

YOUR MOST VALUABLE RESOURCE - WATER

OFFICE OF  
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**IRRIGATION DISTRICT**

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November 30, 2010

Mr. David E. Fey, AICP  
City of Clovis  
Planning and Development Services Dept.  
1033 Fifth Street  
Clovis, CA 9361

RE: City of Clovis Northwest Urban Village – Draft Alternatives

Dear Mr. Fey:

The Fresno Irrigation District (FID) has received and reviewed the three preliminary conceptual plans that reflect different approaches to developing the Northwest Urban Village (Village) in the City of Clovis. The area covers 2,540 acres (approximately 4 square miles) – bounded by Herndon, Copper, Willow and Sunnyside Avenues - and includes approximately 785 acres outside of the City's current sphere of influence. We appreciate the opportunity to review and comment on the subject alternatives and conceptual plans. The Village is a significant development and requires thorough and careful consideration of all of the potential impacts.

As shown on the attached map, roughly half of the Village is located within FID's boundary line. Several FID facilities that traverse the Village carry irrigation water for FID users, recharge water for the City of Clovis, and flood waters during the winter months. The Enterprise Canal traverses through the Village and delivers water to the City of Fresno's Surface Water Treatment Plant (SWTP), located approximately ½ mile downstream of the Village. In addition to FID's facilities, private facilities also traverse portions of the proposed development site.

FID is part of the Technical Advisory Committee that last met on October 19, 2010 to discuss the three alternatives. The City stated it will take 20-30 years for the Village to reach full buildout, but there will be some near-term demand near the southwest and southeast corners. The City also believes a similar demand will occur to the northwest

corner due to the close proximity to the Willow International Community College, Clovis North High School, and the Clovis Hills Church. The three alternatives consist of:

- Alternative 1 – Business as Usual
- Alternative 2 – Master Planned Community
- Alternative 3 – Uptown Old Town

General Comments for Alternatives 1, 2 and 3: Listed below are FID's general comments for all three alternatives.

1. FID assumes that Clovis will continue to process projects in a manner similar to its current practice which allows FID to review and comment on projects and place conditions on them to mitigate impacts to our canal system and water supply. Potential conditions include, but are not to be limited to: Developers responsible for funding (100% usually) canal improvements (piping and/or lining), providing the necessary area to maintain its infrastructure through deeding land in fee-title or easements, requiring the necessary agreements for utility crossings, approving plans that cross or are adjacent to the canals, Developers paying plan review fees, FID having oversight of the plans, etc.
2. Trails along FID Open Canals – the plan discusses trails along the Enterprise Canal. As with other developments with trails proposed along the canals, FID will require the following:
  - A. FID will not allow the trail easement to be in common use with FID-owned property or easements.
  - B. FID requires all trail improvements be placed outside of FID-owned properties and easements.
  - C. FID will not allow any portion of a tree canopy to encroach within its properties or easements.
  - D. FID's canals will not accept any drainage from the trail or the canal bank.
  - E. FID may require improvements be made to the canal depending on the existing canal condition, the proposed trail, and the adjacent development.
  - F. FID requires the canal right-of-way to be graded to provide a smooth uniform drive surface and cleared of all encroachments including, but not limited to, trees, bushes, brush, pipes, stand pipes, wells, miscellaneous debris, etc.

3. Future Developments Planned Adjacent to Enterprise Canal - Typically, for any type of development that impacts a large open canal or is adjacent to one, FID requires the developer to improve the canal with either concrete lining, encasing the canal in a box culvert, or other approved means to protect the canal's integrity for an urban setting. There is a portion of the canal roughly between Shepherd and Behymer Avenues where the canal has raised banks and in some cases, the majority of the canal is above the surrounding ground elevation. The requirements listed below are in addition to FID's typical requirements and are meant to address the potential issues where the canal has raised banks.
  - A. Canal Improvements - Due to the huge increase in exposure to liability as a result of residential/commercial/industrial developments adjacent to the canal, FID will most likely require a combination of the following two things: 1) canal lining or piping; and 2) wider than normal maintenance roads on either side of the canal (i.e. 30-feet instead of 20-feet) or requiring building pads to be raised 1-foot above the canals highwater line. Listed below are some additional comments.
    - i. Lining – Although many sections of the canal are already concrete lined, most of the lining is very thin (less than 1-inch thick at some locations) and in poor condition. Steep side slopes (1:1) add to the issue as well. FID will require the Developer to replace the existing lining with 6-inch thick concrete lining at a minimum side-slope of (1.5H:1V).
    - ii. Piping – FID does not typically require or allow its larger canals (such as the Enterprise), to be placed underground in large culverts (typically multiple bay), but Staff does review and evaluate this requirement on a project by project basis. There are typically three reasons why FID prefers to leave the larger canals open which include: 1) Higher expense to maintain and/or to replace the large culvert versus the pipelines which are typically installed on smaller canals ranging between 15-inch to 72-inch inside diameter; 2) Difficulty removing sediment that accumulates inside culverts; and 3) Difficulty observing water levels during operations.
  - B. Trail – The City has masterplanned a trail to be adjacent to the Enterprise canal. Although it's unclear what side it will be located on FID does not have a preference at this time to which side the trail is constructed on. It is FID's understanding that the trail right-of-way will be approximately 35-foot wide. FID and City staff have discussed this over the past few years, and it appears that both agencies would prefer to construct the trail in

