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                     *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

    1         ID  East Linda and Olivehurst Drain Watersheds  - 10 year storm
              * Existing conditions 2011
    2         IT      10 01JAN10       0     721                    2000
    3         IO       5

    4         KK  IA1
    5         KM  Rice Fields east of Brophy Rd., north of H-S rd.
    6         KO                                    22
    7         BA   .6641
    8         PB    2.95
    9         IN       5
   10         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   11         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   12         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   13         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   14         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   15         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   16         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   17         PI   0.007   0.007    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   18         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   19         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   20         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.02    0.02
   21         PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
   22         PI    0.02    0.02    0.02    0.02    0.02    0.02   0.021   0.021   0.021   0.021
   23         PI   0.021   0.021   0.028   0.028   0.028   0.028   0.028   0.028   0.037   0.037
   24         PI   0.037    0.08    0.13    0.32    0.18    0.08    0.08   0.037   0.037   0.037
   25         PI   0.028   0.028   0.028   0.028   0.028   0.028   0.021   0.021   0.021   0.021
   26         PI   0.021   0.021    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
   27         PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
   28         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   29         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   30         PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
   31         PI    0.01    0.01    0.01    0.01    0.01    0.01   0.007   0.007   0.007   0.007
   32         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   33         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   34         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   35         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   36         PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
```

```
   37          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   38          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007       0       0
   39          PI       0       0       0       0       0       0       0       0       0       0
   40          PI       0       0       0       0       0       0       0       0       0       0
   41          PI       0       0       0       0       0       0       0       0       0       0
   42          PI       0       0       0       0       0       0       0       0       0       0
   43          PI       0       0       0       0       0       0       0       0       0       0
   44          PI       0       0       0       0       0       0       0       0       0       0
   45          PI       0       0       0       0       0       0       0       0       0       0
   46          PI       0       0       0       0       0       0       0       0       0       0
   47          PI       0       0       0       0       0       0       0       0       0       0
   48          PI       0       0       0       0       0       0       0       0       0       0
   49          PI       0       0
   50          LS           77.2       2
   51          UD   4.586
   52          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                          PAGE  2

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


   53          KK  STO-I1
   54          KM  4" Ponding in Basin IA1 95% of area
   55          KO                                      22
   56          RS       1    ELEV      85
   57          SA       0     200     400     400
   58          SE    84.9      85  85.333      86
   59          SL      85       3      .6      .5
   60          SS  85.333    1000     2.5     1.5
   61          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   62          KK  IVA1
   63          KM  Rural residential on H-S Rd 3/4 east of Brophy
   64          KO                                      22
   65          BA   0.178
   66          LS             82       5
   67          UD   1.038
   68          ZW   A=SYDMP  C=FLOW F=EXISTING2011

   69          KK  Node1
   70          KM  Residences about 3/4 mile east of Brophy Rd.
   71          KO                                      22
```

```
  72          HC       2
  73          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  74          KK  1 Rout
  75          KM  Route next to Hammonton-Smartsville Rd to Brophy
  76          KO                                      22
  77          RD    5900   .0015    .050            TRAP       3       1
  78          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  79          KK  IVA2
  80          KM  Rice fields in Brophy area south of H-S rd.
  81          KO                                      22
  82          BA  1.0583
  83          LS             81       1
  84          UD   4.17
  85          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  86          KK  STO-IV
  87          KM  4" Ponding in Basin IVA2 - 95% of area
  88          KO                                      22
  89          RS       1    ELEV      85
  90          SA       0     322     644     644
  91          SE    84.9      85  85.333      86
  92          SL      85       3      .6      .5
  93          SS  85.333    1000     2.5     1.5
  94          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  95          KK  IA2
  96          KM  Orchards north of Brophy Rd. and of H-S rd.
  97          KO                                      22
  98          BA  0.7628
  99          LS           76.2       2
 100          UD   3.636
1                                    HEC-1 INPUT                                    PAGE  3

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 101          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 102          KK  STO-I2
 103          KM  4" Orchard Ponding in Basin IA2 33% of area
 104          KO                                      22
```

```
105          RS       1    ELEV      75
106          SA       0      81     162     162
107          SE    74.9      75  75.333      76
108          SL      75       2      .6      .5
109          SS  75.333    1000     2.5     1.5
110          ZW   A=SYDMP  C=FLOW F=EXISTING2011

111          KK  IA3
112          KM  Rural Residential just west of Brophy Rd.
113          KO                                     22
114          BA  0.1239
115          LS           76.4       5
116          UD   1.295
117          ZW   A=SYDMP  C=FLOW F=EXISTING2011

118          KK  Node2
119          KM  Near Brophy School
120          KO                                     22
121          HC       4
122          ZW   A=SYDMP  C=FLOW F=EXISTING2011

123          KK  2 Rout
124          KM  From Brophy School area to Mobile Home park.
125          KO                                     22
126          RD    5900    .001     .05            TRAP       3       2
127          ZW   A=SYDMP  C=FLOW F=EXISTING2011

128          KK  IIA1
129          KM  Orchards, Ag north of H-S rd. North of trailer park
130          KO                                     22
131          BA  1.1469
132          LS           56.8       1
133          UD   7.474
134          ZW   A=SYDMP  C=FLOW F=EXISTING2011

135          KK  STOII1
136          KM  4" Orchard Ponding in Basin IIA1 33% of area
137          KO                                     22
138          RS       1    ELEV      75
139          SA       0     121     242     242
140          SE    74.9      75  75.333      76
141          SL      75       3      .6      .5
```

```
 142          SS  75.333    1000     2.5     1.5
 143          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE  4

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 144          KK  VA1
 145          KM  Rural residential on H-S incl. Trailer Park
 146          KO                                      22
 147          BA  0.0298
 148          LS              68      20
 149          UD   0.663
 150          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 151          KK  Node3
 152          KM  Near Trailer Park on H-S rd.
 153          KO                                      22
 154          HC       3
 155          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 156          KK  3 Rout
 157          KM  From Mobile Home park to Sierra Vista Subdivision
 158          KO                                      22
 159          RD    5900  .00085     .05            TRAP       4       1
 160          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 161          KK  VA2
 162          KM  Orchards both sides of H-S Rd. west of Trailer Park
 163          KO                                      22
 164          BA   .2267
 165          LS           75.9       2
 166          UD   1.076
 167          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 168          KK  STOVA2
 169          KM  4" Orchard Ponding in Basin VA2 - 33% of area
 170          KO                                      22
 171          RS       1    ELEV      77
 172          SA       0      24      48      48
 173          SE    76.9      77  77.333      78
 174          SL      77       2      .6      .5
```

```
 175          SS  77.333     200     2.5     1.5
 176          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 177          KK  VA3
 178          KM  Sierra Vista Subdivision - all flows to Pond
 179          KO                                      22
 180          BA  0.0480
 181          LS              87      35
 182          UD   0.296
 183          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 184          KK  STOVA3
 185          KM  Pond at Sierra Vista
 186          KO                                      22
 187          RS       1    ELEV      65
 188          SA       0    1.37     2.8     4.3    5.85    7.48
 189          SE      65      66      67      68      69      70
 190          SL   65.75     1.8      .6      .5
 191          SS    69.9     100     2.5     1.5
1                                      HEC-1 INPUT                                                PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 192          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 193          KK  IIA2
 194          KM  Orchards, Farm north of H-S rd.
 195          KO                                      22
 196          BA  0.3261
 197          LS              52       1
 198          UD   5.955
 199          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 200          KK  STOII2
 201          KM  4" Orchard Ponding in Basin IIA2 33% of area
 202          KO                                      22
 203          RS       1    ELEV      75
 204          SA       0      35      70      70
 205          SE    74.9      75  75.333      76
 206          SL      75       2      .6      .5
 207          SS  75.333    1000     2.5     1.5
 208          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
  209          KK  Node4
  210          KM  Hammonton-Smartsville Rd at Sierra Vista subdivision
  211          KO                                      22
  212          HC       4
  213          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  214          KK  4 Rout
  215          KM  Routing from Sierra Vista to south of Dantoni Rd
  216          KO                                      22
  217          RD    4500   .0005    .045            TRAP       5       2
  218          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  219          KK  IIIA
  220          KM  Subbasin IIIA
  221          KO                                      22
  222          BA   .2644
  223          LS            77.8       2
  224          UD   2.359
  225          ZW   A=SYDMP  C=FLOW F=EXISTING2011

  226          KK  STO-3
  227          KM  4" Ponding in Basin IIIA 10% of area
  228          KO                                      22
  229          RS       1    ELEV      70
  230          SA       0       8      17      17
  231          SE    69.9      70  70.333      71
  232          SL      70       2      .6      .5
  233          SS  70.333     200     2.5     1.5
  234          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE  6

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  235          KK  VIA
  236          KM  Rural residential south of H-S rd., west of Griffith
  237          KO                                      22
  238          BA    .155
  239          LS            80.1       5
  240          UD    1.22
  241          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
KK  STOVIA
KM  4" Ponding in Basin VIA - 10% of area
KO                                      22
RS       1    ELEV      75
SA       0       5      10      10
SE    74.9      75  75.333      76
SL      75       2       .6      .5
SS  75.333     200     2.5     1.5
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Node5
KM  Linda Drain just south of Dantoni Rd.
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  eLinda
KM  Linda Drain Routing toward Yuba College
KO                                      22
RD     100   .0003    .045            TRAP       5       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  6 Rout
KM  Routing to NW Corner Yuba College
KO                                      22
RD    3800   .0003    .045            TRAP       5       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IXA(N)
KM  Subbasin IXA(N) (north of Beale Road)
KO                                      22
BA  0.1047
LS            84.3      30
UD     .43
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Dunn
KM  42 Inch Culvert along Linda Ave
KO                                      22
RD     800   .0004    .015            CIRC     3.5       0
ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  278         KK  VIIA-N
  279         KM  Subbasin VIIA(N) North of Linda Drain
  280         KO                                      22
  281         BA   .2938
  282         LS           78.9      10
  283         UD     .83
  284         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  285         KK  XIIA
  286         KM  Subbasin XIIA College View residential
  287         KO                                      22
  288         BA    .05
  289         LS             85      40
  290         UD    .25
  291         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  292         KK  VIIA-M
  293         KM  Subbasin VIIA(M) Between Linda Drain and N. Beale Rd.
  294         KO                                      22
  295         BA   .1109
  296         LS           77.8       4
  297         UD     .83
  298         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  299         KK  VIIA-S
  300         KM  Subbasin VIIA(S) South of N. Beale Rd.
  301         KO                                      22
  302         BA    .225
  303         LS           84.5      35
  304         UD     .74
  305         ZW   A=SYDMP  C=FLOW F=EXISTING2011

  306         KK  Beale
  307         KM
  308         KO                                      22
  309         HC       6
  310         ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
 311          KK  Colleg
 312          KM  Linda Drain adjacent to Yuba College
 313          KO                                      22
 314          RD    2511  .00075    .035            TRAP      12       2
 315          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 316          KK  VIIIA
 317          KM  Subbasin VIIIA east of College
 318          KO                                      22
 319          BA   .5438
 320          LS           78.8       6
 321          UD      .8
 322          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE  8

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 323          KK  Butler
 324          KM  Ditch that runs to the south boundary of Yuba College
 325          KO                                      22
 326          RD    1900   .0003    .035            TRAP       4       1
 327          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 328          KK  Node13
 329          KM  Combine Node 11, Subbasin VIIA, Subbasin VIIIA, and Subbasin XIIA
 330          KO                                      22
 331          HC       2
 332          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 333          KK  Oliv_3
 334          KM  Routing from Node 13 to Erle Road
 335          KO                                      22
 336          RD    2640   .0003    .035            TRAP      30       3
 337          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 338          KK  XIIIA
 339          KM  Subbasin XIIIA (Most of Edgewater East of Oakwood)
 340          KO                                      22
 341          BA   .2953
 342          LS           83.6      40
```

```
 343          UD     .50
 344          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 345          KK  Erle_2
 346          KM  Combine Node 13 and Subbasin XIIIA
 347          KO                                    22
 348          HC       2
 349          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 350          KK  Oliv_2
 351          KM
 352          KO                                    22
 353          RD    2750   .0003    .022            TRAP      15       3
 354          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 355          KK  Oliv_1
 356          KM
 357          KO                                    22
 358          RD    2790   .0003    .022            TRAP      15       3
 359          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 360          KK  XA
 361          KM  Subbasin XA
 362          KO                                    22
 363          BA   .0391
 364          LS           81.4      30
 365          UD     .33
 366          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE  9

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 367          KK  9 Rout
 368          KM  Route from Grove Ave. area to N. Edgewater
 369          KO                                    22
 370          RD    2500  .00018    .015            CIRC       5
 371          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 372          KK  IXA(S)
 373          KM  Subbasin IXA (south of Beale Road)
 374          KO                                    22
```

```
BA   .0766
LS             83      30
UD     .23
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IXA(E)
KM  Subbasin IXA (east of Edgewater culverts and Oakwood Drive)
KO                                      22
BA  0.0578
LS           80.8      25
UD     .23
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Park
KM  Southwest corner of Country Club Estates
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Edgwtr
KM  Double 60" pipes through Edgewater Subdivision
KO                                      22
RD    1980  .00030    .015            CIRC       5
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  XIA(N)
KM  Subbasin XIA (Subbasin XIA north of Erle Road) West Edgewater
KO                                      22
BA   .2828
LS             85      35
UD     .50
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Erle_1
KM  Combine Node 26 and Subbasin XIA (North Erle)
KO                                      22
HC       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Linda
KM  Route from Erle Road to Railroad (Ditch Cleaned in 1995)
KO                                      22
```

```
 411          RD    2270   .0003    .022            TRAP      10       2
 412          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE 10

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 413          KK  XIA(S)
 414          KM  Subbasin XIA (Subbasin XIA south of Erle Road)
 415          KO                                      22
 416          BA     .35
 417          LS            79.5       1
 418          UD     .75
 419          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 420          KK  Node28
 421          KM  Combine Node Erle_1, Node Erle_2, and Subbasin XIA(S)
 422          KO                                      22
 423          HC       3
 424          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 425          KK  11Rout
 426          KM  Route flows to new detention basin
 427          KO                                      22
 428          RD    3060   .0003    .022            TRAP      25       3
 429          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 430          KK  IB1
 431          KM  Subbasin IB1 - east part of old IB - north of Beale Rd.
 432          KO                                      22
 433          BA   .4813
 434          LS            78.5       1
 435          UD   8.528
 436          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 437          KK  STO-IB
 438          KM  4" Ponding in Basin IB1 - rice fields
 439          KO                                      22
 440          RS       1    ELEV      75
 441          SA       0     147     293     293
 442          SE    74.9      75  75.333      76
 443          SL      75       3      .6      .5
```

```
 444          SS  75.333    1000     2.5     1.5
 445          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 446          KK  OD_1
 447          KM  Routing fromSubbasin IB1 to mid-IB2
 448          KO                                    22
 449          RD    4000    .001     .06           TRAP       3       2
 450          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 451          KK  IB2
 452          KM  Subbasin IB2 - middle area of former IB
 453          KO                                    22
 454          BA  0.5492
 455          LS           70.6       2
 456          UD   2.437
 457          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE 11

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 458          KK  STOIB2
 459          KM  4" Ponding in Basin IB2 - Orchards and fields
 460          KO                                    22
 461          RS       1    ELEV      75
 462          SA       0      88     176     176
 463          SE    74.9      75  75.333      76
 464          SL      75       3      .6      .5
 465          SS  75.333    1000     2.5     1.5
 466          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 467          KK  N_IB2
 468          KM  Mid region IB2
 469          KO                                    22
 470          HC       2
 471          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 472          KK  OD_2
 473          KM  Routing from IB2 to Wood Ln.
 474          KO                                    22
 475          RD    4000    .001     .06           TRAP       3       2
 476          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
 477          KK  IB3
 478          KM  Subbasin IB3 - Wood Ln and Trailer park residential
 479          KO                                      22
 480          BA  0.1075
 481          LS           77.5      15
 482          UD   1.124
 483          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 484          KK  N_IB3
 485          KM  Wood Ln at Olivehurst Drain
 486          KO                                      22
 487          HC       2
 488          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 489          KK  OD_3
 490          KM  Olivehurst Drain from Wood Ln to Lago Rd
 491          KO                                      22
 492          RD    2600    .001     .06            TRAP       3       2
 493          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 494          KK  IIB1
 495          KM  Ponding Ag area along Beale Rd.
 496          KO                                      22
 497          BA   .0834
 498          LS             73       2
 499          UD    .556
 500          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE 12

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 501          KK  STO-B1
 502          KM  4" Ponding Basin IIB1 - 50% of area - spill to Beale
 503          KO                                      22
 504          RS       1    ELEV      75
 505          SA       0      13      27      27
 506          SE    74.9      75  75.333      76
 507          SL      75       2      .6      .5
 508          SS  75.333     200     2.5     1.5
 509          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
KK  IIB3
KM  Rural residential along Griffith
KO                                      22
BA   .1877
LS           77.6      15
UD   1.509
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  Lago
KM  Lago Rd. area
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  OD_4
KM  Olivehurst Drain from Lago Rd to inlet structure
KO                                      22
RD    4100    .001     .06            TRAP       3       2
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IIB2
KM  Ponding Ag area east side of drainage
KO                                      22
BA   .1208
LS             69       1
UD   1.044
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  STO-B2
KM  4" Ponding Basin IIB2 - 50% of area - spill to Griffith
KO                                      22
RS       1    ELEV      75
SA       0      19      38      38
SE    74.9      75  75.333      76
SL      75       2      .6      .5
SS  75.333     200     2.5     1.5
ZW   A=SYDMP  C=FLOW F=EXISTING2011

KK  IIB5
KM  Montrose and Orchard subdivisions - drain to pond
KO                                      22
```

```
 546          BA    .368
 547          LS             87      38
 548          UD    .312
1                                      HEC-1 INPUT                                                    PAGE 13

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 549          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 550          KK  IIB4
 551          KM  Grassland east of Griffith - Boardman Ranch, etc.
 552          KO                                      22
 553          BA   .1698
 554          LS             78       1
 555          UD   1.254
 556          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 557          KK  Griff
 558          KM  Collector at south Griffith Rd
 559          KO                                      22
 560          HC       4
 561          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 562          KK  Mont
 563          KM  Orchard/Montrose Pond
 564          KO                                      22
 565          RS       1    ELEV    53.9
 566          SV       0    .435  53.247     100     119
 567          SE    53.9      54      60    65.2    67.3
 568          SQ       0       0      20      20      40      40      60      60      87     135
 569          SQ     135
 570          SE    53.9   54.14   54.15   54.89    54.9   55.39    55.4   63.93   64.93   65.93
 571          SE      67
 572          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 573          KK  OD_5
 574          KM  Routing from Montrose Pond down O.D. to first crossing
 575          KO                                      22
 576          RD    3200  .00036    .045           TRAP       5     1.5
 577          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 578          KK  IIIB1
```

```
 579           KM  Subbasin IIIB1 - North part of "Woodbury" Rice Fields
 580           KO                                    22
 581           BA   .5733
 582           LS              80       1
 583           UD   5.419
 584           ZW   A=SYDMP  C=FLOW F=EXISTING2011

 585           KK  STO3B1
 586           KM  4" Ponding in Basin IIIB1 - 90% of area
 587           KO                                    22
 588           RS       1    ELEV      65
 589           SA       0     165     330     330
 590           SE    64.9      65  65.333      66
 591           SL      65       3      .6      .5
 592           SS  65.333    1000     2.5     1.5
 593           ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                       PAGE 14

LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 594           KK  IIIB2
 595           KM  Subbasin IIIB2 - East part of "Woodbury" Rice Fields
 596           KO                                    22
 597           BA   .4339
 598           LS            79.5       1
 599           UD   3.156
 600           ZW   A=SYDMP  C=FLOW F=EXISTING2011

 601           KK  STO3B2
 602           KM  4" Ponding in Basin IIIB2 - 90% of area
 603           KO                                    22
 604           RS       1    ELEV      65
 605           SA       0     125     250     250
 606           SE    64.9      65  65.333      66
 607           SL      65       3      .6      .5
 608           SS  65.333    1000     2.5     1.5
 609           ZW   A=SYDMP  C=FLOW F=EXISTING2011

 610           KK  Cross1
 611           KM  Crossing in Rice fields
 612           KO                                    22
```

```
613          HC       3
614          ZW   A=SYDMP  C=FLOW F=EXISTING2011

615          KK  OD_6
616          KM  Routing from first crossing to second down O.D.
617          KO                                      22
618          RD    2900  .00036    .045            TRAP       5     1.5
619          ZW   A=SYDMP  C=FLOW F=EXISTING2011

620          KK  IIIB3
621          KM  Subbasin IIIB3 - West part of "Woodbury" Rice Fields
622          KO                                      22
623          BA   .3191
624          LS             81       1
625          UD   5.066
626          ZW   A=SYDMP  C=FLOW F=EXISTING2011

627          KK  STO3B3
628          KM  4" Ponding in Basin IIIB3 - 90% of area
629          KO                                      22
630          RS       1    ELEV      65
631          SA       0      92     184     184
632          SE    64.9      65  65.333      66
633          SL      65       2      .6      .5
634          SS  65.333    1000     2.5     1.5
635          ZW   A=SYDMP  C=FLOW F=EXISTING2011

636          KK  Cross2
637          KM  Crossing in Rice fields
638          KO                                      22
639          HC       2
640          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                    HEC-1 INPUT                                          PAGE 15

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


641          KK  OD_6
642          KM  Routing down O.D. (Clark) to Olivehurst Pond
643          KO                                      22
644          RD    2600  .00077    .045            TRAP       5     1.5
645          ZW   A=SYDMP  C=FLOW F=EXISTING2011
```

```
646          KK  Node23
647          KM  Combine Node28 and Clark
648          KO                                    22
649          HC       2
650          ZW   A=SYDMP  C=FLOW F=EXISTING2011

651          KK  Det
652          KM  Detention Pond From Station 111+89 thru 95+38
653          KO                                    22
654          RS       1    ELEV      55
655          SV       0    3.16    21.6      40
656          SE   54.68   55.95      60      64
657          SL      55      50      .6      .5
658          SS      60      30     2.5     1.5
659          ZW   A=SYDMP  C=FLOW F=EXISTING2011

660          KK  15Rout
661          KM  Route flows from new detention basin to NE corner Norcal
662          KO                                    22
663          RD    3245   .0003    .022            TRAP      15       3
664          ZW   A=SYDMP  C=FLOW F=EXISTING2011

665          KK  IC(N)
666          KM  Subbasin IC (northern 50% of subbasin C)
667          KO                                    22
668          BA   .3601
669          LS           79.3       1
670          UD     3.5
671          ZW   A=SYDMP  C=FLOW F=EXISTING2011

672          KK  STOIC
673          KM  4" Ponding in Basin IC(N) - 90% of area
674          KO                                    22
675          RS       1    ELEV      60
676          SA       0     103     207     207
677          SE    59.9      60  60.333      61
678          SL      60       3      .6      .5
679          SS  60.333    1500     2.5     1.5
680          ZW   A=SYDMP  C=FLOW F=EXISTING2011

681          KK  Node30
```

```
 682          KM  Combine Node23 and Subbasin C (northern 50%)
 683          KO                                      22
 684          HC       2
 685          ZW   A=SYDMP  C=FLOW F=EXISTING2011
1                                      HEC-1 INPUT                                                PAGE 16

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 686          KK  16Rout
 687          KM  Route flows from NE corner Norcal to SE corner Norcal
 688          KO                                      22
 689          RD    2375   .0003    .022            TRAP      15       3
 690          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 691          KK  IIC(S)
 692          KM  Subbasin IIC (southern 50% of Subbasin C)
 693          KO                                      22
 694          BA   .3601
 695          LS           79.3       1
 696          UD     3.5
 697          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 698          KK  STOIIC
 699          KM  4" Ponding in Basin IIC(S) - 90% of area
 700          KO                                      22
 701          RS       1    ELEV      60
 702          SA       0     103     207     207
 703          SE    59.9      60  60.333      61
 704          SL      60       3      .6      .5
 705          SS  60.333    1500     2.5     1.5
 706          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 707          KK  NorCal
 708          KM  Subbasin NorCal Lumber)
 709          KO                                      22
 710          BA   .0922
 711          LS           87.8      10
 712          UD      .2
 713          ZW   A=SYDMP  C=FLOW F=EXISTING2011

 714          KK  Node31
```

```
          715           KM  Combine Node30 and Subbasin C ( southern 50%)(SE corner Norcal)
          716           KO                                      22
          717           HC       3
          718           ZW   A=SYDMP  C=FLOW F=EXISTING2011

          719           KK  Perini
          720           KM  Route flows from Hale Road to Reeds Creek
          721           KO                                      22
          722           RD    3915   .0003     .03            TRAP      12       2
          723           ZW   A=SYDMP  C=FLOW F=EXISTING2011
          724           ZZ
1*************************************                                  *************************************
 *                                   *                                 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                             *    U.S. ARMY CORPS OF ENGINEERS     *
 *               JUN   1998              *                             *    HYDROLOGIC ENGINEERING CENTER    *
 *            VERSION 4.1                *                             *          609 SECOND STREET          *
 *                                       *                             *       DAVIS, CALIFORNIA 95616       *
 *  RUN DATE   06MAY11  TIME  10:50:53   *                             *           (916) 756-1104            *
 *                                       *                             *                                     *
 *************************************                                  *************************************
```

East Linda and Olivehurst Drain Watersheds - 10 year storm

```
   3 IO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN          10  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1JAN10  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ         721  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      6JAN10  ENDING DATE
                      NDTIME        0000  ENDING TIME
                       ICENT          20  CENTURY MARK

                 COMPUTATION INTERVAL     .17 HOURS
```

TOTAL TIME BASE 120.00 HOURS

ENGLISH UNITS

DRAINAGE AREA	SQUARE MILES
PRECIPITATION DEPTH	INCHES
LENGTH, ELEVATION	FEET
FLOW	CUBIC FEET PER SECOND
STORAGE VOLUME	ACRE-FEET
SURFACE AREA	ACRES
TEMPERATURE	DEGREES FAHRENHEIT

*** ***

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
	HYDROGRAPH AT									
+		IA1	43.	17.83	38.	19.	6.	.66		
	ROUTED TO									
+		STO-I1	3.	32.50	3.	3.	2.	.66		
+									85.12	32.67
	HYDROGRAPH AT									
+		IVA1	36.	13.17	18.	7.	2.	.18		
	2 COMBINED AT									
+		Node1	36.	13.17	18.	8.	4.	.84		
	ROUTED TO									
+		1 Rout	33.	14.00	18.	8.	4.	.84		
	HYDROGRAPH AT									
+		IVA2	88.	17.00	76.	36.	12.	1.06		

```
          ROUTED TO
+                      STO-IV        4.   32.83          4.          4.          3.       1.06
+                                                                                          85.14       32.67

          HYDROGRAPH AT
+                      IA2          53.   16.67         45.         21.          7.        .76

          ROUTED TO
+                      STO-I2        5.   29.67          5.          5.          4.        .76
+                                                                                          75.31       29.83

          HYDROGRAPH AT
+                      IA3          16.   13.50          9.          4.          1.        .12

          4 COMBINED AT
+                      Node2        49.   13.83         29.         18.         12.       2.79

          ROUTED TO
+                      2 Rout       43.   14.83         28.         18.         12.       2.79

          HYDROGRAPH AT
+                      IIA1         12.   25.17         12.          7.          3.       1.15

          ROUTED TO
+                      STOII1        2.   38.00          2.          2.          1.       1.15
+                                                                                          75.07       38.33

          HYDROGRAPH AT
+                      VA1           5.   12.67          2.          1.          0.        .03

          3 COMBINED AT
+                      Node3        45.   14.83         30.         19.         14.       3.96

          ROUTED TO
+                      3 Rout       41.   15.83         29.         19.         14.       3.96

          HYDROGRAPH AT
+                      VA2          30.   13.17         16.          6.          2.        .23

          ROUTED TO
+                      STOVA2        4.   25.00          4.          3.          2.        .23
+                                                                                          77.24       25.00
```

	HYDROGRAPH AT								
+		VA3	26.	12.33	7.	3.	1.	.05	
	ROUTED TO								
+		STOVA3	8.	13.00	6.	3.	1.	.05	
+								66.57	13.17
	HYDROGRAPH AT								
+		IIA2	2.	25.67	2.	1.	0.	.33	
	ROUTED TO								
+		STOII2	1.	33.00	1.	1.	0.	.33	
+								75.04	33.50
	4 COMBINED AT								
+		Node4	50.	15.83	37.	24.	16.	4.56	
	ROUTED TO								
+		4 Rout	45.	16.83	36.	24.	16.	4.56	
	HYDROGRAPH AT								
+		IIIA	26.	14.83	19.	8.	3.	.26	
	ROUTED TO								
+		STO-3	19.	16.67	15.	7.	3.	.26	
+								70.38	16.67
	HYDROGRAPH AT								
+		VIA	26.	13.33	14.	5.	2.	.16	
	ROUTED TO								
+		STOVIA	18.	14.33	11.	5.	2.	.16	
+								75.38	14.33
	3 COMBINED AT								
+		Node5	74.	16.67	58.	36.	21.	4.98	
	ROUTED TO								
+		eLinda	74.	16.67	58.	36.	21.	4.98	
	ROUTED TO								

```
+                    6 Rout        66.   17.50         56.         36.         21.       4.98

          HYDROGRAPH AT
+                    IXA(N)        44.   12.50         13.          5.          2.        .10

          ROUTED TO
+                    Dunn          40.   12.50         13.          5.          2.        .10

          HYDROGRAPH AT
+                    VIIA-N        61.   12.83         27.         10.          3.        .29

          HYDROGRAPH AT
+                    XIIA          27.   12.17          7.          3.          1.        .05

          HYDROGRAPH AT
+                    VIIA-M        20.   12.83          9.          3.          1.        .11

          HYDROGRAPH AT
+                    VIIA-S        74.   12.83         30.         12.          4.        .22

          6 COMBINED AT
+                    Beale        201.   12.67        115.         64.         31.       5.77

          ROUTED TO
+                    Colleg       189.   13.00        114.         64.         31.       5.77

          HYDROGRAPH AT
+                    VIIIA        109.   12.83         47.         18.          6.        .54

          ROUTED TO
+                    Butler        92.   13.00         47.         18.          6.        .54

          2 COMBINED AT
+                    Node13       281.   13.00        161.         82.         37.       6.31

          ROUTED TO
+                    Oliv_3       233.   13.17        156.         81.         37.       6.31

          HYDROGRAPH AT
+                    XIIIA        121.   12.50         39.         16.          5.        .30

          2 COMBINED AT
```

+		Erle_2	297.	13.00	191.	95.	42.	6.61
	ROUTED TO							
+		Oliv_2	275.	13.33	188.	95.	42.	6.61
	ROUTED TO							
+		Oliv_1	259.	13.50	186.	95.	42.	6.61
	HYDROGRAPH AT							
+		XA	17.	12.33	5.	2.	1.	.04
	ROUTED TO							
+		9 Rout	11.	12.50	4.	2.	1.	.04
	HYDROGRAPH AT							
+		IXA(S)	39.	12.17	9.	4.	1.	.08
	HYDROGRAPH AT							
+		IXA(E)	27.	12.17	6.	3.	1.	.06
	3 COMBINED AT							
+		Park	74.	12.17	20.	8.	3.	.17
	ROUTED TO							
+		Edgwtr	60.	12.33	20.	8.	3.	.17
	HYDROGRAPH AT							
+		XIA(N)	116.	12.50	38.	15.	5.	.28
	2 COMBINED AT							
+		Erle_1	166.	12.50	58.	24.	8.	.46
	ROUTED TO							
+		Linda	138.	12.67	57.	23.	8.	.46
	HYDROGRAPH AT							
+		XIA(S)	71.	12.83	30.	11.	4.	.35
	3 COMBINED AT							
+		Node28	407.	13.00	267.	127.	53.	7.41
	ROUTED TO							

```
+                    11Rout      381.   13.33       264.       127.       53.      7.41
        HYDROGRAPH AT
+                    IB1          22.   22.83        22.        14.        5.       .48
        ROUTED TO
+                    STO-IB        3.   39.17         3.         3.        2.       .48
+                                                                                  75.11      39.50
        ROUTED TO
+                    OD_1          3.   40.83         3.         3.        2.       .48
        HYDROGRAPH AT
+                    IB2          32.   15.33        26.        11.        4.       .55
        ROUTED TO
+                    STOIB2        4.   27.50         4.         3.        2.       .55
+                                                                                  75.15      27.67
        2 COMBINED AT
+                    N_IB2         6.   35.33         6.         6.        5.      1.03
        ROUTED TO
+                    OD_2          6.   36.50         6.         6.        5.      1.03
        HYDROGRAPH AT
+                    IB3          19.   13.17        10.         4.        1.       .11
        2 COMBINED AT
+                    N_IB3        19.   13.17        10.         7.        6.      1.14
        ROUTED TO
+                    OD_3         17.   13.83        10.         7.        6.      1.14
        HYDROGRAPH AT
+                    IIB1         13.   12.67         5.         2.        1.       .08
        ROUTED TO
+                    STO-B1        2.   24.17         2.         1.        1.       .08
+                                                                                  75.11      24.17
        HYDROGRAPH AT
```

```
+                    IIB3          28.   13.67          17.          7.          2.        .19
          3 COMBINED AT
+                    Lago          45.   13.83          28.         14.          8.       1.41
          ROUTED TO
+                    OD_4          42.   14.50          27.         14.          8.       1.41
          HYDROGRAPH AT
+                    IIB2           9.   13.33           5.          2.          1.        .12
          ROUTED TO
+                    STO-B2         2.   24.83           2.          1.          1.        .12
+                                                                                      75.10       25.00
          HYDROGRAPH AT
+                    IIB5         201.   12.33          53.         21.          7.        .37
          HYDROGRAPH AT
+                    IIB4          23.   13.33          13.          5.          2.        .17
          4 COMBINED AT
+                    Griff        215.   12.33          88.         39.         17.       2.07
          ROUTED TO
+                    Mont          60.   12.67          60.         39.         17.       2.07
+                                                                                      56.36       16.17
          ROUTED TO
+                    OD_5          60.   19.67          60.         39.         17.       2.07
          HYDROGRAPH AT
+                    IIIB1         39.   18.67          35.         19.          6.        .57
          ROUTED TO
+                    STO3B1         3.   33.50           3.          3.          3.        .57
+                                                                                      65.14       33.67
          HYDROGRAPH AT
+                    IIIB2         39.   15.83          32.         14.          5.        .43
          ROUTED TO
```

```
+                    STO3B2        3.   29.00          3.          3.          2.        .43
+                                                                                  65.13       29.00

          3 COMBINED AT
+                    Cross1       65.   21.50         63.         43.         22.       3.07

          ROUTED TO
+                    OD_6         64.   21.50         63.         43.         22.       3.07

          HYDROGRAPH AT
+                    IIIB3        24.   18.17         21.         11.          4.        .32

          ROUTED TO
+                    STO3B3        2.   32.17          2.          2.          2.        .32
+                                                                                  65.14       32.50

          2 COMBINED AT
+                    Cross2       66.   21.50         64.         44.         24.       3.39

          ROUTED TO
+                    OD_6         66.   21.50         63.         44.         24.       3.39

          2 COMBINED AT
+                    Node23      414.   13.50        314.        170.         76.      10.81

          ROUTED TO
+                    Det         383.   14.17        313.        170.         76.      10.81
+                                                                                  57.71       14.17

          ROUTED TO
+                    15Rout      375.   14.50        310.        170.         76.      10.81

          HYDROGRAPH AT
+                    IC(N)        30.   16.33         25.         11.          4.        .36

          ROUTED TO
+                    STOIC         3.   29.00          3.          3.          2.        .36
+                                                                                  60.13       29.17

          2 COMBINED AT
+                    Node30      376.   14.50        311.        172.         78.      11.17
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```
         ROUTED TO
+                        16Rout       371.   14.83         309.        172.         78.      11.17

         HYDROGRAPH AT
+                        IIC(S)        30.   16.33          25.         11.          4.        .36

         ROUTED TO
+                        STOIIC         3.   29.00           3.          3.          2.        .36
+                                                                                                    60.13       29.17

         HYDROGRAPH AT
+                        NorCal        54.   12.17          12.          5.          2.        .09

         3 COMBINED AT
+                        Node31       380.   14.83         316.        178.         82.      11.62

         ROUTED TO
+                        Perini       367.   15.17         312.        178.         82.      11.62
1


 *** NORMAL END OF HEC-1 ***
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Appendix B

Existing Conditions HEC-RAS Output
100-year Storm

HEC-RAS Plan: ExistDMP100 Profile: Max WS

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Olivehurst Inter	Upper OI	22800	Max WS	402.23	59.28	64.39	64.5	2.66	151.33	41.09	0.24
Olivehurst Inter	Upper OI	21419	Max WS	377.12	59.24	63.84	63.85	0.84	449.09	119.53	0.08
Olivehurst Inter	Upper OI	20922	Max WS	406.22	58.37	63.71	63.75	1.68	241.43	63.75	0.15
Olivehurst Inter	Upper OI	20545	Max WS	430	59	63.68	63.69	0.73	588.78	154.38	0.07
Olivehurst Inter	Upper OI	20204	Max WS	422.06	56.96	63.56	63.64	2.26	187.1	57.45	0.16
Olivehurst Inter	Upper OI	20102		Culvert							
Olivehurst Inter	Upper OI	20000	Max WS	404.67	57.09	63.32	63.39	2.1	192.64	56.96	0.15
Olivehurst Inter	Upper OI	19926	Max WS	406.12	57.43	63.33	63.37	1.52	267.18	60.5	0.13
Olivehurst Inter	Upper OI	19226	Max WS	389.79	57.02	63.1	63.15	1.78	218.53	60.24	0.17
Olivehurst Inter	Upper OI	18716	Max WS	380.5	56.4	62.95	63	1.67	227.21	54.33	0.14
Olivehurst Inter	Upper OI	17716	Max WS	367.68	56.05	62.73	62.77	1.57	234.3	55.11	0.13
Olivehurst Inter	Upper OI	17316	Max WS	366.61	55.9	62.68	62.7	1.29	284.99	69.09	0.11
Olivehurst Inter	Upper OI	17224	Max WS	366.46	55.88	62.67	62.69	1.29	284.33	59.16	0.09
Olivehurst Inter	Upper OI	17185		Culvert							
Olivehurst Inter	Upper OI	17132	Max WS	352.56	55.58	62.54	62.57	1.21	292.17	59.87	0.08
Olivehurst Inter	Upper OI	16933	Max WS	349.66	55.51	62.52	62.54	1.38	253.13	57.07	0.12
Olivehurst Inter	Upper OI	16716	Max WS	346.52	55.44	62.48	62.51	1.36	254.66	57.29	0.11
Olivehurst Inter	Upper OI	16216	Max WS	336.82	55.26	62.42	62.44	1.29	260.88	57.91	0.11
Olivehurst Inter	Upper OI	15716	Max WS	332.29	55.09	62.36	62.38	1.24	267.47	58.62	0.1
Olivehurst Inter	Upper OI	15216	Max WS	329.02	54.91	62.3	62.32	1.2	274.65	59.32	0.1
Olivehurst Inter	Upper OI	14989	Max WS	328.37	54.81	62.28	62.3	1.17	279.49	59.85	0.1
Olivehurst Inter	Middle	14889	Max WS	412.92	54.77	62.28	62.3	1.16	356.87	70.06	0.09
Olivehurst Inter	Middle	13385	Max WS	404.73	54.32	62.16	62.18	1.06	380.68	72.07	0.08
Olivehurst Inter	Middle	12600	Max WS	401.94	54.08	62.12	62.13	0.94	427.63	81.4	0.07
Olivehurst Inter	Middle	12080	Max WS	400.01	53.87	62.09	62.1	0.98	408.11	74.32	0.07
Olivehurst Inter	Middle	11980	Max WS	399.82	53.87	62.08	62.1	0.98	407.68	74.29	0.07
Olivehurst Inter	Middle	11900		Lat Struct							

Olivehurst Inter	Middle	11885	Max WS	438.82	53.86	62.07	62.09	1.08	407.35	74.23	0.08
Olivehurst Inter	Middle	11880	Max WS	438.67	53.86	62.07	62.09	1.08	407.32	74.23	0.08
Olivehurst Inter	Lower	11000	Max WS	438.63	53.6	62.07	62.09	1.06	415.26	93.01	0.08
Olivehurst Inter	Lower	10950	Max WS	438.63	53.4	62.07	62.08	1.04	423.91	93.1	0.08
Olivehurst Inter	Lower	10905		Culvert							
Olivehurst Inter	Lower	10860	Max WS	433.4	53.3	61.88	61.9	1.12	385.56	69.87	0.08
Olivehurst Inter	Lower	10500	Max WS	431.81	53.64	61.85	61.87	1.18	366.48	69.28	0.09
Olivehurst Inter	Lower	8900	Max WS	431.02	52.75	61.71	61.73	1.17	369.73	70.18	0.09
Olivehurst Inter	Lower	8874		Culvert							
Olivehurst Inter	Lower	8848	Max WS	429.14	52.83	61.59	61.62	1.19	361.23	69.62	0.09
Olivehurst Inter	Lower	7300	Max WS	428.13	52.35	61.46	61.48	1.11	387.39	74.18	0.09
Olivehurst Inter	Lower	5600	Max WS	428.1	51.7	61.35	61.37	1	426.83	74.14	0.07
Olivehurst Inter	Lower	5000	Max WS	428.4	51.48	61.32	61.34	0.93	460.1	76.33	0.07
Olivehurst Inter	Lower	4980	Max WS	428.38	51.47	61.32	61.34	1.18	362.96	77.19	0.07
Olivehurst Inter	Lower	4865		Culvert							
Olivehurst Inter	Lower	4750	Max WS	428.21	51.38	60.96	60.98	1.21	353.88	77.82	0.07
Olivehurst Inter	Lower	4737	Max WS	428.21	51.37	60.96	60.98	0.97	442.37	77.22	0.07
Olivehurst Inter	Lower	4663	Max WS	434.86	51.34	60.93	60.97	1.7	255.35	43.55	0.12
Olivehurst Inter	Lower	4116	Max WS	435.06	51.16	60.81	60.87	1.88	233.02	43.92	0.13
Olivehurst Inter	Lower	4025	Max WS	435.11	51.13	60.8	60.85	1.77	245.35	42.43	0.13
Olivehurst Inter	Lower	3195	Max WS	435.46	50.85	60.66	60.7	1.76	247.48	40.28	0.11
Olivehurst Inter	Lower	3158		Culvert							
Olivehurst Inter	Lower	3122	Max WS	432.39	50.82	60.44	60.49	1.79	241.69	39.61	0.11
Olivehurst Inter	Lower	3019	Max WS	432.45	50.79	60.42	60.47	1.74	248.82	42.76	0.13
Olivehurst Inter	Lower	1187	Max WS	426.43	50.16	60.2	60.22	1.21	429.46	131.79	0.08
Olivehurst Inter	Lower	1027	Max WS	426.43	50.11	60.16	60.21	1.78	238.98	130.35	0.11
Olivehurst Inter	Lower	974		Culvert							
Olivehurst Inter	Lower	922	Max WS	54.05	50.08	60	60	0.23	235.04	125.02	0.01
Olivehurst Inter	Lower	671	Max WS	333.39	49.99	60	60	0.41	1136.67	180.51	0.03
Olivehurst Drain	Upper	20602	Max WS	32.86	69.16	71.15	71.18	1.24	27.26	36.5	0.21
Olivehurst Drain	Upper	19775	Max WS	28.23	67.83	70.46	70.47	0.92	63.22	185.48	0.13
Olivehurst Drain	Upper	19640	Max WS	28.17	67.94	70.43	70.44	0.54	52.45	355.11	0.08
Olivehurst Drain	Upper	19584		Culvert							
Olivehurst Drain	Upper	19543	Max WS	25.19	68.02	69.95	69.97	1.09	23.14	340.77	0.17
Olivehurst Drain	Upper	19443	Max WS	23.5	67.94	69.93	69.93	0.34	115.39	318.82	0.07
Olivehurst Drain	Upper	18743	Max WS	21.8	67.4	69.85	69.85	0.1	517.62	1059.56	0.02
Olivehurst Drain	Upper	18214	Max WS	33.67	64.48	69.82	69.82	0.69	49.04	15.42	0.07

Olivehurst Drain	Upper	18186		Culvert							
Olivehurst Drain	Upper	18155	Max WS	33.49	66.24	69.63	69.64	0.86	39.15	76.61	0.1
Olivehurst Drain	Upper	17943	Max WS	38.55	66.04	69.58	69.6	0.97	55.11	102.41	0.11
Olivehurst Drain	Upper	17926		Culvert							
Olivehurst Drain	Upper	17904	Max WS	38.34	66	69.45	69.47	1.06	50.04	125.97	0.13
Olivehurst Drain	Upper	17731	Max WS	42.79	65.84	69.42	69.42	0.54	203.38	351.55	0.06
Olivehurst Drain	Upper	17712		Culvert							
Olivehurst Drain	Upper	17699	Max WS	42.82	65.88	69.24	69.25	0.71	155.64	333.13	0.09
Olivehurst Drain	Upper	17474	Max WS	48.95	66.13	69.22	69.22	0.3	445.25	824	0.04
Olivehurst Drain	Upper	17458		Culvert							
Olivehurst Drain	Upper	17443	Max WS	40.2	66.31	68.93	68.97	1.55	26.02	461.2	0.21
Olivehurst Drain	Upper	17235	Max WS	51.52	66.74	68.88	68.88	0.32	448.2	978.76	0.05
Olivehurst Drain	Upper	17216		Culvert							
Olivehurst Drain	Upper	17197	Max WS	53.07	66.66	68.77	68.77	0.44	352.67	889.36	0.07
Olivehurst Drain	Upper	17088	Max WS	58.11	66.78	68.72	68.72	0.73	227.08	687.92	0.11
Olivehurst Drain	Upper	17073		Culvert							
Olivehurst Drain	Upper	17058	Max WS	57.67	66.78	68.71	68.71	1.02	170.73	736.45	0.15
Olivehurst Drain	Upper	16933	Max WS	57.67	66.07	68.56	68.6	1.54	37.54	524.74	0.2
Olivehurst Drain	Upper	16922		Culvert							
Olivehurst Drain	Upper	16909	Max WS	57.65	66.43	68.37	68.49	2.8	21.56	492.38	0.43
Olivehurst Drain	Upper	16733	Max WS	57.47	66.41	67.97	68.01	1.63	40.97	457.83	0.28
Olivehurst Drain	Upper	16728		Bridge							
Olivehurst Drain	Upper	16722	Max WS	57.45	66.28	67.95	67.98	1.43	42.39	351.13	0.25
Olivehurst Drain	Upper	16720		Lat Struct							
Olivehurst Drain	Upper	16360	Max WS	56.17	65.86	67.71	67.71	0.75	181.39	518.83	0.12
Olivehurst Drain	Upper	16212	Max WS	55.43	65.77	67.69	67.69	0.27	317.27	734.69	0.06
Olivehurst Drain	Upper	16010	Max WS	55.58	66.04	67.67	67.67	0.32	272.88	579.79	0.06
Olivehurst Drain	Upper	15635	Max WS	61.85	65.91	67.58	67.59	0.96	163.97	505.64	0.17
Olivehurst Drain	Upper	15105	Max WS	70.2	65.2	66.84	66.88	2.32	75.57	325.64	0.43
Olivehurst Drain	Upper	14938	Max WS	71.3	62.31	64.97	65.09	2.77	25.74	17.78	0.41
Olivehurst Drain	Upper	14928	Max WS	71.5	62.14	64.96	65.06	2.51	28.47	17.9	0.35
Olivehurst Drain	Upper	14925		Lat Struct							
Olivehurst Drain	Upper	14918	Max WS	71.63	61.97	64.95	65.03	2.3	31.14	17.94	0.31
Olivehurst Drain	Upper	14900	Max WS	1	62.73	65.14	65.14	0.05	19.2	8.08	0.01
Olivehurst Drain	Clark	10764	Max WS	1	61.52	66.35	66.35	0	1343.7	2005.37	0
Olivehurst Drain	Clark	10760	Max WS	0.97	61.52	66.35	66.35	0	1343.7	2005.37	0
Olivehurst Drain	Clark	10759		Lat Struct							

Olivehurst Drain	Clark	10700	Max WS	0.67	61.52	66.35	66.35	0.01	80.54	2005.37	0
Olivehurst Drain	Clark	10698	Max WS	0.67	61.52	66.35	66.35	0.01	80.54	2005.37	0
Olivehurst Drain	Clark	10654	Max WS	60.75	61.49	66.33	66.34	0.76	80.44	2018.55	0.07
Olivehurst Drain	Clark	10515	Max WS	61.01	61.41	66.31	66.32	0.75	81.48	2060.72	0.07
Olivehurst Drain	Clark	10000	Max WS	61.97	61.1	66.27	66.28	0.72	85.59	2946.15	0.07
Olivehurst Drain	Clark	9590	Max WS	60.92	60.86	66.24	66.25	0.69	88.84	2803.31	0.06
Olivehurst Drain	Clark	8395	Max WS	49.5	60.96	66.19	66.19	0.49	101.47	3384.26	0.04
Olivehurst Drain	Clark	7734.37	Max WS	50.38	60.75	66.14	66.15	0.77	65.85	3106.93	0.07
Olivehurst Drain	Clark	7640	Max WS	50.52	60.72	66.14	66.14	0.03	3671.53	3019.12	0
Olivehurst Drain	Clark	7580	Max WS	50.6	60.7	66.14	66.14	0.06	2077.48	1884.16	0.01
Olivehurst Drain	Clark	7553		Culvert							
Olivehurst Drain	Clark	7525	Max WS	50.58	59.24	63.89	63.92	1.21	41.94	21.4	0.1
Olivehurst Drain	Clark	7446	Max WS	50.58	60.22	63.89	63.9	0.95	72.47	168.09	0.1
Olivehurst Drain	Clark	7349.81	Max WS	50.77	60.19	63.86	63.88	0.99	51.51	125.19	0.11
Olivehurst Drain	Clark	6388	Max WS	52.63	59.91	63.66	63.67	0.94	56.21	20.75	0.1
Olivehurst Drain	Clark	5300	Max WS	54.75	59.3	63.49	63.5	0.79	69.35	124.99	0.09
Olivehurst Drain	Clark	5150	Max WS	55.04	59.29	63.47	63.48	0.85	64.77	917.38	0.09
Olivehurst Drain	Clark	4790	Max WS	55.74	59.27	63.39	63.4	1.04	53.35	216.61	0.12
Olivehurst Drain	Clark	4700	Max WS	55.91	59.26	63.36	63.38	1.07	66.63	108.84	0.12
Olivehurst Drain	Clark	4655	Max WS	56	58.92	63.36	63.37	0.88	63.74	1064.56	0.09
Olivehurst Drain	Clark	4638		Culvert							
Olivehurst Drain	Clark	4606	Max WS	41.47	59.3	62.53	62.54	0.92	44.94	19.95	0.11
Olivehurst Drain	Clark	4519.5	Max WS	41.41	59.15	62.51	62.52	0.92	45.2	20.31	0.11
Olivehurst Drain	Clark	4433	Max WS	41.31	59	62.49	62.5	0.91	45.49	20.68	0.11
Olivehurst Drain	Clark	4260	Max WS	41.19	58.7	62.45	62.47	0.89	46.35	21.51	0.11
Olivehurst Drain	Clark	4152	Max WS	41.06	58.85	62.43	62.44	0.96	42.71	17.53	0.11
Olivehurst Drain	Clark	3604	Max WS	40.63	58.64	62.31	62.32	0.84	48.63	22.03	0.1
Olivehurst Drain	Clark	3240	Max WS	40.26	58.6	62.25	62.26	0.78	51.4	22.41	0.09
Olivehurst Drain	Clark	3118	Max WS	39.87	59	62.22	62.23	0.98	40.58	17.89	0.12
Olivehurst Drain	Clark	2630	Max WS	39.35	58.12	62.12	62.13	0.79	49.97	17.49	0.08
Olivehurst Drain	Clark	2534	Max WS	39.35	58.06	62.12	62.12	0.4	99.17	31.21	0.04
Olivehurst Drain	Clark	2381	Max WS	39.3	57.3	62.11	62.11	0.6	65.78	20.05	0.06
Olivehurst Drain	Clark	2202	Max WS	39.3	57.05	62.1	62.1	0.46	84.86	24.81	0.04
Olivehurst Drain	Clark	2102	Max WS	39.27	56.65	62.1	62.1	0.38	103.29	28.47	0.04
Olivehurst Drain	Clark	2082	Max WS	39.27	56.3	62.1	62.1	0.45	86.38	24.36	0.04
Olivehurst Drain	Clark	2056		Culvert							
Olivehurst Drain	Clark	2010	Max WS	39.22	56	62.08	62.09	0.38	101.94	79.71	0.03