such a manner where the walking surface would be several feet below the canal maintenance road.

- C. Hewitt Creek Crossing – This creek is maintained by the Fresno Metropolitan Flood Control District (FMFCD) and there has been some preliminary discussion of the existing flume structure where the Creek crosses the Enterprise canal. The flume structure is approximately 90 years old and was identified as one of the structures to be upgraded as part of the improvements needed for the SWTPs. Access to FID's maintenance roads take up a large area at this location as four access ramps are needed. The agencies may consider replacing the flume with a culvert to be placed underneath the canal, which would eliminate the need for access ramps, reduce area needed for canal property/rights-of-way acquisition needed, reduce area needed for trail property (assuming trail will be adjacent to canal), upgrade an old structure, etc.
- D. Construction Window – FID's average irrigation season lasts 6-months and the construction window will vary depending on flood routings. However, the Enterprise Canal delivers water to the Cities SWTPs 11 months with a 1-month maintenance period during the month of November. Depending on the water season, storm season, and construction schedule, a bypass may be needed.
- E. Block Wall – Although FID does not typically require their canals to be fenced, FID and the City may want to require a masonry block wall at the edge of FID's property/easement. A block wall may provide Developers with additional land (reduced canal easement/property), privacy (if block wall is constructed tall enough to prevent FID Operation crews from looking down into adjacent homes and businesses), and additional barrier if canal breaches, especially along the raised canal section between Shepherd and Behymer Avenues.
- F. Freeboard – FID typically requires between 1.0 to 1.5 feet of freeboard. If the Canal is used to route storm waters, and is one of the larger canals (such as the Enterprise), FID will require a minimum of 1.5 feet of freeboard and a maximum of 2.0 feet. The Developer will be required to either import or export material to match that criteria per FID's standards.
- G. Maintenance – FID will typically dredge their canals and deposit the spoils on top of the banks to dry out. Once the spoils have dried, FID will spread them out along the canal bank as time permits. Some canals also have large volumes of trash, debris, shopping carts that are deposited into the Canal. FID's crews will typically remove the trash, etc., and deposit it on

top of the canal bank and another crew will come by to remove the trash. The hauling off of this material may occur several weeks after the trash has been placed on the side of the canal, and the trash may be considered a nuisance (sight and smell). If the Developer and/or City require a different level of maintenance effort, they will need to enter into an agreement with FID for that purpose. The City will be responsible to fund the “higher level” of maintenance.

H. Drive banks/maintenance roads - Both banks must be sloped a minimum of 2% away from the canal with provisions made for rainfall. Drainage will not be accepted into the canal and must be routed away from FID property/drive banks. Runoff must be conveyed to nearby public streets or drainage system by drainage swales or other FID acceptable alternatives.

4. Masterplanning Streets, Landscape Easements (LE) and Public Utility Easements (PUE) – There are several FID pipelines that will need to be replaced and placed in new easements which range in width between 15-40 feet.

A. Overlapping Easements - Although FID prefers exclusive easements, FID has allowed the Cities to overlap portions of the easement with a LE and will continue this process so long as the City continues to enter into FID’s Common Use of Easements agreement.

B. Trees – Although FID has allowed the Cities to overlap its easements with a LE, there seems to be a constant struggle with the placement of trees near FID’s pipelines and canals. FID will not allow any type of tree to be planted within 8-feet of the outside edge of the pipeline nor will FID allow any portion of a tree canopy to encroach within its properties or easements (open canals). Furthermore, if a tree is planted outside of FID’s easement, the City shall not plant trees with aggressive root systems that will migrate over to the pipeline over time. Both agencies dealt with this issue along Peach Avenue, south of Nees Avenue in 2009. The City should consider these issues when masterplanning the streets, utilities and landscaping where FID canals and pipelines exist.