Olivehurst Drain	Clark	2000	Max WS	39.25	53.84	62.08	62.08	0.02	1603.47	199	0
Linda Drain	extended	45526.95	Max WS	50.63	76.18	79.6	79.61	1.01	60.57	1296.46	0.12
Linda Drain	extended	45434.43	Max WS	50.6	76.06	79.58	79.59	0.88	57.22	22.75	0.1
Linda Drain	extended	45398.42		Culvert							
Linda Drain	extended	45358.65	Max WS	12.57	75.79	79.12	79.12	0.31	45.15	19.56	0.03
Linda Drain	extended	45182.4	Max WS	12.56	75.48	79.11	79.11	0.28	48.39	20.7	0.03
Linda Drain	extended	45006.3	Max WS	17.83	75.16	79.11	79.11	0.37	51.72	21.84	0.04
Linda Drain	extended	44301.7	Max WS	59.25	73.91	78.91	78.92	0.96	61.88	1435.65	0.1
Linda Drain	extended	44159.85	Max WS	61.66	74.11	78.87	78.88	0.82	79.36	63.85	0.09
Linda Drain	extended	44120		Culvert							
Linda Drain	extended	44080.67	Max WS	61.59	74.42	78.54	78.56	1.17	54	34.41	0.12
Linda Drain	extended	43569.7	Max WS	61.59	74.09	78.4	78.42	1.09	56.64	20.96	0.11
Linda Drain	extended	43229.12	Max WS	63.64	73.87	78.32	78.34	1.07	59.33	20.37	0.11
Linda Drain	extended	43201.7	Max WS	63.65	73.85	78.31	78.33	1.08	58.77	497.44	0.11
Linda Drain	extended	43174.56		Culvert							
Linda Drain	extended	43137.84	Max WS	62.89	73.79	77.89	77.92	1.27	49.42	1006.89	0.14
Linda Drain	extended	42976.26	Max WS	62.85	73.07	77.86	77.88	0.99	65.47	1125.65	0.09
Linda Drain	extended	42900		Culvert							
Linda Drain	extended	42814.22	Max WS	61.45	73.13	77.18	77.21	1.48	41.58	17.77	0.17
Linda Drain	extended	42176.08	Max WS	60.87	73.08	76.8	76.83	1.34	45.28	418.52	0.16
Linda Drain	extended	41268.96	Max WS	56.45	72.33	76.4	76.42	1.22	46.25	3400.46	0.14
Linda Drain	extended	41227.03		Culvert							
Linda Drain	extended	41184.3	Max WS	56.43	72.06	75.94	75.97	1.32	42.71	2760.07	0.15
Linda Drain	extended	41156.2	Max WS	56.48	71.97	75.94	75.96	1.22	46.26	2522.68	0.13
Linda Drain	extended	40035.21	Max WS	57.43	71.02	75.63	75.64	1.02	56.55	2786.78	0.1
Linda Drain	extended	39991.69		Culvert							
Linda Drain	extended	39949.52	Max WS	57.43	70.47	75.18	75.19	0.95	60.59	2164.3	0.1
Linda Drain	extended	39606.6	Max WS	57.72	70.38	75.11	75.13	1.02	56.8	2084.18	0.1
Linda Drain	extended	38749.37	Max WS	58.47	70.14	74.87	74.9	1.36	43.11	1725.39	0.13
Linda Drain	extended	38373.1	Max WS	58.47	69.9	74.73	74.76	1.27	45.99	13.92	0.12
Linda Drain	extended	37620.68	Max WS	58.44	69.43	74.55	74.56	0.79	241.22	742.51	0.08
Linda Drain	extended	37600		Culvert							
Linda Drain	extended	37564.32	Max WS	58.41	69.13	72.82	72.87	1.71	34.09	300.39	0.19
Linda Drain	extended	36567.12	Max WS	57.03	68.87	71.77	71.84	2.08	32.17	797.55	0.26
Linda Drain	extended	35633.4	Max WS	42.93	68.15	71.5	71.5	0.34	447.99	1400.13	0.04
Linda Drain	extended	34726.49	Max WS	37.52	67.72	71.48	71.48	0.14	1019.6	1886.41	0.01
Linda Drain	extended	34095.3	Max WS	39.52	67.21	71.48	71.49	0.84	48.36	1452.82	0.09

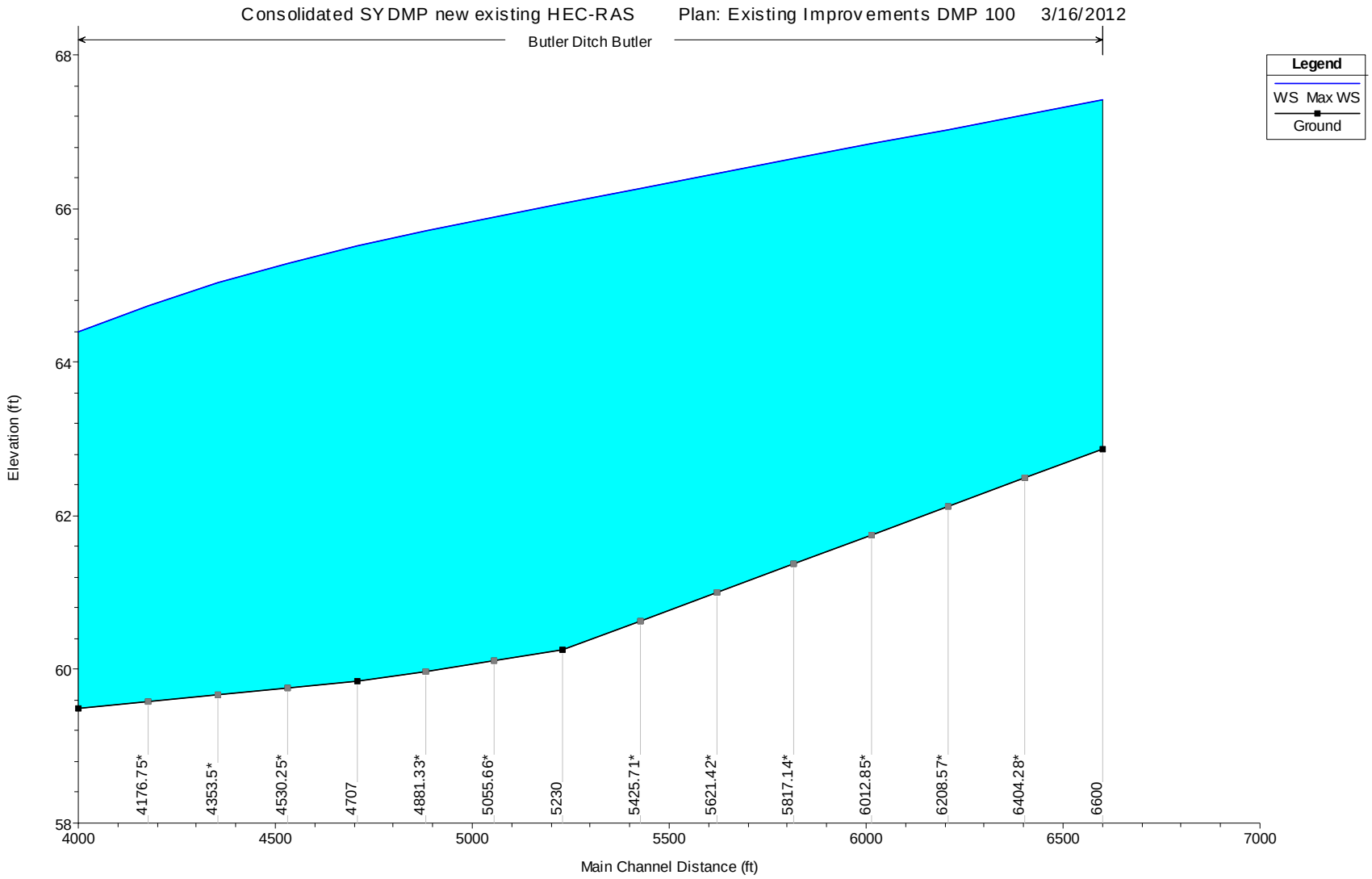
Linda Drain	extended	34053.2		Culvert							
Linda Drain	extended	34046.01	Max WS	29.22	67.17	70.56	70.57	0.85	34.54	493.06	0.09
Linda Drain	extended	33867.9	Max WS	19.4	66.75	70.53	70.54	0.5	38.53	480.73	0.05
Linda Drain	extended	33155.51	Max WS	9.2	65.09	70.53	70.53	0.22	41.98	865.46	0.02
Linda Drain	extended	33141.08		Culvert							
Linda Drain	extended	33126.5	Max WS	8.24	65.11	70.51	70.51	0.12	67.85	982.3	0.01
Linda Drain	extended	33097.56	Max WS	8.24	65.14	70.51	70.51	0.11	73.33	1194.11	0.01
Linda Drain	extended	32921.63	Max WS	8.22	65.18	70.51	70.51	0.09	87.85	1468.14	0.01
Linda Drain	extended	32696.9	Max WS	11.83	65.04	70.51	70.51	0.11	103.56	1631.15	0.01
Linda Drain	extended	32695.5		Lat Struct							
Linda Drain	extended	32648.16	Max WS	12.61	65.01	70.5	70.51	0.12	107.29	2127.52	0.01
Linda Drain	extended	32603.41		Culvert							
Linda Drain	extended	32562.66	Max WS	11.78	65	70.47	70.47	0.11	103.2	2135.77	0.01
Linda Drain	extended	32081.15	Max WS	22.58	64.97	70.47	70.47	0.13	198.68	2378.09	0.01
Linda Drain	extended	31295.1	Max WS	42.84	65.21	70.42	70.43	0.89	47.99	988.31	0.09
Linda Drain	extended	31250		Culvert							
Linda Drain	extended	31213.87	Max WS	42.46	65.58	70.25	70.25	0.57	340.9	1286.87	0.06
Linda Drain	extended	30739.6	Max WS	51.8	65.86	70.22	70.23	1.02	55.67	981.67	0.1
Linda Drain	extended	30710.89		Culvert							
Linda Drain	extended	30689.01	Max WS	51.67	65.32	69.67	69.7	1.21	45.87	32.69	0.13
Linda Drain	extended	30471.23	Max WS	56.6	64.89	69.65	69.66	0.89	154	922.06	0.08
Linda Drain	extended	30454.47		Culvert							
Linda Drain	extended	30433.78	Max WS	49.38	65.07	68.82	68.84	1.12	44.09	15.91	0.12
Linda Drain	extended	30414.6	Max WS	50.02	65.16	68.81	68.83	1.21	41.25	15.73	0.13
Linda Drain	extended	30372.63		Culvert							
Linda Drain	extended	30328.27	Max WS	49.18	65.59	68.74	68.78	1.61	31.08	20.09	0.2
Linda Drain	extended	30058.19	Max WS	51.5	64.89	68.52	68.56	1.46	35.22	15.2	0.17
Linda Drain	extended	29704.71	Max WS	75.21	63.04	68.39	68.41	1.05	71.34	21.7	0.1
Linda Drain	extended	29163.57	Max WS	83.35	62.3	68.3	68.32	0.95	87.68	26.61	0.09
Linda Drain	extended	28844.37	Max WS	87.5	62.89	68.26	68.27	0.85	144.34	186.51	0.09
Linda Drain	extended	28478	Max WS	95.89	63.13	68.14	68.17	1.56	61.61	29.18	0.15
Linda Drain	extended	28350	Max WS	98.04	63.7	68.06	68.1	1.64	59.9	21.04	0.17
Linda Drain	extended	28150	Max WS	101.3	62.84	67.96	68	1.6	63.38	113.68	0.16
Linda Drain	extended	27955	Max WS	106.53	62.3	67.88	67.91	1.35	149.4	342.68	0.14
Linda Drain	extended	27945		Culvert							
Linda Drain	extended	27935	Max WS	106.5	62.3	67.83	67.86	1.43	134.45	264.51	0.14
Linda Drain	extended	27832	Max WS	109.28	62.48	67.76	67.81	1.79	61.16	471.6	0.17

Linda Drain	extended	27698	Max WS	112.64	63.33	67.67	67.72	1.81	62.1	1386.03	0.18
Linda Drain	extended	27556	Max WS	115.22	62.42	67.56	67.61	1.81	63.67	1334.57	0.19
Linda Drain	extended	26957	Max WS	125.76	62.68	67.37	67.38	0.94	340.48	467.07	0.09
Linda Drain	extended	26787	Max WS	133.12	62.5	67.28	67.33	1.85	72.09	284.82	0.21
Linda Drain	extended	26360	Max WS	142.23	62.58	67.11	67.12	1.22	257.38	431.94	0.12
Linda Drain	extended	26324	Max WS	142.52	62.4	67.09	67.12	1.58	191.06	388.89	0.16
Linda Drain	extended	26160	Max WS	143.41	61.86	67	67.04	1.78	81.84	355.5	0.17
Linda Drain	extended	25796	Max WS	138.92	61.67	66.79	66.84	1.82	77.85	217.1	0.18
Linda Drain	extended	25784	Max WS	139.06	61.86	66.79	66.83	1.78	104.8	101.67	0.19
Linda Drain	extended	25728	Max WS	137.76	61.47	66.76	66.8	1.59	87.07	211.75	0.14
Linda Drain	extended	25699		Culvert							
Linda Drain	extended	25669	Max WS	137.08	61.41	66.75	66.78	1.35	101.82	36.42	0.11
Linda Drain	extended	25654	Max WS	136.74	61.63	66.75	66.77	1.32	105.98	36.37	0.12
Linda Drain	S Yuba College	25642	Max WS	161.09	61.63	66.75	66.78	1.54	105.98	36.37	0.14
Linda Drain	S Yuba College	25607	Max WS	160.38	61.55	66.73	66.77	1.6	100.49	29.97	0.15
Linda Drain	S Yuba College	25572	Max WS	163.88	61.47	66.71	66.75	1.67	98.37	27.92	0.16
Linda Drain	S Yuba College	25502	Max WS	165.42	61.3	66.65	66.72	2.09	79.09	26.88	0.16
Linda Drain	S Yuba College	25450		Culvert							
Linda Drain	S Yuba College	25398	Max WS	163.54	61.16	66.55	66.59	1.58	104.68	33.31	0.14
Linda Drain	S Yuba College	25357	Max WS	165.12	60.88	66.52	66.57	1.77	94.68	32.6	0.16
Linda Drain	S Yuba College	25068	Max WS	179.13	60.51	66.32	66.38	1.96	92.1	34.06	0.19
Linda Drain	S Yuba College	24153	Max WS	226.7	59.59	64.9	65.07	3.35	67.71	21.08	0.33
Linda Drain	S Yuba College	23953	Max WS	235.29	59.13	64.68	64.77	2.3	102.29	26.64	0.21
Linda Drain	S Yuba College	23918		Bridge							
Linda Drain	S Yuba College	23892	Max WS	238.18	58.95	64.7	64.73	1.48	160.55	45.5	0.14
Linda Drain	S Yuba College	23772	Max WS	243.61	59.46	64.66	64.69	1.43	169.82	46.07	0.13
Linda Drain	S Yuba College	23385	Max WS	243.13	59.26	64.56	64.59	1.35	179.81	48.13	0.12
Linda Drain	S Yuba College	22827	Max WS	242.53	59.28	64.39	64.43	1.6	151.33	41.09	0.15
Linda Drain	Edgewater	27830	Max WS	44.4	56.5	62.78	62.79	0.31	145.35	36.76	0.02
Linda Drain	Edgewater	27828	Max WS	44.4	56.5	62.79	62.79	0.25	178.38	36.76	0.02
Linda Drain	Edgewater	27826	Max WS	123.32	56.5	62.76	62.78	1.04	118.96	36.7	0.07
Linda Drain	Edgewater	27796		Culvert							
Linda Drain	Edgewater	27766	Max WS	120.91	56.17	62.65	62.67	1.09	111.34	55	0.08
Linda Drain	Edgewater	27684	Max WS	120.9	56.9	62.65	62.67	0.97	127.13	54.42	0.09
Linda Drain	Edgewater	26904	Max WS	120.31	56.41	62.6	62.61	0.84	143.78	32.67	0.07
Linda Drain	Edgewater	26610	Max WS	141.03	56.67	62.57	62.58	0.95	147.84	32.64	0.08
Linda Drain	Edgewater	26525		Culvert							

Linda Drain	Edgewater	26445	Max WS	50.23	55.89	62.3	62.31	0.32	158.59	33.38	0.03
Linda Drain	Edgewater	24900	Max WS	84.63	54.77	62.28	62.28	0.51	165.1	32.95	0.04
Linda Drain	Edgewater	24893	Max WS	84.55	54.77	62.28	62.28	0.51	165.09	32.95	0.04
Linda Drain	EdgewaterN	30450	Max WS	44.61	57.7	62.96	62.96	0.54	82.4	22.35	0.05
Linda Drain	EdgewaterN	30430	Max WS	44.61	57.8	62.95	62.96	0.54	82.36	22.47	0.05
Fernwood Ditch	Fernwood	32310	Max WS	12.71	59.59	63.1	63.11	0.35	36.76	17.63	0.04
Fernwood Ditch	Fernwood	32145	Max WS	12.7	59.72	63.1	63.1	0.41	31.35	14.24	0.05
Fernwood Ditch	Fernwood	31825	Max WS	12.64	58.75	63.09	63.09	0.58	21.64	14.92	0.05
Fernwood Ditch	Fernwood	31795		Culvert							
Fernwood Ditch	Fernwood	31766	Max WS	12.58	58.65	63.04	63.04	0.58	21.84	15.12	0.05
Fernwood Ditch	Fernwood	31388	Max WS	12.55	58.67	63.03	63.03	0.28	44.21	15.09	0.03
Fernwood Ditch	Fernwood	31321	Max WS	12.55	58.2	63.03	63.03	0.46	27.05	15.17	0.04
Fernwood Ditch	Fernwood	31293		Culvert							
Fernwood Ditch	Fernwood	31264	Max WS	12.54	58.01	62.98	62.98	0.43	28.92	13.65	0.03
Fernwood Ditch	Fernwood	31081	Max WS	12.54	58.01	62.98	62.98	0.27	46.34	13.65	0.03
Fernwood Ditch	Fernwood	30870	Max WS	24.71	57.69	62.97	62.97	0.36	91	96.82	0.03
Fernwood Ditch	Fernwood	30500	Max WS	24.71	57.8	62.96	62.96	0.5	49.51	13.96	0.05
Butler Ditch	Butler	6600	Max WS	171.46	62.87	67.42	67.53	2.67	64.79	28.35	0.26
Butler Ditch	Butler	5230	Max WS	167.65	60.26	66.07	66.18	2.68	68.68	46.6	0.25
Butler Ditch	Butler	4707	Max WS	167.06	59.84	65.51	65.63	2.79	59.89	17.49	0.27
Butler Ditch	Butler	4000	Max WS	159.71	59.5	64.39	64.57	3.42	46.63	14.64	0.34

HEC-RAS Plan: ExistDMP100 Profile: Max WS

Storage Area	Profile	W.S. Elev (ft)	SA Min El (ft)	Net Flux (cfs)	SA Area (acres)	SA Volume (acre-ft)
Edgewater	Max WS	62.49	59	0	6.05	15.94
Olivehurst Pond	Max WS	62.07	53.6	0.03	4.63	31.07
Orchard Pond	Max WS	59.4	53.9	132.54	8.8	47.93
SierraVista Pond	Max WS	70.39	65	0	1.63	8.12


Consolidated SY DMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Butler Ditch Butler
Legend
WS Max WS
Ground
Elevation (ft)
68
66
64
62
60
58
4000
4500
5000
5500
6000
6500
7000
Main Channel Distance (ft)
4176.75*
4353.5*
4530.25*
4707
4881.33*
5055.66*
5230
5425.71*
5621.42*
5817.14*
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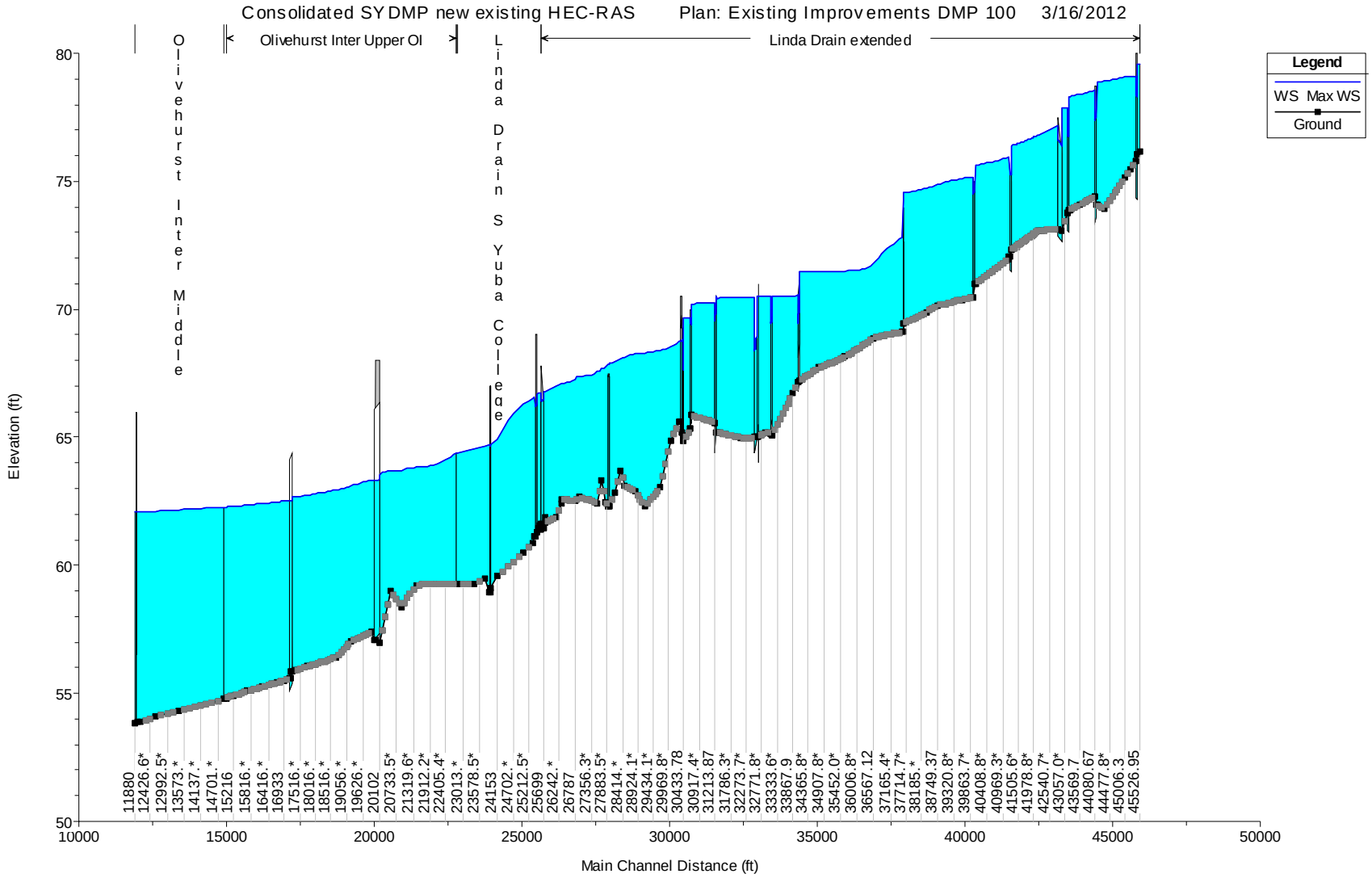
6600


Consolidated SYDMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Olivehurst Inter Upper Ol
Linda Drain extended
Olivehurst Inter Middle
Linda Drain S Yuba College
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
80
75
70
65
60
55
50
10000
15000
20000
25000
30000
35000
40000
45000
50000
11880
12426.6*
12992.5*
13573.*
14137.*
14701.*
15216
15816.*
16416.*
16933
17516.*
18016.*
18516.*
19056.*
19626.*
20102
20733.5*
21319.6*
21912.2*
22405.4*
23013.*
23578.5*
24153
24702.*
25212.5*
25699
26242.*
26787
27356.3*
27883.5*
28414.*
28924.1*
29434.1*
29969.8*
30433.78
30917.4*
31213.87
31786.3*
32273.7*
32771.8*
33333.6*
33867.9
34365.8*
34907.8*
35452.0*
36006.8*
36567.12
37165.4*
37714.7*
38185.*
38749.37
39320.8*
39863.7*
40408.8*
40969.3*
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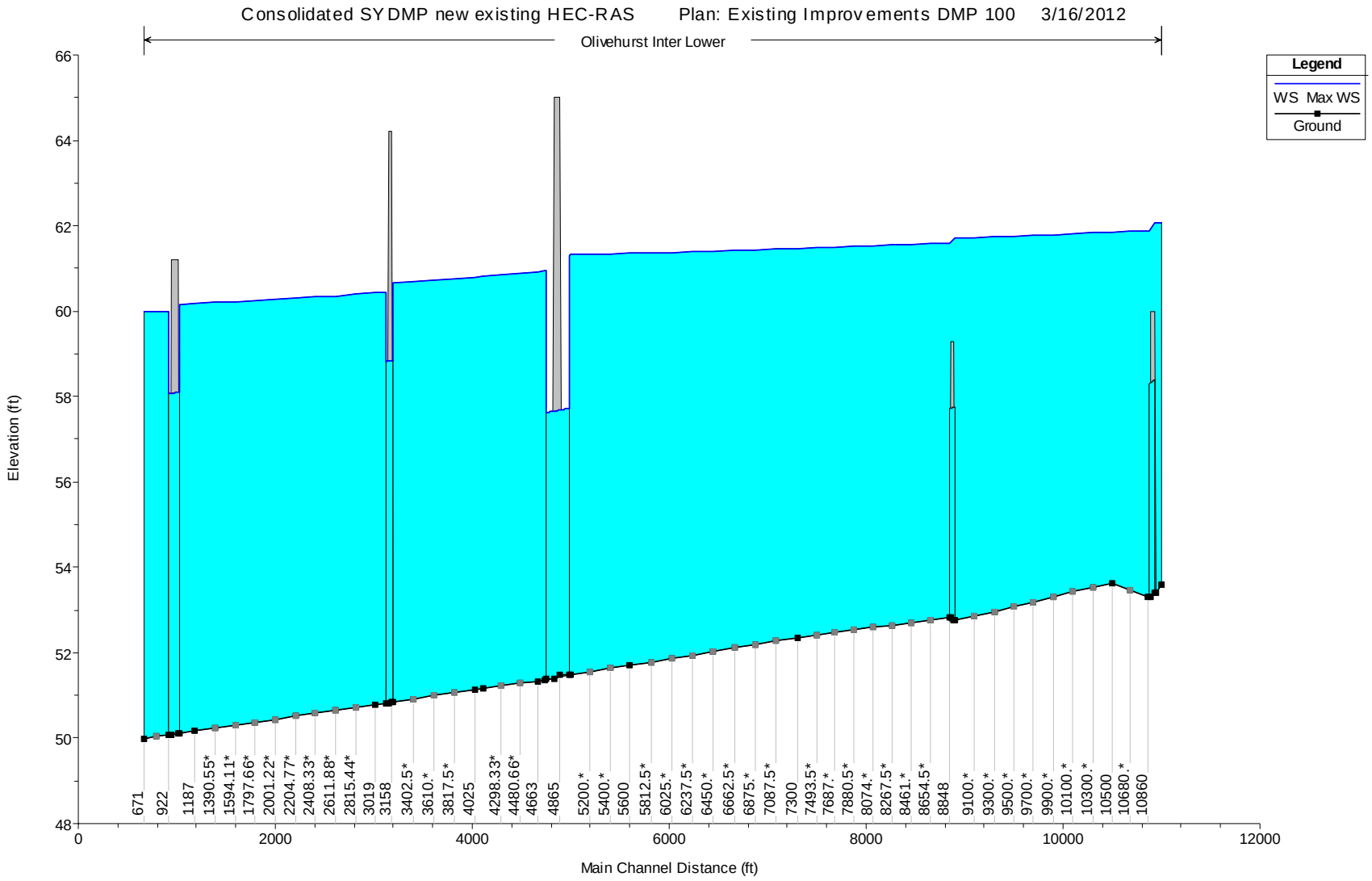
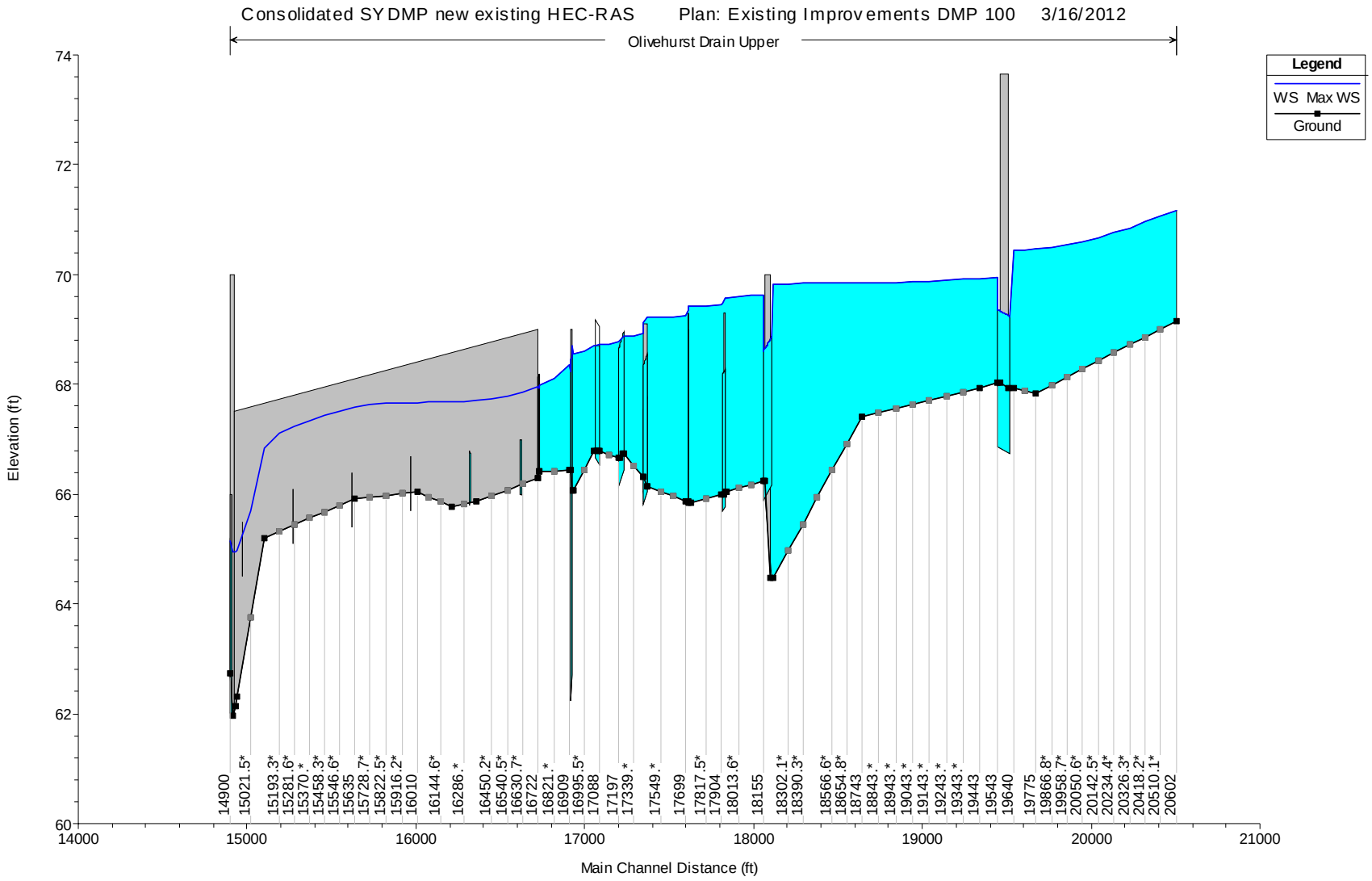

Consolidated SY DMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Olivehurst Inter Lower
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
66
64
62
60
58
56
54
52
50
48
0
2000
4000
6000
8000
10000
12000
671
922
1187
1390.55*
1594.11*
1797.66*
2001.22*
2204.77*
2408.33*
2611.88*
2815.44*
3019
3158
3402.5*
3610.*
3817.5*
4025
4298.33*
4480.66*
4663
4865
5200.*
5400.*
5600
5812.5*
6025.*
6237.5*
6450.*
6662.5*
6875.*
7087.5*
7300
7493.5*
7687.*
7880.5*
8074.*
8267.5*
8461.*
8654.5*
8848
9100.*
9300.*
9500.*
9700.*
9900.*
10100.*
10300.*
10500
10680.*
10860


Consolidated SY DMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Olivehurst Drain Upper
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
74
72
70
68
66
64
62
60
14000
15000
16000
17000
18000
19000
20000
21000
14900
15021.5*
15193.3*
15281.6*
15370.*
15458.3*
15546.6*
15635
15728.7*
15822.5*
15916.2*
16010
16144.6*
16286.*
16450.2*
16540.5*
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16722
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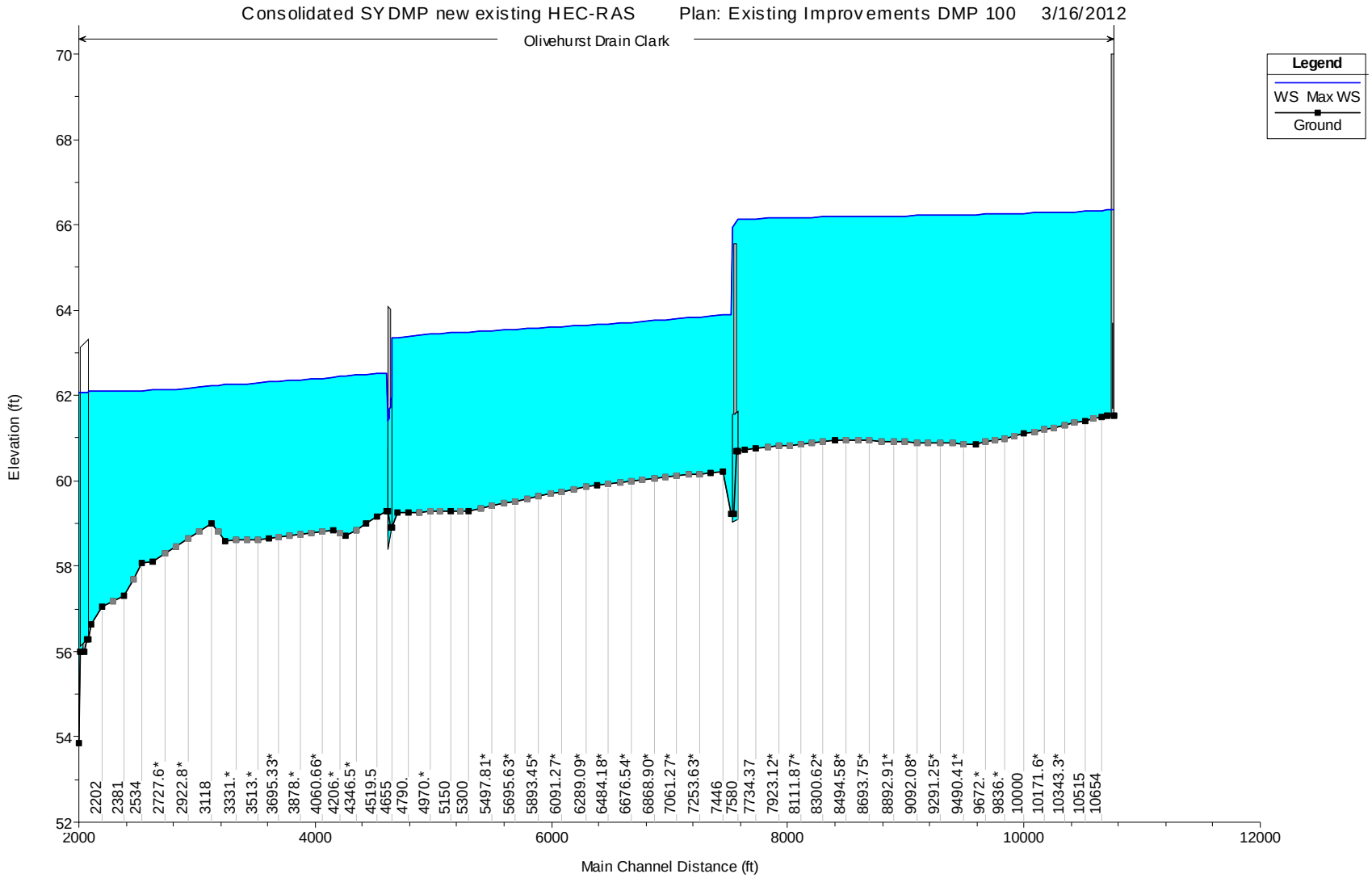
Consolidated SY DMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Olivehurst Drain Clark
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
70
68
66
64
62
60
58
56
54
52
2000
4000
6000
8000
10000
12000
2202
2381
2534
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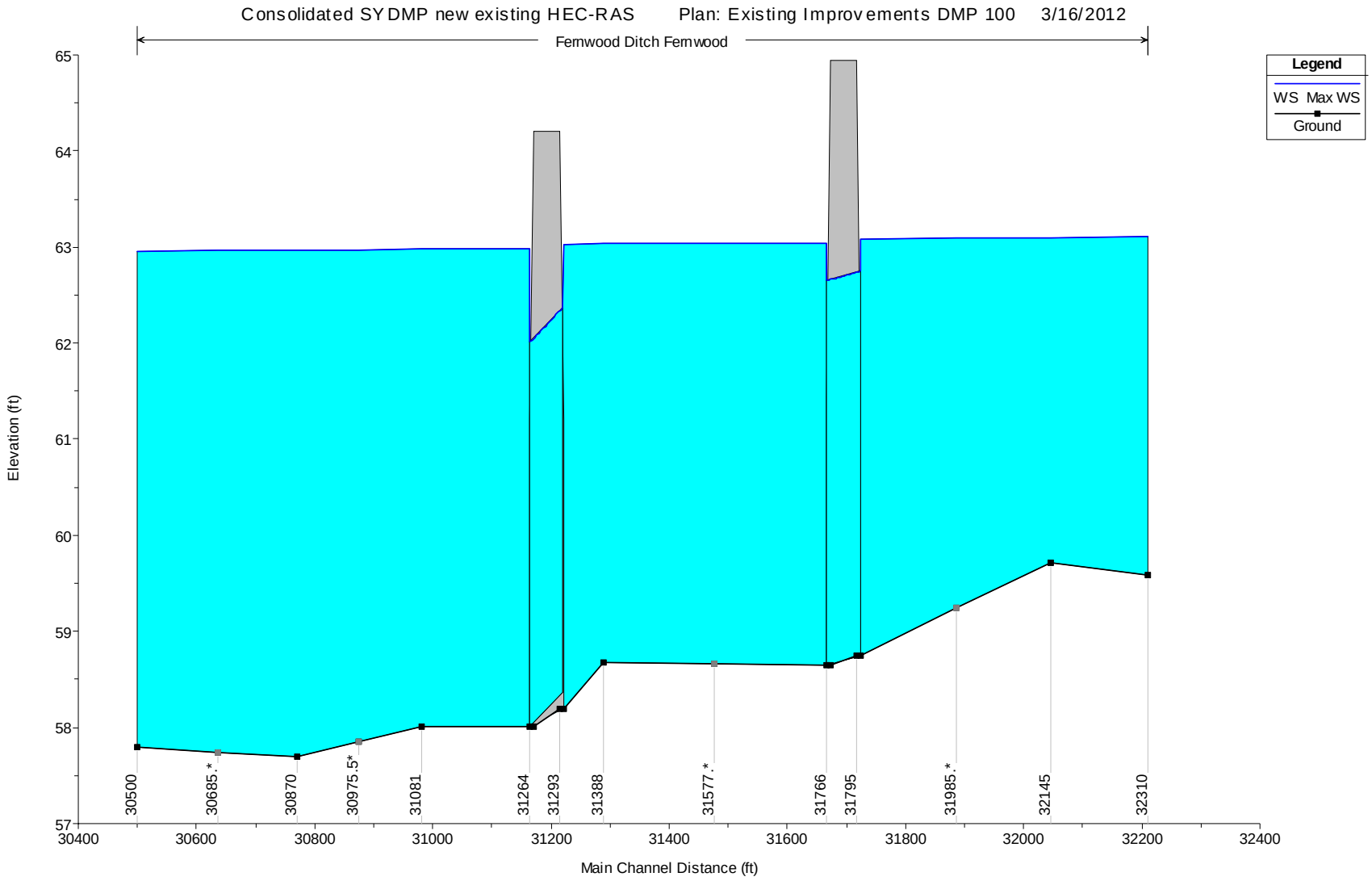
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Fernwood Ditch Fernwood
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
65
64
63
62
61
60
59
58
57
30400
30600
30800
31000
31200
31400
31600
31800
32000
32200
32400
30500
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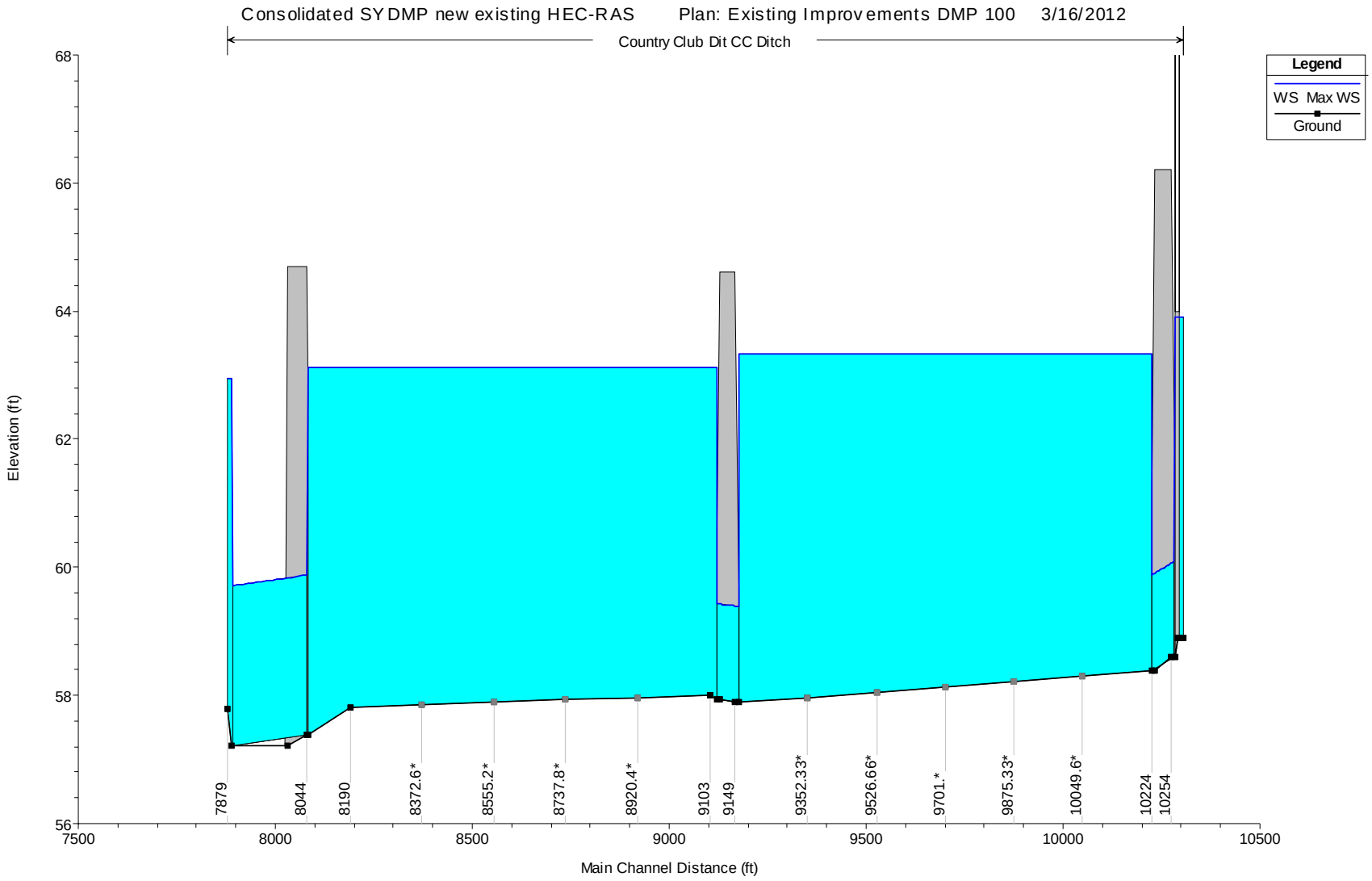
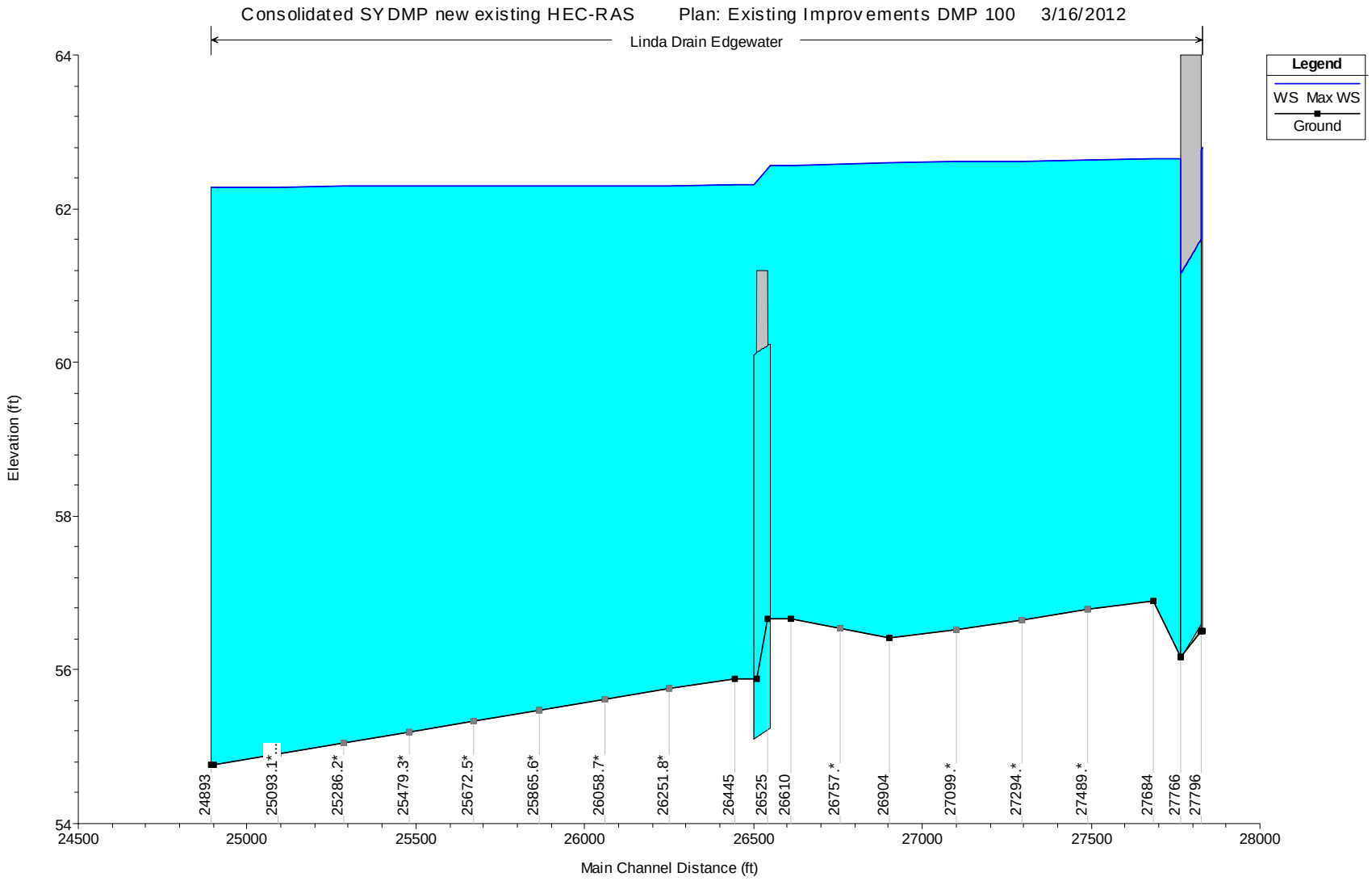

Consolidated SY DMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Country Club Dit CC Ditch
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
68
66
64
62
60
58
56
7500
8000
8500
9000
9500
10000
10500
7879
8044
8190
8372.6*
8555.2*
8737.8*
8920.4*
9103
9149
9352.33*
9526.66*
9701.*
9875.33*
10049.6*
10224
10254


Consolidated SY DMP new existing HEC-RAS Plan: Existing Improvements DMP 100 3/16/2012
Linda Drain Edgewater
Legend
WS Max WS
Ground
Elevation (ft)
64
62
60
58
56
54
24500
25000
25500
26000
26500
27000
27500
28000
Main Channel Distance (ft)
24893
25093.1*
25286.2*
25479.3*
25672.5*
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26058.7*
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27796

Appendix C

Future Conditions HEC-1 Output
100-year Storm

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *               JUN   1998              *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   13MAR12  TIME  09:58:22   *
 *                                       *
 *************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                     *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   1          ID  East Linda and Olivehurst Drain Watersheds      - 100 year storm
              * Future Conditions as indicated in the East Linda Specific Plan plus developed
   2          IT      10 01JAN10       0     721                    2000
   3          IO       5

   4          KK  IA1
   5          KM  Rice Fields east of Brophy Rd., north of H-S rd.
   6          KO                                     22
   7          BA   .6641
   8          PB    4.16
              * 100-year 24-hour Storm in 5 minute intervals
   9          IN       5
  10          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  11          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  12          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  13          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  14          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  15          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  16          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  17          PI   0.007   0.007    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
  18          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
  19          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
  20          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.02    0.02
  21          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
  22          PI    0.02    0.02    0.02    0.02    0.02    0.02   0.021   0.021   0.021   0.021
  23          PI   0.021   0.021   0.028   0.028   0.028   0.028   0.028   0.028   0.037   0.037
  24          PI   0.037    0.08    0.13    0.32    0.18    0.08    0.08   0.037   0.037   0.037
  25          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.021   0.021   0.021   0.021
  26          PI   0.021   0.021    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
  27          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
  28          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
  29          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
  30          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
  31          PI    0.01    0.01    0.01    0.01    0.01    0.01   0.007   0.007   0.007   0.007
  32          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  33          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  34          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  35          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
  36          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
```

```
   37          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
   38          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007       0       0
   39          PI       0       0       0       0       0       0       0       0       0       0
   40          PI       0       0       0       0       0       0       0       0       0       0
   41          PI       0       0       0       0       0       0       0       0       0       0
   42          PI       0       0       0       0       0       0       0       0       0       0
   43          PI       0       0       0       0       0       0       0       0       0       0
   44          PI       0       0       0       0       0       0       0       0       0       0
   45          PI       0       0       0       0       0       0       0       0       0       0
   46          PI       0       0       0       0       0       0       0       0       0       0
   47          PI       0       0       0       0       0       0       0       0       0       0
   48          PI       0       0       0       0       0       0       0       0       0       0
   49          PI       0       0
   50          LS           77.2       2
   51          UD   4.586
   52          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                          PAGE  2

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


   53          KK  STO-I1
   54          KM  4" Ponding in Basin IA1 95% of area
   55          KO                                      22
   56          RS       1    ELEV      85
   57          SA       0     200     400     400
   58          SE    84.9      85  85.333      86
   59          SL      85       3      .6      .5
   60          SS  85.333    1000     2.5     1.5
   61          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   62          KK  IVA1
   63          KM  Rural residential on H-S Rd 3/4 east of Brophy
   64          KO                                      22
   65          BA   0.178
   66          LS             82       5
   67          UD   1.038
   68          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   69          KK  Node1
   70          KM  Residences about 3/4 mile east of Brophy Rd.
   71          KO                                      22
```

```
   72          HC       2
   73          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   74          KK  1 Rout
   75          KM  Route next to Hammonton-Smartsville Rd to Brophy
   76          KO                                      22
   77          RD    5900   .0015    .050            TRAP       3       1
   78          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   79          KK  IVA2
   80          KM  Rice fields in Brophy area south of H-S rd.
   81          KO                                      22
   82          BA  1.0583
   83          LS             81       1
   84          UD   4.17
   85          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   86          KK  STO-IV
   87          KM  4" Ponding in Basin IVA2 - 95% of area
   88          KO                                      22
   89          RS       1    ELEV      85
   90          SA       0     322     644     644
   91          SE    84.9      85  85.333      86
   92          SL      85       3      .6      .5
   93          SS  85.333    1000     2.5     1.5
   94          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   95          KK  IA2
   96          KM  Orchards north of Brophy Rd. and of H-S rd.
   97          KO                                      22
   98          BA  0.7628
   99          LS           76.2       2
  100          UD   3.636
1                                    HEC-1 INPUT                                          PAGE  3

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  101          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  102          KK  STO-I2
  103          KM  4" Orchard Ponding in Basin IA2 33% of area
  104          KO                                      22
```

```
105          RS       1    ELEV      75
106          SA       0      81     162     162
107          SE    74.9      75  75.333      76
108          SL      75       2      .6      .5
109          SS  75.333    1000     2.5     1.5
110          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

111          KK  IA3
112          KM  Rural Residential just west of Brophy Rd.
113          KO                                     22
114          BA  0.1239
115          LS           76.4       5
116          UD   1.295
117          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

118          KK  Node2
119          KM  Near Brophy School
120          KO                                     22
121          HC       4
122          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

123          KK  2 Rout
124          KM  From Brophy School area to Mobile Home park.
125          KO                                     22
126          RD    5900    .001     .05            TRAP       3       2
127          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

128          KK  IIA1
129          KM  Orchards, Ag north of H-S rd. North of trailer park
130          KO                                     22
131          BA  1.1469
132          LS           56.8       1
133          UD   7.474
134          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

135          KK  STOII1
136          KM  4" Orchard Ponding in Basin IIA1 33% of area
137          KO                                     22
138          RS       1    ELEV      75
139          SA       0     121     242     242
140          SE    74.9      75  75.333      76
141          SL      75       3      .6      .5
```

```
 142          SS  75.333    1000     2.5     1.5
 143          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                                PAGE  4

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 144          KK  VA1
 145          KM  Rural residential on H-S incl. Trailer Park
 146          KO                                      22
 147          BA  0.0298
 148          LS              68      20
 149          UD   0.663
 150          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 151          KK  Node3
 152          KM  Near Trailer Park on H-S rd.
 153          KO                                      22
 154          HC       3
 155          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 156          KK  3 Rout
 157          KM  From Mobile Home park to Sierra Vista Subdivision
 158          KO                                      22
 159          RD    5900  .00085     .05            TRAP       4       1
 160          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 161          KK  VA2
 162          KM  Orchards both sides of H-S Rd. west of Trailer Park
 163          KO                                      22
 164          BA   .2267
 165          LS           75.9       2
 166          UD   1.076
 167          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 168          KK  STOVA2
 169          KM  4" Orchard Ponding in Basin VA2 - 33% of area
 170          KO                                      22
 171          RS       1    ELEV      77
 172          SA       0      24      48      48
 173          SE    76.9      77  77.333      78
 174          SL      77       2      .6      .5
```

```
 175          SS  77.333     200     2.5     1.5
 176          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 177          KK  SP4
 178          KM  Sierra Vista Subdivision - all flows to Pond
 179          KO                                      22
 180          BA  0.0480
 181          LS              87      35
 182          UD   0.296
 183          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 184          KK  STOVA3
 185          KM  Pond at Sierra Vista
 186          KO                                      22
 187          RS       1    ELEV      65
 188          SA       0    1.37     2.8     4.3    5.85    7.48
 189          SE      65      66      67      68      69      70
 190          SL   65.75     1.8      .6      .5
 191          SS    69.9     100     2.5     1.5
1                                      HEC-1 INPUT                                                PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 192          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 193          KK  IIA2
 194          KM  Orchards, Farm north of H-S rd.
 195          KO                                      22
 196          BA  0.2781
 197          LS              52       1
 198          UD   5.955
 199          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 200          KK  STOII2
 201          KM  4" Orchard Ponding in Basin IIA2 33% of area
 202          KO                                      22
 203          RS       1    ELEV      75
 204          SA       0      35      70      70
 205          SE    74.9      75  75.333      76
 206          SL      75       2      .6      .5
 207          SS  75.333    1000     2.5     1.5
 208          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
 209          KK  SP1
 210          KM  North of north end of Griffith
 211          KO                                    22
 212          BA   .2094
 213          LS           81.1      20
 214          UD       1
 215          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 216          KK  Node4
 217          KM  Hammonton-Smartsville Rd at Sierra Vista subdivision
 218          KO                                    22
 219          HC       5
 220          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 221          KK  4 Rout
 222          KM  Routing from Sierra Vista to south of Dantoni Rd
 223          KO                                    22
 224          RD    4500   .0005    .045            TRAP       5       2
 225          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 226          KK  SP2
 227          KM  Near Dantoni Rd. North of H-S Rd.
 228          KO                                    22
 229          BA   .1984
 230          LS           85.3      20
 231          UD     .83
 232          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 233          KK  SP6
 234          KM  37 ac. Rural residential some infill south of H-S rd., around Alberta
 235          KO                                    22
 236          BA   .0578
 237          LS          79.77      15
 238          UD   0.834
 239          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                    PAGE  6

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 240          KK  Node5
```

```
241          KM  Linda Drain just south of Dantoni Rd.
242          KO                                      22
243          HC       3
244          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

245          KK  eLinda
246          KM  Linda Drain Routing toward Yuba College
247          KO                                      22
248          RD     100   .0003    .045            TRAP       5       2
249          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

250          KK  SP3
251          KM  Triangle west of Dantoni and north of H-S Rd.
252          KO                                      22
253          BA   .0766
254          LS              87      35
255          UD      .5
256          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

257          KK  SP7
258          KM  83 ac. Future School/Park south of H-S rd. Butler
259          KO                                      22
260          BA   .1297
261          LS            84.6      20
262          UD     0.7
263          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

264          KK  Node5
265          KM  Linda Drain in Butler property
266          KO                                      22
267          HC       3
268          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

269          KK  6 Rout
270          KM  Routing to NW Corner Yuba College
271          KO                                      22
272          RD    3800   .0003    .045            TRAP       5       2
273          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

274          KK  IXA(N)
275          KM  Now 90 ac. Subbasin IXA(N) (north of Beale Road)
276          KO                                      22
```

```
 277          BA  0.1406
 278          LS           84.3      30
 279          UD     .43
 280          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 281          KK  Dunn
 282          KM  42 Inch Culvert along Linda Ave
 283          KO                                    22
 284          RD     800   .0004    .015            CIRC     3.5       0
 285          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 286          KK  SP11
 287          KM  32 ac. Old Subbasin XIIA College View residential
 288          KO                                    22
 289          BA     .05
 290          LS              85      40
 291          UD     .25
 292          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 293          KK  NBeale
 294          KM  Roadside ditch along N. Beale Rd. and thru mid-Butler
 295          KO                                    22
 296          RD    1200    .001     .05            TRAP       2
 297          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 298          KK  SP12
 299          KM  41 ac. Part of old Subbasin VIIA(M) - Future Comm and High Density.
 300          KO                                    22
 301          BA   .0641
 302          LS           92.2      70
 303          UD      .2
 304          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 305          KK  VIIA-S
 306          KM  Subbasin VIIA(S) South of N. Beale Rd. Coll + CC Estates
 307          KO                                    22
 308          BA    .225
 309          LS           84.5      35
```

```
 310          UD     .74
 311          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 312          KK  Beale
 313          KM
 314          KO                                    22
 315          HC       5
 316          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 317          KK  Colleg
 318          KM  Linda Drain adjacent to Yuba College
 319          KO                                    22
 320          RD    2511  .00075    .035            TRAP      12       2
 321          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 322          KK  VIIIA
 323          KM  Subbasin VIIIA east part of College
 324          KO                                    22
 325          BA   .1484
 326          LS           81.8      15
 327          UD      .7
 328          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                          PAGE  8

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 329          KK  SP10
 330          KM  40  ac. High Density Housing across from College.
 331          KO                                    22
 332          BA   .0625
 333          LS           89.7      55
 334          UD   0.275
 335          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 336          KK  CollD
 337          KM  College/Butler Ditch on east side of Yuba College
 338          KO                                    22
 339          HC       2
 340          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 341          KK  Butler
```

```
 342          KM  Ditch that runs to the south boundary of Yuba College
 343          KO                                      22
 344          RD    1900   .0003    .035            TRAP       4       1
 345          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 346          KK  Node13
 347          KM  Combine Node 11, Subbasin VIIA, Subbasin VIIIA, and Subbasin XIIA
 348          KO                                      22
 349          HC       2
 350          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 351          KK  Oliv_3
 352          KM  Routing from Node 13 to Erle Road
 353          KO                                      22
 354          RD    2640   .0003    .035            TRAP      30       3
 355          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 356          KK  SP19
 357          KM  199 ac. was XIIIA (Most of Edgewater East of Oakwood)
 358          KO                                      22
 359          BA   .3109
 360          LS           83.6      40
 361          UD     .50
 362          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 363          KK  Erle_2
 364          KM  Combine Node 13 and Subbasin XIIIA
 365          KO                                      22
 366          HC       2
 367          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 368          KK  Oliv_2
 369          KM
 370          KO                                      22
 371          RD    2750   .0003    .022            TRAP      15       3
 372          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                          PAGE  9

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 373          KK  Oliv_1
```

```
KM
KO                                      22
RD    2790   .0003    .022            TRAP      15       3
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  XA
KM  Subbasin XA above Edgewater near Grove
KO                                      22
BA   .0391
LS           81.4      30
UD     .33
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  9 Rout
KM  Route from Grove Ave. area to N. Edgewater
KO                                      22
RD    2500  .00018    .015            CIRC       5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IXA(S)
KM  Subbasin IXA (south of Beale Road)
KO                                      22
BA   .0766
LS             83      30
UD     .23
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IXA(E)
KM  Subbasin IXA (north of Edgewater)
KO                                      22
BA  0.0422
LS           80.8      25
UD     .23
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Park
KM  Southwest corner of Country Club Estates
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Edgwtr
```

```
          410          KM  Double 60" pipes through Edgewater Subdivision
          411          KO                                      22
          412          RD    1980  .00030    .015            CIRC       5
          413          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          414          KK  SP20
          415          KM  181 ac. Old XIA-N (Subbasin XIA north of Erle Road) West Edgewater
          416          KO                                      22
          417          BA   .2828
          418          LS             85      35
          419          UD     .50
1                                        HEC-1 INPUT                                                    PAGE 10

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          420          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          421          KK  Erle_1
          422          KM  Combine Node 26 and Subbasin XIA (North Erle)
          423          KO                                      22
          424          HC       2
          425          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          426          KK  Linda
          427          KM  Route from Erle Road to Railroad (Ditch Cleaned in 1995)
          428          KO                                      22
          429          RD    2270   .0003    .022            TRAP      10       2
          430          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          431          KK  XIA(S)
          432          KM  Subbasin XIA (Commercial Subbasin XIA south of Erle Road)
          433          KO                                      22
          434          BA     .35
          435          LS            94.0      70
          436          UD     .28
          437          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          438          KK  Node28
          439          KM  Combine Node Erle_1, Node Erle_2, and Subbasin XIA(S)
          440          KO                                      22
          441          HC       3
          442          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
 443          KK  11Rout
 444          KM  Route flows to new detention basin
 445          KO                                    22
 446          RD    3060   .0003    .022            TRAP      25       3
 447          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 448          KK  IB1
 449          KM  Subbasin IB1 - east part of old IB - north of Beale Rd.
 450          KO                                    22
 451          BA   .4813
 452          PB    4.16
 453          IN       5
 454          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 455          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 456          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 457          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 458          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 459          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 460          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 461          PI   0.007   0.007    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 462          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 463          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 464          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.02    0.02
 465          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
 466          PI    0.02    0.02    0.02    0.02    0.02    0.02   0.021   0.021   0.021   0.021
 467          PI   0.021   0.021   0.028   0.028   0.028   0.028   0.028   0.028   0.037   0.037
 468          PI   0.037    0.08    0.13    0.32    0.18    0.08    0.08   0.037   0.037   0.037
1                                          HEC-1 INPUT                                        PAGE 11

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 469          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.021   0.021   0.021   0.021
 470          PI   0.021   0.021    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
 471          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
 472          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 473          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 474          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 475          PI    0.01    0.01    0.01    0.01    0.01    0.01   0.007   0.007   0.007   0.007
 476          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 477          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 478          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
```

```
PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0       0       0       0       0       0       0       0       0
PI       0       0
LS           78.5       1
UD   8.528
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  STO-IB
KM  4" Ponding in Basin IB1 - rice fields
KO                                      22
RS       1    ELEV      75
SA       0     147     293     293
SE    74.9      75  75.333      76
SL      75       3      .6      .5
SS  75.333    1000     2.5     1.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  OD_1
KM  Routing fromSubbasin IB1 to mid-IB2
KO                                      22
RD    4000    .001     .06            TRAP       3       2
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IB2
KM  Subbasin IB2 - middle area of former IB
KO                                      22
BA  0.4563
LS           70.6       2
UD   2.437
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  518         KK  STOIB2
  519         KM  4" Ponding in Basin IB2 - Orchards and fields
  520         KO                                      22
  521         RS       1    ELEV      75
  522         SA       0      88     176     176
  523         SE    74.9      75  75.333      76
  524         SL      75       3      .6      .5
  525         SS  75.333    1000     2.5     1.5
  526         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  527         KK  N_IB2
  528         KM  Mid region IB2
  529         KO                                      22
  530         HC       2
  531         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  532         KK  OD_2
  533         KM  Routing from IB2 to Wood Ln.
  534         KO                                      22
  535         RD    4000    .001     .06            TRAP       3       2
  536         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  537         KK  SP13
  538         KM  87 ac. Old IB3 - Wood Ln and Trailer park residential + Infill
  539         KO                                      22
  540         BA  0.1359
  541         LS           79.5      15
  542         UD   1.058
  543         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  544         KK  N_IB3
  545         KM  Wood Ln at Olivehurst Drain
  546         KO                                      22
  547         HC       2
  548         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  549         KK  OD_3
```

```
          550          KM  Olivehurst Drain from Wood Ln to Lago Rd
          551          KO                                      22
          552          RD    2600    .001     .06            TRAP       3       2
          553          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          554          KK  IIB1
          555          KM  Ponding Ag area along Beale Rd.
          556          KO                                      22
          557          BA   .1016
          558          LS           72.8       2
          559          UD    .556
          560          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                        HEC-1 INPUT                                                    PAGE 13

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          561          KK  STO-B1
          562          KM  4" Ponding Basin IIB1 - 50% of area - spill to Beale
          563          KO                                      22
          564          RS       1    ELEV      75
          565          SA       0      13      27      27
          566          SE    74.9      75  75.333      76
          567          SL      75       2      .6      .5
          568          SS  75.333     200     2.5     1.5
          569          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          570          KK  SP14
          571          KM  96 ac Along Griffith - some new infill - was IIB3
          572          KO                                      22
          573          BA     .15
          574          LS           78.6      15
          575          UD   1.464
          576          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          577          KK  Lago
          578          KM  Lago Rd. area
          579          KO                                      22
          580          HC       3
          581          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          582          KK  OD_4
```

```
 583          KM  Olivehurst Drain from Lago Rd to inlet structure
 584          KO                                      22
 585          RD    4100    .001     .06            TRAP       3       2
 586          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 587          KK  SP8
 588          KM  43  ac. Future residential/School east of Griffith - pipe to detention
 589          KO                                      22
 590          BA   .0672
 591          LS             78      35
 592          UD    0.35
 593          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 594          KK  Pipe1
 595          KM  Perhaps pipe SP8 west to new linear detention
 596          KO                                      22
 597          RD    1400    .001     .02            CIRC       4
 598          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 599          KK  SP5
 600          KM  61 ac. Future residential/Comm south of H-S rd., west of Griffith - was in VIA
 601          KO                                      22
 602          BA   .0953
 603          LS           87.5      30
 604          UD    0.65
 605          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                          PAGE 14

            LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 606          KK  NLinD
 607          KM  North Linear Detention
 608          KO                                      22
 609          HC       2
 610          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 611          KK  SP9
 612          KM  74 ac. Rural residential some infill - flow to Lin Det.
 613          KO                                      22
 614          BA   .1156
 615          LS           81.5      30
```

```
 616          UD     0.6
 617          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 618          KK  MLinD
 619          KM  Mid  Linear Detention
 620          KO                                    22
 621          HC       2
 622          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 623          KK  SP15
 624          KM  61 ac future med density residential - was in VIIIA
 625          KO                                    22
 626          BA   .0953
 627          LS           85.3      35
 628          UD     0.5
 629          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 630          KK  SP16
 631          KM  79  ac future high density and comm - was in VIIIA
 632          KO                                    22
 633          BA   .1234
 634          LS             93      70
 635          UD     0.2
 636          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 637          KK  SLinD
 638          KM  South Linear Detention
 639          KO                                    22
 640          HC       3
 641          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 642          KK  IIB2
 643          KM  Ponding Ag area east side of drainage
 644          KO                                    22
 645          BA   .1609
 646          LS             69       1
 647          UD   1.044
 648          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                    PAGE 15

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
KK  STO-B2
KM  4" Ponding Basin IIB2 - 50% of area - spill to Griffith
KO                                      22
RS      1    ELEV      75
SA      0      19      38      38
SE   74.9      75  75.333      76
SL     75       2      .6      .5
SS 75.333     200     2.5     1.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  SP18
KM  Montrose and Orchard subdivisions - drain to pond was IIB5
KO                                      22
BA   .368
LS             87      38
UD   .312
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  SP17
KM  Was IIB4 - east of Griffith - future Med. Den Residential.
KO                                      22
BA   .1266
LS           83.2      35
UD    0.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Griff
KM  Collector at south Griffith Rd
KO                                      22
HC      5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Mont
KM  Orchard/Montrose Pond
KO                                      22
RS      1    ELEV    53.9
SV      0    .435  53.247     100     119
SE   53.9      54      60    65.2    67.3
SQ      0       0      20      20      40      40      60      60      87     135
SQ    135
SE   53.9   54.14   54.15   54.89    54.9   55.39    55.4   63.93   64.93   65.93
```

```
          686          SE      67
          687          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          688          KK  OD_5
          689          KM  Routing from Montrose Pond down O.D. to first crossing
          690          KO                                      22
          691          RD    3200  .00036    .045            TRAP       5     1.5
          692          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                                PAGE 16

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          693          KK  IIIB1
          694          KM  Subbasin IIIB1 - North part of "Woodbury" Rice Fields
          695          KO                                      22
          696          BA   .5733
          697          LS             80       1
          698          UD   5.419
          699          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          700          KK  STO3B1
          701          KM  4" Ponding in Basin IIIB1 - 90% of area
          702          KO                                      22
          703          RS       1    ELEV      65
          704          SA       0     165     330     330
          705          SE    64.9      65  65.333      66
          706          SL      65       3      .6      .5
          707          SS  65.333    1000     2.5     1.5
          708          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          709          KK  IIIB2
          710          KM  Subbasin IIIB2 - East part of "Woodbury" Rice Fields
          711          KO                                      22
          712          BA   .4339
          713          LS           79.5       1
          714          UD   3.156
          715          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          716          KK  STO3B2
          717          KM  4" Ponding in Basin IIIB2 - 90% of area
          718          KO                                      22
```

```
 719          RS       1    ELEV      65
 720          SA       0     125     250     250
 721          SE    64.9      65  65.333      66
 722          SL      65       3      .6      .5
 723          SS  65.333    1000     2.5     1.5
 724          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 725          KK  Cross1
 726          KM  Crossing in Rice fields
 727          KO                                      22
 728          HC       3
 729          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 730          KK  OD_6
 731          KM  Routing from first crossing to second down O.D.
 732          KO                                      22
 733          RD    2900  .00036    .045            TRAP       5     1.5
 734          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 735          KK  IIIB3
 736          KM  Subbasin IIIB3 - West part of "Woodbury" Rice Fields
 737          KO                                      22
 738          BA   .3191
 739          LS             81       1
 740          UD   5.066
1                                      HEC-1 INPUT                                                PAGE 17

            LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 741          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 742          KK  STO3B3
 743          KM  4" Ponding in Basin IIIB3 - 90% of area
 744          KO                                      22
 745          RS       1    ELEV      65
 746          SA       0      92     184     184
 747          SE    64.9      65  65.333      66
 748          SL      65       2      .6      .5
 749          SS  65.333    1000     2.5     1.5
 750          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 751          KK  Cross2
```

```
752          KM  Crossing in Rice fields
753          KO                                      22
754          HC       2
755          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

756          KK  OD_6
757          KM  Routing down O.D. (Clark) to Olivehurst Pond
758          KO                                      22
759          RD    2600  .00077    .045            TRAP       5     1.5
760          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

761          KK  Node23
762          KM  Combine Node28 and Clark
763          KO                                      22
764          HC       2
765          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

766          KK  Det
767          KM  Detention Pond From Station 111+89 thru 95+38
768          KO                                      22
769          RS       1    ELEV      55
770          SV       0    3.16    21.6      40
771          SE   54.68   55.95      60      64
772          SL      55      50      .6      .5
773          SS      60      30     2.5     1.5
774          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

775          KK  15Rout
776          KM  Route flows from new detention basin to NE corner Norcal
777          KO                                      22
778          RD    3245   .0003    .022            TRAP      15       3
779          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

780          KK  IC(N)
781          KM  Subbasin IC (northern 50% of subbasin C)
782          KO                                      22
783          BA   .3601
784          LS           79.3       1
785          UD     3.5
786          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 787          KK  STOIC
 788          KM  4" Ponding in Basin IC(N) - 90% of area
 789          KO                                      22
 790          RS       1    ELEV      60
 791          SA       0     103     207     207
 792          SE    59.9      60  60.333      61
 793          SL      60       3      .6      .5
 794          SS  60.333    1500     2.5     1.5
 795          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 796          KK  Node30
 797          KM  Combine Node23 and Subbasin C (northern 50%)
 798          KO                                      22
 799          HC       2
 800          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 801          KK  16Rout
 802          KM  Route flows from NE corner Norcal to SE corner Norcal
 803          KO                                      22
 804          RD    2375   .0003    .022            TRAP      15       3
 805          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 806          KK  IIC(S)
 807          KM  Subbasin IIC (southern 50% of Subbasin C)
 808          KO                                      22
 809          BA   .3601
 810          LS           79.3       1
 811          UD     3.5
 812          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 813          KK  STOIIC
 814          KM  4" Ponding in Basin IIC(S) - 90% of area
 815          KO                                      22
 816          RS       1    ELEV      60
 817          SA       0     103     207     207
 818          SE    59.9      60  60.333      61
 819          SL      60       3      .6      .5
 820          SS  60.333    1500     2.5     1.5
 821          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
          822          KK  NorCal
          823          KM  Subbasin NorCal Lumber)
          824          KO                                    22
          825          BA   .0922
          826          LS           87.8      10
          827          UD      .2
          828          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          829          KK  Node31
          830          KM  Combine Node30 and Subbasin C ( southern 50%)(SE corner Norcal)
          831          KO                                    22
          832          HC       3
          833          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                          HEC-1 INPUT                                        PAGE 19

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          834          KK  Perini
          835          KM  Route flows from Hale Road to Reeds Creek
          836          KO                                    22
          837          RD    3915   .0003     .03           TRAP      12       2
          838          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
          839          ZZ
1*************************************                                  *************************************
 *                                   *                                 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                             *    U.S. ARMY CORPS OF ENGINEERS     *
 *              JUN   1998             *                               *    HYDROLOGIC ENGINEERING CENTER    *
 *           VERSION 4.1               *                               *         609 SECOND STREET           *
 *                                     *                               *       DAVIS, CALIFORNIA 95616       *
 *  RUN DATE   13MAR12  TIME  09:58:22   *                             *          (916) 756-1104             *
 *                                     *                               *                                     *
 *************************************                                  *************************************

                        East Linda and Olivehurst Drain Watersheds      - 100 year storm

   3 IO          OUTPUT CONTROL VARIABLES
```

```
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                    NMIN          10  MINUTES IN COMPUTATION INTERVAL
                   IDATE      1JAN10  STARTING DATE
                   ITIME        0000  STARTING TIME
                      NQ         721  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE      6JAN10  ENDING DATE
                  NDTIME        0000  ENDING TIME
                   ICENT          20  CENTURY MARK

              COMPUTATION INTERVAL     .17 HOURS
                   TOTAL TIME BASE  120.00 HOURS

         ENGLISH UNITS
              DRAINAGE AREA         SQUARE MILES
              PRECIPITATION DEPTH   INCHES
              LENGTH, ELEVATION     FEET
              FLOW                  CUBIC FEET PER SECOND
              STORAGE VOLUME        ACRE-FEET
              SURFACE AREA          ACRES
              TEMPERATURE           DEGREES FAHRENHEIT


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


1
                                                  RUNOFF SUMMARY
                                             FLOW IN CUBIC FEET PER SECOND
                                           TIME IN HOURS,  AREA IN SQUARE MILES

                                    PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION       STATION   FLOW     PEAK                                          AREA      STAGE     MAX STAGE
+                                                      6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                          IA1       81.   17.50          71.         35.         12.        .66
```

```
          ROUTED TO
+                      STO-I1        5.   32.17          5.          5.          5.        .66
+                                                                                          85.22       32.50

          HYDROGRAPH AT
+                      IVA1         62.   13.17         30.         12.          4.        .18

          2 COMBINED AT
+                      Node1        62.   13.17         31.         14.          8.        .84

          ROUTED TO
+                      1 Rout       58.   13.83         31.         14.          8.        .84

          HYDROGRAPH AT
+                      IVA2        158.   16.83        135.         64.         22.       1.06

          ROUTED TO
+                      STO-IV        6.   32.50          6.          6.          6.       1.06
+                                                                                          85.25       32.67

          HYDROGRAPH AT
+                      IA2          102.   16.33         86.         39.         13.        .76

          ROUTED TO
+                      STO-I2       51.   21.33         45.         21.         10.        .76
+                                                                                          75.37       21.33

          HYDROGRAPH AT
+                      IA3          31.   13.33         17.          7.          2.        .12

          4 COMBINED AT
+                      Node2        88.   13.67         68.         45.         25.       2.79

          ROUTED TO
+                      2 Rout       80.   14.50         67.         45.         25.       2.79

          HYDROGRAPH AT
+                      IIA1         34.   23.00         33.         21.          7.       1.15

          ROUTED TO
+                      STOII1        5.   37.67          5.          5.          4.       1.15
+                                                                                          75.20       37.67
```

```
          HYDROGRAPH AT
+                      VA1          9.   12.67          4.          1.          1.        .03
          3 COMBINED AT
+                      Node3       83.   14.50         71.         48.         29.       3.96
          ROUTED TO
+                      3 Rout      75.   15.33         70.         48.         29.       3.96
          HYDROGRAPH AT
+                      VA2         60.   13.17         30.         12.          4.        .23
          ROUTED TO
+                      STOVA2      14.   17.83         12.          8.          4.        .23
+                                                                                      77.36       17.83
          HYDROGRAPH AT
+                      SP4         40.   12.33         10.          4.          1.        .05
          ROUTED TO
+                      STOVA3      10.   13.33          9.          4.          1.        .05
+                                                                                      66.98       13.33
          HYDROGRAPH AT
+                      IIA2         6.   21.33          6.          4.          1.        .28
          ROUTED TO
+                      STOII2       2.   32.67          2.          2.          1.        .28
+                                                                                      75.10       32.67
          HYDROGRAPH AT
+                      SP1         79.   13.00         37.         15.          5.        .21
          5 COMBINED AT
+                      Node4      120.   15.33         99.         71.         38.       4.73
          ROUTED TO
+                      4 Rout     115.   15.83         96.         71.         38.       4.73
          HYDROGRAPH AT
+                      SP2         93.   12.83         39.         16.          5.        .20
```

	HYDROGRAPH AT						
+		SP6	23.	12.83	10.	4.	1.	.06
	3 COMBINED AT						
+		Node5	173.	13.00	137.	88.	44.	4.98
	ROUTED TO						
+		eLinda	171.	13.17	137.	88.	44.	4.98
	HYDROGRAPH AT						
+		SP3	51.	12.50	17.	7.	2.	.08
	HYDROGRAPH AT						
+		SP7	65.	12.67	25.	10.	3.	.13
	3 COMBINED AT						
+		Node5	267.	12.83	175.	102.	49.	5.19
	ROUTED TO						
+		6 Rout	205.	13.17	168.	102.	49.	5.19
	HYDROGRAPH AT						
+		IXA(N)	92.	12.50	28.	11.	4.	.14
	ROUTED TO						
+		Dunn	87.	12.50	28.	11.	4.	.14
	HYDROGRAPH AT						
+		SP11	42.	12.17	11.	4.	1.	.05
	ROUTED TO						
+		NBeale	39.	12.33	11.	4.	1.	.05
	HYDROGRAPH AT						
+		SP12	71.	12.17	16.	7.	2.	.06
	HYDROGRAPH AT						
+		VIIA-S	115.	12.83	46.	19.	6.	.22
	5 COMBINED AT						
+		Beale	419.	12.67	259.	138.	62.	5.67

	ROUTED TO						
+		Colleg	403.	12.83	258.	138.	62.	5.67
	HYDROGRAPH AT						
+		VIIIA	68.	12.67	26.	10.	3.	.15
	HYDROGRAPH AT						
+		SP10	57.	12.33	15.	6.	2.	.06
	2 COMBINED AT						
+		CollD	105.	12.33	41.	16.	6.	.21
	ROUTED TO						
+		Butler	86.	12.50	40.	16.	5.	.21
	2 COMBINED AT						
+		Node13	485.	12.83	296.	153.	67.	5.88
	ROUTED TO						
+		Oliv_3	425.	13.00	292.	153.	67.	5.88
	HYDROGRAPH AT						
+		SP19	198.	12.50	64.	26.	9.	.31
	2 COMBINED AT						
+		Erle_2	572.	12.67	351.	176.	76.	6.19
	ROUTED TO						
+		Oliv_2	521.	13.00	349.	176.	76.	6.19
	ROUTED TO						
+		Oliv_1	491.	13.33	346.	176.	76.	6.19
	HYDROGRAPH AT						
+		XA	28.	12.33	7.	3.	1.	.04
	ROUTED TO						
+		9 Rout	20.	12.33	7.	3.	1.	.04
	HYDROGRAPH AT						
+		IXA(S)	63.	12.17	15.	6.	2.	.08

	HYDROGRAPH AT								
+		IXA(E)	32.	12.17	8.	3.	1.	.04	
	3 COMBINED AT								
+		Park	110.	12.17	30.	12.	4.	.16	
	ROUTED TO								
+		Edgwtr	92.	12.33	29.	12.	4.	.16	
	HYDROGRAPH AT								
+		SP20	181.	12.50	59.	24.	8.	.28	
	2 COMBINED AT								
+		Erle_1	254.	12.50	88.	36.	12.	.44	
	ROUTED TO								
+		Linda	218.	12.50	87.	35.	12.	.44	
	HYDROGRAPH AT								
+		XIA(S)	337.	12.33	88.	37.	12.	.35	
	3 COMBINED AT								
+		Node28	822.	12.50	503.	241.	100.	6.98	
	ROUTED TO								
+		11Rout	745.	12.83	501.	241.	99.	6.98	
	HYDROGRAPH AT								
+		IB1	41.	22.17	40.	25.	9.	.48	
	ROUTED TO								
+		STO-IB	5.	39.00	5.	5.	4.	.48	
+									75.21 39.17
	ROUTED TO								
+		OD_1	5.	40.17	5.	5.	4.	.48	
	HYDROGRAPH AT								
+		IB2	59.	15.00	45.	19.	6.	.46	
	ROUTED TO								

```
+                    STOIB2        6.   27.33          6.          5.          4.        .46
+                                                                                  75.24       27.50

          2 COMBINED AT
+                    N_IB2        10.   34.83         10.         10.          8.        .94

          ROUTED TO
+                    OD_2         10.   36.17         10.         10.          8.        .94

          HYDROGRAPH AT
+                    SP13         46.   13.17         22.          9.          3.        .14

          2 COMBINED AT
+                    N_IB3        46.   13.17         23.         14.         10.       1.07

          ROUTED TO
+                    OD_3         42.   13.67         23.         14.         10.       1.07

          HYDROGRAPH AT
+                    IIB1         33.   12.67         12.          5.          2.        .10

          ROUTED TO
+                    STO-B1        4.   18.83          4.          3.          2.        .10
+                                                                                  75.26       18.83

          HYDROGRAPH AT
+                    SP14         41.   13.50         24.          9.          3.        .15

          3 COMBINED AT
+                    Lago         86.   13.67         50.         26.         15.       1.33

          ROUTED TO
+                    OD_4         79.   14.33         50.         26.         15.       1.33

          HYDROGRAPH AT
+                    SP8          44.   12.33         12.          5.          2.        .07

          ROUTED TO
+                    Pipe1        39.   12.50         12.          5.          2.        .07

          HYDROGRAPH AT
+                    SP5          55.   12.67         20.          8.          3.        .10
```

```
          2 COMBINED AT
+                         NLinD        91.   12.50         33.         13.         4.        .16
          HYDROGRAPH AT
+                         SP9          61.   12.67         22.          9.         3.        .12
          2 COMBINED AT
+                         MLinD       150.   12.67         54.         22.         7.        .28
          HYDROGRAPH AT
+                         SP15         61.   12.50         20.          8.         3.        .10
          HYDROGRAPH AT
+                         SP16        137.   12.17         31.         13.         4.        .12
          3 COMBINED AT
+                         SLinD       293.   12.33        105.         43.        14.        .50
          HYDROGRAPH AT
+                         IIB2         30.   13.17         16.          6.         2.        .16
          ROUTED TO
+                         STO-B2        5.   24.67          5.          4.         2.        .16
+                                                                                          75.28      24.83
          HYDROGRAPH AT
+                         SP18        306.   12.33         81.         33.        11.        .37
          HYDROGRAPH AT
+                         SP17         78.   12.50         25.         10.         3.        .13
          5 COMBINED AT
+                         Griff       686.   12.33        251.        109.        45.       2.48
          ROUTED TO
+                         Mont        114.   17.00        106.         76.        45.       2.48
+                                                                                          65.50      17.00
          ROUTED TO
+                         OD_5        112.   17.83        104.         76.        44.       2.48
```

```
          HYDROGRAPH AT
+                      IIIB1         70.   18.33          63.         33.         11.        .57
          ROUTED TO
+                      STO3B1         6.   33.17           6.          6.          5.        .57
+                                                                                            65.24       33.50
          HYDROGRAPH AT
+                      IIIB2         72.   15.67          58.         25.          8.        .43
          ROUTED TO
+                      STO3B2         6.   28.67           6.          6.          4.        .43
+                                                                                            65.24       28.83
          3 COMBINED AT
+                      Cross1       118.   18.17         110.         86.         52.       3.48
          ROUTED TO
+                      OD_6         117.   18.50         109.         86.         52.       3.48
          HYDROGRAPH AT
+                      IIIB3         42.   17.83          38.         19.          7.        .32
          ROUTED TO
+                      STO3B3         4.   32.17           4.          4.          3.        .32
+                                                                                            65.25       32.33
          2 COMBINED AT
+                      Cross2       118.   18.50         111.         89.         55.       3.80
          ROUTED TO
+                      OD_6         118.   18.83         111.         89.         55.       3.80
          2 COMBINED AT
+                      Node23       802.   12.83         576.        321.        154.      10.78
          ROUTED TO
+                      Det          746.   13.50         565.        321.        154.      10.78
+                                                                                            61.47       13.50
          ROUTED TO
+                      15Rout       715.   13.83         561.        321.        154.      10.78
```

```
         HYDROGRAPH AT
+                        IC(N)         56.   16.00          46.         21.          7.        .36
         ROUTED TO
+                        STOIC          6.   28.83           6.          5.          4.        .36
+                                                                                                      60.23       29.00
         2 COMBINED AT
+                        Node30       716.   13.83         563.        325.        158.      11.14
         ROUTED TO
+                        16Rout       699.   14.00         560.        325.        158.      11.14
         HYDROGRAPH AT
+                        IIC(S)        56.   16.00          46.         21.          7.        .36
         ROUTED TO
+                        STOIIC         6.   28.83           6.          5.          4.        .36
+                                                                                                      60.23       29.00
         HYDROGRAPH AT
+                        NorCal        86.   12.17          19.          7.          2.        .09
         3 COMBINED AT
+                        Node31       713.   14.00         572.        335.        164.      11.60
         ROUTED TO
+                        Perini       682.   14.33         567.        335.        164.      11.60
1


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: SYDMPFU2.DSS
               Pointer Utilization:   .53
               Number of Records:    690
               File Size:    714.7  Kbytes
               Percent Inactive:    .0
```

Future Conditions HEC-1 Output
10-year Storm

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *               JUN   1998             *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   13MAR12  TIME  10:04:25  *
 *                                      *
 ****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX           X
X     X  X        X     X         XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

```
 1          ID  East Linda and Olivehurst Drain Watersheds      - 10 year storm
            * Future Conditions as indicated in the East Linda Specific Plan plus developed
 2          IT      10 01JAN10       0     721                    2000
 3          IO       5

 4          KK  IA1
 5          KM  Rice Fields east of Brophy Rd., north of H-S rd.
 6          KO                                     22
 7          BA   .6641
 8          PB    2.95
            * 10-year 24-hour Storm in 5 minute intervals
 9          IN       5
10          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
11          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
12          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
13          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
14          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
15          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
16          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
17          PI   0.007   0.007    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
18          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
19          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
20          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.02    0.02
21          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
22          PI    0.02    0.02    0.02    0.02    0.02    0.02   0.021   0.021   0.021   0.021
23          PI   0.021   0.021   0.028   0.028   0.028   0.028   0.028   0.028   0.037   0.037
24          PI   0.037    0.08    0.13    0.32    0.18    0.08    0.08   0.037   0.037   0.037
25          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.021   0.021   0.021   0.021
26          PI   0.021   0.021    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
27          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
28          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
29          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
30          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
31          PI    0.01    0.01    0.01    0.01    0.01    0.01   0.007   0.007   0.007   0.007
32          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
33          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
34          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
35          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
36          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
37          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
38          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007       0       0
```

```
   39          PI       0       0       0       0       0       0       0       0       0       0
   40          PI       0       0       0       0       0       0       0       0       0       0
   41          PI       0       0       0       0       0       0       0       0       0       0
   42          PI       0       0       0       0       0       0       0       0       0       0
   43          PI       0       0       0       0       0       0       0       0       0       0
   44          PI       0       0       0       0       0       0       0       0       0       0
   45          PI       0       0       0       0       0       0       0       0       0       0
   46          PI       0       0       0       0       0       0       0       0       0       0
   47          PI       0       0       0       0       0       0       0       0       0       0
   48          PI       0       0       0       0       0       0       0       0       0       0
   49          PI       0       0
   50          LS           77.2       2
   51          UD   4.586
   52          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                          PAGE  2

        LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   53          KK  STO-I1
   54          KM  4" Ponding in Basin IA1 95% of area
   55          KO                                      22
   56          RS       1    ELEV      85
   57          SA       0     200     400     400
   58          SE    84.9      85  85.333      86
   59          SL      85       3      .6      .5
   60          SS  85.333    1000     2.5     1.5
   61          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   62          KK  IVA1
   63          KM  Rural residential on H-S Rd 3/4 east of Brophy
   64          KO                                      22
   65          BA   0.178
   66          LS             82       5
   67          UD   1.038
   68          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   69          KK  Node1
   70          KM  Residences about 3/4 mile east of Brophy Rd.
   71          KO                                      22
   72          HC       2
   73          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
   74          KK  1 Rout
   75          KM  Route next to Hammonton-Smartsville Rd to Brophy
   76          KO                                      22
   77          RD    5900   .0015    .050            TRAP       3       1
   78          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   79          KK  IVA2
   80          KM  Rice fields in Brophy area south of H-S rd.
   81          KO                                      22
   82          BA  1.0583
   83          LS             81       1
   84          UD   4.17
   85          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   86          KK  STO-IV
   87          KM  4" Ponding in Basin IVA2 - 95% of area
   88          KO                                      22
   89          RS       1    ELEV      85
   90          SA       0     322     644     644
   91          SE    84.9      85  85.333      86
   92          SL      85       3      .6      .5
   93          SS  85.333    1000     2.5     1.5
   94          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

   95          KK  IA2
   96          KM  Orchards north of Brophy Rd. and of H-S rd.
   97          KO                                      22
   98          BA  0.7628
   99          LS           76.2       2
  100          UD   3.636
1                                      HEC-1 INPUT                                                PAGE  3

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  101          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  102          KK  STO-I2
  103          KM  4" Orchard Ponding in Basin IA2 33% of area
  104          KO                                      22
  105          RS       1    ELEV      75
  106          SA       0      81     162     162
```

```
SE    74.9      75  75.333      76
SL      75       2      .6      .5
SS  75.333    1000     2.5     1.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IA3
KM  Rural Residential just west of Brophy Rd.
KO                                      22
BA  0.1239
LS           76.4       5
UD   1.295
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Node2
KM  Near Brophy School
KO                                      22
HC       4
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  2 Rout
KM  From Brophy School area to Mobile Home park.
KO                                      22
RD    5900    .001     .05            TRAP       3       2
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IIA1
KM  Orchards, Ag north of H-S rd. North of trailer park
KO                                      22
BA  1.1469
LS           56.8       1
UD   7.474
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  STOII1
KM  4" Orchard Ponding in Basin IIA1 33% of area
KO                                      22
RS       1    ELEV      75
SA       0     121     242     242
SE    74.9      75  75.333      76
SL      75       3      .6      .5
SS  75.333    1000     2.5     1.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  144         KK  VA1
  145         KM  Rural residential on H-S incl. Trailer Park
  146         KO                                      22
  147         BA  0.0298
  148         LS             68      20
  149         UD   0.663
  150         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  151         KK  Node3
  152         KM  Near Trailer Park on H-S rd.
  153         KO                                      22
  154         HC       3
  155         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  156         KK  3 Rout
  157         KM  From Mobile Home park to Sierra Vista Subdivision
  158         KO                                      22
  159         RD    5900  .00085     .05            TRAP       4       1
  160         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  161         KK  VA2
  162         KM  Orchards both sides of H-S Rd. west of Trailer Park
  163         KO                                      22
  164         BA   .2267
  165         LS           75.9       2
  166         UD   1.076
  167         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

  168         KK  STOVA2
  169         KM  4" Orchard Ponding in Basin VA2 - 33% of area
  170         KO                                      22
  171         RS       1    ELEV      77
  172         SA       0      24      48      48
  173         SE    76.9      77  77.333      78
  174         SL      77       2      .6      .5
  175         SS  77.333     200     2.5     1.5
  176         ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
 177          KK  SP4
 178          KM  Sierra Vista Subdivision - all flows to Pond
 179          KO                                      22
 180          BA  0.0480
 181          LS             87      35
 182          UD   0.296
 183          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 184          KK  STOVA3
 185          KM  Pond at Sierra Vista
 186          KO                                      22
 187          RS       1    ELEV      65
 188          SA       0    1.37     2.8     4.3    5.85    7.48
 189          SE      65      66      67      68      69      70
 190          SL   65.75     1.8      .6      .5
 191          SS    69.9     100     2.5     1.5
1                                      HEC-1 INPUT                                                PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 192          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 193          KK  IIA2
 194          KM  Orchards, Farm north of H-S rd.
 195          KO                                      22
 196          BA  0.2781
 197          LS             52       1
 198          UD   5.955
 199          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 200          KK  STOII2
 201          KM  4" Orchard Ponding in Basin IIA2 33% of area
 202          KO                                      22
 203          RS       1    ELEV      75
 204          SA       0      35      70      70
 205          SE    74.9      75  75.333      76
 206          SL      75       2      .6      .5
 207          SS  75.333    1000     2.5     1.5
 208          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 209          KK  SP1
```

```
 210          KM  North of north end of Griffith
 211          KO                                      22
 212          BA   .2094
 213          LS           81.1      20
 214          UD       1
 215          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 216          KK  Node4
 217          KM  Hammonton-Smartsville Rd at Sierra Vista subdivision
 218          KO                                      22
 219          HC       5
 220          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 221          KK  4 Rout
 222          KM  Routing from Sierra Vista to south of Dantoni Rd
 223          KO                                      22
 224          RD    4500   .0005    .045            TRAP       5       2
 225          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 226          KK  SP2
 227          KM  Near Dantoni Rd. North of H-S Rd.
 228          KO                                      22
 229          BA   .1984
 230          LS           85.3      20
 231          UD     .83
 232          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 233          KK  SP6
 234          KM  37 ac. Rural residential some infill south of H-S rd., around Alberta
 235          KO                                      22
 236          BA   .0578
 237          LS          79.77      15
 238          UD   0.834
 239          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                    PAGE  6

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 240          KK  Node5
 241          KM  Linda Drain just south of Dantoni Rd.
 242          KO                                      22
```

```
HC       3
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  eLinda
KM  Linda Drain Routing toward Yuba College
KO                                      22
RD     100   .0003    .045            TRAP       5       2
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  SP3
KM  Triangle west of Dantoni and north of H-S Rd.
KO                                      22
BA   .0766
LS              87      35
UD      .5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  SP7
KM  83 ac. Future School/Park south of H-S rd. Butler
KO                                      22
BA   .1297
LS           84.6      20
UD     0.7
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Node5
KM  Linda Drain in Butler property
KO                                      22
HC       3
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  6 Rout
KM  Routing to NW Corner Yuba College
KO                                      22
RD    3800   .0003    .045            TRAP       5       2
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IXA(N)
KM  Now 90 ac. Subbasin IXA(N) (north of Beale Road)
KO                                      22
BA  0.1406
LS           84.3      30
```

```
 279          UD     .43
 280          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 281          KK  Dunn
 282          KM  42 Inch Culvert along Linda Ave
 283          KO                                    22
 284          RD     800   .0004    .015            CIRC     3.5       0
 285          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 286          KK  SP11
 287          KM  32 ac. Old Subbasin XIIA College View residential
 288          KO                                    22
 289          BA     .05
 290          LS              85      40
 291          UD     .25
 292          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 293          KK  NBeale
 294          KM  Roadside ditch along N. Beale Rd. and thru mid-Butler
 295          KO                                    22
 296          RD    1200    .001     .05            TRAP       2
 297          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 298          KK  SP12
 299          KM  41 ac. Part of old Subbasin VIIA(M) - Future Comm and High Density.
 300          KO                                    22
 301          BA   .0641
 302          LS           92.2      70
 303          UD      .2
 304          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 305          KK  VIIA-S
 306          KM  Subbasin VIIA(S) South of N. Beale Rd. Coll + CC Estates
 307          KO                                    22
 308          BA    .225
 309          LS           84.5      35
 310          UD     .74
 311          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
 312          KK  Beale
 313          KM
 314          KO                                      22
 315          HC       5
 316          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 317          KK  Colleg
 318          KM  Linda Drain adjacent to Yuba College
 319          KO                                      22
 320          RD    2511  .00075    .035            TRAP      12       2
 321          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 322          KK  VIIIA
 323          KM  Subbasin VIIIA east part of College
 324          KO                                      22
 325          BA   .1484
 326          LS           81.8      15
 327          UD      .7
 328          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                          PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 329          KK  SP10
 330          KM  40  ac. High Density Housing across from College.
 331          KO                                      22
 332          BA   .0625
 333          LS           89.7      55
 334          UD   0.275
 335          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 336          KK  CollD
 337          KM  College/Butler Ditch on east side of Yuba College
 338          KO                                      22
 339          HC       2
 340          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 341          KK  Butler
 342          KM  Ditch that runs to the south boundary of Yuba College
 343          KO                                      22
```

```
 344          RD    1900   .0003    .035            TRAP       4       1
 345          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 346          KK  Node13
 347          KM  Combine Node 11, Subbasin VIIA, Subbasin VIIIA, and Subbasin XIIA
 348          KO                                      22
 349          HC       2
 350          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 351          KK  Oliv_3
 352          KM  Routing from Node 13 to Erle Road
 353          KO                                      22
 354          RD    2640   .0003    .035            TRAP      30       3
 355          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 356          KK  SP19
 357          KM  199 ac. was XIIIA (Most of Edgewater East of Oakwood)
 358          KO                                      22
 359          BA   .3109
 360          LS           83.6      40
 361          UD     .50
 362          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 363          KK  Erle_2
 364          KM  Combine Node 13 and Subbasin XIIIA
 365          KO                                      22
 366          HC       2
 367          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 368          KK  Oliv_2
 369          KM
 370          KO                                      22
 371          RD    2750   .0003    .022            TRAP      15       3
 372          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                          PAGE  9

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 373          KK  Oliv_1
 374          KM
 375          KO                                      22
```

```
376          RD    2790   .0003    .022            TRAP      15       3
377          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

378          KK  XA
379          KM  Subbasin XA above Edgewater near Grove
380          KO                                     22
381          BA   .0391
382          LS            81.4      30
383          UD     .33
384          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

385          KK  9 Rout
386          KM  Route from Grove Ave. area to N. Edgewater
387          KO                                     22
388          RD    2500  .00018    .015           CIRC       5
389          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

390          KK  IXA(S)
391          KM  Subbasin IXA (south of Beale Road)
392          KO                                     22
393          BA   .0766
394          LS              83      30
395          UD     .23
396          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

397          KK  IXA(E)
398          KM  Subbasin IXA (north of Edgewater)
399          KO                                     22
400          BA  0.0422
401          LS            80.8      25
402          UD     .23
403          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