C. Canal Access - FID requires a 50-foot wide drive approach narrowing to 20 feet wide drive banks (See attached “Drive Approach in Urban Areas” Detail No. 62). The 50-foot width is defined as starting from the end portion of the bridge/railing outward (away from the bridge). The City has not recently supported this particular FID requirement, therefore a drive approach acceptable to all parties will need to be worked out if FID’s standard is not supported by the City. Every road and canal intersection is

different and therefore each access will be different. The major factors affecting the proposed width will be the angle of the road intersecting the canal, grade of canal bank vs. City road, median vs. no median, etc.

- D. Culvert upgrades – The City is responsible to maintain the canal culverts under the City's road rights-of-way. Many of the existing culverts are over 40-years old, and do not meet today's standards (joint/rubber gasket design, soil cover, steel reinforcement, etc.). Most of the road culverts on some of the smaller FID canal systems are often overlooked during development and do not get upgraded as the surrounding area develops.
5. Water Supply and Groundwater - Approximately 50% of the Village lies upgradient from FID's Service Area and outside FID's boundary line and therefore is not entitled to water from the Kings River. In addition:
- A. The area was historically agricultural land and FID is concerned that the proposed developments may negatively impact local groundwater levels, supply and quality in the localized area, including those areas adjacent to or neighboring the proposed development areas, as well as under FID and the Kings Sub Basin. There is a significant cone of depression beneath the Cities of Fresno and Clovis and development in this area will add to the problem unless the City of Clovis acquires a new water supply to help offset the future demand. If an additional water supply is not obtained, the exportation of groundwater will be a significant impact and a balanced water supply will not occur. The potential impacts must then be thoroughly evaluated and mitigated.
  - B. A significant portion of the water supply in this area was imported surface water, supplemented by groundwater pumping. Under current circumstances the project area is experiencing a modest but continuing groundwater overdraft. Should the proposed development result in a conversion from imported surface water to groundwater, this deficit will increase. FID recommends the City require the proposed developments to balance anticipated groundwater use with sufficient recharge of imported surface water in order to preclude increasing the area's existing groundwater overdraft problem.
  - C. At this time it is unclear if the source of water for that portion of the Village that lies outside of FID's boundary line is solely groundwater or a mixture of treated surface water from FID's Enterprise Canal. If treated surface water will be used, the City must acquire additional water from a water purveyor, such as FID, for that purpose so as to not reduce water supplies to, or create water supply deficits in, other areas of the City. Water supply

issues must be resolved before any further “hardening” of the water supply demand is allowed to take place.

- D. The proposed land use (or change in land use) should be such that the need for water is minimized and/or reduced so that groundwater impacts to the proposed project area and any surrounding areas are eliminated. The “demand” side of water consumed needs to be evaluated or scrutinized as much as the “supply” side of the water supply.
- E. It should be noted that without the use of surface water, continued dependence on solely a groundwater supply will do nothing to reverse or correct the existing overdraft of the groundwater supply beneath the Cities of Clovis and Fresno and FID’s service area. As this project will “harden” or make firmer the need for water, the long-term correction of the groundwater overdraft should be considered as a requirement of the project.
- F. As the project site currently does receive surface water supplies, FID will need to evaluate whether the surface water is best provided through the service area system which this development is located within. Once a feasible surface water source location is determined, the project will be able to utilize water during the normal irrigation season to the agricultural users. The City will be required to enter into a Water Purchase Agreement and it will be based on actual water usage measured volumetrically. It should also be noted that absent this agreement, impacts to water supply and quality should be considered significant (but avoidable).

Specific Comments for Alternatives 1, 2 and 3: At this time, FID does not have a preference to the three alternatives presented. However, Alternative 3 does present many potential issues to FID. The City will need to resolve these issues with FID before FID fully supports this alternative. Those issues are listed below.

Specific Comments for Alternatives 3: This alternative highlights realigning approximately 2/3 mile of the Enterprise Canal immediately east of Willow Avenue, approximately 400 feet south of its current alignment to “expand development capacity and create major parkway feature (the Mall)”. FID has several concerns but we may be agreeable so long as all of our concerns are met. FID envisions an agreement with the City of Clovis (and possibly the Developers) which will address the following:

1. Liability – the City would be responsible for all liability associated with the canal within the area of the mall. This would include liability associated with operations, maintenance, people utilizing the canal property/rights-of-way to shop

and eat, etc. During recent discussions, the City envisions businesses backing up against the canal allowing people to walk up against the canal, eat outside next to the canal, etc.