404          KK  Park
405          KM  Southwest corner of Country Club Estates
406          KO                                     22
407          HC       3
408          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

409          KK  Edgwtr
410          KM  Double 60" pipes through Edgewater Subdivision
411          KO                                     22
```

```
 412          RD    1980  .00030    .015            CIRC       5
 413          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 414          KK  SP20
 415          KM  181 ac. Old XIA-N (Subbasin XIA north of Erle Road) West Edgewater
 416          KO                                      22
 417          BA   .2828
 418          LS              85      35
 419          UD     .50
1                                      HEC-1 INPUT                                                    PAGE 10

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 420          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 421          KK  Erle_1
 422          KM  Combine Node 26 and Subbasin XIA (North Erle)
 423          KO                                      22
 424          HC       2
 425          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 426          KK  Linda
 427          KM  Route from Erle Road to Railroad (Ditch Cleaned in 1995)
 428          KO                                      22
 429          RD    2270   .0003    .022            TRAP      10       2
 430          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 431          KK  XIA(S)
 432          KM  Subbasin XIA (Commercial Subbasin XIA south of Erle Road)
 433          KO                                      22
 434          BA     .35
 435          LS            94.0      70
 436          UD     .28
 437          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 438          KK  Node28
 439          KM  Combine Node Erle_1, Node Erle_2, and Subbasin XIA(S)
 440          KO                                      22
 441          HC       3
 442          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 443          KK  11Rout
```

```
 444          KM  Route flows to new detention basin
 445          KO                                    22
 446          RD    3060   .0003    .022            TRAP      25       3
 447          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 448          KK  IB1
 449          KM  Subbasin IB1 - east part of old IB - north of Beale Rd.
 450          KO                                    22
 451          BA   .4813
 452          PB    2.95
 453          IN       5
 454          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 455          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 456          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 457          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 458          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 459          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 460          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 461          PI   0.007   0.007    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 462          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 463          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 464          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.02    0.02
 465          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
 466          PI    0.02    0.02    0.02    0.02    0.02    0.02   0.021   0.021   0.021   0.021
 467          PI   0.021   0.021   0.028   0.028   0.028   0.028   0.028   0.028   0.037   0.037
 468          PI   0.037    0.08    0.13    0.32    0.18    0.08    0.08   0.037   0.037   0.037
1                                          HEC-1 INPUT                                        PAGE 11

            LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 469          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.021   0.021   0.021   0.021
 470          PI   0.021   0.021    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
 471          PI    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02    0.02
 472          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 473          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 474          PI    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01
 475          PI    0.01    0.01    0.01    0.01    0.01    0.01   0.007   0.007   0.007   0.007
 476          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 477          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 478          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 479          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
 480          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
```

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481          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007
482          PI   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007       0       0
483          PI       0       0       0       0       0       0       0       0       0       0
484          PI       0       0       0       0       0       0       0       0       0       0
485          PI       0       0       0       0       0       0       0       0       0       0
486          PI       0       0       0       0       0       0       0       0       0       0
487          PI       0       0       0       0       0       0       0       0       0       0
488          PI       0       0       0       0       0       0       0       0       0       0
489          PI       0       0       0       0       0       0       0       0       0       0
490          PI       0       0       0       0       0       0       0       0       0       0
491          PI       0       0       0       0       0       0       0       0       0       0
492          PI       0       0       0       0       0       0       0       0       0       0
493          PI       0       0
494          LS           78.5       1
495          UD   8.528
496          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

497          KK  STO-IB
498          KM  4" Ponding in Basin IB1 - rice fields
499          KO                                      22
500          RS       1    ELEV      75
501          SA       0     147     293     293
502          SE    74.9      75  75.333      76
503          SL      75       3      .6      .5
504          SS  75.333    1000     2.5     1.5
505          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

506          KK  OD_1
507          KM  Routing fromSubbasin IB1 to mid-IB2
508          KO                                      22
509          RD    4000    .001     .06            TRAP       3       2
510          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

511          KK  IB2
512          KM  Subbasin IB2 - middle area of former IB
513          KO                                      22
514          BA  0.4563
515          LS           70.6       2
516          UD   2.437
517          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 518          KK  STOIB2
 519          KM  4" Ponding in Basin IB2 - Orchards and fields
 520          KO                                      22
 521          RS       1    ELEV      75
 522          SA       0      88     176     176
 523          SE    74.9      75  75.333      76
 524          SL      75       3      .6      .5
 525          SS  75.333    1000     2.5     1.5
 526          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 527          KK  N_IB2
 528          KM  Mid region IB2
 529          KO                                      22
 530          HC       2
 531          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 532          KK  OD_2
 533          KM  Routing from IB2 to Wood Ln.
 534          KO                                      22
 535          RD    4000    .001     .06            TRAP       3       2
 536          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 537          KK  SP13
 538          KM  87 ac. Old IB3 - Wood Ln and Trailer park residential + Infill
 539          KO                                      22
 540          BA  0.1359
 541          LS           79.5      15
 542          UD   1.058
 543          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 544          KK  N_IB3
 545          KM  Wood Ln at Olivehurst Drain
 546          KO                                      22
 547          HC       2
 548          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 549          KK  OD_3
 550          KM  Olivehurst Drain from Wood Ln to Lago Rd
 551          KO                                      22
```

```
 552          RD    2600    .001     .06            TRAP       3       2
 553          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 554          KK  IIB1
 555          KM  Ponding Ag area along Beale Rd.
 556          KO                                      22
 557          BA   .1016
 558          LS            72.8       2
 559          UD    .556
 560          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                          PAGE 13

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 561          KK  STO-B1
 562          KM  4" Ponding Basin IIB1 - 50% of area - spill to Beale
 563          KO                                      22
 564          RS       1    ELEV      75
 565          SA       0      13      27      27
 566          SE    74.9      75  75.333      76
 567          SL      75       2      .6      .5
 568          SS  75.333     200     2.5     1.5
 569          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 570          KK  SP14
 571          KM  96 ac Along Griffith - some new infill - was IIB3
 572          KO                                      22
 573          BA     .15
 574          LS            78.6      15
 575          UD   1.464
 576          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 577          KK  Lago
 578          KM  Lago Rd. area
 579          KO                                      22
 580          HC       3
 581          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 582          KK  OD_4
 583          KM  Olivehurst Drain from Lago Rd to inlet structure
 584          KO                                      22
```

```
 585          RD    4100    .001     .06            TRAP       3       2
 586          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 587          KK  SP8
 588          KM  43  ac. Future residential/School east of Griffith - pipe to detention
 589          KO                                     22
 590          BA   .0672
 591          LS              78      35
 592          UD    0.35
 593          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 594          KK  Pipe1
 595          KM  Perhaps pipe SP8 west to new linear detention
 596          KO                                     22
 597          RD    1400    .001     .02           CIRC       4
 598          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 599          KK  SP5
 600          KM  61 ac. Future residential/Comm south of H-S rd., west of Griffith - was in VIA
 601          KO                                     22
 602          BA   .0953
 603          LS           87.5      30
 604          UD    0.65
 605          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                          PAGE 14

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 606          KK  NLinD
 607          KM  North Linear Detention
 608          KO                                     22
 609          HC       2
 610          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 611          KK  SP9
 612          KM  74 ac. Rural residential some infill - flow to Lin Det.
 613          KO                                     22
 614          BA   .1156
 615          LS           81.5      30
 616          UD     0.6
 617          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
 618          KK  MLinD
 619          KM  Mid  Linear Detention
 620          KO                                      22
 621          HC       2
 622          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 623          KK  SP15
 624          KM  61 ac future med density residential - was in VIIIA
 625          KO                                      22
 626          BA   .0953
 627          LS            85.3      35
 628          UD     0.5
 629          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 630          KK  SP16
 631          KM  79  ac future high density and comm - was in VIIIA
 632          KO                                      22
 633          BA   .1234
 634          LS              93      70
 635          UD     0.2
 636          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 637          KK  SLinD
 638          KM  South Linear Detention
 639          KO                                      22
 640          HC       3
 641          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 642          KK  IIB2
 643          KM  Ponding Ag area east side of drainage
 644          KO                                      22
 645          BA   .1609
 646          LS              69       1
 647          UD   1.044
 648          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                      HEC-1 INPUT                                                PAGE 15

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 649          KK  STO-B2
```

```
650          KM  4" Ponding Basin IIB2 - 50% of area - spill to Griffith
651          KO                                      22
652          RS       1    ELEV      75
653          SA       0      19      38      38
654          SE    74.9      75  75.333      76
655          SL      75       2      .6      .5
656          SS  75.333     200     2.5     1.5
657          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

658          KK  SP18
659          KM  Montrose and Orchard subdivisions - drain to pond was IIB5
660          KO                                      22
661          BA    .368
662          LS              87      38
663          UD    .312
664          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

665          KK  SP17
666          KM  Was IIB4 - east of Griffith - future Med. Den Residential.
667          KO                                      22
668          BA   .1266
669          LS            83.2      35
670          UD     0.5
671          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

672          KK  Griff
673          KM  Collector at south Griffith Rd
674          KO                                      22
675          HC       5
676          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

677          KK  Mont
678          KM  Orchard/Montrose Pond
679          KO                                      22
680          RS       1    ELEV    53.9
681          SV       0    .435  53.247     100     119
682          SE    53.9      54      60    65.2    67.3
683          SQ       0       0      20      20      40      40      60      60      87     135
684          SQ     135
685          SE    53.9   54.14   54.15   54.89    54.9   55.39    55.4   63.93   64.93   65.93
686          SE      67
687          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
```

```
          688          KK  OD_5
          689          KM  Routing from Montrose Pond down O.D. to first crossing
          690          KO                                      22
          691          RD    3200  .00036    .045            TRAP       5     1.5
          692          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                        HEC-1 INPUT                                                    PAGE 16

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          693          KK  IIIB1
          694          KM  Subbasin IIIB1 - North part of "Woodbury" Rice Fields
          695          KO                                      22
          696          BA   .5733
          697          LS             80       1
          698          UD   5.419
          699          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          700          KK  STO3B1
          701          KM  4" Ponding in Basin IIIB1 - 90% of area
          702          KO                                      22
          703          RS       1    ELEV      65
          704          SA       0     165     330     330
          705          SE    64.9      65  65.333      66
          706          SL      65       3      .6      .5
          707          SS  65.333    1000     2.5     1.5
          708          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          709          KK  IIIB2
          710          KM  Subbasin IIIB2 - East part of "Woodbury" Rice Fields
          711          KO                                      22
          712          BA   .4339
          713          LS           79.5       1
          714          UD   3.156
          715          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

          716          KK  STO3B2
          717          KM  4" Ponding in Basin IIIB2 - 90% of area
          718          KO                                      22
          719          RS       1    ELEV      65
          720          SA       0     125     250     250
```

```
 721          SE    64.9      65  65.333      66
 722          SL      65       3      .6      .5
 723          SS  65.333    1000     2.5     1.5
 724          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 725          KK  Cross1
 726          KM  Crossing in Rice fields
 727          KO                                    22
 728          HC       3
 729          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 730          KK  OD_6
 731          KM  Routing from first crossing to second down O.D.
 732          KO                                    22
 733          RD    2900  .00036    .045            TRAP       5     1.5
 734          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 735          KK  IIIB3
 736          KM  Subbasin IIIB3 - West part of "Woodbury" Rice Fields
 737          KO                                    22
 738          BA   .3191
 739          LS             81       1
 740          UD   5.066
1                                      HEC-1 INPUT                                          PAGE 17

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 741          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 742          KK  STO3B3
 743          KM  4" Ponding in Basin IIIB3 - 90% of area
 744          KO                                    22
 745          RS       1    ELEV      65
 746          SA       0      92     184     184
 747          SE    64.9      65  65.333      66
 748          SL      65       2      .6      .5
 749          SS  65.333    1000     2.5     1.5
 750          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 751          KK  Cross2
 752          KM  Crossing in Rice fields
 753          KO                                    22
```

```
 754          HC       2
 755          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 756          KK  OD_6
 757          KM  Routing down O.D. (Clark) to Olivehurst Pond
 758          KO                                      22
 759          RD    2600  .00077    .045            TRAP       5     1.5
 760          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 761          KK  Node23
 762          KM  Combine Node28 and Clark
 763          KO                                      22
 764          HC       2
 765          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 766          KK  Det
 767          KM  Detention Pond From Station 111+89 thru 95+38
 768          KO                                      22
 769          RS       1    ELEV      55
 770          SV       0    3.16    21.6      40
 771          SE   54.68   55.95      60      64
 772          SL      55      50      .6      .5
 773          SS      60      30     2.5     1.5
 774          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 775          KK  15Rout
 776          KM  Route flows from new detention basin to NE corner Norcal
 777          KO                                      22
 778          RD    3245   .0003    .022            TRAP      15       3
 779          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

 780          KK  IC(N)
 781          KM  Subbasin IC (northern 50% of subbasin C)
 782          KO                                      22
 783          BA   .3601
 784          LS           79.3       1
 785          UD     3.5
 786          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                    HEC-1 INPUT                                          PAGE 18

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
KK  STOIC
KM  4" Ponding in Basin IC(N) - 90% of area
KO                                        22
RS       1    ELEV      60
SA       0     103     207     207
SE    59.9      60  60.333      61
SL      60       3      .6      .5
SS  60.333    1500     2.5     1.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  Node30
KM  Combine Node23 and Subbasin C (northern 50%)
KO                                        22
HC       2
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  16Rout
KM  Route flows from NE corner Norcal to SE corner Norcal
KO                                        22
RD    2375   .0003    .022            TRAP      15       3
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  IIC(S)
KM  Subbasin IIC (southern 50% of Subbasin C)
KO                                        22
BA   .3601
LS           79.3       1
UD     3.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  STOIIC
KM  4" Ponding in Basin IIC(S) - 90% of area
KO                                        22
RS       1    ELEV      60
SA       0     103     207     207
SE    59.9      60  60.333      61
SL      60       3      .6      .5
SS  60.333    1500     2.5     1.5
ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

KK  NorCal
```

```
           823          KM  Subbasin NorCal Lumber)
           824          KO                                    22
           825          BA   .0922
           826          LS           87.8      10
           827          UD      .2
           828          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011

           829          KK  Node31
           830          KM  Combine Node30 and Subbasin C ( southern 50%)(SE corner Norcal)
           831          KO                                    22
           832          HC       3
           833          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
1                                          HEC-1 INPUT                                        PAGE 19

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


           834          KK  Perini
           835          KM  Route flows from Hale Road to Reeds Creek
           836          KO                                    22
           837          RD    3915   .0003     .03           TRAP      12       2
           838          ZW   A=SYDMP  C=FLOW F=FUTURE_SP2011
           839          ZZ
1****************************************                                  ****************************************
 *                                      *                                  *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                  *    U.S. ARMY CORPS OF ENGINEERS      *
 *               JUN   1998             *                                  *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                                  *          609 SECOND STREET           *
 *                                      *                                  *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   13MAR12  TIME  10:04:25  *                                  *           (916) 756-1104             *
 *                                      *                                  *                                      *
 ****************************************                                  ****************************************

                        East Linda and Olivehurst Drain Watersheds      - 10 year storm

    3 IO          OUTPUT CONTROL VARIABLES
                        IPRNT          5  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
```

```
                  QSCAL          0.  HYDROGRAPH PLOT SCALE

 IT          HYDROGRAPH TIME DATA
                 NMIN          10  MINUTES IN COMPUTATION INTERVAL
                IDATE      1JAN10  STARTING DATE
                ITIME        0000  STARTING TIME
                   NQ         721  NUMBER OF HYDROGRAPH ORDINATES
               NDDATE      6JAN10  ENDING DATE
               NDTIME        0000  ENDING TIME
               ICENT          20  CENTURY MARK

            COMPUTATION INTERVAL     .17 HOURS
                 TOTAL TIME BASE  120.00 HOURS

      ENGLISH UNITS
           DRAINAGE AREA         SQUARE MILES
           PRECIPITATION DEPTH   INCHES
           LENGTH, ELEVATION     FEET
           FLOW                  CUBIC FEET PER SECOND
           STORAGE VOLUME        ACRE-FEET
           SURFACE AREA          ACRES
           TEMPERATURE           DEGREES FAHRENHEIT



1
                                        RUNOFF SUMMARY
                                   FLOW IN CUBIC FEET PER SECOND
                                  TIME IN HOURS,  AREA IN SQUARE MILES

                                  PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
      OPERATION       STATION     FLOW     PEAK                                          AREA      STAGE     MAX STAGE
+                                                    6-HOUR     24-HOUR     72-HOUR

      HYDROGRAPH AT
+                      IA1          43.   17.83         38.         19.          6.       .66
      ROUTED TO
+                      STO-I1        3.   32.50          3.          3.          2.       .66
+                                                                                          85.12       32.67
```

```
          HYDROGRAPH AT
+                      IVA1          36.   13.17          18.          7.          2.        .18
          2 COMBINED AT
+                      Node1         36.   13.17          18.          8.          4.        .84
          ROUTED TO
+                      1 Rout        33.   14.00          18.          8.          4.        .84
          HYDROGRAPH AT
+                      IVA2          88.   17.00          76.         36.         12.       1.06
          ROUTED TO
+                      STO-IV         4.   32.83           4.          4.          3.       1.06
+                                                                                          85.14       32.67
          HYDROGRAPH AT
+                      IA2           53.   16.67          45.         21.          7.        .76
          ROUTED TO
+                      STO-I2         5.   29.67           5.          5.          4.        .76
+                                                                                          75.31       29.83
          HYDROGRAPH AT
+                      IA3           16.   13.50           9.          4.          1.        .12
          4 COMBINED AT
+                      Node2         49.   13.83          29.         18.         12.       2.79
          ROUTED TO
+                      2 Rout        43.   14.83          28.         18.         12.       2.79
          HYDROGRAPH AT
+                      IIA1          12.   25.17          12.          7.          3.       1.15
          ROUTED TO
+                      STOII1         2.   38.00           2.          2.          1.       1.15
+                                                                                          75.07       38.33
          HYDROGRAPH AT
+                      VA1            5.   12.67           2.          1.          0.        .03
```

```
          3 COMBINED AT
+                        Node3        45.   14.83         30.        19.        14.       3.96
          ROUTED TO
+                        3 Rout       41.   15.83         29.        19.        14.       3.96
          HYDROGRAPH AT
+                        VA2          30.   13.17         16.         6.         2.        .23
          ROUTED TO
+                        STOVA2        4.   25.00          4.         3.         2.        .23
+                                                                                        77.24      25.00
          HYDROGRAPH AT
+                        SP4          26.   12.33          7.         3.         1.        .05
          ROUTED TO
+                        STOVA3        8.   13.00          6.         3.         1.        .05
+                                                                                        66.57      13.17
          HYDROGRAPH AT
+                        IIA2          2.   25.67          2.         1.         0.        .28
          ROUTED TO
+                        STOII2        1.   32.83          1.         0.         0.        .28
+                                                                                        75.03      33.33
          HYDROGRAPH AT
+                        SP1          47.   13.00         22.         9.         3.        .21
          5 COMBINED AT
+                        Node4        66.   15.67         53.        31.        19.       4.73
          ROUTED TO
+                        4 Rout       62.   16.33         52.        31.        19.       4.73
          HYDROGRAPH AT
+                        SP2          58.   12.83         25.        10.         3.        .20
          HYDROGRAPH AT
+                        SP6          13.   12.83          6.         2.         1.        .06
```

	3 COMBINED AT						
+		Node5	100.	13.00	77.	42.	23.	4.98
	ROUTED TO						
+		eLinda	99.	13.00	77.	42.	23.	4.98
	HYDROGRAPH AT						
+		SP3	33.	12.50	11.	4.	1.	.08
	HYDROGRAPH AT						
+		SP7	40.	12.67	16.	6.	2.	.13
	3 COMBINED AT						
+		Node5	161.	12.83	102.	51.	26.	5.19
	ROUTED TO						
+		6 Rout	118.	13.17	97.	51.	26.	5.19
	HYDROGRAPH AT						
+		IXA(N)	59.	12.50	18.	7.	2.	.14
	ROUTED TO						
+		Dunn	54.	12.50	18.	7.	2.	.14
	HYDROGRAPH AT						
+		SP11	27.	12.17	7.	3.	1.	.05
	ROUTED TO						
+		NBeale	26.	12.33	7.	3.	1.	.05
	HYDROGRAPH AT						
+		SP12	49.	12.17	11.	5.	2.	.06
	HYDROGRAPH AT						
+		VIIA-S	74.	12.83	30.	12.	4.	.22
	5 COMBINED AT						
+		Beale	255.	12.67	156.	75.	34.	5.67
	ROUTED TO						
+		Colleg	244.	12.83	155.	75.	34.	5.67

	HYDROGRAPH AT						
+	VIIIA	40.	12.67	16.	6.	2.	.15
	HYDROGRAPH AT						
+	SP10	39.	12.33	10.	4.	1.	.06
	2 COMBINED AT						
+	CollD	67.	12.33	25.	10.	3.	.21
	ROUTED TO						
+	Butler	52.	12.50	25.	10.	3.	.21
	2 COMBINED AT						
+	Node13	293.	12.83	180.	84.	38.	5.88
	ROUTED TO						
+	Oliv_3	253.	13.17	176.	84.	38.	5.88
	HYDROGRAPH AT						
+	SP19	127.	12.50	41.	17.	6.	.31
	2 COMBINED AT						
+	Erle_2	337.	12.67	214.	100.	43.	6.19
	ROUTED TO						
+	Oliv_2	307.	13.17	212.	100.	43.	6.19
	ROUTED TO						
+	Oliv_1	291.	13.50	210.	100.	43.	6.19
	HYDROGRAPH AT						
+	XA	17.	12.33	5.	2.	1.	.04
	ROUTED TO						
+	9 Rout	11.	12.50	4.	2.	1.	.04
	HYDROGRAPH AT						
+	IXA(S)	39.	12.17	9.	4.	1.	.08
	HYDROGRAPH AT						
+	IXA(E)	19.	12.17	5.	2.	1.	.04

```
          3 COMBINED AT
+                         Park          66.   12.17          18.          8.          3.        .16
          ROUTED TO
+                         Edgwtr        54.   12.33          18.          7.          2.        .16
          HYDROGRAPH AT
+                         SP20         116.   12.50          38.         15.          5.        .28
          2 COMBINED AT
+                         Erle_1       162.   12.50          56.         23.          8.        .44
          ROUTED TO
+                         Linda        134.   12.67          55.         23.          8.        .44
          HYDROGRAPH AT
+                         XIA(S)       236.   12.33          62.         26.          9.        .35
          3 COMBINED AT
+                         Node28       493.   12.50         315.        145.         59.       6.98
          ROUTED TO
+                         11Rout       444.   13.00         312.        145.         59.       6.98
          HYDROGRAPH AT
+                         IB1           22.   22.83          22.         14.          5.        .48
          ROUTED TO
+                         STO-IB         3.   39.17           3.          3.          2.        .48
+                                                                                              75.11       39.50
          ROUTED TO
+                         OD_1           3.   40.83           3.          3.          2.        .48
          HYDROGRAPH AT
+                         IB2           27.   15.33          21.          9.          3.        .46
          ROUTED TO
+                         STOIB2         3.   27.50           3.          3.          2.        .46
+                                                                                              75.12       27.67
          2 COMBINED AT
```

+		N_IB2	5.	36.00	5.	5.	4.	.94	
	ROUTED TO								
+		OD_2	5.	37.17	5.	5.	4.	.94	
	HYDROGRAPH AT								
+		SP13	27.	13.17	13.	5.	2.	.14	
	2 COMBINED AT								
+		N_IB3	27.	13.17	13.	8.	6.	1.07	
	ROUTED TO								
+		OD_3	24.	13.67	13.	8.	6.	1.07	
	HYDROGRAPH AT								
+		IIB1	16.	12.67	6.	2.	1.	.10	
	ROUTED TO								
+		STO-B1	2.	24.17	2.	2.	1.	.10	
+									75.13 24.17
	HYDROGRAPH AT								
+		SP14	23.	13.67	14.	6.	2.	.15	
	3 COMBINED AT								
+		Lago	49.	13.67	29.	14.	8.	1.33	
	ROUTED TO								
+		OD_4	44.	14.50	28.	14.	8.	1.33	
	HYDROGRAPH AT								
+		SP8	27.	12.33	8.	3.	1.	.07	
	ROUTED TO								
+		Pipe1	24.	12.50	7.	3.	1.	.07	
	HYDROGRAPH AT								
+		SP5	36.	12.67	13.	5.	2.	.10	
	2 COMBINED AT								
+		NLinD	58.	12.50	21.	8.	3.	.16	

```
         HYDROGRAPH AT
+                     SP9          38.   12.67          14.          6.          2.        .12
         2 COMBINED AT
+                     MLinD        95.   12.67          34.         14.          5.        .28
         HYDROGRAPH AT
+                     SP15         40.   12.50          13.          5.          2.        .10
         HYDROGRAPH AT
+                     SP16         95.   12.17          22.          9.          3.        .12
         3 COMBINED AT
+                     SLinD       192.   12.33          68.         28.          9.        .50
         HYDROGRAPH AT
+                     IIB2         13.   13.33           7.          3.          1.        .16
         ROUTED TO
+                     STO-B2        2.   24.83           2.          2.          1.        .16
+                                                                                        75.14       25.00
         HYDROGRAPH AT
+                     SP18        201.   12.33          53.         21.          7.        .37
         HYDROGRAPH AT
+                     SP17         50.   12.50          16.          7.          2.        .13
         5 COMBINED AT
+                     Griff       443.   12.33         159.         69.         27.       2.48
         ROUTED TO
+                     Mont         60.   11.83          60.         59.         27.       2.48
+                                                                                        60.82       18.50
         ROUTED TO
+                     OD_5         60.   18.67          60.         59.         27.       2.48
         HYDROGRAPH AT
+                     IIIB1        39.   18.67          35.         19.          6.        .57
         ROUTED TO
```

```
+                    STO3B1        3.   33.50         3.         3.         3.       .57
+                                                                                  65.14      33.67

      HYDROGRAPH AT
+                    IIIB2        39.   15.83        32.        14.         5.       .43

      ROUTED TO
+                    STO3B2        3.   29.00         3.         3.         2.       .43
+                                                                                  65.13      29.00

      3 COMBINED AT
+                    Cross1       67.   31.33        67.        64.        32.      3.48

      ROUTED TO
+                    OD_6         67.   32.00        67.        63.        32.      3.48

      HYDROGRAPH AT
+                    IIIB3        24.   18.17        21.        11.         4.       .32

      ROUTED TO
+                    STO3B3        2.   32.17         2.         2.         2.       .32
+                                                                                  65.14      32.50

      2 COMBINED AT
+                    Cross2       69.   32.17        69.        65.        33.      3.80

      ROUTED TO
+                    OD_6         69.   32.50        69.        65.        33.      3.80

      2 COMBINED AT
+                    Node23      488.   13.00       367.       201.        92.     10.78

      ROUTED TO
+                    Det         452.   13.83       364.       201.        92.     10.78
+                                                                                  58.53      13.83

      ROUTED TO
+                    15Rout      443.   14.17       362.       201.        92.     10.78

      HYDROGRAPH AT
+                    IC(N)        30.   16.33        25.        11.         4.       .36
```

```
          ROUTED TO
+                         STOIC          3.   29.00          3.          3.          2.        .36
+                                                                                                          60.13       29.17

          2 COMBINED AT
+                         Node30       443.   14.17        362.        203.         94.      11.14

          ROUTED TO
+                         16Rout       438.   14.33        360.        203.         94.      11.14

          HYDROGRAPH AT
+                         IIC(S)        30.   16.33         25.         11.          4.        .36

          ROUTED TO
+                         STOIIC         3.   29.00          3.          3.          2.        .36
+                                                                                                          60.13       29.17

          HYDROGRAPH AT
+                         NorCal        54.   12.17         12.          5.          2.        .09

          3 COMBINED AT
+                         Node31       446.   14.33        368.        209.         97.      11.60

          ROUTED TO
+                         Perini       434.   14.83        364.        209.         97.      11.60
1


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: MP2FU10.DSS
               Pointer Utilization:   .53
               Number of Records:    690
               File Size:    714.7  Kbytes
               Percent Inactive:    .0
```

Appendix D

Future Conditions Alternative A HEC-RAS Output

100-year Storm

HEC-RAS Plan: FU_SP100altA Profile: Max WS

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Olivehurst Inter	Upper OI	22800	Max WS	342.37	59.28	64.42	64.5	2.24	152.58	41.19	0.21
Olivehurst Inter	Upper OI	22602.7	Max WS	335.67	59.27	64.31	64.37	1.97	170.35	50.72	0.19
Olivehurst Inter	Upper OI	21419	Max WS	419.88	59.24	63.62	63.63	0.99	423.28	117.85	0.09
Olivehurst Inter	Upper OI	20922	Max WS	281.77	58.37	63.52	63.54	1.23	229.3	62.78	0.11
Olivehurst Inter	Upper OI	20545	Max WS	281.43	59	63.5	63.51	0.5	561.47	152.83	0.05
Olivehurst Inter	Upper OI	20289.2	Max WS	280.99	57.47	63.48	63.49	0.92	305.33	79.46	0.08
Olivehurst Inter	Upper OI	20250		Lat Struct							
Olivehurst Inter	Upper OI	20204	Max WS	359.22	56.96	63.41	63.47	1.97	182.22	56.52	0.15
Olivehurst Inter	Upper OI	20102		Culvert							
Olivehurst Inter	Upper OI	20000	Max WS	357.66	57.09	63.22	63.27	1.89	189.39	56.38	0.14
Olivehurst Inter	Upper OI	19926	Max WS	357.76	57.43	63.23	63.26	1.37	261.07	59.98	0.12
Olivehurst Inter	Upper OI	19226	Max WS	356.21	57.02	63.03	63.08	1.66	214.31	59.9	0.15
Olivehurst Inter	Upper OI	18716	Max WS	355.16	56.4	62.9	62.94	1.58	224.27	54	0.14
Olivehurst Inter	Upper OI	17716	Max WS	352.97	56.05	62.7	62.73	1.52	232.2	54.88	0.13
Olivehurst Inter	Upper OI	17316	Max WS	352.28	55.9	62.64	62.67	1.25	282.54	68.81	0.11
Olivehurst Inter	Upper OI	17224	Max WS	352.18	55.88	62.63	62.66	1.25	282.76	59.02	0.09
Olivehurst Inter	Upper OI	17185		Culvert							
Olivehurst Inter	Upper OI	17132	Max WS	350.15	55.58	62.51	62.54	1.2	290.8	59.75	0.08
Olivehurst Inter	Upper OI	16933	Max WS	349.03	55.51	62.48	62.51	1.39	251.37	56.89	0.12
Olivehurst Inter	Upper OI	16716	Max WS	347.61	55.44	62.45	62.48	1.37	252.85	57.1	0.12
Olivehurst Inter	Upper OI	16216	Max WS	345.19	55.26	62.38	62.41	1.33	258.82	57.7	0.11
Olivehurst Inter	Upper OI	15716	Max WS	342.5	55.09	62.32	62.34	1.29	265.07	58.38	0.11
Olivehurst Inter	Upper OI	15216	Max WS	339.41	54.91	62.25	62.28	1.25	271.92	59.04	0.1
Olivehurst Inter	Upper OI	14989	Max WS	338.16	54.81	62.23	62.25	1.22	276.6	59.56	0.1
Olivehurst Inter	Middle	14889	Max WS	365.6	54.77	62.23	62.25	1.03	353.49	69.77	0.08
Olivehurst Inter	Middle	14701	Max WS	365	54.71	62.22	62.23	1.02	356.73	70.04	0.08
Olivehurst Inter	Middle	14690		Lat Struct							

Olivehurst Inter	Middle	13385	Max WS	388.68	54.32	62.12	62.14	1.03	377.51	71.81	0.08
Olivehurst Inter	Middle	12600	Max WS	387.44	54.08	62.08	62.09	0.91	424.2	81.11	0.07
Olivehurst Inter	Middle	12080	Max WS	386.57	53.87	62.05	62.06	0.95	405.06	74.08	0.07
Olivehurst Inter	Middle	11980	Max WS	386.39	53.87	62.04	62.06	0.95	404.66	74.04	0.07
Olivehurst Inter	Middle	11900		Lat Struct							
Olivehurst Inter	Middle	11885	Max WS	421.94	53.86	62.03	62.05	1.04	404.39	73.99	0.08
Olivehurst Inter	Middle	11880	Max WS	421.94	53.86	62.03	62.05	1.04	404.36	73.99	0.08
Olivehurst Inter	Lower	11000	Max WS	421.9	53.6	62.03	62.05	1.03	411.56	92.63	0.08
Olivehurst Inter	Lower	10950	Max WS	421.84	53.4	62.03	62.04	1.01	420.22	92.71	0.08
Olivehurst Inter	Lower	10905		Culvert							
Olivehurst Inter	Lower	10860	Max WS	419.27	53.3	61.84	61.86	1.09	382.92	69.65	0.08
Olivehurst Inter	Lower	10500	Max WS	419.1	53.64	61.81	61.83	1.15	363.94	69.06	0.09
Olivehurst Inter	Lower	8900	Max WS	419.72	52.75	61.68	61.7	1.14	367.48	70.02	0.09
Olivehurst Inter	Lower	8874		Culvert							
Olivehurst Inter	Lower	8848	Max WS	419.05	52.83	61.57	61.59	1.17	359.43	69.49	0.09
Olivehurst Inter	Lower	7300	Max WS	419.96	52.35	61.44	61.46	1.09	385.7	74.08	0.08
Olivehurst Inter	Lower	5600	Max WS	419.8	51.7	61.33	61.35	0.99	425.3	74.04	0.07
Olivehurst Inter	Lower	5000	Max WS	420.18	51.48	61.31	61.32	0.92	458.58	76.24	0.07
Olivehurst Inter	Lower	4980	Max WS	420.16	51.47	61.3	61.32	1.16	362.17	77.11	0.07
Olivehurst Inter	Lower	4865		Culvert							
Olivehurst Inter	Lower	4750	Max WS	419.91	51.38	60.95	60.97	1.19	353.6	77.78	0.07
Olivehurst Inter	Lower	4737	Max WS	419.92	51.37	60.96	60.97	0.95	441.82	77.18	0.07
Olivehurst Inter	Lower	4663	Max WS	426.56	51.34	60.92	60.96	1.67	255.1	43.54	0.12
Olivehurst Inter	Lower	4116	Max WS	426.92	51.16	60.81	60.86	1.85	232.95	43.9	0.13
Olivehurst Inter	Lower	4025	Max WS	426.97	51.13	60.8	60.84	1.74	245.3	42.43	0.13
Olivehurst Inter	Lower	3195	Max WS	427.52	50.85	60.66	60.71	1.73	247.6	40.29	0.11
Olivehurst Inter	Lower	3158		Culvert							
Olivehurst Inter	Lower	3122	Max WS	423.47	50.82	60.45	60.5	1.75	241.96	39.64	0.11
Olivehurst Inter	Lower	3019	Max WS	423.55	50.79	60.43	60.48	1.7	249.24	42.79	0.12
Olivehurst Inter	Lower	1187	Max WS	402.96	50.16	60.22	60.24	1.14	432.53	132.61	0.08
Olivehurst Inter	Lower	1027	Max WS	402.96	50.11	60.18	60.23	1.68	239.78	131.34	0.1
Olivehurst Inter	Lower	974		Culvert							
Olivehurst Inter	Lower	922	Max WS	93.02	50.08	60	60	0.4	235.02	125	0.02
Olivehurst Inter	Lower	671	Max WS	401.79	49.99	60	60	0.49	1136.67	180.51	0.03
Olivehurst Drain	Upper	20602	Max WS	1	69.16	70.89	70.89	0.05	19.9	23.06	0.01
Olivehurst Drain	Upper	20510.1	Max WS	1	69.01	70.89	70.89	0.05	21.24	23.35	0.01
Olivehurst Drain	Upper	19775	Max WS	35.83	67.83	70.77	70.78	0.63	136.86	272.57	0.08

Olivehurst Drain	Upper	19640	Max WS	35.77	67.94	70.76	70.76	0.54	66.06	505.43	0.08
Olivehurst Drain	Upper	19584		Culvert							
Olivehurst Drain	Upper	19543	Max WS	31.83	68.02	70.02	70.05	1.31	24.38	493.67	0.2
Olivehurst Drain	Upper	19443	Max WS	30.33	67.94	69.99	69.99	0.38	135.58	348.54	0.08
Olivehurst Drain	Upper	18743	Max WS	27.59	67.4	69.91	69.91	0.12	579.76	1172.5	0.02
Olivehurst Drain	Upper	18566.6	Max WS	31.07	66.43	69.9	69.91	0.34	301.19	942.99	0.04
Olivehurst Drain	Upper	18478.5	Max WS	32.8	65.94	69.9	69.9	0.57	157.8	910.93	0.07
Olivehurst Drain	Upper	18214	Max WS	38.03	64.48	69.87	69.88	0.76	49.76	15.51	0.07
Olivehurst Drain	Upper	18186		Culvert							
Olivehurst Drain	Upper	18155	Max WS	37.94	66.24	69.65	69.67	0.96	39.49	77.12	0.11
Olivehurst Drain	Upper	17943	Max WS	41.61	66.04	69.6	69.61	1.04	56.56	112.82	0.12
Olivehurst Drain	Upper	17926		Culvert							
Olivehurst Drain	Upper	17904	Max WS	41.51	66	69.45	69.47	1.15	50.54	128.14	0.14
Olivehurst Drain	Upper	17731	Max WS	44.65	65.84	69.42	69.42	0.57	203.46	351.59	0.07
Olivehurst Drain	Upper	17712		Culvert							
Olivehurst Drain	Upper	17699	Max WS	44.74	65.88	69.24	69.25	0.73	156.27	333.62	0.09
Olivehurst Drain	Upper	17474	Max WS	49.49	66.13	69.22	69.22	0.31	445.91	824.63	0.04
Olivehurst Drain	Upper	17458		Culvert							
Olivehurst Drain	Upper	17443	Max WS	40.81	66.31	68.94	68.97	1.57	26.02	461.23	0.21
Olivehurst Drain	Upper	17235	Max WS	51.87	66.74	68.88	68.88	0.32	447.07	977.67	0.05
Olivehurst Drain	Upper	17216		Culvert							
Olivehurst Drain	Upper	17197	Max WS	51.86	66.66	68.74	68.85	2.65	19.57	863.21	0.41
Olivehurst Drain	Upper	17088	Max WS	54.36	66.78	68.64	68.65	0.81	191.35	591.84	0.12
Olivehurst Drain	Upper	17073		Culvert							
Olivehurst Drain	Upper	17058	Max WS	54.36	66.78	68.47	68.51	2.12	69.85	382.55	0.34
Olivehurst Drain	Upper	16950.8	Max WS	54.48	66.17	67.31	67.66	4.77	11.43	14.68	0.95
Olivehurst Drain	Upper	16950		Lat Struct							
Olivehurst Drain	Upper	16933	Max WS	3.4	66.07	67.63	67.63	0.18	19	18.71	0.03
Olivehurst Drain	Upper	16922		Culvert							
Olivehurst Drain	Upper	16909	Max WS	3.33	66.43	66.93	66.96	1.27	2.62	7.35	0.37
Olivehurst Drain	Upper	16733	Max WS	3.48	66.41	66.8	66.82	1.02	3.4	12.48	0.35
Olivehurst Drain	Upper	16728		Bridge							
Olivehurst Drain	Upper	16722	Max WS	3.49	66.28	66.8	66.8	0.62	5.66	16.44	0.19
Olivehurst Drain	Upper	16720		Lat Struct							
Olivehurst Drain	Upper	16360	Max WS	3.4	65.86	66.71	66.72	0.47	7.17	14.26	0.12
Olivehurst Drain	Upper	16212	Max WS	2.93	65.77	66.69	66.69	0.37	8.01	17.46	0.1
Olivehurst Drain	Upper	16010	Max WS	3.17	66.04	66.63	66.63	0.59	5.41	18.61	0.19

Olivehurst Drain	Upper	15635	Max WS	3.44	65.91	66.55	66.57	1.05	3.28	10.71	0.33
Olivehurst Drain	Upper	15105	Max WS	5.2	65.2	65.56	65.74	3.46	1.5	6.16	1.23
Olivehurst Drain	Upper	14938	Max WS	5.85	62.31	65.27	65.27	0.19	31.18	18.62	0.03
Olivehurst Drain	Upper	14928	Max WS	5.92	62.14	65.27	65.27	0.17	34.15	18.66	0.02
Olivehurst Drain	Upper	14925		Lat Struct							
Olivehurst Drain	Upper	14918	Max WS	5.92	61.97	65.27	65.27	0.16	36.97	18.61	0.02
Olivehurst Drain	Upper	14900	Max WS	-69.37	62.73	65.02	65.25	-3.8	18.24	8.07	0.45
Olivehurst Drain	Clark	10764	Max WS	1	61.52	65.39	65.39	0.02	196.07	481.88	0
Olivehurst Drain	Clark	10760	Max WS	1	61.52	65.39	65.39	0.02	196.07	481.88	0
Olivehurst Drain	Clark	10759		Lat Struct							
Olivehurst Drain	Clark	10700	Max WS	0.96	61.52	65.39	65.39	0.02	196.07	481.88	0
Olivehurst Drain	Clark	10698	Max WS	0.96	61.52	65.39	65.39	0.02	196.07	481.88	0
Olivehurst Drain	Clark	10654	Max WS	41.01	61.49	65.38	65.39	0.69	182.16	480.09	0.07
Olivehurst Drain	Clark	10515	Max WS	41.13	61.41	65.37	65.38	0.69	180.52	523	0.07
Olivehurst Drain	Clark	10000	Max WS	41.39	61.1	65.32	65.33	0.64	497.35	2160.68	0.07
Olivehurst Drain	Clark	9590	Max WS	40.94	60.86	65.29	65.3	0.6	540.81	2383.99	0.06
Olivehurst Drain	Clark	8395	Max WS	37.98	60.96	65.23	65.23	0.5	926.3	2694.26	0.05
Olivehurst Drain	Clark	7734.37	Max WS	37.32	60.75	65.17	65.18	0.79	964.48	2489.41	0.09
Olivehurst Drain	Clark	7640	Max WS	37.42	60.72	65.15	65.16	0.86	982.13	2524.23	0.1
Olivehurst Drain	Clark	7580	Max WS	37.49	60.7	65.14	65.16	1.1	34.22	1055.66	0.1
Olivehurst Drain	Clark	7553		Culvert							
Olivehurst Drain	Clark	7525	Max WS	33.41	59.24	63.26	63.27	0.94	35.62	19.78	0.09
Olivehurst Drain	Clark	7446	Max WS	33.41	60.22	63.25	63.26	0.86	39.03	18.15	0.1
Olivehurst Drain	Clark	7349.81	Max WS	33.55	60.19	63.23	63.24	0.85	39.34	18.24	0.1
Olivehurst Drain	Clark	6388	Max WS	34.78	59.91	63.05	63.06	0.79	43.97	19.08	0.09
Olivehurst Drain	Clark	5300	Max WS	36.06	59.3	62.9	62.91	0.66	54.6	23.68	0.08
Olivehurst Drain	Clark	5150	Max WS	36.22	59.29	62.88	62.89	0.71	64.78	366.68	0.08
Olivehurst Drain	Clark	4790	Max WS	36.55	59.27	62.82	62.83	0.87	42.04	18.62	0.1
Olivehurst Drain	Clark	4700	Max WS	36.62	59.26	62.8	62.81	0.92	39.74	17.7	0.11
Olivehurst Drain	Clark	4655	Max WS	36.66	58.92	62.79	62.8	0.71	52	19.89	0.08
Olivehurst Drain	Clark	4638		Culvert							
Olivehurst Drain	Clark	4606	Max WS	35.8	59.3	62.42	62.44	0.84	42.83	19.62	0.1
Olivehurst Drain	Clark	4519.5	Max WS	35.8	59.15	62.41	62.42	0.83	43.11	19.96	0.1
Olivehurst Drain	Clark	4433	Max WS	35.8	59	62.39	62.4	0.82	43.42	20.36	0.1
Olivehurst Drain	Clark	4260	Max WS	35.79	58.7	62.36	62.37	0.81	44.31	21.2	0.1
Olivehurst Drain	Clark	4152	Max WS	35.79	58.85	62.34	62.35	0.87	41.13	17.28	0.1
Olivehurst Drain	Clark	3604	Max WS	35.74	58.64	62.24	62.25	0.76	47.02	21.77	0.09

Olivehurst Drain	Clark	3240	Max WS	35.73	58.6	62.18	62.19	0.71	49.98	22.19	0.08
Olivehurst Drain	Clark	3118	Max WS	35.68	59	62.16	62.17	0.9	39.52	17.72	0.11
Olivehurst Drain	Clark	2630	Max WS	35.57	58.12	62.07	62.08	0.72	49.18	17.37	0.08
Olivehurst Drain	Clark	2534	Max WS	35.62	58.06	62.07	62.08	0.36	97.76	31.07	0.04
Olivehurst Drain	Clark	2381	Max WS	35.61	57.3	62.06	62.07	0.55	64.91	19.94	0.05
Olivehurst Drain	Clark	2202	Max WS	35.66	57.05	62.06	62.06	0.43	83.8	24.68	0.04
Olivehurst Drain	Clark	2102	Max WS	35.68	56.65	62.06	62.06	0.35	102.09	28.34	0.03
Olivehurst Drain	Clark	2082	Max WS	35.68	56.3	62.06	62.06	0.42	85.67	24.25	0.03
Olivehurst Drain	Clark	2056		Culvert							
Olivehurst Drain	Clark	2010	Max WS	35.66	56	62.04	62.04	0.35	101.24	79.35	0.03
Olivehurst Drain	Clark	2000	Max WS	35.66	53.84	62.04	62.04	0.02	1595.32	198.96	0
Linda Drain	extended	45526.95	Max WS	52.79	76.18	79.53	79.55	1.24	295.54	1098.21	0.15
Linda Drain	extended	45434.43	Max WS	52.63	76.06	79.49	79.51	0.95	55.36	22.5	0.11
Linda Drain	extended	45398.42		Culvert							
Linda Drain	extended	45358.65	Max WS	12.63	75.79	79.03	79.03	0.33	43.52	19.28	0.04
Linda Drain	extended	45182.4	Max WS	12.63	75.48	79.03	79.03	0.3	46.65	20.39	0.03
Linda Drain	extended	45006.3	Max WS	17.99	75.16	79.02	79.02	0.39	49.86	21.49	0.04
Linda Drain	extended	44301.7	Max WS	58.59	73.91	78.8	78.82	0.98	460.37	1231.57	0.1
Linda Drain	extended	44159.85	Max WS	60.75	74.11	78.76	78.78	0.85	74.33	51.5	0.09
Linda Drain	extended	44120		Culvert							
Linda Drain	extended	44080.67	Max WS	60.72	74.42	78.39	78.41	1.22	49.86	20.71	0.13
Linda Drain	extended	43569.7	Max WS	60.71	74.09	78.23	78.25	1.14	53.22	19.61	0.12
Linda Drain	extended	43229.12	Max WS	62.5	73.87	78.13	78.15	1.12	55.63	19.84	0.12
Linda Drain	extended	43201.7	Max WS	62.5	73.85	78.13	78.15	1.14	55.03	264.49	0.12
Linda Drain	extended	43174.56		Culvert							
Linda Drain	extended	43137.84	Max WS	61.28	73.79	77.74	77.77	1.31	766.24	930.44	0.15
Linda Drain	extended	42976.26	Max WS	61.18	73.07	77.69	77.7	1.02	61.32	858.5	0.1
Linda Drain	extended	42900		Culvert							
Linda Drain	extended	42814.22	Max WS	60.98	73.13	77.01	77.05	1.58	38.64	17.21	0.19
Linda Drain	extended	42176.08	Max WS	61.36	73.08	76.56	76.6	1.51	44.23	210.95	0.18
Linda Drain	extended	41268.96	Max WS	57.22	72.33	75.94	75.98	1.5	38.02	2998.87	0.18
Linda Drain	extended	41227.03		Culvert							
Linda Drain	extended	41184.3	Max WS	55.4	72.06	75.53	75.57	1.55	812.77	2054.74	0.19
Linda Drain	extended	41156.2	Max WS	54.68	71.97	75.49	75.53	1.41	697.14	1768.6	0.16
Linda Drain	extended	40035.21	Max WS	48.58	71.02	75.06	75.08	1.05	46.32	2391.19	0.11
Linda Drain	extended	39991.69		Culvert							
Linda Drain	extended	39949.52	Max WS	47.77	70.47	74.78	74.79	0.9	52.91	18.7	0.09

Linda Drain	extended	39606.6	Max WS	47.46	70.38	74.71	74.73	0.96	59.21	386.3	0.1
Linda Drain	extended	38749.37	Max WS	46.66	70.14	74.49	74.51	1.21	438.51	1177.88	0.12
Linda Drain	extended	38373.1	Max WS	46.63	69.9	74.38	74.4	1.14	41.07	13.4	0.11
Linda Drain	extended	37620.68	Max WS	46.6	69.43	74.2	74.22	0.95	49.12	266.78	0.1
Linda Drain	extended	37600		Culvert							
Linda Drain	extended	37564.32	Max WS	46.12	69.13	72.83	72.85	1.35	181.05	301.21	0.15
Linda Drain	extended	36567.12	Max WS	44.24	68.87	72	72.03	1.46	881.77	1055.16	0.17
Linda Drain	extended	35633.4	Max WS	40.64	68.15	71.6	71.62	1.2	1243.42	1425.8	0.14
Linda Drain	extended	34726.49	Max WS	32.05	67.72	71.21	71.23	0.99	1061.99	1792.68	0.11
Linda Drain	extended	34095.3	Max WS	32.66	67.21	71.02	71.03	0.81	40.21	1157.67	0.09
Linda Drain	extended	34053.2		Culvert							
Linda Drain	extended	34046.01	Max WS	23.38	67.17	70.08	70.09	0.83	28.14	12.97	0.1
Linda Drain	extended	33867.9	Max WS	24.09	66.75	70.05	70.06	0.76	31.62	13.72	0.09
Linda Drain	extended	33155.51	Max WS	28.11	65.09	69.97	69.98	0.75	37.37	17.19	0.06
Linda Drain	extended	33141.08		Culvert							
Linda Drain	extended	33126.5	Max WS	28.11	65.11	69.84	69.85	0.51	55.52	17.63	0.05
Linda Drain	extended	33097.56	Max WS	28.21	65.14	69.84	69.85	0.46	60.81	18.26	0.04
Linda Drain	extended	32921.63	Max WS	28.73	65.18	69.84	69.84	0.4	168.6	677.71	0.04
Linda Drain	extended	32696.9	Max WS	25.87	65.04	69.83	69.83	0.3	567.21	618.09	0.03
Linda Drain	extended	32695.5		Lat Struct							
Linda Drain	extended	32648.16	Max WS	26.27	65.01	69.83	69.83	0.3	88.64	617.23	0.03
Linda Drain	extended	32603.41		Culvert							
Linda Drain	extended	32562.66	Max WS	26.26	65	69.7	69.7	0.32	1230.78	1745.91	0.03
Linda Drain	extended	32081.15	Max WS	31.2	64.97	69.69	69.69	0.23	232.43	266.95	0.02
Linda Drain	extended	31393.3	Max WS	35.57	65.18	69.65	69.66	0.8	44.74	17.26	0.09
Linda Drain	extended	31295.1	Max WS	36.11	65.21	69.62	69.64	1	35.98	14.06	0.11
Linda Drain	extended	31250		Culvert							
Linda Drain	extended	31213.87	Max WS	35.11	65.58	69.52	69.54	1.11	31.63	12.81	0.12
Linda Drain	extended	30739.6	Max WS	21.23	65.86	69.36	69.37	0.59	36.99	21.49	0.07
Linda Drain	extended	30710.89		Culvert							
Linda Drain	extended	30689.01	Max WS	20.76	65.32	69.27	69.27	0.57	36.16	15.4	0.06
Linda Drain	extended	30471.23	Max WS	23.85	64.89	69.26	69.26	0.47	50.72	25.08	0.05
Linda Drain	extended	30454.47		Culvert							
Linda Drain	extended	30433.78	Max WS	22.39	65.07	69.1	69.1	0.46	48.64	16.46	0.05
Linda Drain	extended	30414.6	Max WS	25.37	65.16	69.09	69.1	0.55	45.87	16.34	0.06
Linda Drain	extended	30372.63		Culvert							
Linda Drain	extended	30328.27	Max WS	25.13	65.59	69.07	69.08	0.71	39.21	28.89	0.08

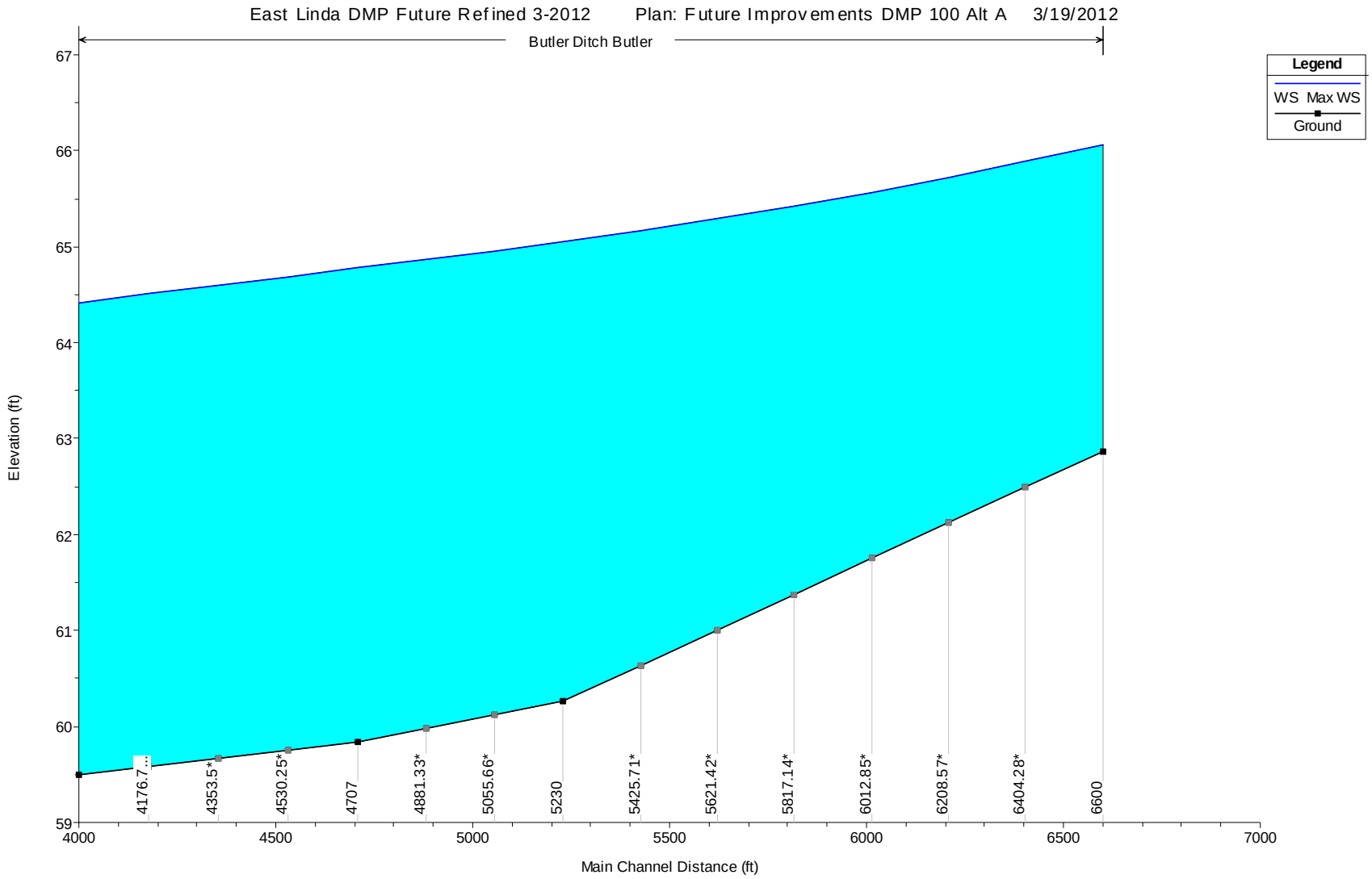
Linda Drain	extended	30058.19	Max WS	30.92	64.89	69.03	69.04	0.71	46.52	63.57	0.08
Linda Drain	extended	29704.71	Max WS	123.12	63.04	68.84	68.88	1.51	81.34	23.6	0.14
Linda Drain	extended	29524.3	Max WS	124.38	62.79	68.78	68.81	1.45	85.94	24.85	0.13
Linda Drain	extended	29163.57	Max WS	127.97	62.3	68.68	68.71	1.32	100.71	63.81	0.12
Linda Drain	extended	28844.37	Max WS	130.84	62.89	68.61	68.64	1.2	226.27	286.67	0.12
Linda Drain	extended	28478	Max WS	137.94	63.13	68.42	68.48	2.05	78.41	90.62	0.2
Linda Drain	extended	28350	Max WS	139.75	63.7	68.3	68.37	2.15	74.91	125.36	0.22
Linda Drain	extended	28150	Max WS	142.55	62.84	68.12	68.19	2.13	96.92	196.82	0.21
Linda Drain	extended	27955	Max WS	145.24	62.3	67.93	68.01	2.21	167.48	376.71	0.22
Linda Drain	extended	27945		Culvert							
Linda Drain	extended	27935	Max WS	145.64	62.3	67.46	67.85	5.04	28.92	19.01	0.44
Linda Drain	extended	27698	Max WS	142.92	63.33	67.35	67.36	0.99	414.35	682.5	0.1
Linda Drain	extended	27142.2	Max WS	138.7	62.84	67.2	67.21	1.12	405.69	969.31	0.12
Linda Drain	extended	26957	Max WS	150.95	62.68	67.15	67.16	1.12	450.41	1000	0.1
Linda Drain	extended	26360	Max WS	155.74	62.58	67.03	67.04	0.92	444.48	569.37	0.09
Linda Drain	extended	25796	Max WS	155.34	61.67	66.94	66.95	1.08	426.67	920.37	0.1
Linda Drain	extended	25728	Max WS	154.31	61.47	66.9	66.95	1.72	90.37	186.39	0.15
Linda Drain	extended	25699		Culvert							
Linda Drain	extended	25669	Max WS	153.99	61.41	66.88	66.92	1.47	104.89	39.07	0.12
Linda Drain	extended	25654	Max WS	153.99	61.63	66.88	66.91	1.44	111.04	39.03	0.13
Linda Drain	S Yuba College	25642	Max WS	176.59	61.63	66.88	66.92	1.63	111.03	39.03	0.15
Linda Drain	S Yuba College	25607	Max WS	176.32	61.55	66.86	66.91	1.69	104.58	31.52	0.16
Linda Drain	S Yuba College	25572	Max WS	179.84	61.47	66.84	66.89	1.76	102.09	28.5	0.16
Linda Drain	S Yuba College	25537	Max WS	180.69	61.39	66.83	66.87	1.74	104.12	27.62	0.16
Linda Drain	S Yuba College	25502	Max WS	191.19	61.3	66.76	66.85	2.37	80.73	27.17	0.18
Linda Drain	S Yuba College	25450		Culvert							
Linda Drain	S Yuba College	25398	Max WS	179.03	61.16	66.62	66.66	1.71	106.97	35.08	0.15
Linda Drain	S Yuba College	25357	Max WS	174.26	60.88	66.59	66.64	1.83	96.84	34.31	0.16
Linda Drain	S Yuba College	25068	Max WS	180.98	60.51	66.38	66.44	1.95	94.32	35.78	0.19
Linda Drain	S Yuba College	24153	Max WS	235.64	59.59	64.98	65.16	3.39	69.42	21.44	0.33
Linda Drain	S Yuba College	23953	Max WS	248.77	59.13	64.75	64.84	2.39	104.08	26.85	0.21
Linda Drain	S Yuba College	23918		Bridge							
Linda Drain	S Yuba College	23892	Max WS	252.8	58.95	64.76	64.8	1.54	163.64	45.81	0.14
Linda Drain	S Yuba College	23772	Max WS	260.74	59.46	64.72	64.76	1.51	172.75	46.33	0.14
Linda Drain	S Yuba College	23385	Max WS	260.6	59.26	64.62	64.65	1.43	182.35	48.45	0.13
Linda Drain	S Yuba College	22827	Max WS	260.05	59.28	64.42	64.46	1.7	152.58	41.19	0.16
Linda Drain	Edgewater	27830	Max WS	40.02	56.5	62.52	62.52	0.29	139.07	36.05	0.02

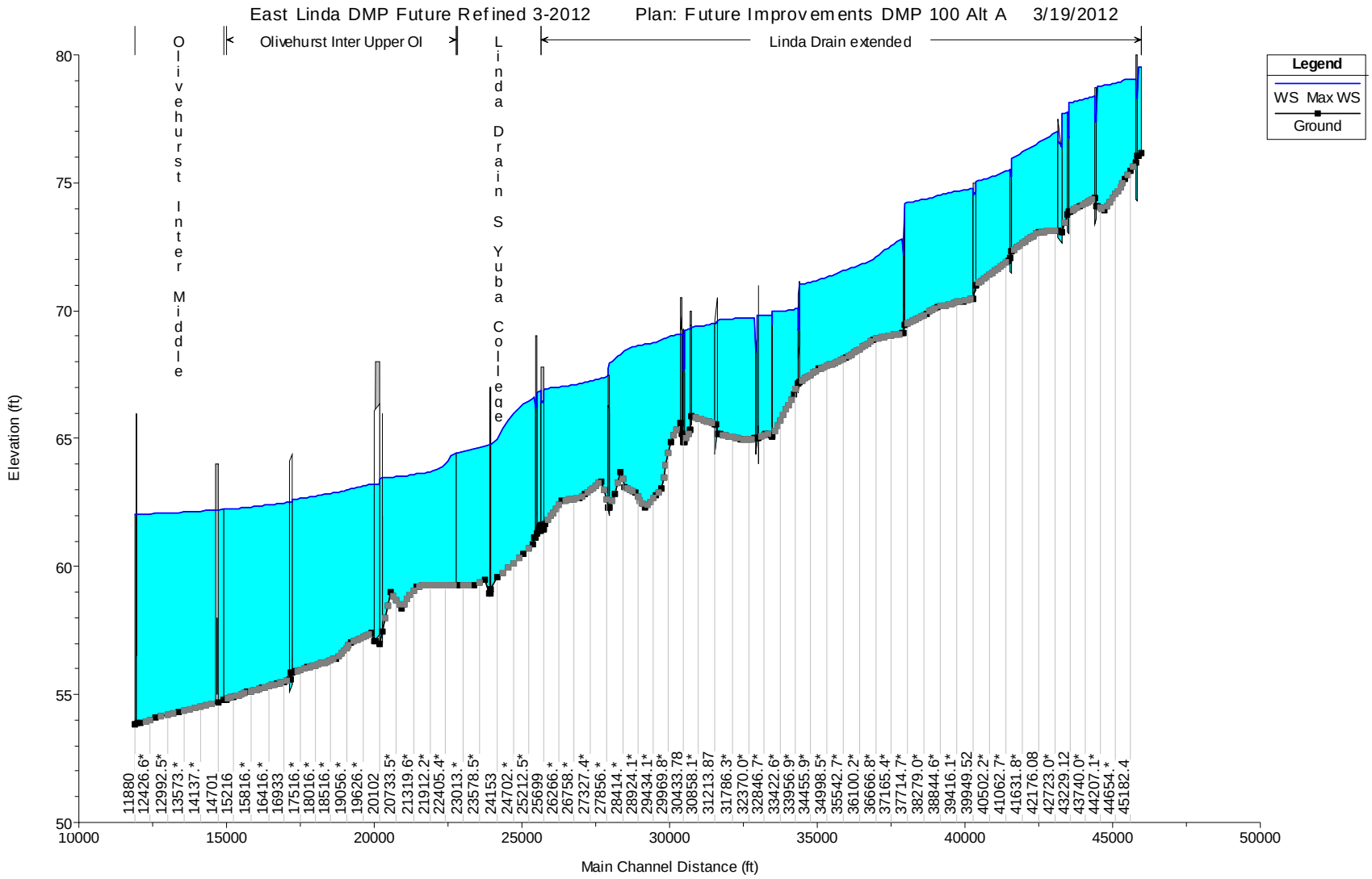
Linda Drain	Edgewater	27828	Max WS	40.02	56.5	62.52	62.52	0.24	168.65	36.05	0.02
Linda Drain	Edgewater	27826	Max WS	121.26	56.5	62.49	62.51	1.07	113.84	35.98	0.08
Linda Drain	Edgewater	27796		Culvert							
Linda Drain	Edgewater	27766	Max WS	118.34	56.17	62.39	62.41	1.11	106.61	33.71	0.08
Linda Drain	Edgewater	27684	Max WS	118.34	56.9	62.39	62.4	1.02	115.73	32.96	0.09
Linda Drain	Edgewater	26904	Max WS	117.8	56.41	62.32	62.34	0.87	134.97	31.87	0.07
Linda Drain	Edgewater	26610	Max WS	117.62	56.67	62.31	62.32	0.84	139.3	32.01	0.07
Linda Drain	Edgewater	26525		Culvert							
Linda Drain	Edgewater	26445	Max WS	27.46	55.89	62.23	62.23	0.18	156.23	33.19	0.01
Linda Drain	Edgewater	24900	Max WS	27.45	54.77	62.23	62.23	0.17	163.5	32.82	0.01
Linda Drain	Edgewater	24893	Max WS	27.44	54.77	62.23	62.23	0.17	163.5	32.82	0.01
Linda Drain	EdgewaterN	30450	Max WS	40.67	57.7	62.68	62.68	0.53	76.27	21.64	0.05
Linda Drain	EdgewaterN	30430	Max WS	40.67	57.8	62.68	62.68	0.53	76.77	21.8	0.05
Fernwood Ditch	Fernwood	32310	Max WS	12.73	59.59	62.84	62.84	0.39	32.23	16.6	0.05
Fernwood Ditch	Fernwood	32145	Max WS	12.63	59.72	62.83	62.83	0.46	27.65	13.47	0.06
Fernwood Ditch	Fernwood	31825	Max WS	12.61	58.75	62.82	62.82	0.62	20.29	14.27	0.05
Fernwood Ditch	Fernwood	31795		Culvert							
Fernwood Ditch	Fernwood	31766	Max WS	12.6	58.65	62.77	62.77	0.62	20.49	14.53	0.05
Fernwood Ditch	Fernwood	31388	Max WS	12.58	58.67	62.76	62.76	0.31	40.19	14.48	0.03
Fernwood Ditch	Fernwood	31321	Max WS	12.58	58.2	62.76	62.76	0.49	25.41	14.61	0.04
Fernwood Ditch	Fernwood	31293		Culvert							
Fernwood Ditch	Fernwood	31264	Max WS	12.54	58.01	62.7	62.71	0.46	27.3	13.18	0.04
Fernwood Ditch	Fernwood	31081	Max WS	12.5	58.01	62.7	62.7	0.29	42.68	13.18	0.03
Fernwood Ditch	Fernwood	30870	Max WS	25.16	57.69	62.69	62.69	0.41	68.9	63.47	0.04
Fernwood Ditch	Fernwood	30500	Max WS	25.14	57.8	62.68	62.68	0.55	45.68	13.49	0.05
Country Club Dit	CC Ditch	10305	Max WS	1.66	58.89	63.56	63.56	0.02	96.32	30.57	0
Country Club Dit	CC Ditch	10298	Max WS	1.66	58.89	63.56	63.56	0.02	96.32	30.57	0
Country Club Dit	CC Ditch	10295		Lat Struct							
Country Club Dit	CC Ditch	10291	Max WS	3.85	58.89	63.56	63.56	0.04	96.32	30.57	0
Country Club Dit	CC Ditch	10284	Max WS	7.13	58.59	63.56	63.56	0.37	19.5	30.57	0.03
Country Club Dit	CC Ditch	10254		Culvert							
Country Club Dit	CC Ditch	10224	Max WS	3.8	58.38	63	63	0.21	17.84	28.51	0.02
Country Club Dit	CC Ditch	9178	Max WS	3.79	57.89	63	63	0.2	19.3	18.14	0.02
Country Club Dit	CC Ditch	9149		Culvert							
Country Club Dit	CC Ditch	9120	Max WS	-2.16	57.93	62.77	62.77	-0.12	18.15	17.57	0.01
Country Club Dit	CC Ditch	9103	Max WS	-2.17	58	62.77	62.77	-0.04	51.59	17.57	0
Country Club Dit	CC Ditch	8190	Max WS	5.94	57.82	62.77	62.77	0.08	77.18	22.09	0.01

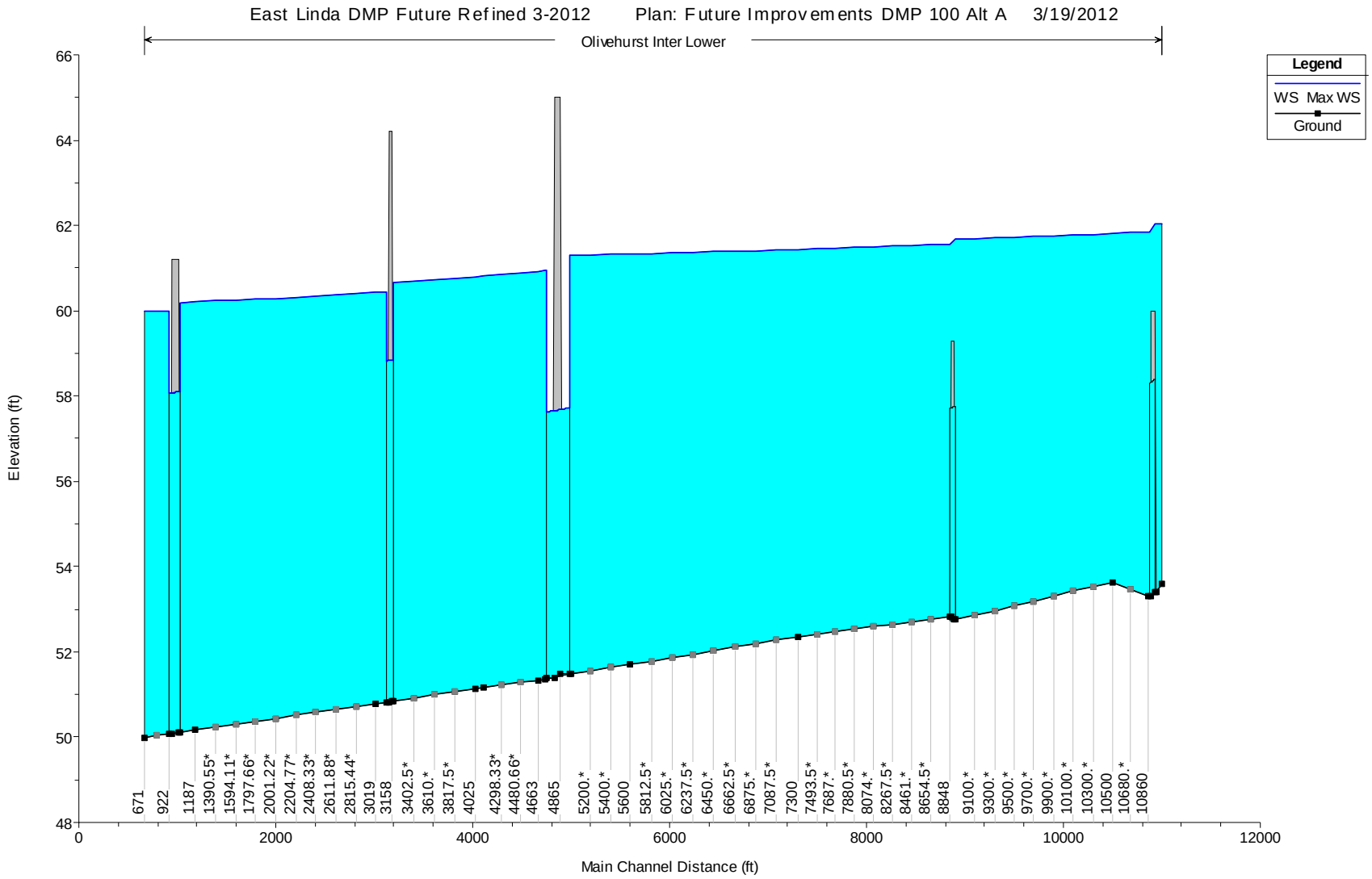
Country Club Dit	CC Ditch	8083	Max WS	5.93	57.38	62.77	62.77	0.28	21.12	22.08	0.02
Country Club Dit	CC Ditch	8044		Culvert							
Country Club Dit	CC Ditch	7889	Max WS	0.85	57.21	62.68	62.68	0.04	20.65	26.04	0
Country Club Dit	CC Ditch	7879	Max WS	0.85	57.8	62.68	62.68	0.01	130.16	36.14	0
Butler Ditch	Butler	6600	Max WS	84.91	62.87	66.06	66.13	2.15	39.47	16.44	0.24
Butler Ditch	Butler	5230	Max WS	82.67	60.26	65.05	65.1	1.84	45.04	15.28	0.19
Butler Ditch	Butler	4707	Max WS	82.49	59.84	64.78	64.83	1.73	47.7	15.74	0.18
Butler Ditch	Butler	4000	Max WS	82.33	59.5	64.42	64.47	1.75	47.08	14.71	0.17

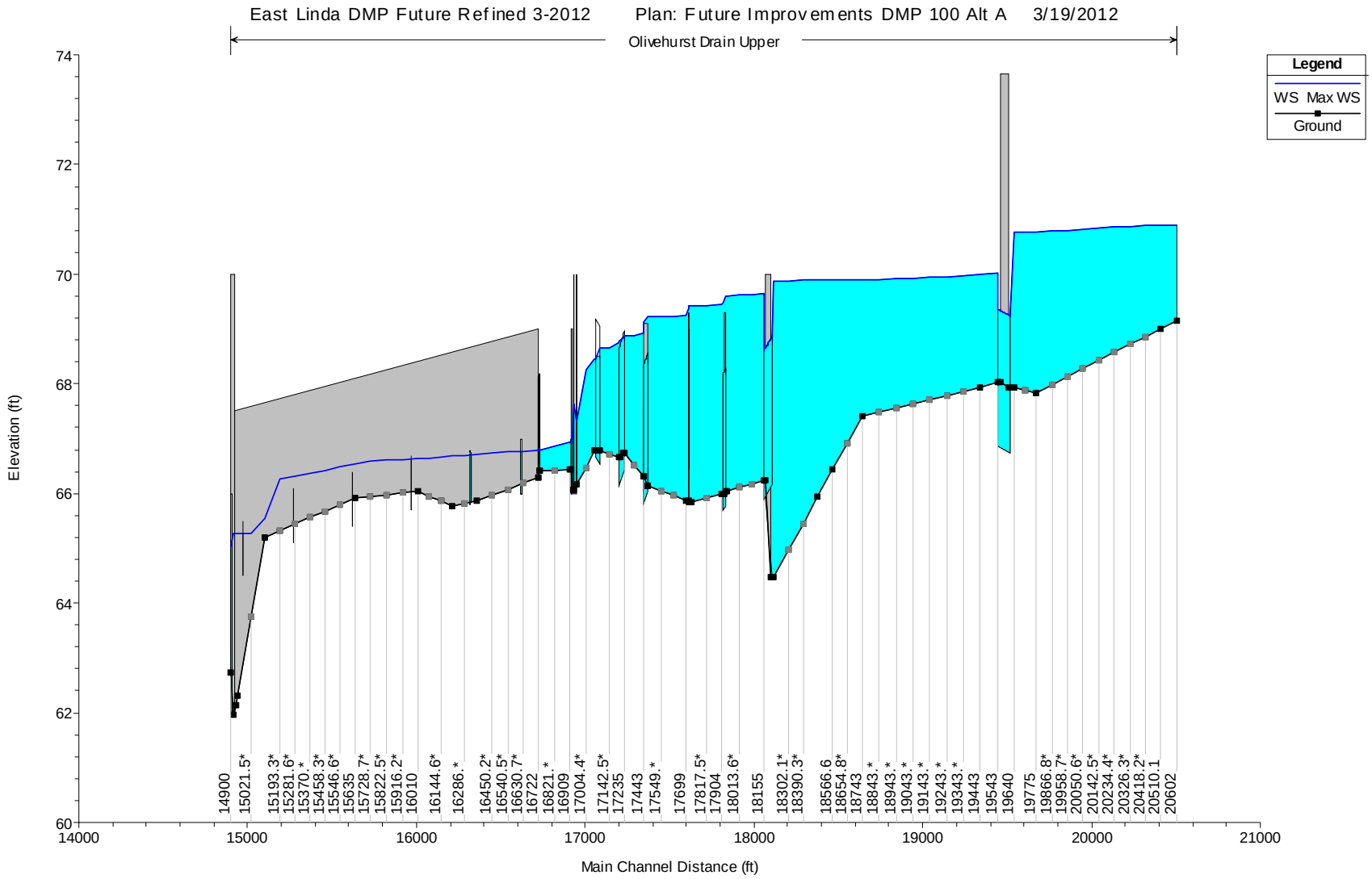
HEC-RAS Plan: FU_SP100altA Profile: Max WS

Storage Area	Profile	W.S. Elev (ft)	SA Min El (ft)	Net Flux (cfs)	SA Area (acres)	SA Volume (acre-ft)
Edgewater	Max WS	62.52	59	0	6.05	16.13
Olivehurst Pond	Max WS	62.03	53.6	0.04	4.63	30.89
Orchard Pond	Max WS	64.46	53.9	89.28	8.99	93.35
SierraVista Pond	Max WS	69.94	65	-2.36	1.63	7.38
XIA(S) Pond	Max WS	62.33	55	-26.89	6	43.98


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Butler Ditch Butler
Legend
WS Max WS
Ground
Elevation (ft)
67
66
65
64
63
62
61
60
59
4176.7...
4353.5*
4530.25*
4707
4881.33*
5055.66*
5230
5425.71*
5621.42*
5817.14*
6012.85*
6208.57*
6404.28*
6600
4000
4500
5000
5500
6000
6500
7000
Main Channel Distance (ft)


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Olivehurst Inter Upper Ol
Linda Drain extended
Olivehurst Inter Middle
Linda Drain S Yuba College
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
80
75
70
65
60
55
50
10000
15000
20000
25000
30000
35000
40000
45000
50000
11880
12426.6*
12992.5*
13573.*
14137.*
14701
15216.*
15816.*
16416.*
16933
17516.*
18016.*
18516.*
19056.*
19626.*
20102
20733.5*
21319.6*
21912.2*
22405.4*
23013.*
23578.5*
24153
24702.*
25212.5*
25699
26266.*
26758.*
27327.4*
27856.*
28414.*
28924.1*
29434.1*
29969.8*
30433.78
30858.1*
31213.87
31786.3*
32370.0*
32846.7*
33422.6*
33956.9*
34455.9*
34998.5*
35542.7*
36100.2*
36666.8*
37165.4*
37714.7*
38279.0*
38844.6*
39416.1*
39949.52
40502.2*
41062.7*
41631.8*
42176.08
42723.0*
43229.12
43740.0*
44207.1*
44654.*
45182.4


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Olivehurst Inter Lower
Legend
WS Max WS
Ground
Elevation (ft)
66
64
62
60
58
56
54
52
50
48
0
2000
4000
6000
8000
10000
12000
Main Channel Distance (ft)
671
922
1187
1390.55*
1594.11*
1797.66*
2001.22*
2204.77*
2408.33*
2611.88*
2815.44*
3019
3158
3402.5*
3610.*
3817.5*
4025
4298.33*
4480.66*
4663
4865
5200.*
5400.*
5600
5812.5*
6025.*
6237.5*
6450.*
6662.5*
6875.*
7087.5*
7300
7493.5*
7687.*
7880.5*
8074.*
8267.5*
8461.*
8654.5*
8848
9100.*
9300.*
9500.*
9700.*
9900.*
10100.*
10300.*
10500
10680.*
10860


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Olivehurst Drain Upper
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
74
72
70
68
66
64
62
60
14000
15000
16000
17000
18000
19000
20000
21000
14900
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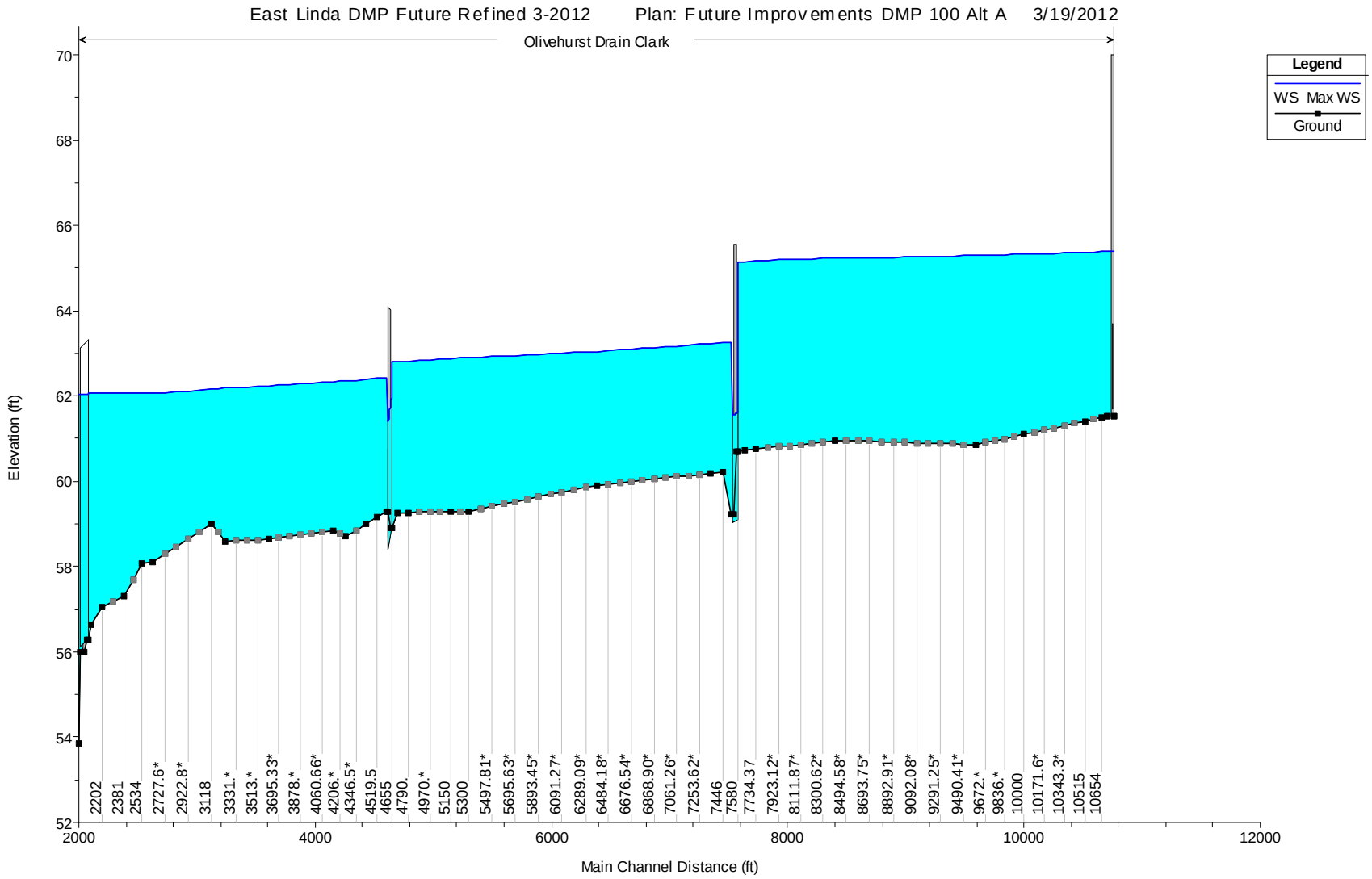
20510.1
20602


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Olivehurst Drain Clark
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
70
68
66
64
62
60
58
56
54
52
2000
4000
6000
8000
10000
12000
2202
2381
2534
2727.6*
2922.8*
3118
3331.*
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3695.33*
3878.*
4060.66*
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4519.5
4655
4790.
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5150
5300
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6289.09*
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7446
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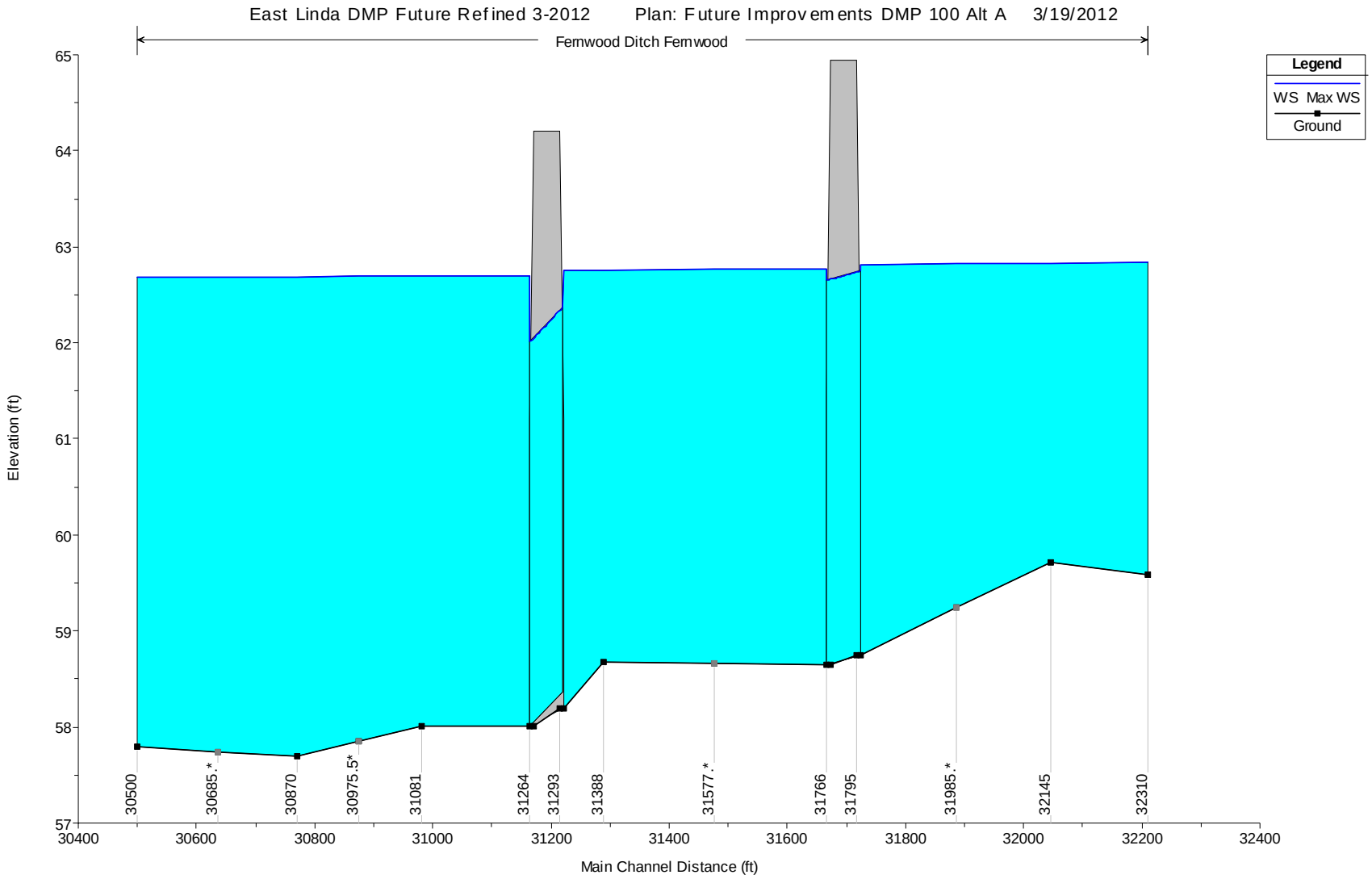
East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Fernwood Ditch Fernwood
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
65
64
63
62
61
60
59
58
57
30400
30600
30800
31000
31200
31400
31600
31800
32000
32200
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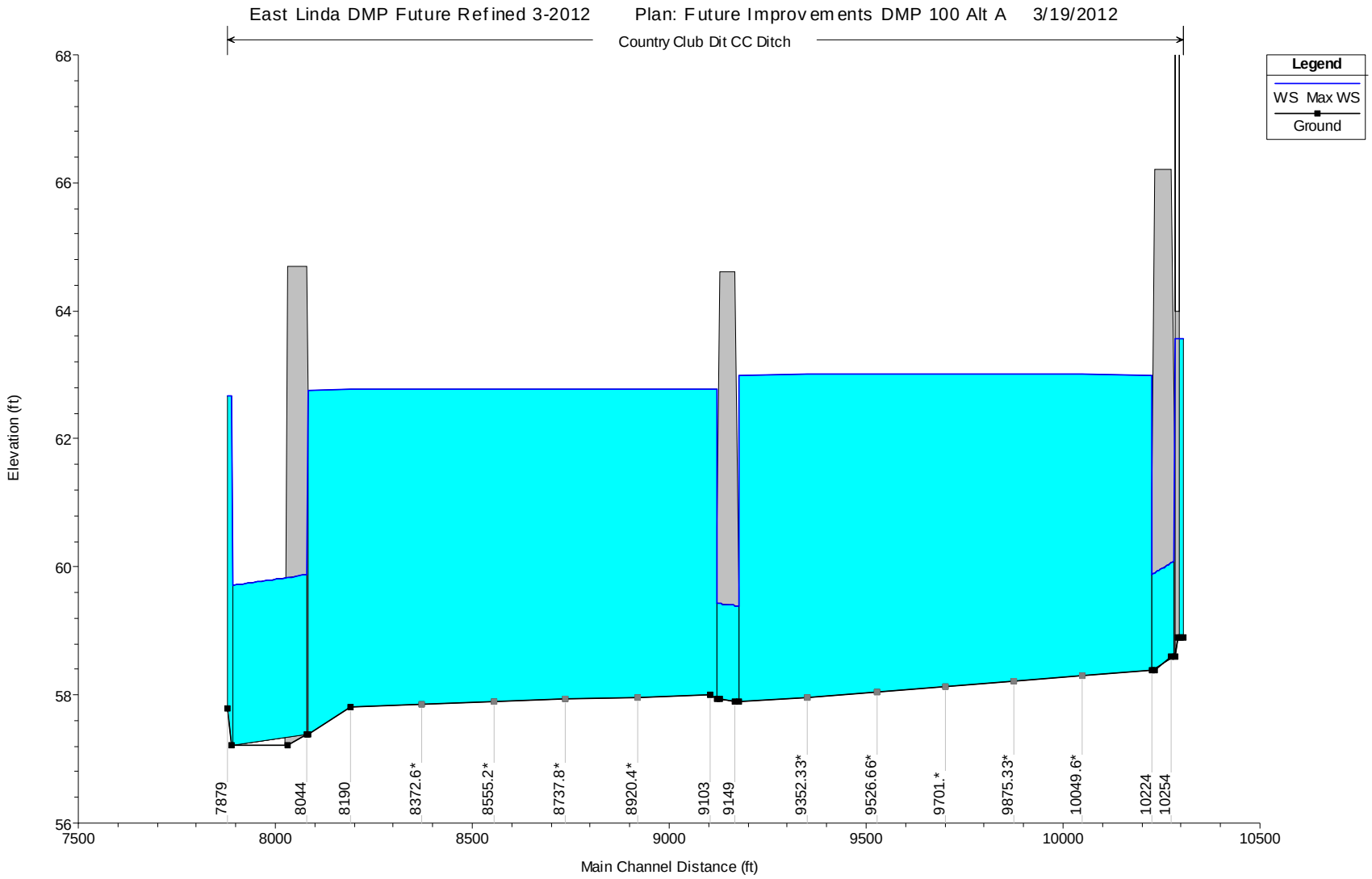
East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Country Club Dit CC Ditch
Legend
WS Max WS
Ground
Elevation (ft)
68
66
64
62
60
58
56
7879
8044
8190
8372.6*
8555.2*
8737.8*
8920.4*
9103
9149
9352.33*
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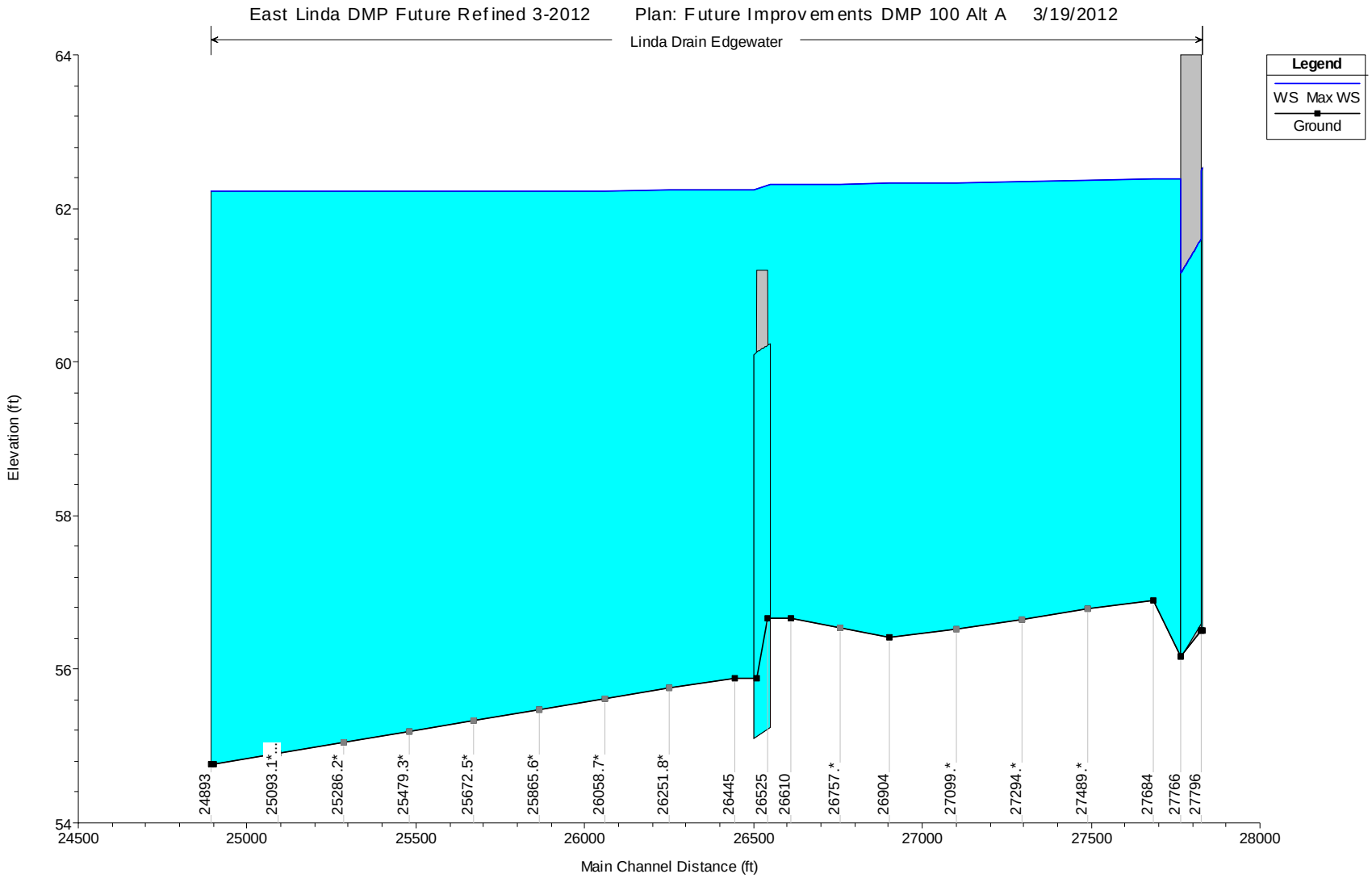
10049.6*
10224
10254
7500
8000
8500
9000
9500
10000
10500
Main Channel Distance (ft)


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt A 3/19/2012
Linda Drain Edgewater
Legend
WS Max WS
Ground
Elevation (ft)
64
62
60
58
56
54
24500
25000
25500
26000
26500
27000
27500
28000
Main Channel Distance (ft)
24893
25093.1*
25286.2*
25479.3*
25672.5*
25865.6*
26058.7*
26251.8*
26445
26525
26610
26757.*
26904
27099.*
27294.*
27489.*
27684
27766
27796

Appendix E

Future Conditions Alternative B HEC-RAS Output

100-year Storm

HEC-RAS Plan: FU_SP100altB Profile: Max WS

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Olivehurst Inter	Upper OI	22800	Max WS	332.98	59.28	64.4	64.48	2.19	151.85	41.13	0.2
Olivehurst Inter	Upper OI	22602.7	Max WS	327.09	59.27	64.3	64.36	1.93	169.67	50.65	0.19
Olivehurst Inter	Upper OI	21419	Max WS	402.97	59.24	63.68	63.69	0.94	430.33	118.31	0.09
Olivehurst Inter	Upper OI	20922	Max WS	395.87	58.37	63.54	63.59	1.71	230.84	62.9	0.16
Olivehurst Inter	Upper OI	20545	Max WS	395.11	59	63.52	63.52	0.7	563.41	152.94	0.06
Olivehurst Inter	Upper OI	20289.2	Max WS	393.55	57.47	63.47	63.49	1.29	304.44	79.38	0.12
Olivehurst Inter	Upper OI	20250		Lat Struct							
Olivehurst Inter	Upper OI	20204	Max WS	391.48	56.96	63.4	63.47	2.15	182.1	56.5	0.16
Olivehurst Inter	Upper OI	20102		Culvert							
Olivehurst Inter	Upper OI	20000	Max WS	381.15	57.09	63.18	63.24	2.03	188.03	56.14	0.15
Olivehurst Inter	Upper OI	19926	Max WS	381.77	57.43	63.19	63.23	1.48	258.74	59.78	0.12
Olivehurst Inter	Upper OI	19226	Max WS	371.76	57.02	62.96	63.01	1.77	210.04	59.55	0.17
Olivehurst Inter	Upper OI	18716	Max WS	365.91	56.4	62.81	62.85	1.67	219.43	53.46	0.15
Olivehurst Inter	Upper OI	17716	Max WS	356.61	56.05	62.58	62.62	1.58	226.07	54.2	0.14
Olivehurst Inter	Upper OI	17316	Max WS	354.37	55.9	62.53	62.55	1.29	274.5	67.87	0.11
Olivehurst Inter	Upper OI	17224	Max WS	354.14	55.88	62.52	62.54	1.28	277.46	58.55	0.09
Olivehurst Inter	Upper OI	17185		Culvert							
Olivehurst Inter	Upper OI	17132	Max WS	345.28	55.58	62.39	62.42	1.21	285.37	59.26	0.08
Olivehurst Inter	Upper OI	16933	Max WS	344.21	55.51	62.36	62.39	1.41	244.47	56.16	0.12
Olivehurst Inter	Upper OI	16716	Max WS	342.54	55.44	62.33	62.36	1.39	245.84	56.36	0.12
Olivehurst Inter	Upper OI	16216	Max WS	338.22	55.26	62.25	62.28	1.34	251.57	56.94	0.11
Olivehurst Inter	Upper OI	15716	Max WS	311.32	55.09	62.19	62.21	1.21	257.88	57.63	0.1
Olivehurst Inter	Upper OI	15216	Max WS	312.22	54.91	62.14	62.16	1.18	264.95	58.33	0.1
Olivehurst Inter	Upper OI	14989	Max WS	312.19	54.81	62.11	62.13	1.16	269.68	58.86	0.1
Olivehurst Inter	Middle	14889	Max WS	359.06	54.77	62.11	62.13	1.04	345.38	69.07	0.08
Olivehurst Inter	Middle	14701	Max WS	359.06	54.71	62.1	62.12	1.03	348.55	69.34	0.08
Olivehurst Inter	Middle	13385	Max WS	387.5	54.32	62	62.01	1.05	368.68	71.07	0.08

Olivehurst Inter	Middle	12600	Max WS	385.13	54.08	61.95	61.96	0.93	414.06	80.22	0.07
Olivehurst Inter	Middle	12080	Max WS	384.37	53.87	61.92	61.93	0.97	395.69	73.31	0.07
Olivehurst Inter	Middle	11980	Max WS	384.25	53.87	61.91	61.93	0.97	395.27	73.28	0.07
Olivehurst Inter	Middle	11900		Lat Struct							
Olivehurst Inter	Middle	11885	Max WS	405.86	53.86	61.9	61.92	1.03	395.16	73.24	0.08
Olivehurst Inter	Middle	11880	Max WS	405.77	53.86	61.9	61.92	1.03	395.13	73.24	0.08
Olivehurst Inter	Lower	11000	Max WS	405.73	53.6	61.9	61.92	1.02	400.25	86.61	0.08
Olivehurst Inter	Lower	10950	Max WS	405.66	53.4	61.9	61.92	0.99	408.91	86.58	0.08
Olivehurst Inter	Lower	10905		Culvert							
Olivehurst Inter	Lower	10860	Max WS	400.73	53.3	61.67	61.69	1.08	371.18	68.66	0.08
Olivehurst Inter	Lower	10500	Max WS	400.18	53.64	61.64	61.66	1.14	352.33	68.05	0.09
Olivehurst Inter	Lower	8900	Max WS	399.58	52.75	61.51	61.53	1.12	355.79	69.18	0.09
Olivehurst Inter	Lower	8874		Culvert							
Olivehurst Inter	Lower	8848	Max WS	398.29	52.83	61.41	61.43	1.14	348.34	68.69	0.09
Olivehurst Inter	Lower	7300	Max WS	396.8	52.35	61.28	61.3	1.06	374.09	73.32	0.08
Olivehurst Inter	Lower	5600	Max WS	397.2	51.7	61.18	61.19	0.96	414.01	73.3	0.07
Olivehurst Inter	Lower	5000	Max WS	397.49	51.48	61.15	61.17	0.89	447.02	75.54	0.06
Olivehurst Inter	Lower	4980	Max WS	397.49	51.47	61.14	61.16	1.12	356.08	76.45	0.07
Olivehurst Inter	Lower	4865		Culvert							
Olivehurst Inter	Lower	4750	Max WS	397.34	51.38	60.83	60.85	1.14	348.93	77.09	0.07
Olivehurst Inter	Lower	4737	Max WS	397.36	51.37	60.84	60.85	0.92	432.84	76.42	0.07
Olivehurst Inter	Lower	4663	Max WS	404	51.34	60.81	60.85	1.62	250.13	43.18	0.12
Olivehurst Inter	Lower	4116	Max WS	404.23	51.16	60.7	60.75	1.78	228.26	42.73	0.13
Olivehurst Inter	Lower	4025	Max WS	404.27	51.13	60.69	60.73	1.68	240.75	42.03	0.12
Olivehurst Inter	Lower	3195	Max WS	402.26	50.85	60.56	60.6	1.64	244.69	39.99	0.1
Olivehurst Inter	Lower	3158		Culvert							
Olivehurst Inter	Lower	3122	Max WS	402.13	50.82	60.37	60.42	1.68	239.76	39.41	0.1
Olivehurst Inter	Lower	3019	Max WS	402.18	50.79	60.36	60.4	1.63	246.14	42.53	0.12
Olivehurst Inter	Lower	1187	Max WS	397.3	50.16	60.16	60.18	1.14	424.75	130.52	0.08
Olivehurst Inter	Lower	1027	Max WS	397.3	50.11	60.13	60.17	1.67	238.08	129.26	0.1
Olivehurst Inter	Lower	974		Culvert							
Olivehurst Inter	Lower	922	Max WS	55.53	50.08	60	60	0.24	235.04	125.02	0.01
Olivehurst Inter	Lower	671	Max WS	335.18	49.99	60	60	0.41	1136.67	180.51	0.03
Olivehurst Drain	Upper	20602	Max WS	1	69.16	70.89	70.89	0.05	19.9	23.06	0.01
Olivehurst Drain	Upper	20510.1	Max WS	1	69.01	70.89	70.89	0.05	21.24	23.36	0.01
Olivehurst Drain	Upper	19775	Max WS	35.84	67.83	70.77	70.78	0.63	136.89	272.59	0.08
Olivehurst Drain	Upper	19640	Max WS	35.77	67.94	70.76	70.76	0.54	66.06	505.49	0.08

Olivehurst Drain	Upper	19584		Culvert							
Olivehurst Drain	Upper	19543	Max WS	31.83	68.02	70.02	70.05	1.31	24.38	493.72	0.2
Olivehurst Drain	Upper	19443	Max WS	30.33	67.94	69.99	69.99	0.38	135.59	348.55	0.08
Olivehurst Drain	Upper	18743	Max WS	27.6	67.4	69.91	69.91	0.12	579.8	1172.56	0.02
Olivehurst Drain	Upper	18566.6	Max WS	31.08	66.43	69.9	69.91	0.34	301.22	942.99	0.04
Olivehurst Drain	Upper	18478.5	Max WS	32.81	65.94	69.9	69.9	0.57	157.83	911.05	0.07
Olivehurst Drain	Upper	18214	Max WS	38.03	64.48	69.87	69.88	0.76	49.76	15.51	0.07
Olivehurst Drain	Upper	18186		Culvert							
Olivehurst Drain	Upper	18155	Max WS	37.93	66.24	69.65	69.67	0.96	39.49	77.12	0.11
Olivehurst Drain	Upper	17943	Max WS	41.61	66.04	69.6	69.61	1.04	56.56	112.82	0.12
Olivehurst Drain	Upper	17926		Culvert							
Olivehurst Drain	Upper	17904	Max WS	41.54	66	69.45	69.47	1.15	50.54	128.15	0.14
Olivehurst Drain	Upper	17731	Max WS	44.64	65.84	69.42	69.42	0.57	203.46	351.59	0.07
Olivehurst Drain	Upper	17712		Culvert							
Olivehurst Drain	Upper	17699	Max WS	44.74	65.88	69.24	69.25	0.73	156.28	333.63	0.09
Olivehurst Drain	Upper	17474	Max WS	49.49	66.13	69.22	69.22	0.31	445.94	824.67	0.04
Olivehurst Drain	Upper	17458		Culvert							
Olivehurst Drain	Upper	17443	Max WS	40.74	66.31	68.93	68.97	1.57	26.02	461.18	0.21
Olivehurst Drain	Upper	17235	Max WS	51.86	66.74	68.88	68.88	0.32	447.58	978.17	0.05
Olivehurst Drain	Upper	17216		Culvert							
Olivehurst Drain	Upper	17197	Max WS	51.86	66.66	68.75	68.86	2.64	19.64	867.59	0.41
Olivehurst Drain	Upper	17088	Max WS	54.35	66.78	68.65	68.65	0.79	194.17	599.75	0.12
Olivehurst Drain	Upper	17073		Culvert							
Olivehurst Drain	Upper	17058	Max WS	54.35	66.78	68.57	68.58	1.5	107.01	553.39	0.23
Olivehurst Drain	Upper	16995.5	Max WS	54.42	66.43	67.62	68.01	5.02	10.84	13.54	0.99
Olivehurst Drain	Upper	16950		Lat Struct							
Olivehurst Drain	Upper	16933	Max WS	3	66.07	67.46	67.46	0.19	15.94	16.86	0.03
Olivehurst Drain	Upper	16922		Culvert							
Olivehurst Drain	Upper	16909	Max WS	2.91	66.43	66.88	66.91	1.29	2.25	6.93	0.4
Olivehurst Drain	Upper	16733	Max WS	3.1	66.41	66.75	66.77	1.13	2.76	11.58	0.41
Olivehurst Drain	Upper	16728		Bridge							
Olivehurst Drain	Upper	16722	Max WS	3.11	66.28	66.75	66.75	0.65	4.81	15.45	0.2
Olivehurst Drain	Upper	16720		Lat Struct							
Olivehurst Drain	Upper	16360	Max WS	3.08	65.86	66.66	66.67	0.47	6.5	13.62	0.12
Olivehurst Drain	Upper	16212	Max WS	2.67	65.77	66.64	66.64	0.37	7.22	16.58	0.1
Olivehurst Drain	Upper	16010	Max WS	1.63	66.04	66.6	66.61	0.33	4.97	17.84	0.11
Olivehurst Drain	Upper	15635	Max WS	3.58	65.91	66.53	66.55	1.18	3.05	10.32	0.38

Olivehurst Drain	Upper	15105	Max WS	4.99	65.2	65.55	65.73	3.48	1.43	6.12	1.27
Olivehurst Drain	Upper	14938	Max WS	5.64	62.31	65.26	65.26	0.18	31.07	18.61	0.02
Olivehurst Drain	Upper	14928	Max WS	5.71	62.14	65.26	65.26	0.17	34.04	18.64	0.02
Olivehurst Drain	Upper	14925		Lat Struct							
Olivehurst Drain	Upper	14918	Max WS	5.71	61.97	65.26	65.26	0.15	36.86	18.6	0.02
Olivehurst Drain	Upper	14900	Max WS	-69.57	62.73	65.02	65.24	-3.83	18.19	8.07	0.45
Olivehurst Drain	Clark	10764	Max WS	1	61.52	64.23	64.23	0.03	36.09	17.99	0
Olivehurst Drain	Clark	10760	Max WS	1	61.52	64.23	64.23	0.03	36.09	17.99	0
Olivehurst Drain	Clark	10759		Lat Struct							
Olivehurst Drain	Clark	10700	Max WS	1	61.52	64.23	64.23	0.03	36.09	17.99	0
Olivehurst Drain	Clark	10698	Max WS	1	61.52	64.23	64.23	0.03	36.09	17.99	0
Olivehurst Drain	Clark	10654	Max WS	21.09	61.49	64.22	64.22	0.58	36.15	17.99	0.07
Olivehurst Drain	Clark	10515	Max WS	21.36	61.41	64.2	64.21	0.58	36.85	18.12	0.07
Olivehurst Drain	Clark	10000	Max WS	22.36	61.1	64.15	64.16	0.55	40.54	18.73	0.07
Olivehurst Drain	Clark	9590	Max WS	23.15	60.86	64.12	64.12	0.52	44.93	19.09	0.06
Olivehurst Drain	Clark	8395	Max WS	25.48	60.96	64.02	64.03	0.53	47.87	21.82	0.06
Olivehurst Drain	Clark	7734.37	Max WS	26.76	60.75	63.88	63.9	1.03	25.86	14.18	0.14
Olivehurst Drain	Clark	7640	Max WS	26.94	60.72	63.84	63.86	1.15	23.4	13.09	0.15
Olivehurst Drain	Clark	7580	Max WS	27.06	60.7	63.8	63.82	1.3	20.8	12.39	0.16
Olivehurst Drain	Clark	7553		Culvert							
Olivehurst Drain	Clark	7525	Max WS	26.98	59.24	62.84	62.85	0.86	31.41	18.71	0.09
Olivehurst Drain	Clark	7446	Max WS	26.97	60.22	62.83	62.84	0.85	31.6	16.88	0.11
Olivehurst Drain	Clark	7349.81	Max WS	27.17	60.19	62.8	62.81	0.85	31.8	16.97	0.11
Olivehurst Drain	Clark	6388	Max WS	29.08	59.91	62.57	62.58	0.83	35.14	17.78	0.1
Olivehurst Drain	Clark	5300	Max WS	30.03	59.3	62.37	62.37	0.7	42.62	21.34	0.09
Olivehurst Drain	Clark	5150	Max WS	30.28	59.29	62.34	62.35	0.76	39.62	19.99	0.1
Olivehurst Drain	Clark	4790	Max WS	23.05	59.27	62.28	62.28	0.71	32.5	16.71	0.09
Olivehurst Drain	Clark	4700	Max WS	23.05	59.26	62.26	62.27	0.75	30.75	15.88	0.09
Olivehurst Drain	Clark	4655	Max WS	23.06	58.92	62.26	62.26	0.55	41.77	18.29	0.06
Olivehurst Drain	Clark	4638		Culvert							
Olivehurst Drain	Clark	4606	Max WS	22.4	59.3	62.11	62.12	0.61	36.84	18.65	0.08
Olivehurst Drain	Clark	4519.5	Max WS	22.37	59.15	62.1	62.11	0.6	37.16	18.91	0.08
Olivehurst Drain	Clark	4433	Max WS	22.35	59	62.09	62.1	0.6	37.49	19.25	0.08
Olivehurst Drain	Clark	4260	Max WS	22.26	58.7	62.07	62.08	0.58	38.39	20.24	0.07
Olivehurst Drain	Clark	4152	Max WS	22.24	58.85	62.06	62.07	0.61	36.47	16.54	0.07
Olivehurst Drain	Clark	3604	Max WS	21.99	58.64	62.01	62.01	0.52	42.12	20.95	0.06
Olivehurst Drain	Clark	3240	Max WS	21.88	58.6	61.98	61.98	0.48	45.55	21.49	0.06

Olivehurst Drain	Clark		3118	Max WS	21.82	59	61.97	61.97	0.6	36.24	17.15	0.07
Olivehurst Drain	Clark		2630	Max WS	21.64	58.12	61.93	61.93	0.46	46.71	17.02	0.05
Olivehurst Drain	Clark		2534	Max WS	21.65	58.06	61.93	61.93	0.23	93.34	30.6	0.02
Olivehurst Drain	Clark		2381	Max WS	21.67	57.3	61.93	61.93	0.35	62.18	19.58	0.03
Olivehurst Drain	Clark		2202	Max WS	21.69	57.05	61.92	61.92	0.27	80.51	24.26	0.03
Olivehurst Drain	Clark		2102	Max WS	21.7	56.65	61.92	61.92	0.22	98.33	27.92	0.02
Olivehurst Drain	Clark		2082	Max WS	21.7	56.3	61.92	61.92	0.26	83.41	23.89	0.02
Olivehurst Drain	Clark		2056		Culvert							
Olivehurst Drain	Clark		2010	Max WS	21.66	56	61.91	61.91	0.22	99.05	78.2	0.02
Olivehurst Drain	Clark		2000	Max WS	21.64	53.84	61.91	61.91	0.01	1569.67	198.81	0
Linear Detention		1	12773	Max WS	19.26	59.5	67.32	67.32	0.04	494.63	85.77	0
Linear Detention		1	11658.7	Max WS	14.87	59.11	67.32	67.32	0.03	520.02	85.96	0
Linear Detention		1	11473	Max WS	64.3	59.04	67.32	67.32	0.12	524.82	86.01	0.01
Linear Detention		1	11423		Culvert							
Linear Detention		1	11373	Max WS	46.49	59	66.17	66.17	0.11	433.59	75.48	0.01
Linear Detention		1	11323	Max WS	46.45	58.98	66.17	66.17	0.11	430.4	74.25	0.01
Linear Detention		1	11273	Max WS	46.42	58.97	66.17	66.17	0.11	431.18	74.3	0.01
Linear Detention		1	11173	Max WS	46.92	58.93	66.17	66.17	0.11	434.1	74.45	0.01
Linear Detention		1	10373	Max WS	51.21	58.66	66.17	66.17	0.11	454.31	75.53	0.01
Linear Detention		1	10173	Max WS	51.2	58.59	66.17	66.17	0.11	459.6	75.81	0.01
Linear Detention		1	9173	Max WS	54.28	58.24	66.17	66.17	0.11	488.03	82.53	0.01
Linear Detention		1	8373	Max WS	59.93	57.97	66.17	66.17	0.12	510.45	83.88	0.01
Linear Detention		1	8273	Max WS	59.92	57.94	66.17	66.17	0.12	513.02	84.04	0.01
Linear Detention		1	8223		Culvert							
Linear Detention		1	8173	Max WS	58.05	57.9	65.22	65.22	0.13	440.19	74.78	0.01
Linear Detention		1	7973	Max WS	58.02	57.83	65.22	65.22	0.13	445.39	75.06	0.01
Linear Detention		1	7773	Max WS	58.33	57.76	65.22	65.22	0.13	450.64	75.34	0.01
Linear Detention		1	7173	Max WS	60.65	57.55	65.22	65.22	0.13	466.86	81.24	0.01
Linear Detention		1	5973	Max WS	65.3	57.14	65.22	65.22	0.13	500.52	83.29	0.01
Linear Detention		1	5873	Max WS	65.68	56.35	65.22	65.22	0.12	567.87	87.23	0.01
Linear Detention		1	5773	Max WS	69.55	55.57	65.22	65.22	0.11	637.4	91.14	0.01
Linear Detention		1	5723		Culvert							
Linear Detention		1	5673	Max WS	51.26	54.78	64.17	64.17	0.08	614.01	89.83	0.01
Linear Detention		1	5653	Max WS	51.29	54.62	64.17	64.17	0.08	628.44	90.63	0.01
Linear Detention		1	5623		Lat Struct							
Linear Detention		1	5593	Max WS	88.5	54.16	64.17	64.17	0.13	670.71	92.94	0.01
Linear Detention		1	5573	Max WS	88.52	54	64.17	64.17	0.13	685.64	93.74	0.01

Linda Drain	extended	45526.95	Max WS	52.79	76.18	79.53	79.55	1.24	295.32	1097.63	0.15
Linda Drain	extended	45434.43	Max WS	52.63	76.06	79.49	79.51	0.95	55.36	22.5	0.11
Linda Drain	extended	45398.42		Culvert							
Linda Drain	extended	45358.65	Max WS	12.64	75.79	79.03	79.03	0.33	43.51	19.28	0.04
Linda Drain	extended	45182.4	Max WS	12.64	75.48	79.03	79.03	0.3	46.64	20.39	0.03
Linda Drain	extended	45006.3	Max WS	17.99	75.16	79.02	79.02	0.39	49.86	21.48	0.04
Linda Drain	extended	44301.7	Max WS	58.59	73.91	78.8	78.82	0.98	460.23	1231.37	0.1
Linda Drain	extended	44159.85	Max WS	60.74	74.11	78.76	78.77	0.85	74.33	51.48	0.09
Linda Drain	extended	44120		Culvert							
Linda Drain	extended	44080.67	Max WS	60.71	74.42	78.39	78.41	1.22	49.86	20.7	0.13
Linda Drain	extended	43569.7	Max WS	60.7	74.09	78.23	78.25	1.14	53.22	19.61	0.12
Linda Drain	extended	43229.12	Max WS	62.5	73.87	78.13	78.15	1.12	55.63	19.84	0.12
Linda Drain	extended	43201.7	Max WS	62.47	73.85	78.13	78.15	1.14	55.02	264.21	0.12
Linda Drain	extended	43174.56		Culvert							
Linda Drain	extended	43137.84	Max WS	61.32	73.79	77.74	77.76	1.32	765.99	930.3	0.15
Linda Drain	extended	42976.26	Max WS	61.17	73.07	77.69	77.7	1.02	61.32	858.08	0.1
Linda Drain	extended	42900		Culvert							
Linda Drain	extended	42814.22	Max WS	61	73.13	77.01	77.05	1.58	38.64	17.21	0.19
Linda Drain	extended	42176.08	Max WS	61.35	73.08	76.56	76.6	1.51	44.18	210.71	0.18
Linda Drain	extended	41268.96	Max WS	57.21	72.33	75.94	75.98	1.5	38.01	2998.53	0.18
Linda Drain	extended	41227.03		Culvert							
Linda Drain	extended	41184.3	Max WS	55.3	72.06	75.53	75.56	1.55	811.8	2053.73	0.18
Linda Drain	extended	41156.2	Max WS	54.74	71.97	75.49	75.53	1.41	696.2	1767.69	0.16
Linda Drain	extended	40035.21	Max WS	48.63	71.02	75.06	75.08	1.05	46.29	2390.16	0.11
Linda Drain	extended	39991.69		Culvert							
Linda Drain	extended	39949.52	Max WS	47.82	70.47	74.77	74.79	0.9	52.87	18.69	0.09
Linda Drain	extended	39606.6	Max WS	47.67	70.38	74.71	74.72	0.96	58.22	367.58	0.1
Linda Drain	extended	38749.37	Max WS	46.81	70.14	74.49	74.51	1.22	433.06	1169.74	0.12
Linda Drain	extended	38373.1	Max WS	46.77	69.9	74.37	74.39	1.14	40.99	13.39	0.11
Linda Drain	extended	37620.68	Max WS	46.75	69.43	74.2	74.21	0.96	48.98	260.19	0.1
Linda Drain	extended	37600		Culvert							
Linda Drain	extended	37564.32	Max WS	46.36	69.13	72.8	72.83	1.37	174.29	298.32	0.16
Linda Drain	extended	36567.12	Max WS	44.93	68.87	71.91	71.95	1.54	793.34	950.82	0.19
Linda Drain	extended	35633.4	Max WS	43.28	68.15	71.42	71.45	1.4	987.22	1379.68	0.17
Linda Drain	extended	34726.49	Max WS	40.85	67.72	70.57	70.62	1.71	141.23	549.09	0.22
Linda Drain	extended	34095.3	Max WS	42.35	67.21	69.63	69.69	1.96	21.59	11.87	0.26
Linda Drain	extended	34053.2		Bridge							

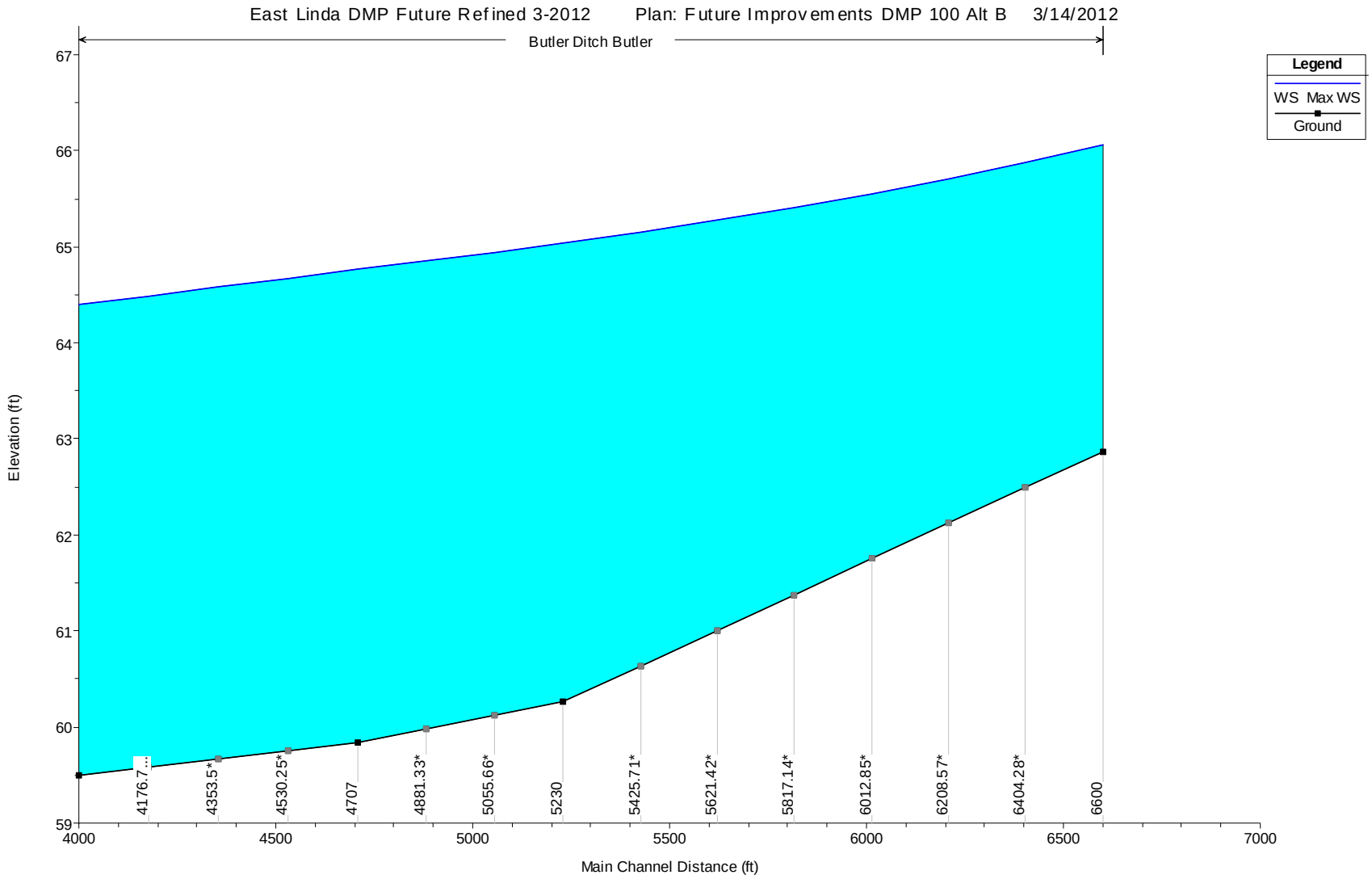
Linda Drain	extended	34046.01	Max WS	42.37	67.17	69.56	69.62	1.96	21.66	11.85	0.26
Linda Drain	extended	33867.9	Max WS	42.37	66.75	69.3	69.36	1.92	22.05	12.08	0.25
Linda Drain	extended	33155.51	Max WS	43.71	65.09	68.6	68.63	1.47	29.73	14	0.15
Linda Drain	extended	33141.08		Culvert							
Linda Drain	extended	33126.5	Max WS	43.71	65.11	68.47	68.5	1.29	33.83	14.33	0.15
Linda Drain	extended	33097.56	Max WS	43.71	65.14	68.46	68.49	1.17	37.43	15.67	0.13
Linda Drain	extended	32921.63	Max WS	43.71	65.18	68.41	68.42	1.07	40.94	19	0.13
Linda Drain	extended	32696.9	Max WS	43.71	65.04	68.36	68.37	0.87	51.44	54.64	0.1
Linda Drain	extended	32695.5		Lat Struct							
Linda Drain	extended	32648.16	Max WS	43.7	65.01	68.35	68.36	0.83	52.62	158.5	0.09
Linda Drain	extended	32603.41		Culvert							
Linda Drain	extended	32562.66	Max WS	43.7	65	68.26	68.28	0.87	50.35	20.49	0.1
Linda Drain	extended	32081.15	Max WS	43.7	64.97	68.21	68.21	0.57	76.34	38.11	0.07
Linda Drain	extended	31393.3	Max WS	28.19	65.18	67.47	67.53	1.98	14.27	10.56	0.3
Linda Drain	extended	31300		Lat Struct							
Linda Drain	extended	31295.1	Max WS	11.16	65.21	67.52	67.53	0.93	11.94	8.75	0.14
Linda Drain	extended	31250		Bridge							
Linda Drain	extended	31213.87	Max WS	7.6	65.58	67.43	67.44	0.77	9.82	8.01	0.12
Linda Drain	extended	31154.5	Max WS	7.04	65.62	67.39	67.4	0.75	9.41	8.01	0.12
Linda Drain	extended	30739.6	Max WS	-7.26	65.86	67.51	67.51	-0.61	11.96	10.51	0.1
Linda Drain	extended	30710.89		Culvert							
Linda Drain	extended	30689.01	Max WS	-7.29	65.32	67.52	67.52	-0.5	14.63	9.98	0.07
Linda Drain	extended	30471.23	Max WS	-5.31	64.89	67.54	67.54	-0.21	25.32	13.36	0.03
Linda Drain	extended	30454.47		Culvert							
Linda Drain	extended	30433.78	Max WS	-5.32	65.07	67.54	67.54	-0.21	25.45	13.38	0.03
Linda Drain	extended	30414.6	Max WS	-3.98	65.16	67.54	67.54	-0.17	23.09	13.06	0.02
Linda Drain	extended	30372.63		Culvert							
Linda Drain	extended	30328.27	Max WS	-3.99	65.59	67.55	67.55	-0.27	14.91	11.22	0.04
Linda Drain	extended	30058.19	Max WS	-1.14	64.89	67.55	67.55	-0.05	21.72	12.49	0.01
Linda Drain	extended	29704.71	Max WS	38.43	63.04	67.53	67.54	0.72	53.68	19.1	0.08
Linda Drain	extended	29524.3	Max WS	40.26	62.79	67.51	67.52	0.7	57.83	20.02	0.07
Linda Drain	extended	29163.57	Max WS	45.61	62.3	67.47	67.48	0.67	67.72	22.5	0.07
Linda Drain	extended	28844.37	Max WS	49.9	62.89	67.44	67.45	0.7	71.04	30.41	0.08
Linda Drain	extended	28478	Max WS	58.25	63.13	67.35	67.37	1.24	47.02	17.38	0.13
Linda Drain	extended	28350	Max WS	60.26	63.7	67.28	67.31	1.35	44.58	18.33	0.15
Linda Drain	extended	28150	Max WS	63.14	62.84	67.2	67.22	1.3	48.68	17.86	0.14
Linda Drain	extended	27955	Max WS	64.92	62.3	67.12	67.15	1.3	49.9	17.37	0.14

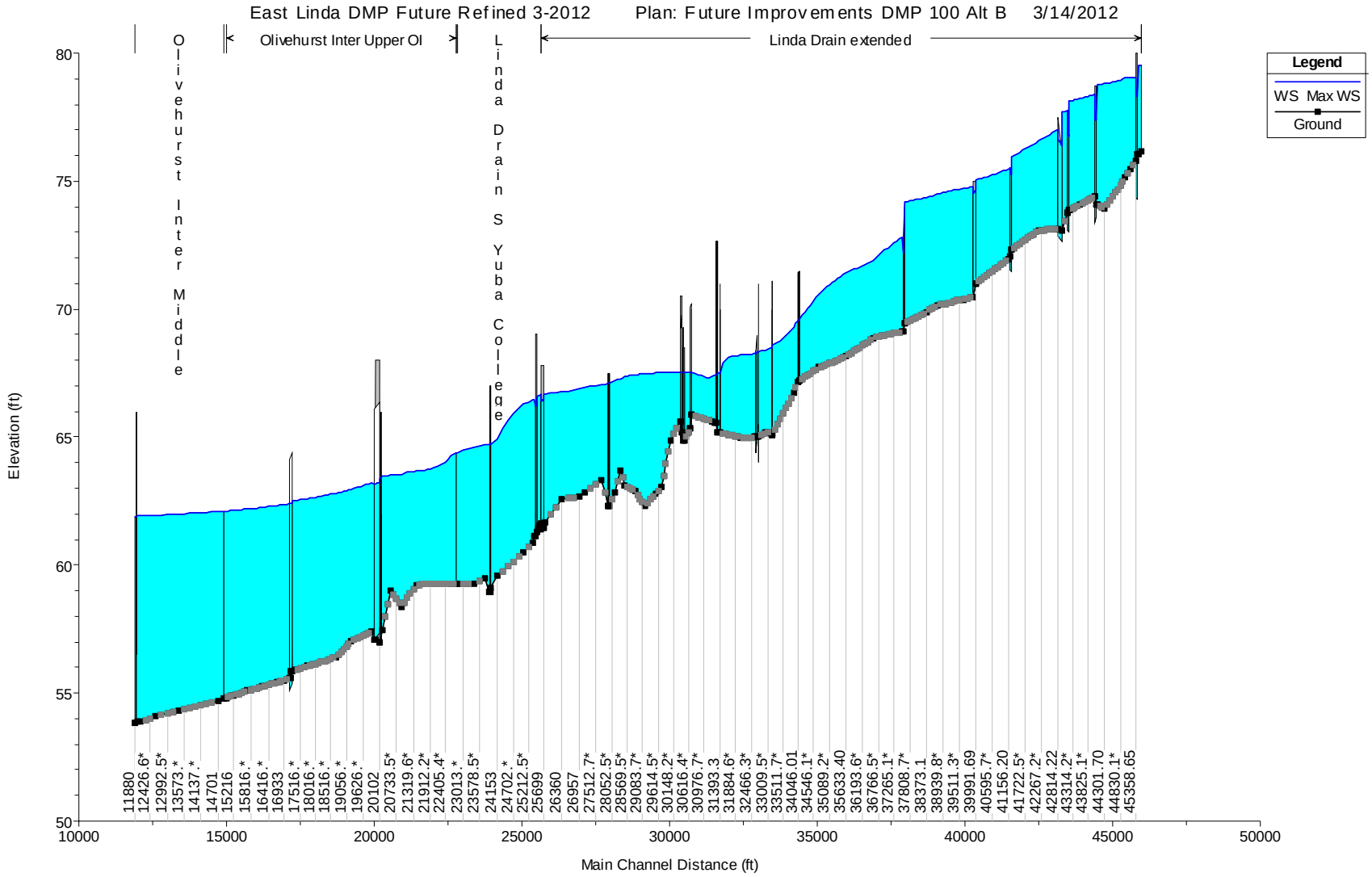
Linda Drain	extended	27945		Bridge							
Linda Drain	extended	27935	Max WS	64.98	62.3	67.11	67.14	1.31	49.75	17.34	0.14
Linda Drain	extended	27698	Max WS	65.11	63.33	67.04	67.05	0.73	235.53	479.62	0.07
Linda Drain	extended	27142.2	Max WS	70.03	62.84	66.93	66.94	0.97	181.99	656.85	0.11
Linda Drain	extended	26957	Max WS	91.27	62.68	66.89	66.9	1.11	202.44	705.86	0.11
Linda Drain	extended	26360	Max WS	101.73	62.58	66.77	66.77	0.89	293.89	554.49	0.09
Linda Drain	extended	25796	Max WS	87.15	61.67	66.67	66.68	0.92	224.64	590.43	0.09
Linda Drain	extended	25728	Max WS	82.09	61.47	66.66	66.67	0.97	84.7	174.5	0.09
Linda Drain	extended	25699		Culvert							
Linda Drain	extended	25669	Max WS	81.05	61.41	66.66	66.67	0.81	99.66	34.56	0.07
Linda Drain	extended	25654	Max WS	80.7	61.63	66.65	66.66	0.8	102.7	34.54	0.07
Linda Drain	S Yuba College	25642	Max WS	125.37	61.63	66.65	66.68	1.23	102.7	34.54	0.12
Linda Drain	S Yuba College	25607	Max WS	124.45	61.55	66.64	66.67	1.27	97.93	29.13	0.12
Linda Drain	S Yuba College	25572	Max WS	129.57	61.47	66.63	66.66	1.35	96.1	27.56	0.13
Linda Drain	S Yuba College	25537	Max WS	131.19	61.39	66.62	66.65	1.33	98.42	27.01	0.12
Linda Drain	S Yuba College	25502	Max WS	147.98	61.3	66.57	66.63	1.9	77.82	26.65	0.15
Linda Drain	S Yuba College	25450		Culvert							
Linda Drain	S Yuba College	25398	Max WS	147.22	61.16	66.49	66.52	1.45	102.66	31.67	0.12
Linda Drain	S Yuba College	25357	Max WS	149.49	60.88	66.47	66.51	1.63	92.8	31.04	0.15
Linda Drain	S Yuba College	25068	Max WS	166.82	60.51	66.28	66.33	1.85	90.78	32.99	0.18
Linda Drain	S Yuba College	24153	Max WS	226.17	59.59	64.93	65.1	3.3	68.45	21.24	0.32
Linda Drain	S Yuba College	23953	Max WS	239.35	59.13	64.71	64.8	2.32	103.14	26.74	0.21
Linda Drain	S Yuba College	23918		Bridge							
Linda Drain	S Yuba College	23892	Max WS	243.37	58.95	64.73	64.76	1.5	161.98	45.65	0.14
Linda Drain	S Yuba College	23772	Max WS	251.28	59.46	64.69	64.72	1.47	171.15	46.18	0.13
Linda Drain	S Yuba College	23385	Max WS	251.24	59.26	64.59	64.62	1.39	180.95	48.28	0.13
Linda Drain	S Yuba College	22827	Max WS	251.13	59.28	64.4	64.44	1.65	151.85	41.13	0.15
Linda Drain	Edgewater	27830	Max WS	41.95	56.5	62.69	62.69	0.29	143.08	36.5	0.02
Linda Drain	Edgewater	27828	Max WS	41.95	56.5	62.69	62.69	0.24	174.83	36.5	0.02
Linda Drain	Edgewater	27826	Max WS	125.31	56.5	62.66	62.68	1.07	117.08	36.43	0.08
Linda Drain	Edgewater	27796		Culvert							
Linda Drain	Edgewater	27766	Max WS	122.48	56.17	62.55	62.57	1.12	109.5	45.56	0.08
Linda Drain	Edgewater	27684	Max WS	122.47	56.9	62.55	62.56	1.01	122.02	44.93	0.09
Linda Drain	Edgewater	26904	Max WS	122.03	56.41	62.49	62.5	0.87	140.23	32.35	0.07
Linda Drain	Edgewater	26610	Max WS	124.46	56.67	62.47	62.48	0.86	144.55	32.4	0.07
Linda Drain	Edgewater	26525		Culvert							
Linda Drain	Edgewater	26445	Max WS	42.93	55.89	62.12	62.13	0.28	152.61	32.91	0.02

Linda Drain	Edgewater	24900	Max WS	46.88	54.77	62.11	62.11	0.29	159.69	32.52	0.02
Linda Drain	Edgewater	24893	Max WS	46.88	54.77	62.11	62.11	0.29	159.69	32.52	0.02
Linda Drain	EdgewaterN	30450	Max WS	42.22	57.7	62.83	62.84	0.53	79.64	22.03	0.05
Linda Drain	EdgewaterN	30430	Max WS	42.22	57.8	62.83	62.84	0.53	79.9	22.17	0.05
Fernwood Ditch	Fernwood	32310	Max WS	14.84	59.59	63	63	0.42	34.97	17.23	0.05
Fernwood Ditch	Fernwood	32145	Max WS	14.58	59.72	62.99	63	0.49	29.87	13.94	0.06
Fernwood Ditch	Fernwood	31825	Max WS	14.36	58.75	62.98	62.99	0.68	21.1	14.66	0.06
Fernwood Ditch	Fernwood	31795		Culvert							
Fernwood Ditch	Fernwood	31766	Max WS	13.93	58.65	62.92	62.93	0.65	21.26	14.87	0.06
Fernwood Ditch	Fernwood	31388	Max WS	13.85	58.67	62.92	62.92	0.33	42.5	14.83	0.03
Fernwood Ditch	Fernwood	31321	Max WS	13.79	58.2	62.92	62.92	0.52	26.36	14.93	0.04
Fernwood Ditch	Fernwood	31293		Culvert							
Fernwood Ditch	Fernwood	31264	Max WS	13.51	58.01	62.86	62.86	0.48	28.21	13.44	0.04
Fernwood Ditch	Fernwood	31081	Max WS	13.59	58.01	62.86	62.86	0.3	44.72	13.44	0.03
Fernwood Ditch	Fernwood	30870	Max WS	26.75	57.69	62.84	62.85	0.41	80.12	82.11	0.04
Fernwood Ditch	Fernwood	30500	Max WS	26.71	57.8	62.83	62.84	0.56	47.79	13.75	0.05
Country Club Dit	CC Ditch	10305	Max WS	1.62	58.89	63.6	63.6	0.02	97.45	30.72	0
Country Club Dit	CC Ditch	10298	Max WS	1.62	58.89	63.6	63.6	0.02	97.45	30.72	0
Country Club Dit	CC Ditch	10295		Lat Struct							
Country Club Dit	CC Ditch	10291	Max WS	3.69	58.89	63.6	63.6	0.04	97.45	30.72	0
Country Club Dit	CC Ditch	10284	Max WS	6.78	58.59	63.59	63.6	0.34	19.65	30.72	0.03
Country Club Dit	CC Ditch	10254		Culvert							
Country Club Dit	CC Ditch	10224	Max WS	3.53	58.38	63.1	63.1	0.19	18.22	28.88	0.02
Country Club Dit	CC Ditch	9178	Max WS	3.51	57.89	63.1	63.1	0.18	19.68	18.38	0.01
Country Club Dit	CC Ditch	9149		Culvert							
Country Club Dit	CC Ditch	9120	Max WS	-3.04	57.93	62.91	62.91	-0.16	18.7	17.91	0.01
Country Club Dit	CC Ditch	9103	Max WS	-3.04	58	62.91	62.91	-0.06	54.03	17.92	0.01
Country Club Dit	CC Ditch	8190	Max WS	5.08	57.82	62.91	62.91	0.06	80.26	22.44	0.01
Country Club Dit	CC Ditch	8083	Max WS	5	57.38	62.9	62.91	0.23	21.68	22.44	0.02
Country Club Dit	CC Ditch	8044		Culvert							
Country Club Dit	CC Ditch	7889	Max WS	0.36	57.21	62.83	62.83	0.02	21.27	27.63	0
Country Club Dit	CC Ditch	7879	Max WS	0.46	57.8	62.83	62.83	0	135.77	36.61	0
Butler Ditch	Butler	6600	Max WS	84.86	62.87	66.06	66.13	2.16	39.36	16.42	0.25
Butler Ditch	Butler	5230	Max WS	82.41	60.26	65.04	65.09	1.84	44.82	15.24	0.19
Butler Ditch	Butler	4707	Max WS	82.14	59.84	64.76	64.81	1.73	47.43	15.7	0.18
Butler Ditch	Butler	4000	Max WS	81.84	59.5	64.4	64.45	1.75	46.82	14.67	0.17

HEC-RAS Plan: FU_SP100altB Profile: Max WS

Storage Area	Profile	W.S. Elev (ft)	SA Min El (ft)	Net Flux (cfs)	SA Area (acres)	SA Volume (acre-ft)
Edgewater	Max WS	62.43	59	0	6.05	15.58
Olivehurst Pond	Max WS	61.9	53.6	0.04	4.63	30.31
Orchard Pond	Max WS	64.17	53.9	97.01	8.22	91.52
SierraVista Pond	Max WS	68.47	65	-2.51	1.55	5.04


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Butler Ditch Butler
Legend
WS Max WS
Ground
Elevation (ft)
67
66
65
64
63
62
61
60
59
4000
4500
5000
5500
6000
6500
7000
Main Channel Distance (ft)
4176.7...
4353.5*
4530.25*
4707
4881.33*
5055.66*
5230
5425.71*
5621.42*
5817.14*
6012.85*
6208.57*
6404.28*
6600


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Olivehurst Inter Upper Ol
Linda Drain extended
Olivehurst Inter Middle
Linda Drain S Yuba College
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
80
75
70
65
60
55
50
10000
15000
20000
25000
30000
35000
40000
45000
50000
11880
12426.6*
12992.5*
13573.*
14137.*
14701
15216.*
15816.*
16416.*
16933
17516.*
18016.*
18516.*
19056.*
19626.*
20102
20733.5*
21319.6*
21912.2*
22405.4*
23013.*
23578.5*
24153
24702.*
25212.5*
25699
26360
26957
27512.7*
28052.5*
28569.5*
29083.7*
29614.5*
30148.2*
30616.4*
30976.7*
31393.3
31884.6*
32466.3*
33009.5*
33511.7*
34046.01
34546.1*
35089.2*
35633.40
36193.6*
36766.5*
37265.1*
37808.7*
38373.1
38939.8*
39511.3*
39991.69
40595.7*
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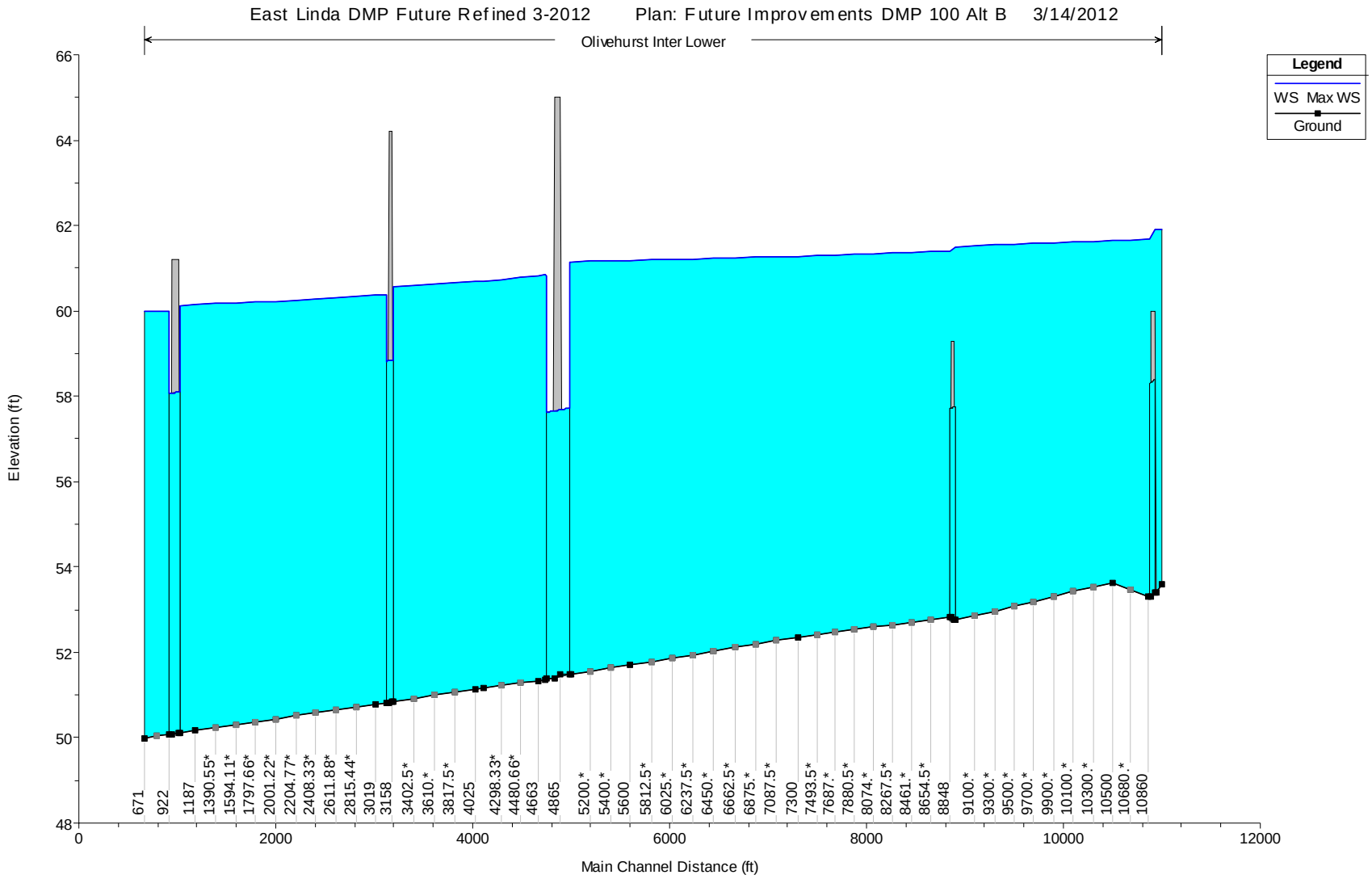
42267.2*
42814.22
43314.2*
43825.1*
44301.70
44830.1*
45358.65


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Olivehurst Inter Lower
Legend
WS Max WS
Ground
Elevation (ft)
66
64
62
60
58
56
54
52
50
48
0
2000
4000
6000
8000
10000
12000
Main Channel Distance (ft)
671
922
1187
1390.55*
1594.11*
1797.66*
2001.22*
2204.77*
2408.33*
2611.88*
2815.44*
3019
3158
3402.5*
3610.*
3817.5*
4025
4298.33*
4480.66*
4663
4865
5200.*
5400.*
5600
5812.5*
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7300
7493.5*
7687.*
7880.5*
8074.*
8267.5*
8461.*
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9500.*
9700.*
9900.*
10100.*
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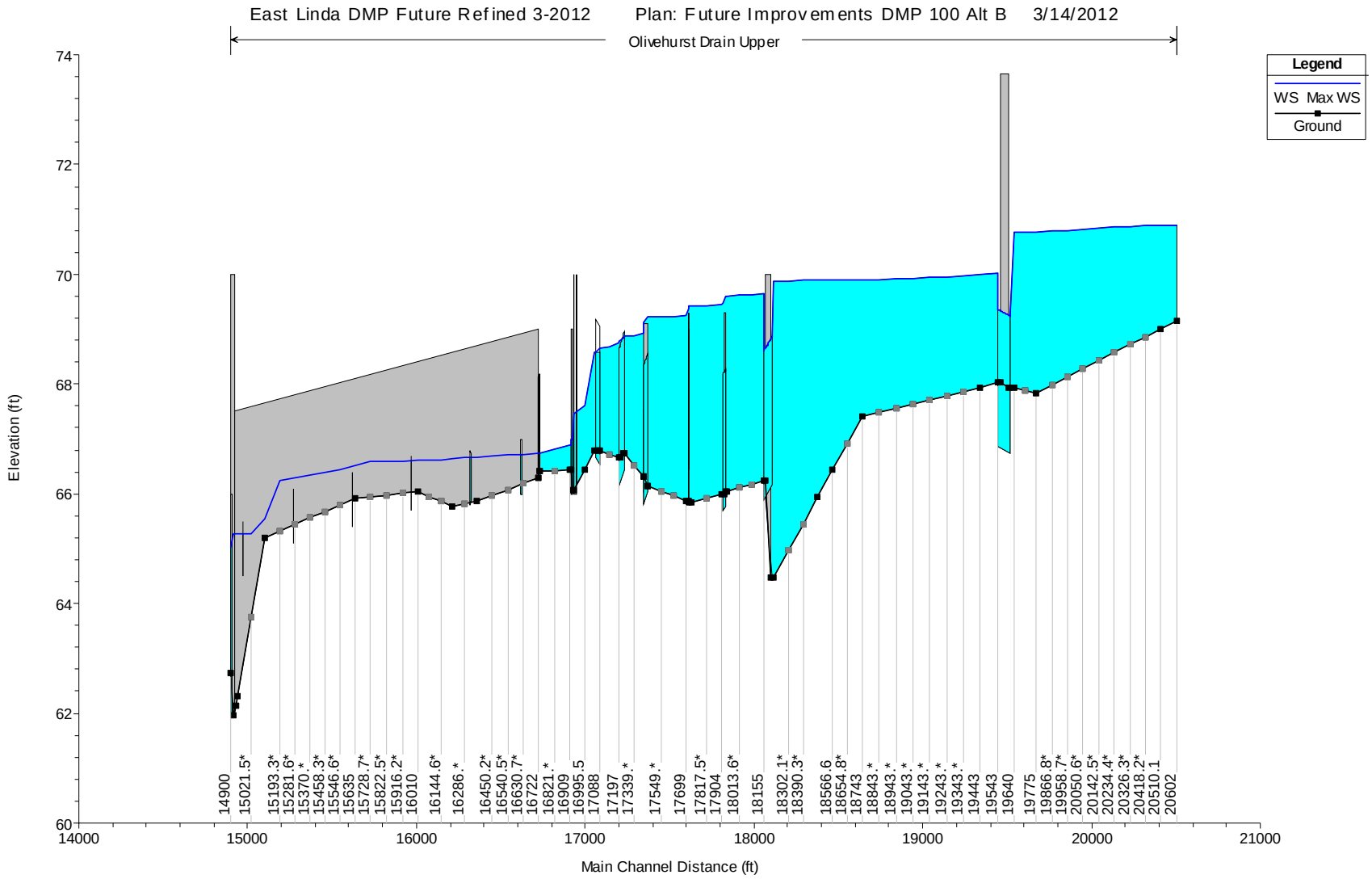
10500
10680.*
10860


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Olivehurst Drain Upper
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
74
72
70
68
66
64
62
60
14000
15000
16000
17000
18000
19000
20000
21000
14900
15021.5*
15193.3*
15281.6*
15370.*
15458.3*
15546.6*
15635
15728.7*
15822.5*
15916.2*
16010
16144.6*
16286.*
16450.2*
16540.5*
16630.7*
16722
16821.*
16909
16995.5
17088
17197.*
17339.*
17549.*
17699
17817.5*
17904
18013.6*
18155
18302.1*
18390.3*
18566.6
18654.8*
18743
18843.*
18943.*
19043.*
19143.*
19243.*
19343.*
19443
19543
19640
19775
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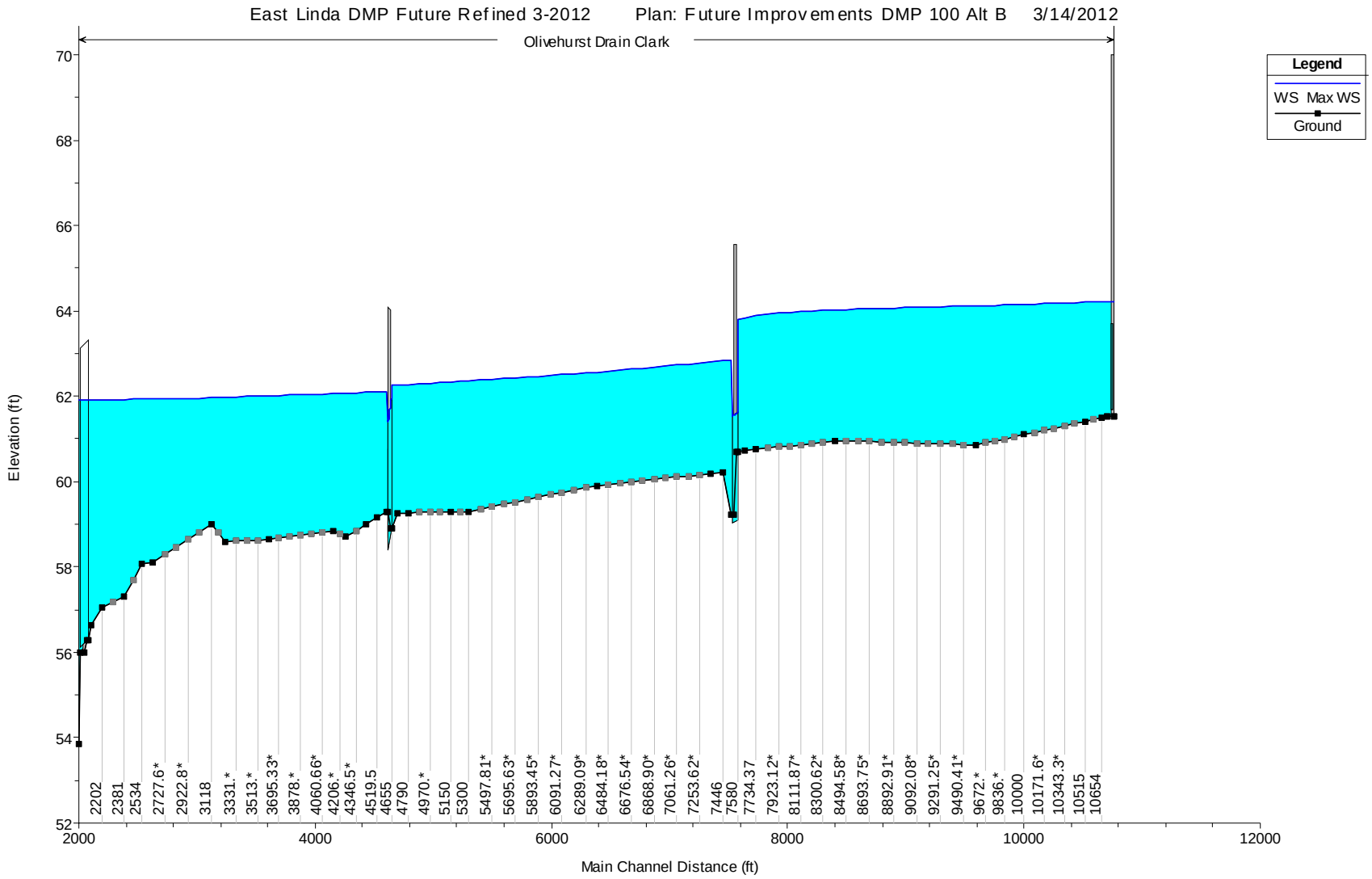
20050.6*
20142.5*
20234.4*
20326.3*
20418.2*
20510.1
20602


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Olivehurst Drain Clark
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
70
68
66
64
62
60
58
56
54
52
2000
4000
6000
8000
10000
12000
2202
2381
2534
2727.6*
2922.8*
3118
3331.*
3513.*
3695.33*
3878.*
4060.66*
4206.*
4346.5*
4519.5
4655
4790
4970.*
5150
5300
5497.81*
5695.63*
5893.45*
6091.27*
6289.09*
6484.18*
6676.54*
6868.90*
7061.26*
7253.62*
7446
7580
7734.37
7923.12*
8111.87*
8300.62*
8494.58*
8693.75*
8892.91*
9092.08*
9291.25*
9490.41*
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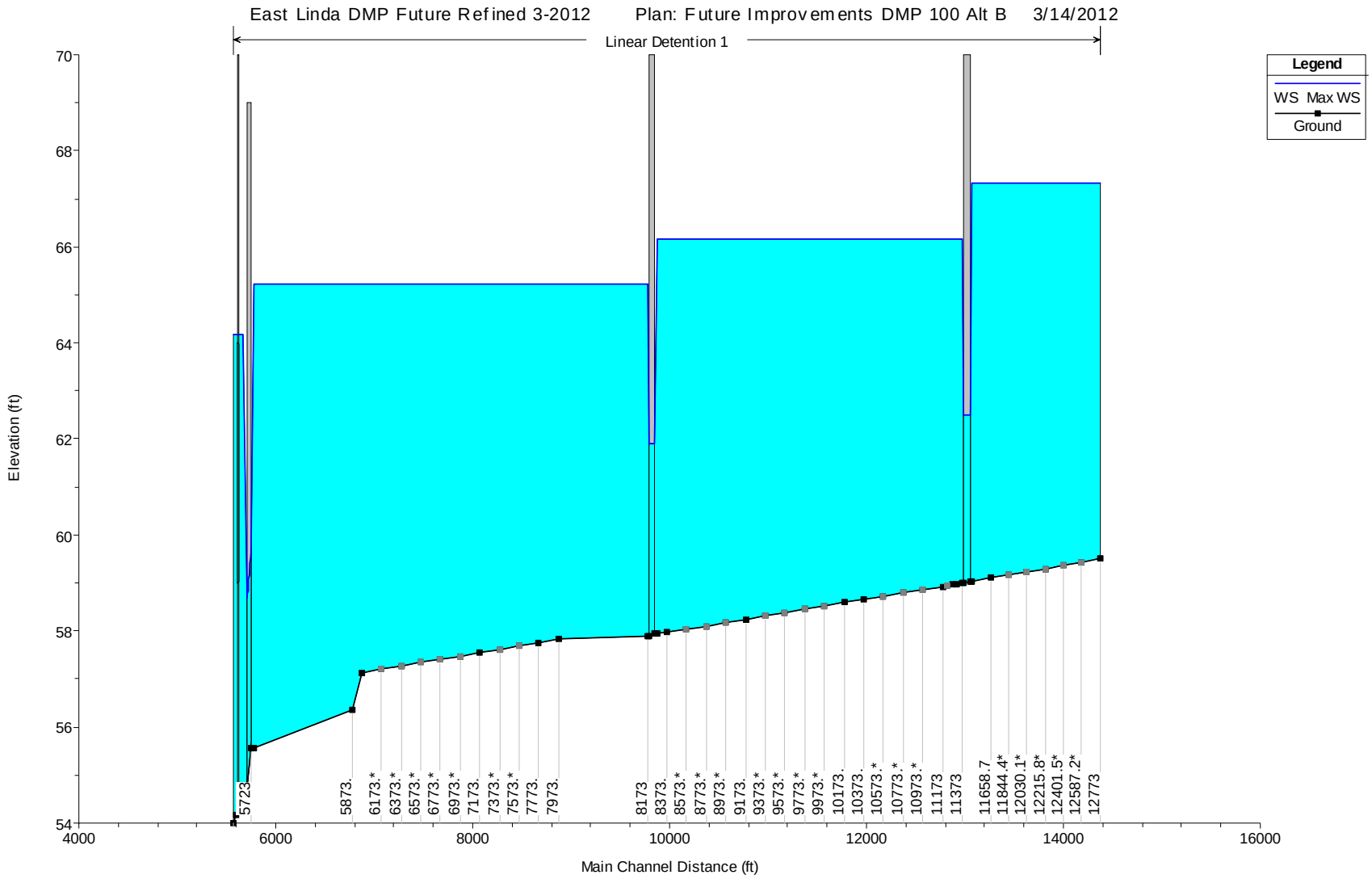
9836.*
10000
10171.6*
10343.3*
10515
10654


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Linear Detention 1
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
70
68
66
64
62
60
58
56
54
4000
6000
8000
10000
12000
14000
16000
5723
5873.
6173.*
6373.*
6573.*
6773.*
6973.*
7173.
7373.*
7573.*
7773.
7973.
8173
8373.
8573.*
8773.*
8973.*
9173.
9373.*
9573.*
9773.*
9973.*
10173.
10373.
10573.*
10773.*
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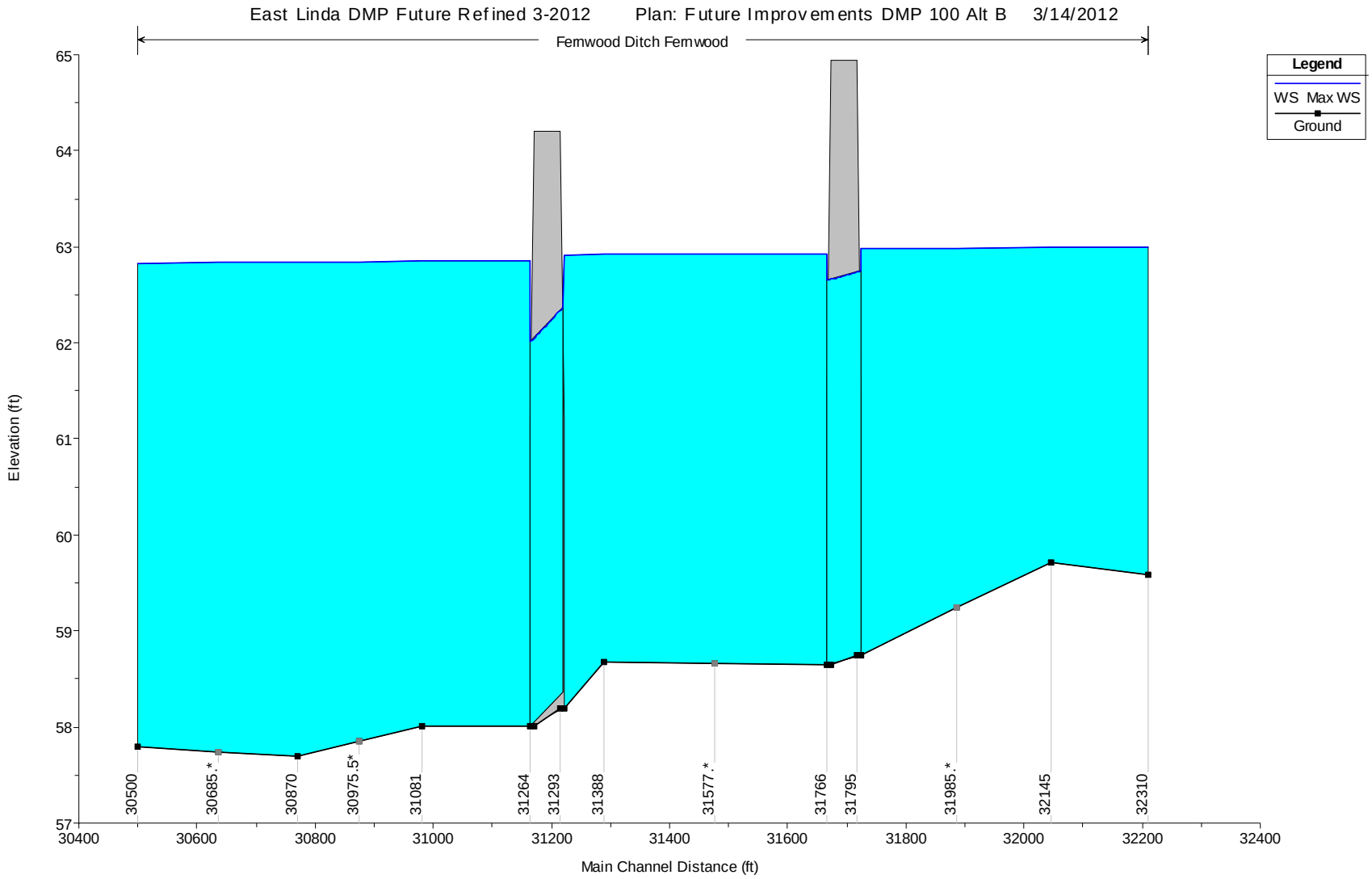
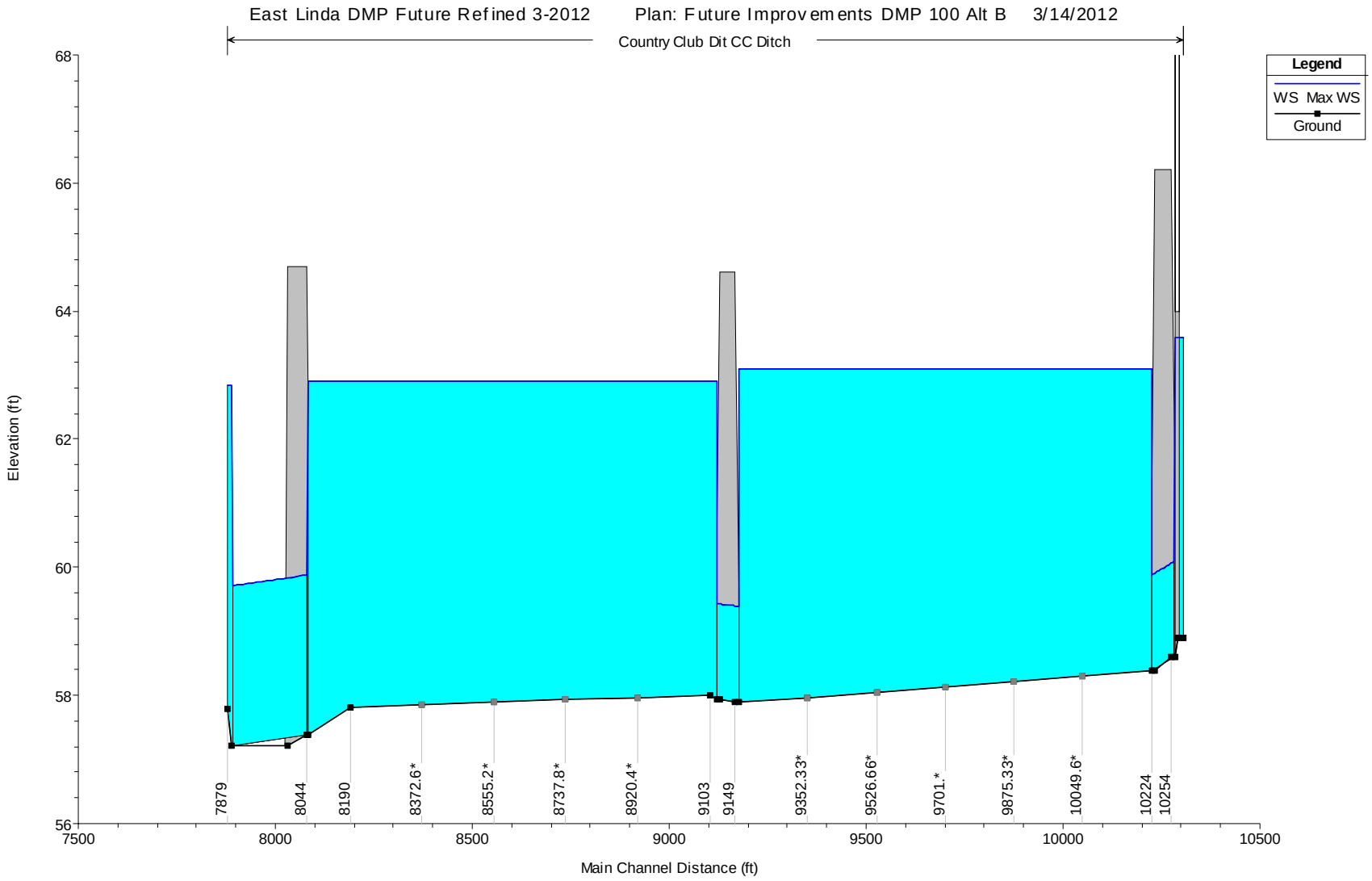
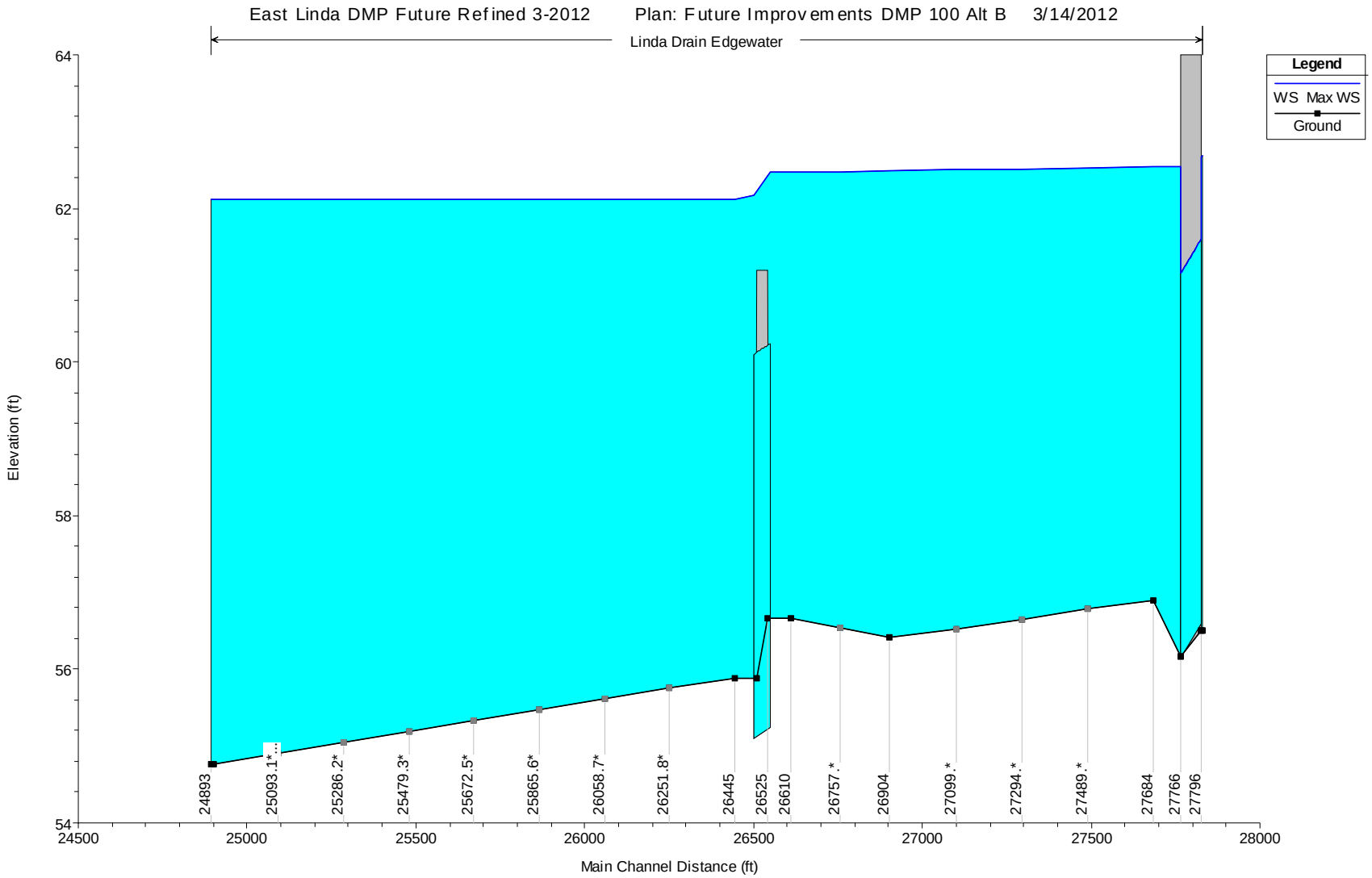
11373
11658.7
11844.4*
12030.1*
12215.8*
12401.5*
12587.2*
12773


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Fernwood Ditch Fernwood
Legend
WS Max WS
Ground
Elevation (ft)
65
64
63
62
61
60
59
58
57
30400
30600
30800
31000
31200
31400
31600
31800
32000
32200
32400
Main Channel Distance (ft)
30500
30685.*
30870
30975.5*
31081
31264
31293
31388
31577.*
31766
31795
31985.*
32145
32310


East Linda DMP Future Refined 3-2012
Plan: Future Improvements DMP 100 Alt B
3/14/2012
Country Club Dit CC Ditch
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
68
66
64
62
60
58
56
7500
8000
8500
9000
9500
10000
10500
7879
8044
8190
8372.6*
8555.2*
8737.8*
8920.4*
9103
9149
9352.33*
9526.66*
9701.*
9875.33*
10049.6*
10224
10254


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt B 3/14/2012
Linda Drain Edgewater
Legend
WS Max WS
Ground
Elevation (ft)
64
62
60
58
56
54
24500
25000
25500
26000
26500
27000
27500
28000
Main Channel Distance (ft)
24893
25093.1*
25286.2*
25479.3*
25672.5*
25865.6*
26058.7*
26251.8*
26445
26525
26610
26757.*
26904
27099.*
27294.*
27489.*
27684
27766
27796

Appendix F

Future Conditions Alternative C HEC-RAS Output

100-year Storm

HEC-RAS Plan: FU_SP100altC Profile: Max WS

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Olivehurst Inter	Upper OI	22800	Max WS	296.87	59.28	64.18	64.24	2.08	142.66	40.37	0.2
Olivehurst Inter	Upper OI	22602.7	Max WS	294.18	59.27	64.07	64.13	1.86	158.22	49.46	0.18
Olivehurst Inter	Upper OI	21419	Max WS	365.76	59.24	63.43	63.44	0.91	400.72	116.36	0.09
Olivehurst Inter	Upper OI	20922	Max WS	359.49	58.37	63.29	63.33	1.67	215.12	61.62	0.16
Olivehurst Inter	Upper OI	20545	Max WS	358.36	59	63.26	63.27	0.68	524.62	150.78	0.06
Olivehurst Inter	Upper OI	20289.2	Max WS	356.95	57.47	63.21	63.24	1.25	284.46	77.37	0.12
Olivehurst Inter	Upper OI	20250		Lat Struct							
Olivehurst Inter	Upper OI	20204	Max WS	355.1	56.96	63.15	63.22	2.04	174.11	54.98	0.15
Olivehurst Inter	Upper OI	20102		Culvert							
Olivehurst Inter	Upper OI	20000	Max WS	309.21	57.09	62.97	63.01	1.71	181.02	54.9	0.13
Olivehurst Inter	Upper OI	19926	Max WS	309.35	57.43	62.98	63	1.26	245.93	58.67	0.11
Olivehurst Inter	Upper OI	19226	Max WS	310.21	57.02	62.8	62.83	1.55	200.15	58.73	0.15
Olivehurst Inter	Upper OI	18716	Max WS	311.09	56.4	62.68	62.71	1.47	212.26	52.65	0.13
Olivehurst Inter	Upper OI	17716	Max WS	312.58	56.05	62.49	62.52	1.41	221.11	53.65	0.12
Olivehurst Inter	Upper OI	17316	Max WS	313.21	55.9	62.44	62.46	1.16	268.95	67.21	0.1
Olivehurst Inter	Upper OI	17224	Max WS	313.35	55.88	62.43	62.46	1.14	273.85	58.23	0.08
Olivehurst Inter	Upper OI	17185		Culvert							
Olivehurst Inter	Upper OI	17132	Max WS	313.28	55.58	62.33	62.35	1.11	282.75	59.03	0.08
Olivehurst Inter	Upper OI	16933	Max WS	313.61	55.51	62.31	62.33	1.3	241.44	55.83	0.11
Olivehurst Inter	Upper OI	16716	Max WS	313.87	55.44	62.28	62.3	1.29	243.04	56.06	0.11
Olivehurst Inter	Upper OI	16216	Max WS	314.65	55.26	62.21	62.24	1.26	249.22	56.69	0.11
Olivehurst Inter	Upper OI	15716	Max WS	315.46	55.09	62.15	62.17	1.23	255.59	57.39	0.1
Olivehurst Inter	Upper OI	15216	Max WS	316.26	54.91	62.09	62.12	1.2	262.47	58.08	0.1
Olivehurst Inter	Upper OI	14989	Max WS	316.26	54.81	62.07	62.09	1.18	267.12	58.59	0.1
Olivehurst Inter	Middle	14889	Max WS	359.28	54.77	62.07	62.09	1.05	342.37	68.81	0.08
Olivehurst Inter	Middle	14701	Max WS	359.06	54.71	62.06	62.07	1.04	345.52	69.07	0.08
Olivehurst Inter	Middle	13385	Max WS	378.76	54.32	61.95	61.97	1.04	365.75	70.82	0.08

Olivehurst Inter	Middle	12600	Max WS	377.16	54.08	61.91	61.92	0.92	410.82	79.94	0.07
Olivehurst Inter	Middle	12080	Max WS	375.59	53.87	61.88	61.89	0.96	392.79	73.07	0.07
Olivehurst Inter	Middle	11980	Max WS	375.54	53.87	61.87	61.89	0.96	392.38	73.04	0.07
Olivehurst Inter	Middle	11900		Lat Struct							
Olivehurst Inter	Middle	11885	Max WS	397.31	53.86	61.87	61.88	1.01	392.28	73	0.08
Olivehurst Inter	Middle	11880	Max WS	397.35	53.86	61.86	61.88	1.01	392.25	73	0.08
Olivehurst Inter	Lower	11000	Max WS	397.28	53.6	61.87	61.88	1	396.89	84.25	0.08
Olivehurst Inter	Lower	10950	Max WS	397.25	53.4	61.86	61.88	0.98	405.55	84.22	0.07
Olivehurst Inter	Lower	10905		Culvert							
Olivehurst Inter	Lower	10860	Max WS	390.61	53.3	61.63	61.65	1.06	368.18	68.41	0.08
Olivehurst Inter	Lower	10500	Max WS	389.93	53.64	61.6	61.62	1.12	349.42	67.79	0.09
Olivehurst Inter	Lower	8900	Max WS	388.97	52.75	61.47	61.49	1.1	353.11	68.99	0.09
Olivehurst Inter	Lower	8874		Culvert							
Olivehurst Inter	Lower	8848	Max WS	388.59	52.83	61.36	61.38	1.13	345.32	68.47	0.09
Olivehurst Inter	Lower	7300	Max WS	388.2	52.35	61.24	61.26	1.05	371.02	73.12	0.08
Olivehurst Inter	Lower	5600	Max WS	388.62	51.7	61.14	61.15	0.95	411.1	73.11	0.07
Olivehurst Inter	Lower	5000	Max WS	388.93	51.48	61.11	61.13	0.88	444.08	75.36	0.06
Olivehurst Inter	Lower	4980	Max WS	388.95	51.47	61.11	61.12	1.1	354.53	76.28	0.07
Olivehurst Inter	Lower	4865		Culvert							
Olivehurst Inter	Lower	4750	Max WS	388.84	51.38	60.81	60.83	1.12	347.91	76.94	0.07
Olivehurst Inter	Lower	4737	Max WS	388.85	51.37	60.81	60.83	0.9	430.87	76.25	0.07
Olivehurst Inter	Lower	4663	Max WS	395.46	51.34	60.78	60.82	1.59	249.06	43.1	0.12
Olivehurst Inter	Lower	4116	Max WS	393.35	51.16	60.68	60.73	1.74	227.36	42.5	0.12
Olivehurst Inter	Lower	4025	Max WS	393.4	51.13	60.67	60.71	1.64	239.89	41.95	0.12
Olivehurst Inter	Lower	3195	Max WS	393.91	50.85	60.55	60.59	1.61	244.21	39.94	0.1
Olivehurst Inter	Lower	3158		Culvert							
Olivehurst Inter	Lower	3122	Max WS	393.88	50.82	60.37	60.41	1.64	239.51	39.39	0.1
Olivehurst Inter	Lower	3019	Max WS	393.93	50.79	60.35	60.39	1.6	245.81	42.5	0.12
Olivehurst Inter	Lower	1187	Max WS	355.26	50.16	60.17	60.18	1.02	425.35	130.68	0.07
Olivehurst Inter	Lower	1027	Max WS	355.28	50.11	60.14	60.17	1.49	238.43	129.68	0.09
Olivehurst Inter	Lower	974		Culvert							
Olivehurst Inter	Lower	922	Max WS	57.17	50.08	60	60	0.24	235.04	125.02	0.02
Olivehurst Inter	Lower	671	Max WS	353.57	49.99	60	60	0.43	1136.67	180.51	0.03
Olivehurst Drain	Upper	20602	Max WS	1	65	68.73	68.73	0.03	33.46	16.36	0
Olivehurst Drain	Upper	20510.1	Max WS	1	64.98	68.73	68.73	0.03	33.47	16.05	0
Olivehurst Drain	Upper	19775	Max WS	45.28	64.8	68.35	68.42	2.07	21.92	8.81	0.23
Olivehurst Drain	Upper	19640	Max WS	44.99	64.7	68.14	68.21	2.14	21.05	8.77	0.24

Olivehurst Drain	Upper	19584		Culvert							
Olivehurst Drain	Upper	19543	Max WS	44.9	64.6	68.09	68.14	1.76	25.49	12.07	0.21
Olivehurst Drain	Upper	19443	Max WS	44.75	64.57	68.01	68.05	1.55	28.81	12.31	0.18
Olivehurst Drain	Upper	18743	Max WS	45.25	64	67.49	67.53	1.6	28.22	11.48	0.18
Olivehurst Drain	Upper	18214	Max WS	61.59	63.35	66.91	66.97	2.05	29.99	12.22	0.23
Olivehurst Drain	Upper	18186		Culvert							
Olivehurst Drain	Upper	18155	Max WS	61.22	63.3	66.8	66.87	2.11	29.03	12.02	0.24
Olivehurst Drain	Upper	17943	Max WS	67.04	63	66.43	66.53	2.5	26.85	10.82	0.28
Olivehurst Drain	Upper	17926		Culvert							
Olivehurst Drain	Upper	17904	Max WS	67.04	62.8	66.42	66.5	2.35	28.52	10.75	0.25
Olivehurst Drain	Upper	17731	Max WS	71.94	62.4	66.2	66.26	2	35.98	14.84	0.23
Olivehurst Drain	Upper	17712		Culvert							
Olivehurst Drain	Upper	17699	Max WS	71.67	62.3	66.13	66.21	2.32	30.96	11.07	0.24
Olivehurst Drain	Upper	17474	Max WS	77.89	62.1	65.84	65.91	2.11	36.88	13.26	0.22
Olivehurst Drain	Upper	17458		Culvert							
Olivehurst Drain	Upper	17443	Max WS	77.83	62	65.79	65.86	2.08	37.43	13.21	0.22
Olivehurst Drain	Upper	17235	Max WS	80.76	61.5	65.71	65.76	1.84	43.91	14.26	0.18
Olivehurst Drain	Upper	17216		Culvert							
Olivehurst Drain	Upper	17197	Max WS	80.51	61.3	65.62	65.67	1.86	43.33	13.09	0.18
Olivehurst Drain	Upper	17088	Max WS	83.44	61.2	65.53	65.59	1.89	44.15	13.51	0.18
Olivehurst Drain	Upper	17073		Culvert							
Olivehurst Drain	Upper	17058	Max WS	83.17	61.1	65.44	65.5	1.91	43.58	13.11	0.18
Olivehurst Drain	Upper	16950		Lat Struct							
Olivehurst Drain	Upper	16933	Max WS	-0.77	61	65.53	65.53	-0.02	45.16	12.78	0
Olivehurst Drain	Upper	16922		Culvert							
Olivehurst Drain	Upper	16909	Max WS	-0.73	66.43	66.65	66.66	-0.85	0.85	5.06	0.37
Olivehurst Drain	Upper	16733	Max WS	2.14	66.41	66.63	66.66	1.41	1.51	9.6	0.63
Olivehurst Drain	Upper	16728		Bridge							
Olivehurst Drain	Upper	16722	Max WS	1.75	66.28	66.62	66.63	0.58	3.03	13.13	0.21
Olivehurst Drain	Upper	16720		Lat Struct							
Olivehurst Drain	Upper	16360	Max WS	1.48	65.86	66.59	66.59	0.27	5.51	12.63	0.07
Olivehurst Drain	Upper	16212	Max WS	0.97	65.77	66.58	66.58	0.15	6.31	15.5	0.04
Olivehurst Drain	Upper	16010	Max WS	1.03	66.04	66.58	66.58	0.23	4.49	16.95	0.08
Olivehurst Drain	Upper	15635	Max WS	2.85	65.91	66.53	66.54	0.93	3.08	10.38	0.3
Olivehurst Drain	Upper	15105	Max WS	-1.52	65.2	66.04	66.04	-0.3	5.02	8.94	0.07
Olivehurst Drain	Upper	14938	Max WS	-74.78	62.31	65.57	65.63	-2.03	36.86	19.43	0.26
Olivehurst Drain	Upper	14928	Max WS	-80.22	62.14	65.55	65.61	-2.03	39.47	19.31	0.25

Olivehurst Drain	Upper	14925		Lat Struct							
Olivehurst Drain	Upper	14918	Max WS	-83.2	61.97	65.53	65.59	-1.99	41.82	19.15	0.24
Olivehurst Drain	Upper	14900	Max WS	-69.6	62.73	65.02	65.25	-3.82	18.23	8.07	0.45
Olivehurst Drain	Clark	10764	Max WS	1	61.52	64.23	64.23	0.03	36.11	17.99	0
Olivehurst Drain	Clark	10760	Max WS	1	61.52	64.23	64.23	0.03	36.11	17.99	0
Olivehurst Drain	Clark	10759		Lat Struct							
Olivehurst Drain	Clark	10700	Max WS	1	61.52	64.23	64.23	0.03	36.11	17.99	0
Olivehurst Drain	Clark	10698	Max WS	1	61.52	64.23	64.23	0.03	36.11	17.99	0
Olivehurst Drain	Clark	10654	Max WS	21.08	61.49	64.22	64.22	0.58	36.17	17.99	0.07
Olivehurst Drain	Clark	10515	Max WS	21.35	61.41	64.2	64.21	0.58	36.87	18.12	0.07
Olivehurst Drain	Clark	10000	Max WS	22.35	61.1	64.15	64.16	0.55	40.56	18.73	0.07
Olivehurst Drain	Clark	9590	Max WS	23.15	60.86	64.12	64.12	0.51	44.95	19.09	0.06
Olivehurst Drain	Clark	8395	Max WS	25.47	60.96	64.03	64.03	0.53	47.9	21.83	0.06
Olivehurst Drain	Clark	7734.37	Max WS	26.75	60.75	63.88	63.9	1.03	25.89	14.18	0.13
Olivehurst Drain	Clark	7640	Max WS	26.93	60.72	63.84	63.86	1.15	23.43	13.1	0.15
Olivehurst Drain	Clark	7580	Max WS	27.05	60.7	63.8	63.83	1.3	20.82	12.4	0.16
Olivehurst Drain	Clark	7553		Culvert							
Olivehurst Drain	Clark	7525	Max WS	26.95	59.24	62.84	62.85	0.86	31.44	18.72	0.09
Olivehurst Drain	Clark	7446	Max WS	26.94	60.22	62.83	62.84	0.85	31.65	16.89	0.11
Olivehurst Drain	Clark	7349.81	Max WS	27.13	60.19	62.8	62.82	0.85	31.85	16.98	0.11
Olivehurst Drain	Clark	6388	Max WS	28.98	59.91	62.57	62.58	0.82	35.23	17.79	0.1
Olivehurst Drain	Clark	5300	Max WS	29.92	59.3	62.38	62.39	0.7	42.93	21.4	0.09
Olivehurst Drain	Clark	5150	Max WS	30.17	59.29	62.36	62.36	0.76	39.92	20.05	0.09
Olivehurst Drain	Clark	4790	Max WS	30.73	59.27	62.27	62.28	0.95	32.33	16.67	0.12
Olivehurst Drain	Clark	4700	Max WS	23.71	59.26	62.24	62.25	0.78	30.43	15.81	0.1
Olivehurst Drain	Clark	4655	Max WS	23.76	58.92	62.24	62.24	0.57	41.41	18.23	0.07
Olivehurst Drain	Clark	4638		Culvert							
Olivehurst Drain	Clark	4606	Max WS	22.89	59.3	62.09	62.09	0.63	36.38	18.57	0.08
Olivehurst Drain	Clark	4519.5	Max WS	22.84	59.15	62.08	62.08	0.62	36.68	18.82	0.08
Olivehurst Drain	Clark	4433	Max WS	22.81	59	62.07	62.07	0.62	36.98	19.15	0.08
Olivehurst Drain	Clark	4260	Max WS	22.78	58.7	62.04	62.05	0.6	37.83	20.15	0.08
Olivehurst Drain	Clark	4152	Max WS	22.76	58.85	62.03	62.04	0.63	35.99	16.47	0.08
Olivehurst Drain	Clark	3604	Max WS	22.3	58.64	61.97	61.98	0.54	41.42	20.82	0.07
Olivehurst Drain	Clark	3240	Max WS	22.14	58.6	61.95	61.95	0.49	44.78	21.37	0.06
Olivehurst Drain	Clark	3118	Max WS	22.04	59	61.93	61.94	0.62	35.61	17.04	0.08
Olivehurst Drain	Clark	2630	Max WS	21.74	58.12	61.89	61.89	0.47	46.05	16.92	0.05
Olivehurst Drain	Clark	2534	Max WS	21.77	58.06	61.89	61.89	0.24	92.15	30.47	0.02

Olivehurst Drain	Clark		2381	Max WS	21.74	57.3	61.89	61.89	0.35	61.42	19.48	0.04
Olivehurst Drain	Clark		2202	Max WS	21.74	57.05	61.88	61.89	0.27	79.56	24.14	0.03
Olivehurst Drain	Clark		2102	Max WS	21.77	56.65	61.88	61.88	0.22	97.23	27.79	0.02
Olivehurst Drain	Clark		2082	Max WS	21.77	56.3	61.88	61.88	0.26	82.74	23.79	0.02
Olivehurst Drain	Clark		2056		Culvert							
Olivehurst Drain	Clark		2010	Max WS	21.74	56	61.87	61.88	0.22	98.38	77.85	0.02
Olivehurst Drain	Clark		2000	Max WS	21.73	53.84	61.87	61.87	0.01	1561.81	198.77	0
Linear Detention		1	12773	Max WS	6.61	59.5	67.16	67.16	0.01	481.51	84.95	0
Linear Detention		1	11658.7	Max WS	6.57	59.11	67.16	67.16	0.01	506.55	85.14	0
Linear Detention		1	11473	Max WS	43.53	59.04	67.16	67.16	0.09	511.03	85.17	0.01
Linear Detention		1	11423		Culvert							
Linear Detention		1	11373	Max WS	43.09	59	66.23	66.23	0.1	438.6	75.75	0.01
Linear Detention		1	11323	Max WS	43.09	58.98	66.23	66.23	0.1	435.33	74.52	0.01
Linear Detention		1	11273	Max WS	45.58	58.97	66.23	66.23	0.1	436.12	74.57	0.01
Linear Detention		1	11173	Max WS	46.12	58.93	66.23	66.23	0.11	439.06	74.72	0.01
Linear Detention		1	10373	Max WS	50.48	58.66	66.23	66.23	0.11	459.34	75.8	0.01
Linear Detention		1	10173	Max WS	50.47	58.59	66.23	66.23	0.11	464.87	81.12	0.01
Linear Detention		1	9173	Max WS	53.59	58.24	66.23	66.23	0.11	493.53	82.87	0.01
Linear Detention		1	8373	Max WS	59.28	57.97	66.23	66.23	0.11	516.04	84.21	0.01
Linear Detention		1	8273	Max WS	59.27	57.94	66.23	66.23	0.11	518.63	84.38	0.01
Linear Detention		1	8223		Culvert							
Linear Detention		1	8173	Max WS	56.91	57.9	65.33	65.33	0.13	448.64	75.23	0.01
Linear Detention		1	7973	Max WS	56.86	57.83	65.33	65.33	0.13	453.87	75.51	0.01
Linear Detention		1	7773	Max WS	57.18	57.76	65.33	65.33	0.12	459.15	75.79	0.01
Linear Detention		1	7173	Max WS	59.47	57.55	65.33	65.33	0.12	476.05	81.81	0.01
Linear Detention		1	5973	Max WS	64.03	57.14	65.33	65.33	0.13	509.94	83.85	0.01
Linear Detention		1	5873	Max WS	64.41	56.35	65.33	65.33	0.11	577.73	87.79	0.01
Linear Detention		1	5773	Max WS	68.52	55.57	65.33	65.33	0.11	647.71	91.7	0.01
Linear Detention		1	5723		Culvert							
Linear Detention		1	5673	Max WS	52.69	54.78	64.34	64.34	0.08	629.58	90.69	0.01
Linear Detention		1	5653	Max WS	52.68	54.62	64.34	64.34	0.08	644.16	91.49	0.01
Linear Detention		1	5623		Lat Struct							
Linear Detention		1	5593	Max WS	79.84	54.16	64.34	64.34	0.12	686.84	93.81	0.01
Linear Detention		1	5573	Max WS	79.83	54	64.34	64.34	0.11	701.87	94.61	0.01
Linda Drain	extended		45526.95	Max WS	52.82	76.18	79.53	79.55	1.25	294.94	1096.67	0.15
Linda Drain	extended		45434.43	Max WS	52.64	76.06	79.49	79.51	0.95	55.35	22.5	0.11
Linda Drain	extended		45398.42		Culvert							

Linda Drain	extended	45358.65	Max WS	12.64	75.79	79.03	79.03	0.33	43.51	19.28	0.04
Linda Drain	extended	45182.4	Max WS	12.63	75.48	79.03	79.03	0.3	46.64	20.39	0.03
Linda Drain	extended	45006.3	Max WS	18.01	75.16	79.02	79.02	0.39	49.85	21.48	0.04
Linda Drain	extended	44301.7	Max WS	58.55	73.91	78.8	78.82	0.98	459.49	1230.25	0.1
Linda Drain	extended	44159.85	Max WS	60.72	74.11	78.76	78.77	0.85	74.3	51.42	0.09
Linda Drain	extended	44120		Culvert							
Linda Drain	extended	44080.67	Max WS	60.7	74.42	78.39	78.41	1.22	49.84	20.64	0.13
Linda Drain	extended	43569.7	Max WS	60.69	74.09	78.23	78.25	1.14	53.21	19.6	0.12
Linda Drain	extended	43229.12	Max WS	62.47	73.87	78.13	78.15	1.12	55.62	19.84	0.12
Linda Drain	extended	43201.7	Max WS	62.47	73.85	78.13	78.15	1.14	55.01	263.11	0.12
Linda Drain	extended	43174.56		Culvert							
Linda Drain	extended	43137.84	Max WS	61.3	73.79	77.74	77.76	1.32	765.45	930.02	0.15
Linda Drain	extended	42976.26	Max WS	61.15	73.07	77.69	77.7	1.02	61.3	857.12	0.1
Linda Drain	extended	42900		Culvert							
Linda Drain	extended	42814.22	Max WS	61	73.13	77.01	77.05	1.58	38.63	17.21	0.19
Linda Drain	extended	42176.08	Max WS	61.34	73.08	76.56	76.6	1.51	44.08	210.25	0.18
Linda Drain	extended	41268.96	Max WS	57.19	72.33	75.94	75.98	1.5	38.01	2998.28	0.18
Linda Drain	extended	41227.03		Culvert							
Linda Drain	extended	41184.3	Max WS	55.26	72.06	75.53	75.56	1.55	812.49	2054.45	0.18
Linda Drain	extended	41156.2	Max WS	54.86	71.97	75.49	75.53	1.42	696.86	1768.32	0.16
Linda Drain	extended	40035.21	Max WS	48.65	71.02	75.06	75.08	1.05	46.3	2390.55	0.11
Linda Drain	extended	39991.69		Culvert							
Linda Drain	extended	39949.52	Max WS	47.98	70.47	74.77	74.79	0.91	52.86	18.69	0.1
Linda Drain	extended	39606.6	Max WS	47.62	70.38	74.71	74.72	0.96	58.03	363.76	0.1
Linda Drain	extended	38749.37	Max WS	46.81	70.14	74.49	74.51	1.22	431.93	1168.06	0.12
Linda Drain	extended	38373.1	Max WS	46.75	69.9	74.37	74.39	1.14	40.98	13.39	0.11
Linda Drain	extended	37620.68	Max WS	46.72	69.43	74.19	74.21	0.96	48.96	259.39	0.1
Linda Drain	extended	37600		Culvert							
Linda Drain	extended	37564.32	Max WS	46.38	69.13	72.8	72.83	1.37	174.05	298.21	0.16
Linda Drain	extended	36567.12	Max WS	44.95	68.87	71.91	71.95	1.54	791.43	948.44	0.19
Linda Drain	extended	35633.4	Max WS	43.22	68.15	71.42	71.45	1.4	983.34	1378.97	0.17
Linda Drain	extended	34726.49	Max WS	40.78	67.72	70.57	70.61	1.71	138.44	541.4	0.22
Linda Drain	extended	34095.3	Max WS	42.23	67.21	69.63	69.69	1.96	21.55	11.86	0.26
Linda Drain	extended	34053.2		Bridge							
Linda Drain	extended	34046.01	Max WS	42.25	67.17	69.55	69.61	1.95	21.61	11.85	0.26
Linda Drain	extended	33867.9	Max WS	42.24	66.75	69.3	69.36	1.92	22	12.07	0.25
Linda Drain	extended	33155.51	Max WS	43.59	65.09	68.6	68.63	1.47	29.7	13.99	0.15

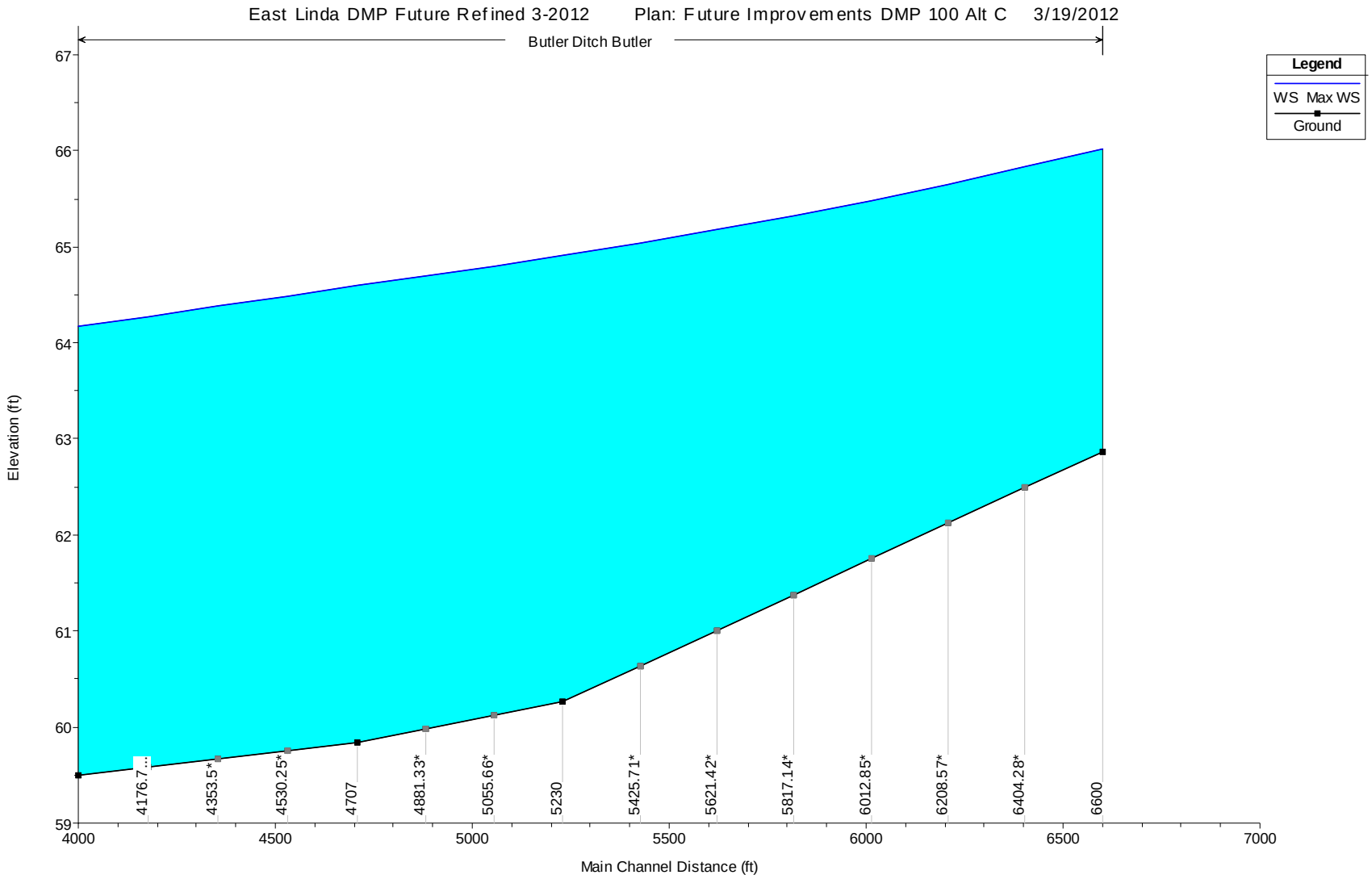
Linda Drain	extended	33141.08		Culvert							
Linda Drain	extended	33126.5	Max WS	43.59	65.11	68.47	68.49	1.29	33.78	14.32	0.15
Linda Drain	extended	33097.56	Max WS	43.59	65.14	68.46	68.48	1.17	37.38	15.66	0.13
Linda Drain	extended	32921.63	Max WS	43.59	65.18	68.4	68.42	1.07	40.87	18.99	0.13
Linda Drain	extended	32696.9	Max WS	43.59	65.04	68.35	68.36	0.87	51.26	53.14	0.1
Linda Drain	extended	32695.5		Lat Struct							
Linda Drain	extended	32648.16	Max WS	43.59	65.01	68.34	68.35	0.83	52.55	157.45	0.09
Linda Drain	extended	32603.41		Culvert							
Linda Drain	extended	32562.66	Max WS	43.59	65	68.26	68.27	0.87	50.29	20.48	0.1
Linda Drain	extended	32081.15	Max WS	43.58	64.97	68.2	68.21	0.57	76.23	38.1	0.07
Linda Drain	extended	31393.3	Max WS	29.24	65.18	67.36	67.43	2.23	13.12	10.21	0.35
Linda Drain	extended	31300		Lat Struct							
Linda Drain	extended	31295.1	Max WS	8.97	65.21	67.35	67.36	0.86	10.49	8.32	0.13
Linda Drain	extended	31250		Bridge							
Linda Drain	extended	31213.87	Max WS	5.05	65.58	67.28	67.29	0.58	8.68	7.68	0.1
Linda Drain	extended	31154.5	Max WS	-11.14	65.62	67.34	67.37	-1.23	9.02	7.89	0.2
Linda Drain	extended	30739.6	Max WS	-10.63	65.86	67.73	67.74	-0.74	14.41	11.1	0.11
Linda Drain	extended	30710.89		Culvert							
Linda Drain	extended	30689.01	Max WS	-10.65	65.32	67.76	67.76	-0.62	17.06	10.61	0.09
Linda Drain	extended	30471.23	Max WS	-8.72	64.89	67.78	67.78	-0.3	28.64	14.12	0.04
Linda Drain	extended	30454.47		Culvert							
Linda Drain	extended	30433.78	Max WS	-8.74	65.07	67.79	67.79	-0.3	28.84	13.87	0.04
Linda Drain	extended	30414.6	Max WS	-6.92	65.16	67.79	67.79	-0.26	26.42	13.59	0.03
Linda Drain	extended	30372.63		Culvert							
Linda Drain	extended	30328.27	Max WS	-6.92	65.59	67.8	67.8	-0.39	17.83	12.01	0.06
Linda Drain	extended	30058.19	Max WS	-3.06	64.89	67.81	67.81	-0.12	25	13.2	0.02
Linda Drain	extended	29704.71	Max WS	50.29	63.04	67.78	67.79	0.86	58.5	19.84	0.09
Linda Drain	extended	29524.3	Max WS	52.02	62.79	67.75	67.76	0.83	62.76	20.79	0.08
Linda Drain	extended	29163.57	Max WS	56.95	62.3	67.71	67.72	0.78	73.03	23.34	0.08
Linda Drain	extended	28844.37	Max WS	60.91	62.89	67.67	67.68	0.78	78.12	35.9	0.09
Linda Drain	extended	28478	Max WS	68.65	63.13	67.56	67.59	1.35	50.78	17.96	0.14
Linda Drain	extended	28350	Max WS	70.6	63.7	67.49	67.52	1.46	48.45	19.05	0.16
Linda Drain	extended	28150	Max WS	73.56	62.84	67.4	67.43	1.41	52.3	18.67	0.15
Linda Drain	extended	27955	Max WS	76.32	62.3	67.31	67.34	1.43	53.2	18.25	0.15
Linda Drain	extended	27945		Bridge							
Linda Drain	extended	27935	Max WS	76.58	62.3	67.3	67.33	1.44	53.03	18.2	0.15
Linda Drain	extended	27698	Max WS	79.68	63.33	67.17	67.21	1.51	52.86	17.59	0.15

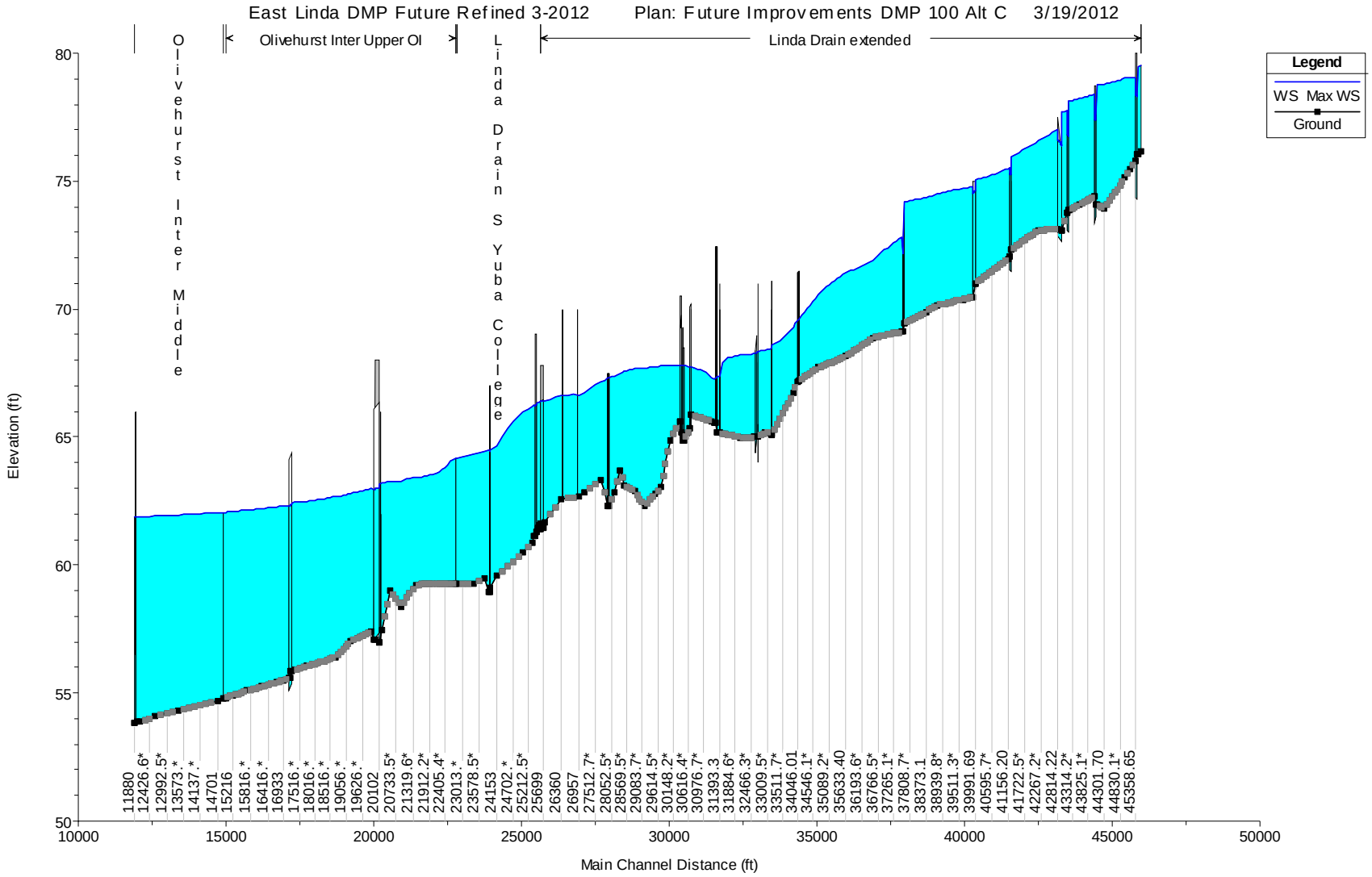
Linda Drain	extended	27142.2	Max WS	79.94	62.84	66.75	66.79	1.57	51.06	19.85	0.17
Linda Drain	extended	26957	Max WS	92.3	62.68	66.64	66.68	1.51	67.34	76.37	0.15
Linda Drain	extended	26900		Lat Struct							
Linda Drain	extended	26360	Max WS	101.72	62.58	66.64	66.67	1.38	87.78	79.94	0.14
Linda Drain	extended	25796	Max WS	92.61	61.67	66.41	66.44	1.38	67.19	23.88	0.14
Linda Drain	extended	25728	Max WS	91.64	61.47	66.39	66.41	1.19	76.89	22.53	0.11
Linda Drain	extended	25699		Culvert							
Linda Drain	extended	25669	Max WS	92.09	61.41	66.39	66.41	0.98	93.65	29.59	0.09
Linda Drain	extended	25654	Max WS	91.73	61.63	66.39	66.41	0.98	94.32	29.57	0.09
Linda Drain	S Yuba College	25642	Max WS	124.22	61.63	66.39	66.42	1.32	94.31	29.57	0.13
Linda Drain	S Yuba College	25607	Max WS	124.06	61.55	66.38	66.41	1.37	90.39	27.78	0.13
Linda Drain	S Yuba College	25572	Max WS	128.15	61.47	66.36	66.39	1.44	88.91	26.58	0.14
Linda Drain	S Yuba College	25537	Max WS	129.59	61.39	66.35	66.38	1.42	91.3	26.26	0.13
Linda Drain	S Yuba College	25502	Max WS	142.07	61.3	66.31	66.36	1.92	73.84	25.94	0.15
Linda Drain	S Yuba College	25450		Culvert							
Linda Drain	S Yuba College	25398	Max WS	139.62	61.16	66.24	66.27	1.46	95.48	24.97	0.13
Linda Drain	S Yuba College	25357	Max WS	141.25	60.88	66.21	66.25	1.65	85.74	24.3	0.15
Linda Drain	S Yuba College	25068	Max WS	153.87	60.51	66.01	66.06	1.86	82.87	25.72	0.18
Linda Drain	S Yuba College	24153	Max WS	197.99	59.59	64.67	64.82	3.14	63.05	20.1	0.31
Linda Drain	S Yuba College	23953	Max WS	209.41	59.13	64.47	64.54	2.17	96.63	25.97	0.2
Linda Drain	S Yuba College	23918		Bridge							
Linda Drain	S Yuba College	23892	Max WS	213.2	58.95	64.48	64.51	1.42	150.67	44.5	0.14
Linda Drain	S Yuba College	23772	Max WS	220.35	59.46	64.44	64.47	1.38	159.8	45.15	0.13
Linda Drain	S Yuba College	23385	Max WS	220.08	59.26	64.35	64.37	1.3	169.43	47.02	0.12
Linda Drain	S Yuba College	22827	Max WS	216.82	59.28	64.18	64.21	1.52	142.66	40.37	0.14
Linda Drain	Edgewater	27830	Max WS	41.6	56.5	62.65	62.65	0.29	142.12	36.39	0.02
Linda Drain	Edgewater	27828	Max WS	41.6	56.5	62.65	62.65	0.24	173.35	36.39	0.02
Linda Drain	Edgewater	27826	Max WS	124.59	56.5	62.62	62.64	1.07	116.3	36.32	0.08
Linda Drain	Edgewater	27796		Culvert							
Linda Drain	Edgewater	27766	Max WS	122.1	56.17	62.51	62.53	1.12	108.79	42.66	0.08
Linda Drain	Edgewater	27684	Max WS	122.09	56.9	62.51	62.52	1.02	120.3	42	0.09
Linda Drain	Edgewater	26904	Max WS	121.82	56.41	62.45	62.46	0.88	138.91	32.23	0.07
Linda Drain	Edgewater	26610	Max WS	124.35	56.67	62.43	62.44	0.87	143.2	32.3	0.07
Linda Drain	Edgewater	26525		Culvert							
Linda Drain	Edgewater	26445	Max WS	40.63	55.89	62.08	62.08	0.27	151.07	32.78	0.02
Linda Drain	Edgewater	24900	Max WS	43.02	54.77	62.07	62.07	0.27	158.27	32.4	0.02
Linda Drain	Edgewater	24893	Max WS	43.02	54.77	62.07	62.07	0.27	158.27	32.4	0.02

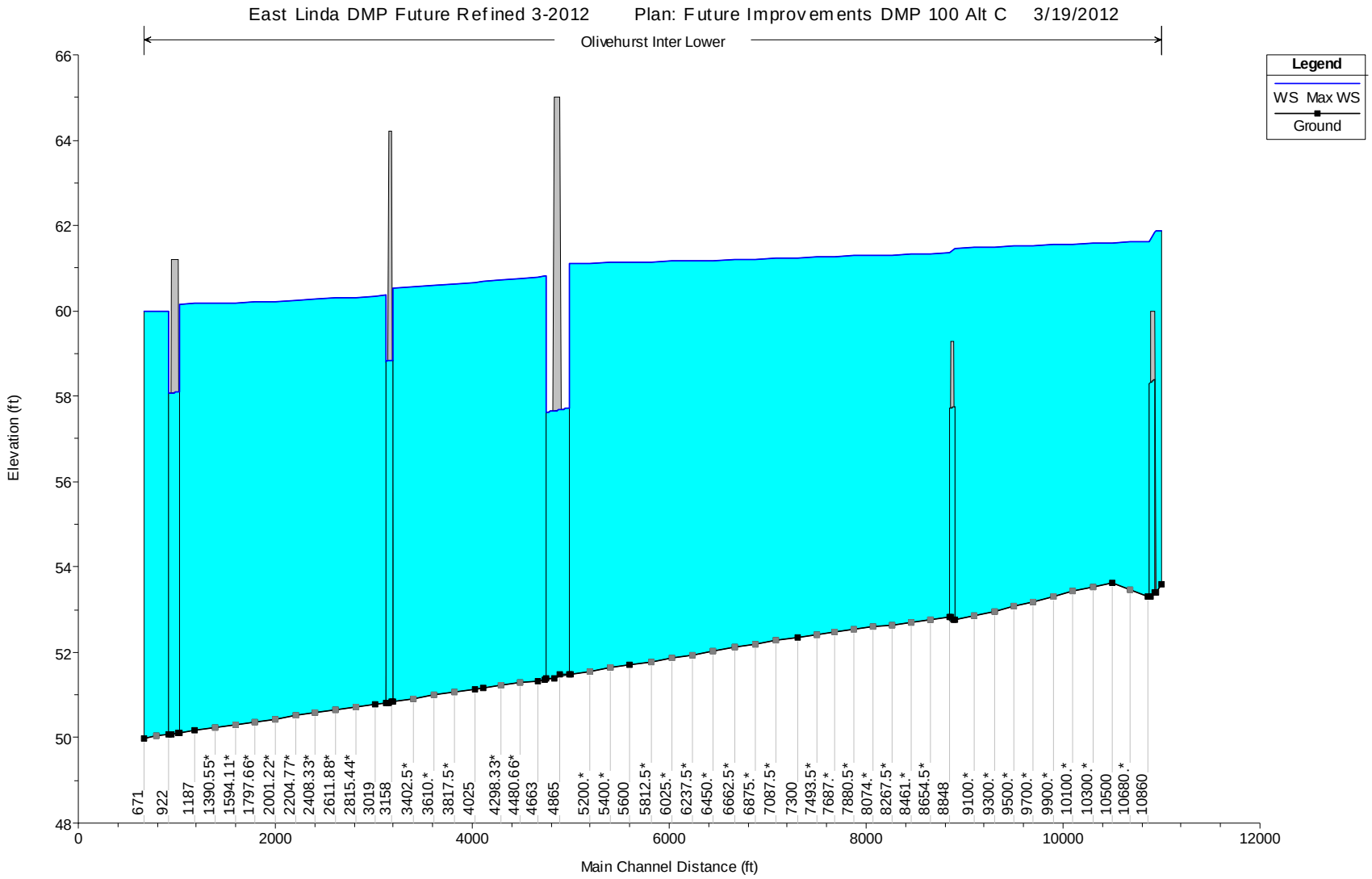
Linda Drain	EdgewaterN	30450	Max WS	41.76	57.7	62.79	62.79	0.53	78.67	21.92	0.05
Linda Drain	EdgewaterN	30430	Max WS	41.76	57.8	62.79	62.79	0.53	79	22.07	0.05
Fernwood Ditch	Fernwood	32310	Max WS	15.27	59.59	62.96	62.96	0.45	34.23	17.07	0.06
Fernwood Ditch	Fernwood	32145	Max WS	15.01	59.72	62.95	62.95	0.51	29.25	13.81	0.06
Fernwood Ditch	Fernwood	31825	Max WS	14.43	58.75	62.93	62.94	0.69	20.87	14.55	0.06
Fernwood Ditch	Fernwood	31795		Culvert							
Fernwood Ditch	Fernwood	31766	Max WS	13.41	58.65	62.88	62.88	0.64	21.04	14.77	0.05
Fernwood Ditch	Fernwood	31388	Max WS	13.73	58.67	62.87	62.88	0.33	41.84	14.73	0.03
Fernwood Ditch	Fernwood	31321	Max WS	13.7	58.2	62.87	62.87	0.52	26.09	14.84	0.04
Fernwood Ditch	Fernwood	31293		Culvert							
Fernwood Ditch	Fernwood	31264	Max WS	13.33	58.01	62.81	62.82	0.48	27.95	13.37	0.04
Fernwood Ditch	Fernwood	31081	Max WS	13.42	58.01	62.81	62.81	0.3	44.14	13.37	0.03
Fernwood Ditch	Fernwood	30870	Max WS	26.58	57.69	62.8	62.8	0.42	76.64	76.8	0.04
Fernwood Ditch	Fernwood	30500	Max WS	26.58	57.8	62.79	62.79	0.56	47.18	13.68	0.05
Butler Ditch	Butler	6600	Max WS	85.04	62.87	66.02	66.09	2.19	38.76	16.33	0.25
Butler Ditch	Butler	5230	Max WS	82.31	60.26	64.91	64.96	1.92	42.86	14.94	0.2
Butler Ditch	Butler	4707	Max WS	81.45	59.84	64.59	64.65	1.82	44.83	15.3	0.19
Butler Ditch	Butler	4000	Max WS	80.05	59.5	64.18	64.23	1.84	43.56	14.2	0.18

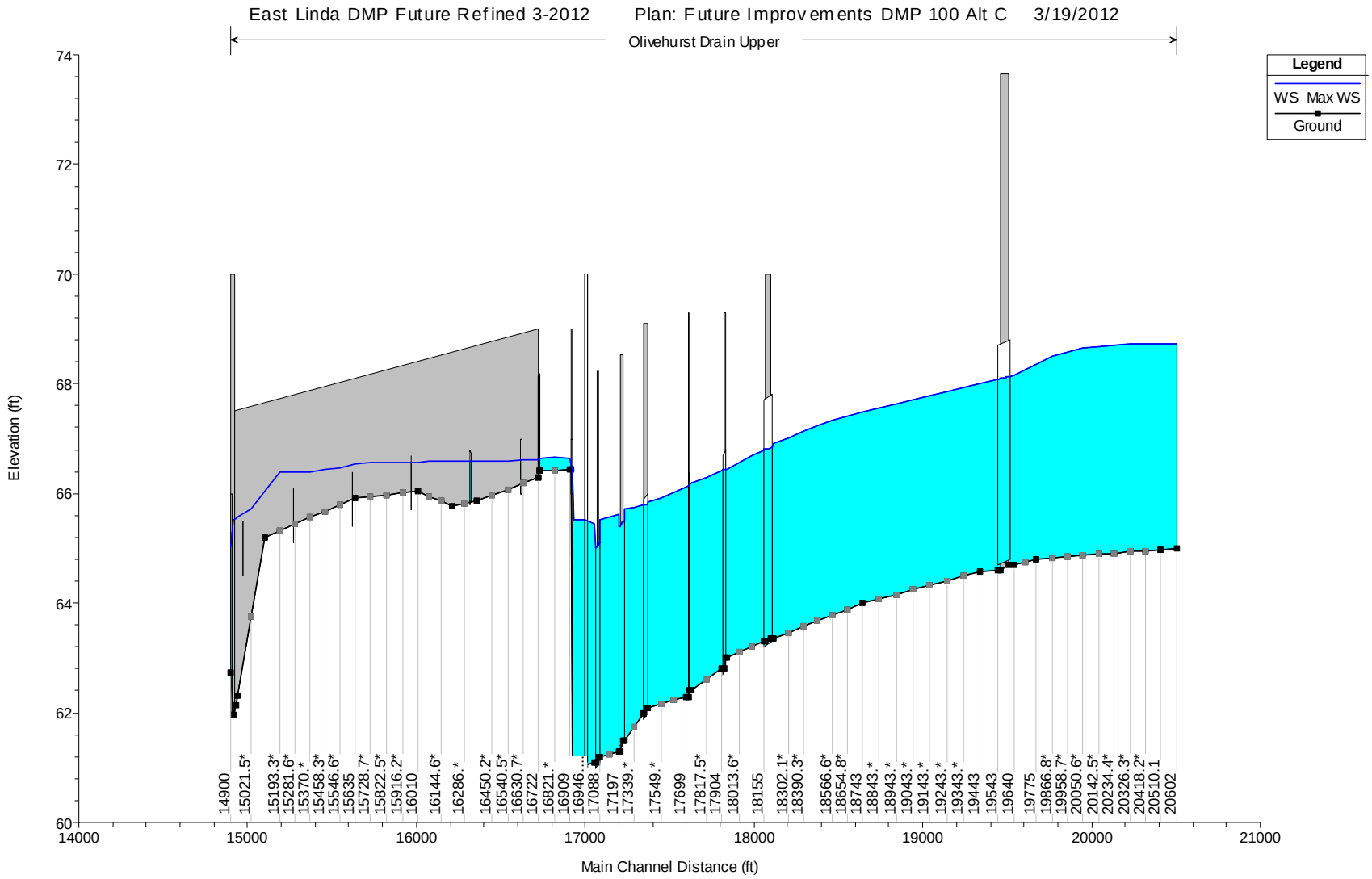
HEC-RAS Plan: FU_SP100altC Profile: Max WS

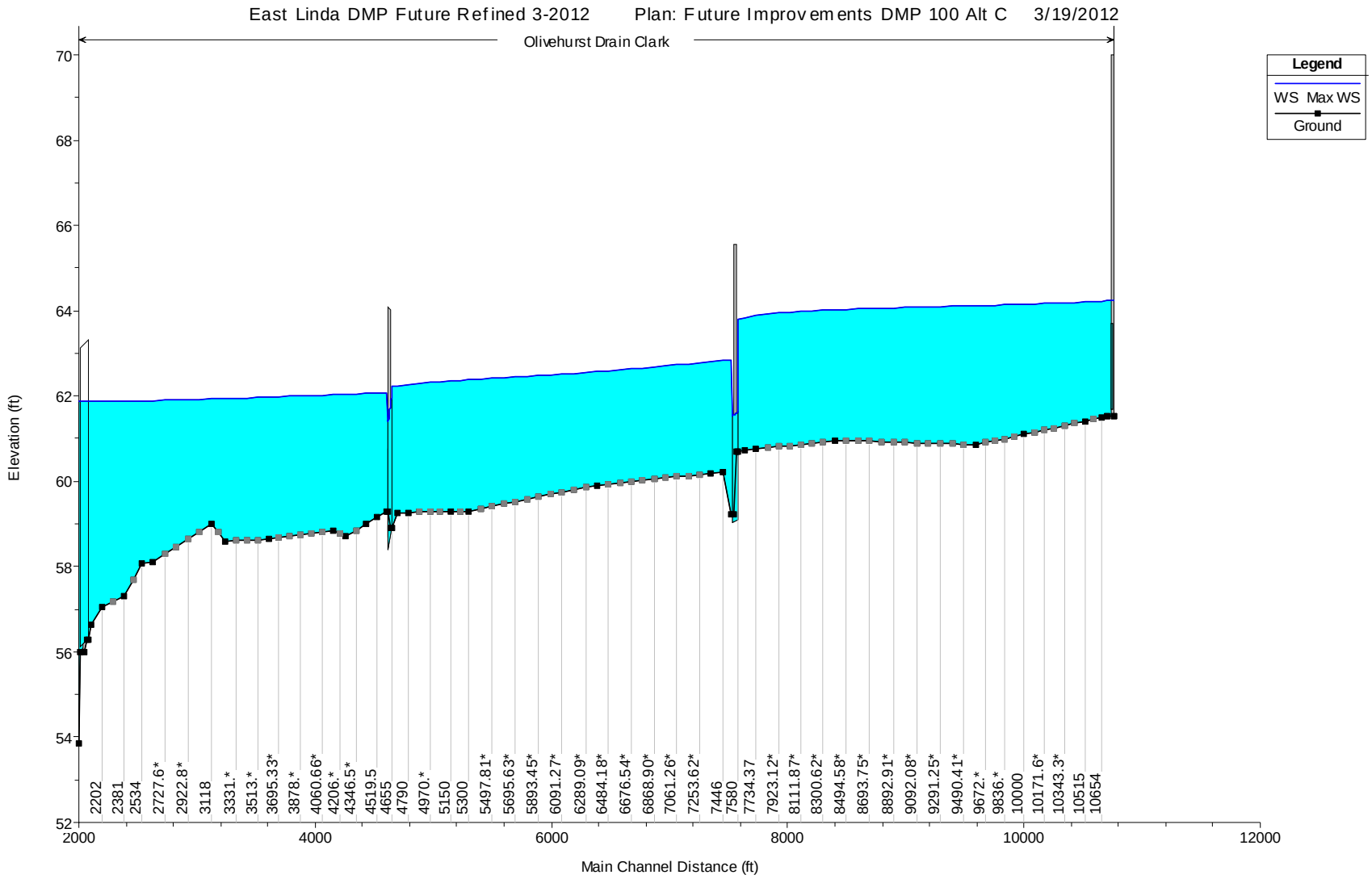
Storage Area	Profile	W.S. Elev (ft)	SA Min El (ft)	Net Flux (cfs)	SA Area (acres)	SA Volume (acre-ft)
Butler Pond	Max WS	66.65	62	14	6	27.88
Edgewater	Max WS	62.42	59	0	6.05	15.55
Olivehurst Pond	Max WS	61.86	53.6	0.08	4.63	30.13
Orchard Pond	Max WS	64.34	53.9	69.41	8.22	92.94

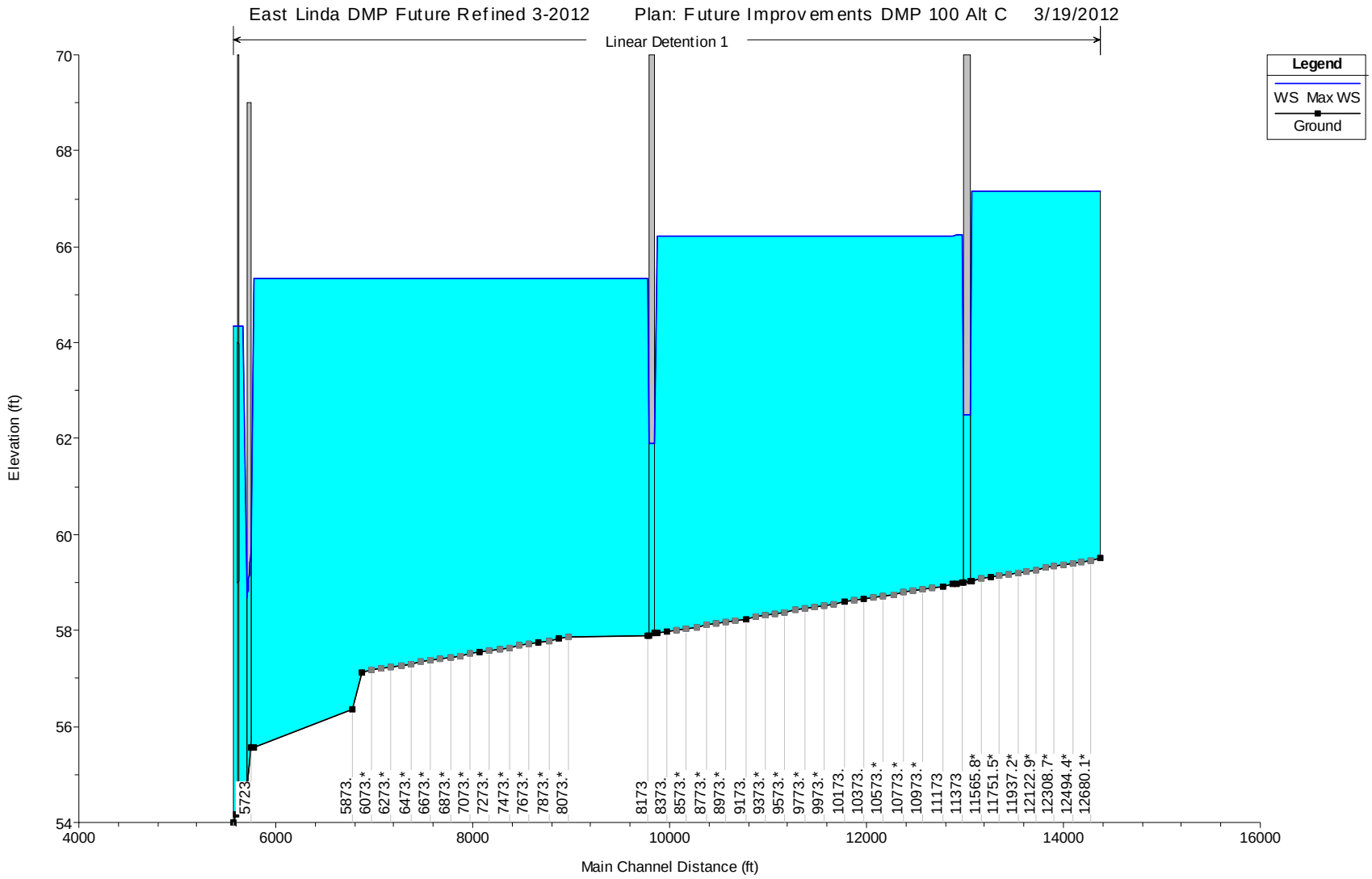

East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Butler Ditch Butler
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
67
66
65
64
63
62
61
60
59
4000
4500
5000
5500
6000
6500
7000
4176.7...
4353.5*
4530.25*
4707
4881.33*
5055.66*
5230
5425.71*
5621.42*
5817.14*
6012.85*
6208.57*
6404.28*
6600

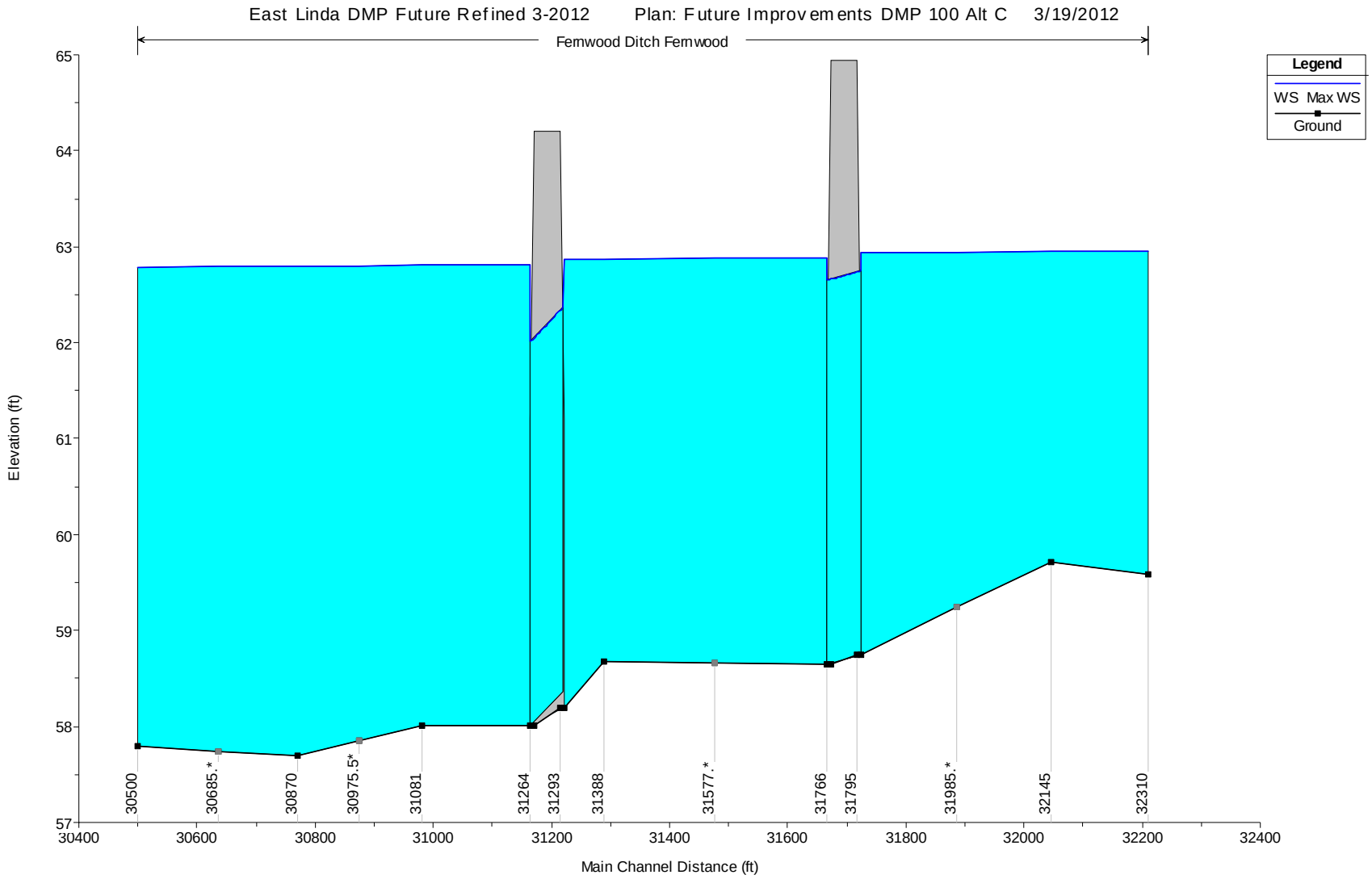

East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Olivehurst Inter Upper Ol
Linda Drain extended
Olivehurst Inter Middle
Linda Drain S Yuba College
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
80
75
70
65
60
55
50
10000
15000
20000
25000
30000
35000
40000
45000
50000
11880
12426.6*
12992.5*
13573.*
14137.*
14701
15216.*
15816.*
16416.*
16933
17516.*
18016.*
18516.*
19056.*
19626.*
20102
20733.5*
21319.6*
21912.2*
22405.4*
23013.*
23578.5*
24153
24702.*
25212.5*
25699
26360
26957
27512.7*
28052.5*
28569.5*
29083.7*
29614.5*
30148.2*
30616.4*
30976.7*
31393.3
31884.6*
32466.3*
33009.5*
33511.7*
34046.01
34546.1*
35089.2*
35633.40
36193.6*
36766.5*
37265.1*
37808.7*
38373.1
38939.8*
39511.3*
39991.69
40595.7*
41156.20
41722.5*
42267.2*
42814.22
43314.2*
43825.1*
44301.70
44830.1*
45358.65

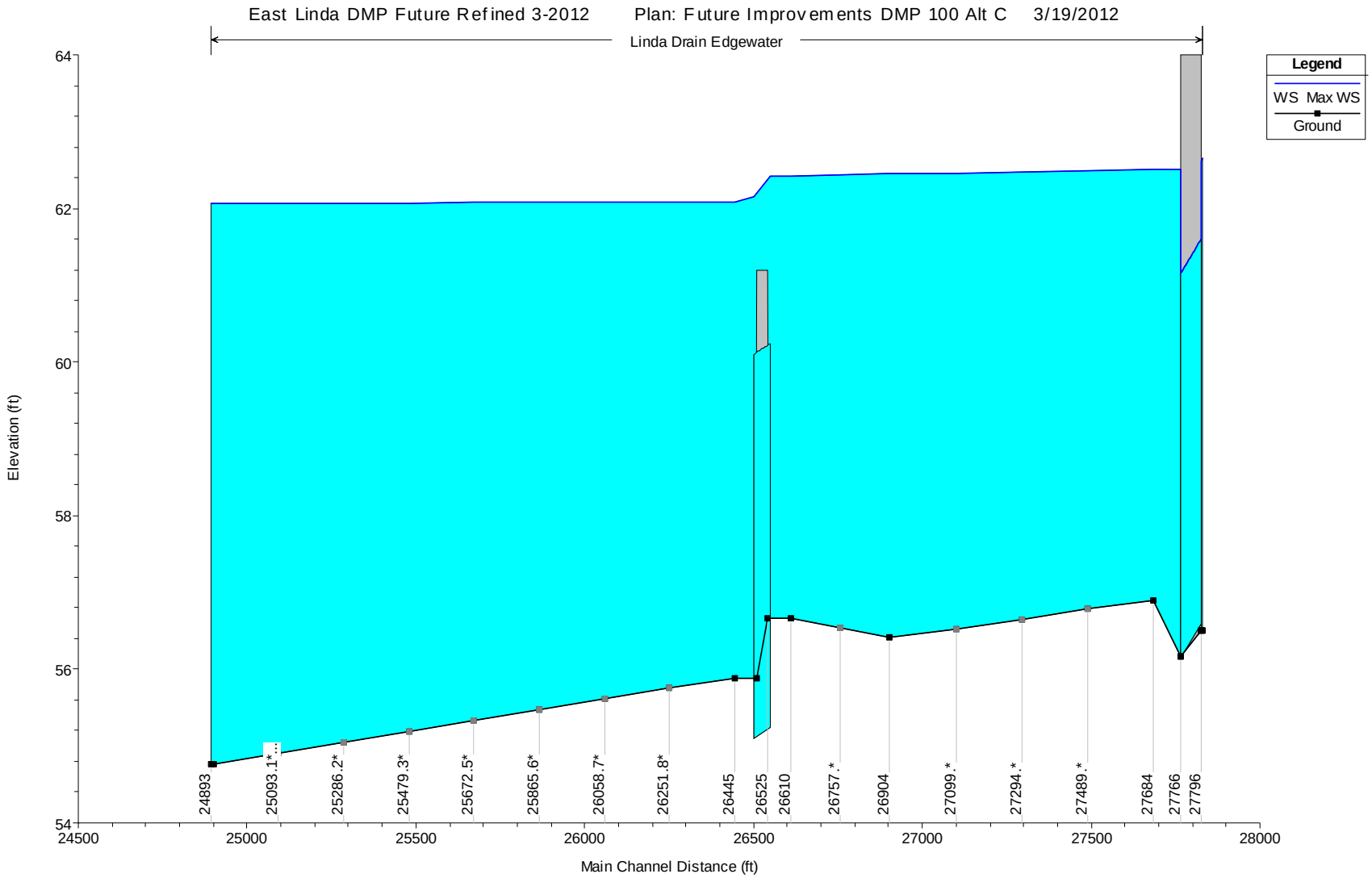

East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Olivehurst Inter Lower
Legend
WS Max WS
Ground
Elevation (ft)
66
64
62
60
58
56
54
52
50
48
0
2000
4000
6000
8000
10000
12000
Main Channel Distance (ft)
671
922
1187
1390.55*
1594.11*
1797.66*
2001.22*
2204.77*
2408.33*
2611.88*
2815.44*
3019
3158
3402.5*
3610.*
3817.5*
4025
4298.33*
4480.66*
4663
4865
5200.*
5400.*
5600
5812.5*
6025.*
6237.5*
6450.*
6662.5*
6875.*
7087.5*
7300
7493.5*
7687.*
7880.5*
8074.*
8267.5*
8461.*
8654.5*
8848
9100.*
9300.*
9500.*
9700.*
9900.*
10100.*
10300.*
10500
10680.*
10860


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Olivehurst Drain Upper
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
74
72
70
68
66
64
62
60
14000
15000
16000
17000
18000
19000
20000
21000
14900
15021.5*
15193.3*
15281.6*
15370.*
15458.3*
15546.6*
15635
15728.7*
15822.5*
15916.2*
16010
16144.6*
16286.*
16450.2*
16540.5*
16630.7*
16722
16821.*
16909
16946.
17088
17197.*
17339.*
17549.*
17699
17817.5*
17904
18013.6*
18155
18302.1*
18390.3*
18566.6*
18654.8*
18743
18843.*
18943.*
19043.*
19143.*
19243.*
19343.*
19443
19543
19640
19775
19866.8*
19958.7*
20050.6*
20142.5*
20234.4*
20326.3*
20418.2*
20510.1
20602


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Olivehurst Drain Clark
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
70
68
66
64
62
60
58
56
54
52
2000
4000
6000
8000
10000
12000
2202
2381
2534
2727.6*
2922.8*
3118
3331.*
3513.*
3695.33*
3878.*
4060.66*
4206.*
4346.5*
4519.5
4655
4790
4970.*
5150
5300
5497.81*
5695.63*
5893.45*
6091.27*
6289.09*
6484.18*
6676.54*
6868.90*
7061.26*
7253.62*
7446
7580
7734.37
7923.12*
8111.87*
8300.62*
8494.58*
8693.75*
8892.91*
9092.08*
9291.25*
9490.41*
9672.*
9836.*
10000
10171.6*
10343.3*
10515
10654


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Linear Detention 1
Legend
WS Max WS
Ground
Elevation (ft)
Main Channel Distance (ft)
70
68
66
64
62
60
58
56
54
4000
6000
8000
10000
12000
14000
16000
5723
5873.
6073.*
6273.*
6473.*
6673.*
6873.*
7073.*
7273.*
7473.*
7673.*
7873.*
8073.*
8173
8373.
8573.*
8773.*
8973.*
9173.
9373.*
9573.*
9773.*
9973.*
10173.
10373.
10573.*
10773.*
10973.*
11173
11373
11565.8*
11751.5*
11937.2*
12122.9*
12308.7*
12494.4*
12680.1*


East Linda DMP Future Refined 3-2012 Plan: Future Improvements DMP 100 Alt C 3/19/2012
Fernwood Ditch Fernwood
Legend
WS Max WS
Ground
Elevation (ft)
65
64
63
62
61
60
59
58
57
30500
30685.*
30870
30975.5*
31081
31264
31293
31388
31577.*
31766
31795
31985.*
32145
32310
30400
30600
30800
31000
31200
31400
31600
31800
32000
32200
32400
Main Channel Distance (ft)


East Linda DMP Future Refined 3-2012
Plan: Future Improvements DMP 100 Alt C
3/19/2012
Linda Drain Edgewater
Legend
WS Max WS
Ground
Elevation (ft)
64
62
60
58
56
54
24500
25000
25500
26000
26500
27000
27500
28000
Main Channel Distance (ft)
24893
25093.1*
25286.2*
25479.3*
25672.5*
25865.6*
26058.7*
26251.8*
26445
26525
26610
26757.*
26904
27099.*
27294.*
27489.*
27684
27766
27796

Appendix G

Cost Breakdown Spreadsheet Alternatives A, B and C

YUBA COUNTY
SOUTH YUBA DRAINAGE MASTER PLAN
DETAILED COST ESTIMATE

Project	**CO.**	**RCVD. BY**	**DATE**
South Yuba Drainage Master Plan Alternate "A" Improvemen	Yuba	S.M. Minard	20-Apr-12
MHM PROJECT NO.	**QTY. BY**	**IN**	**CONST. INDEX**
11-117	J. Mallen	25-May-11	
ESTIMATE NO.	**QTY. CHK.**	**OUT**	**BLDG. INDEX**
1	S. Minard	20-Apr-12	

Item No.	Item Description	Estimated Quantity	Unit	Unit Price ($/Unit)	Amount ($)	
Bid Schedule A (Gold Fields Parkway Trunk Main) (5000')						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 22,536.62	$ 22,536.62	
2	Clearing and Grubbing	2.50	AC	1,850.00	4,625.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	96 Inch Class 3 RCP or 96 Inch Aluminized Corrugated Steel Pipe or 96 Inch Cast-in-Place Pipe	5,000	LF	400.00	2,000,000.00	
6	Type A Trench Restoration 96 Inch Pipe	100	LF	125.00	12,500.00	
7	Pond Inlet Structure	1	EA	7,500.00	7,500.00	
8	Large Diameter Storm Junction Manhole	12	EA	10,000.00	120,000.00	
9	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
10	Per Parcel Acquire Costs	5	PA	5,000.00	25,000.00	
11	Acquire Easement	2.50	AC	20,000.00	50,000.00	
				Total Bid Schedule A =	**$2,253,661.62**	$2,253,661.62
Bid Schedule B (Orchard Pond to Interceptor Connection) (3600')						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 16,742.42	$ 16,742.42	
2	Clearing and Grubbing	0.00	AC	1,850.00	0.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	60 Inch Class 3 RCP or 60 Inch Aluminized Corrugated Steel Pipe or 60 Inch Cast-in-Place Pipe	7,200	LF	175.00	1,260,000.00	
6	Type A Trench Restoration 60 Inch Pipe	3,600	LF	70.00	252,000.00	
7	Pond Outlet Structure	1	EA	10,000.00	10,000.00	
8	Ditch Outlet Structure	1	EA	15,000.00	15,000.00	
9	Large Diameter Storm Junction Manhole	6	EA	10,000.00	60,000.00	
10	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
11	Per Parcel Acquire Costs	3	PA	5,000.00	15,000.00	
12	Acquire Easement	1.7	AC	20,000.00	34,000.00	
				Total Bid Schedule B =	**$1,674,242.42**	$1,674,242.42
Bid Schedule C (Olivehurst Drain to Orchard Pond Connection) (250')						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 894.22	$ 894.22	
2	Clearing and Grubbing	0.15	AC	1,850.00	277.50	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	60 Inch Class 3 RCP or 60 Inch Aluminized Corrugated Steel Pipe or 60 Inch Cast-in-Place Pipe	250	LF	175.00	43,750.00	
6	Ditch Interceptor Structure	1	EA	25,000.00	25,000.00	
7	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
8	Per Parcel Acquire Costs	1	PA	5,000.00	5,000.00	
9	Acquire Easement	0.15	AC	20,000.00	3,000.00	
				Total Bid Schedule C =	**$89,421.72**	$89,421.72
Bid Schedule D (Orchard Pond Pump Control Revisions)						
1	Upgrade Control Panel / Programming	1	LS	10,000.00	10,000.00	
				Total Bid Schedule D =	**$10,000.00**	$10,000.00
Bid Schedule E (Elimination of College View Estates Pond)						
1	Mobilization/Demobilization (1.0% construction)	1		$494.95	$494.95	
2	Fill Pond and Compact - Offsite Material Purchased	1,700.00	CY	20.00	34,000.00	
3	Modify/Reconnect Stormdrain	1	LS	15,000.00	15,000.00	
				Total Bid Schedule E =	**$49,494.95**	$49,494.95
Bid Schedule F (XIA(S) Pond and Outlet)						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 5,157.58	$ 5,157.58	
2	Clearing and Grubbing	6.00	AC	1,850.00	11,100.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	Pond Excavation	72,600	CY	5.00	363,000.00	
6	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
7	Per Parcel Acquire Costs	1	PA	5,000.00	5,000.00	
8	Acquire Easement	6.00	AC	20,000.00	120,000.00	
9	36 Inch Class 3 RCP or 36 Inch Aluminized Corrugated Steel Pipe or 36 Inch Cast-in-Place Pipe	100	LF	110.00	11,000.00	
10	36 Inch Automatic Drainage Gate (Waterman Model AF-41 or an approved equal)	2	EA	5,000.00	10,000.00	
				Total Bid Schedule A =	**$515,757.58**	$515,757.58
				Subtotal Contract Items (A through F) =	**$4,592,578.28**	$4,592,578.28
				Design & Permitting (15%) =	*688,886.74*	
				Subtotal =	**$5,281,465.03**	
				Contingency @ 10% =	*528,146.50*	
				Grand Total =	$5,809,611.53	
				For Budget Purposes =	**$5,810,000.00**	

YUBA COUNTY
SOUTH YUBA DRAINAGE MASTER PLAN
DETAILED COST ESTIMATE

Project	**CO.**	**RCVD. BY**	**DATE**
South Yuba Drainage Master Plan Alternate "B" Improvements	Yuba	S.M. Minard	20-Apr-12
MHM PROJECT NO.	**QTY. BY**	**IN**	**CONST. INDEX**
11-117	J. Mallen	25-May-11	
ESTIMATE NO.	**QTY. CHK.**	**OUT**	**BLDG. INDEX**
1	S. Minard	20-Apr-12	

Item No.	Item Description	Estimated Quantity	Unit	Unit Price ($/Unit)	Amount ($)	
Bid Schedule A (Gold Fields Parkway Linear Detention Alternative) (8800')						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 20,342.93	$ 20,342.93	
2	Clearing and Grubbing	27.00	AC	1,850.00	49,950.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	Pond Excavation	245,000	CY	5.00	1,225,000.00	
6	North Beale Road Crossing	1	LS	50,000.00	50,000.00	
7	Hammonton Smartsville Road Crossing	1	LS	25,000.00	25,000.00	
8	Linda Avenue Culvert Restriction	1	LS	15,000.00	15,000.00	
9	48 Inch Class 3 RCP or 48 Inch Aluminized Corrugated Steel Pipe or 48 Inch Cast-in-Place Pipe	200	LF	150.00	30,000.00	
7	Pond Inlet Structure	1	EA	7,500.00	7,500.00	
9	East Linda Drain Pond Inlet Structure	1	EA	15,000.00	15,000.00	
10	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
11	Per Parcel Acquire Costs	9	PA	5,000.00	45,000.00	
12	Land Acquisition - Orchard	27.00	AC	20,000.00	540,000.00	
				Total Bid Schedule A =	**$2,034,292.93**	$2,034,292.93
Bid Schedule B (Orchard Pond Pump Station Revisions)						
1	Remove two 20 CFS pumps, retain one 20 CFS pump and modify controls & structure	1	LS	15,000.00	15,000.00	
				Total Bid Schedule B =	**$15,000.00**	$15,000.00
Bid Schedule C (Linda Drain Culvert Improvements)						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 732.32	$ 732.32	
2	Clearing and Grubbing	0.00	AC	1,850.00	0.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	Farm Rail Car Crossing	2	EA	15,000.00	30,000.00	
6	Replace Driveway Culvert with Double 42 Inch	1	EA	7,500.00	7,500.00	
7	Replace Driveway Culvert with Single 48 Inch	1	EA	6,000.00	6,000.00	
8	Replace Driveway Culvert with Single 60 Inch	1	EA	7,500.00	7,500.00	
9	Replace Driveway Culvert with Single 72 Inch	1	EA	10,000.00	10,000.00	
10	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
11	Acquire Easement	0.0	AC	20,000.00	0.00	
				Total Bid Schedule C =	**$73,232.32**	$73,232.32
Bid Schedule D (Elimination College View Pond)						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$409.09	$409.09	
2	Fill Pond and Compact - Offsite Material Provided	1,700.00	CY	15.00	25,500.00	
3	Modify/Reconnect Stormdrain College View	1	LS	15,000.00	15,000.00	
				Total Bid Schedule D =	**$40,909.09**	$40,909.09
				Subtotal Contract Items (A through D) =	**$2,163,434.34**	$2,163,434.34
				Design & Permitting (15%) =	*324,515.15*	
				Subtotal =	**$2,487,949.49**	
				Contingency @ 10% =	*248,794.95*	
				Grand Total =	$2,736,744.44	
				For Budget Purposes =	**$2,737,000.00**	

Subtotal Contract Items (A through D) =	$2,163,434.34	
Carryover Projects from Alternative A =	$1,763,664.14	From Alt A
	$3,927,098.48	$4,592,578.28
Design & Permitting (15%) =	*589,064.77*	($2,253,661.62)
Subtotal =	**$4,516,163.26**	($10,000.00)
Contingency @ 10% =	*451,616.33*	($49,494.95)
Grand Total =	$4,967,779.58	($515,757.58)
For Budget Purposes =	**$4,968,000.00**	$1,763,664.14

YUBA COUNTY
SOUTH YUBA DRAINAGE MASTER PLAN
DETAILED COST ESTIMATE

Project	**CO.**	**RCVD. BY**	**DATE**
South Yuba Drainage Master Plan Alternate "C" Improvements	Yuba	S.M. Minard	20-Apr-12
MHM PROJECT NO.	**QTY. BY**	**IN**	**CONST. INDEX**
11-117	J. Mallen	25-May-11	
ESTIMATE NO.	**QTY. CHK.**	**OUT**	**BLDG. INDEX**
1	S. Minard	20-Apr-12	

Item No.	Item Description	Estimated Quantity	Unit	Unit Price ($/Unit)	Amount ($)	
Bid Schedule A (Olivehurst Drain Channelization) (3700')						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 3,258.29	$ 1,629.15	
2	Clearing and Grubbing	2.00	AC	1,850.00	3,700.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	Ditch Excavation	4,500	CY	15.00	67,500.00	
6	Replace Driveway Culvert with Double 48 Inch	1	EA	25,000.00	25,000.00	
7	Replace Driveway Culvert with Double 54 Inch	1	EA	14,000.00	14,000.00	
8	Replace Driveway Culvert with Triple 48 Inch	5	EA	17,500.00	87,500.00	
9	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
10	Per Parcel Acquire Costs	15	PA	5,000.00	75,000.00	
11	Acquire Easement	2.00	AC	20,000.00	40,000.00	
				Total Bid Schedule A =	**$325,829.15**	$325,829.15
Bid Schedule B (Butler Pond)						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$ 3,292.46	$ 1,646.23	
2	Clearing and Grubbing	6.00	AC	1,850.00	11,100.00	
3	Traffic Control	1	LS	2,500.00	2,500.00	
4	Construction Area Signs	1	LS	1,500.00	1,500.00	
5	Pond Excavation	36,000	CY	5.00	180,000.00	
6	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
7	Per Parcel Acquire Costs	1	PA	5,000.00	5,000.00	
8	Acquire Easement	6.00	AC	20,000.00	120,000.00	
				Total Bid Schedule B =	**$329,246.23**	$329,246.23
Bid Schedule C (Elimination of College View Pond)						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$323.23	$323.23	
2	Fill Pond and Compact - Onsite Material Provided	1,700.00	CY	10.00	17,000.00	
3	Modify/Reconnect Stormdrain College View	1	LS	15,000.00	15,000.00	
				Total Bid Schedule C =	**$32,323.23**	$32,323.23
Bid Schedule D (Elimination of Country Club Ditch)						
1	Mobilization/Demobilization (1.0% construction)	1	LS	$3,493.43	$3,493.43	
2	Traffic Control	1	LS	2,500.00	2,500.00	
2	Construction Area Signs	1	LS	1,500.00	1,500.00	
3	24 Inch Class 3 RCP or 24 Inch Aluminized Corrugated Steel Pipe or 24 Inch Cast-in-Place Pipe	1,100	LF	60.00	66,000.00	
4	18 Inch Class 4 Reinforced Concrete Pipe	1,150	LF	45.00	51,750.00	
5	Type 306 Storm Junction Manhole	4	EA	4,650.00	18,600.00	
6	Reconnect Stormdrain at Existing Roads	3	LS	5,000.00	15,000.00	
7	Type 305 Field Inlet	4	EA	3,250.00	13,000.00	
8	Fill Ditch and Compact - Offsite Material Provided	8,500.00	CY	20.00	170,000.00	
9	Erosion Control and SWPPP	1	LS	7,500.00	7,500.00	
				Total Bid Schedule D =	**$349,343.43**	$349,343.43

Subtotal Contract Items (A through D) =	**$1,036,742.04**	$1,036,742.04
Design & Permitting (15%) =	*155,511.31*	
Subtotal =	**$1,192,253.35**	
Contingency @ 10% =	*119,225.34*	
Grand Total =	$1,311,478.69	
For Budget Purposes =	**$1,311,000.00**	

Subtotal Contract Items (A through D) =	$1,036,742.04	
Carryover Projects from Alternative B =	$3,886,189.39	From Alt B
	$4,922,931.44	$3,927,098.48
Design & Permitting (15%) =	*738,439.72*	($40,909.09)
Subtotal =	**$5,661,371.15**	
Contingency @ 10% =	*566,137.12*	$3,886,189.39
Grand Total =	$6,227,508.27	
For Budget Purposes =	**$6,228,000.00**	