2. Fencing - The project will invite people to the canal and the City will need to consider what kind of fencing or barrier should be installed to prohibit people from falling into the canal, throwing trash in the canal, etc. FID assumes that the fencing or barrier would be constructed in such a way that would prohibit children from easily accessing the canal. FID also assumes that there would not be any access given to the general public to walk down to the water and play in the canal. The City will also need to consider signage and water awareness education.
3. Operations – Although the canal currently has water in it for approximately 11 months of the year, this may change once the City of Fresno constructs their raw water pipeline from the Friant-Kern Canal to their SWTP. The City of Clovis should anticipate the possibility of the canal only having water in it for the normal irrigation season which is 6-months, but can be as short as 3-months. Located downstream of the Mall, FID currently delivers surface water to Ag users, City recharge basins and the City of Fresno’s SWTP. Because of the unique concerns with delivering water to a SWTP, FID may require the City of Fresno’s consent with the project.
4. Maintenance – FID assumes the City will require a different level of maintenance effort and therefore will most likely be responsible to fund the “higher level” of maintenance. FID will most likely require several things to decrease maintenance including:
  - A. Trash Removal – An automated trash cleaning device shall be required on the east side of Willow Avenue where the canal enters a 96-inch diameter pipeline. The City will be responsible to purchase, install, and maintain the trash cleaning device. The City will also be responsible for trash removal.
  - B. Aquatic Herbicide – FID currently treats the canal several times throughout the year with several types of aquaticide to treat the aquatic weeds and algae. Herbicides may also be used in and around the canal to address weeds. If the City requests additional treatments to limit the unsightly growth and smell, the additional costs shall be borne by the City. The City will need to consider several factors when designing the canal section within the Mall. If the canal is widened, there will be slower velocities which will trigger increased aquatic weeds and algae.

- C. Realignment/Reconfiguration – FID requires that open canals that are realigned be concrete lined. FID will most likely require that the canal be constructed with a structural concrete which will limit the on-going maintenance that normal canal lining may require.
- D. Structures, Lining & Fencing – FID will most likely require the City to either be responsible or reimburse FID for the upkeep of all structures related to the canal within the Mall including water control structures, lining, fencing, paved/concrete walking paths, etc.

Thank you for making available to us the preliminary project development agreement for our review and allowing us the opportunity to provide comment. We appreciate the City's consideration and incorporation of our requirements and concerns. As previously noted, the proposed project is very unique, but complex, and will have the potential to significantly impact FID's Enterprise Canal unless adequate conditions and measures are required.

Please feel free to contact me with any questions or concerns at 233-7161 extension 318 or [bstretch@fresnoirrigation.com](mailto:bstretch@fresnoirrigation.com).

Sincerely,



William R. Stretch, P.E.  
Chief Engineer

Attachments – 1) Location Map  
2) Drive Approach in Urban Areas – Detail No. 62

cc: Gary Serrato - FID  
Laurence Kimura - FID



**NOTES:**

(1) DIMENSIONS AND NOTES ARE FOR LAYOUT PURPOSES ONLY. A SCALED DRAWING SHALL BE PREPARED AND SUBMITTED WITH ALL PLAN SETS PRIOR TO CONSTRUCTION.

(2) IF CULVERT/BRIDGE STRUCTURE CAN COLLECT TRASH ON ITS PIERS, DEVELOPER MUST PROVIDE A SAFE ACCESS TO TRASH PIER RIDER. GALVANIZED STEEL OR CONCRETE CATWALK WITH CHAIN-LINK BARRIER MAY NEED TO BE INCORPORATED INTO CULVERT DESIGN (ON THE UPSTREAM SIDE OF THE BRIDGE/CULVERT STRUCTURE).

(3) DRAINAGE WILL NOT BE ACCEPTED IN THE CANAL AND SHALL BE ROUTED AWAY FROM FID PROPERTY/DRIVE BANKS. SLOPE DRIVE BANKS MINIMUM OF 2% AWAY FROM THE CANAL WITH PROVISIONS MADE FOR RAINFALL. RUNOFF TO BE CONVEYED TO NEARBY PUBLIC STREETS OR DRAINAGE SYSTEM BY DRAINAGE SWALES OR OTHER FID ACCEPTABLE ALTERNATIVES.

(4) WITHIN FID EASEMENT/RIGHT-OF-WAY AREA, ALL EXISTING TREES, BUSHES, DEBRIS, OLD CANAL STRUCTURES, PUMPS, CANAL GATES, AND OTHER NON OR IN-ACTIVE FID AND PRIVATE STRUCTURES MUST BE REMOVED.

(5) RAISED BANKS-1.0 TO 1.5 FEET OF FREEBOARD IS REQUIRED.

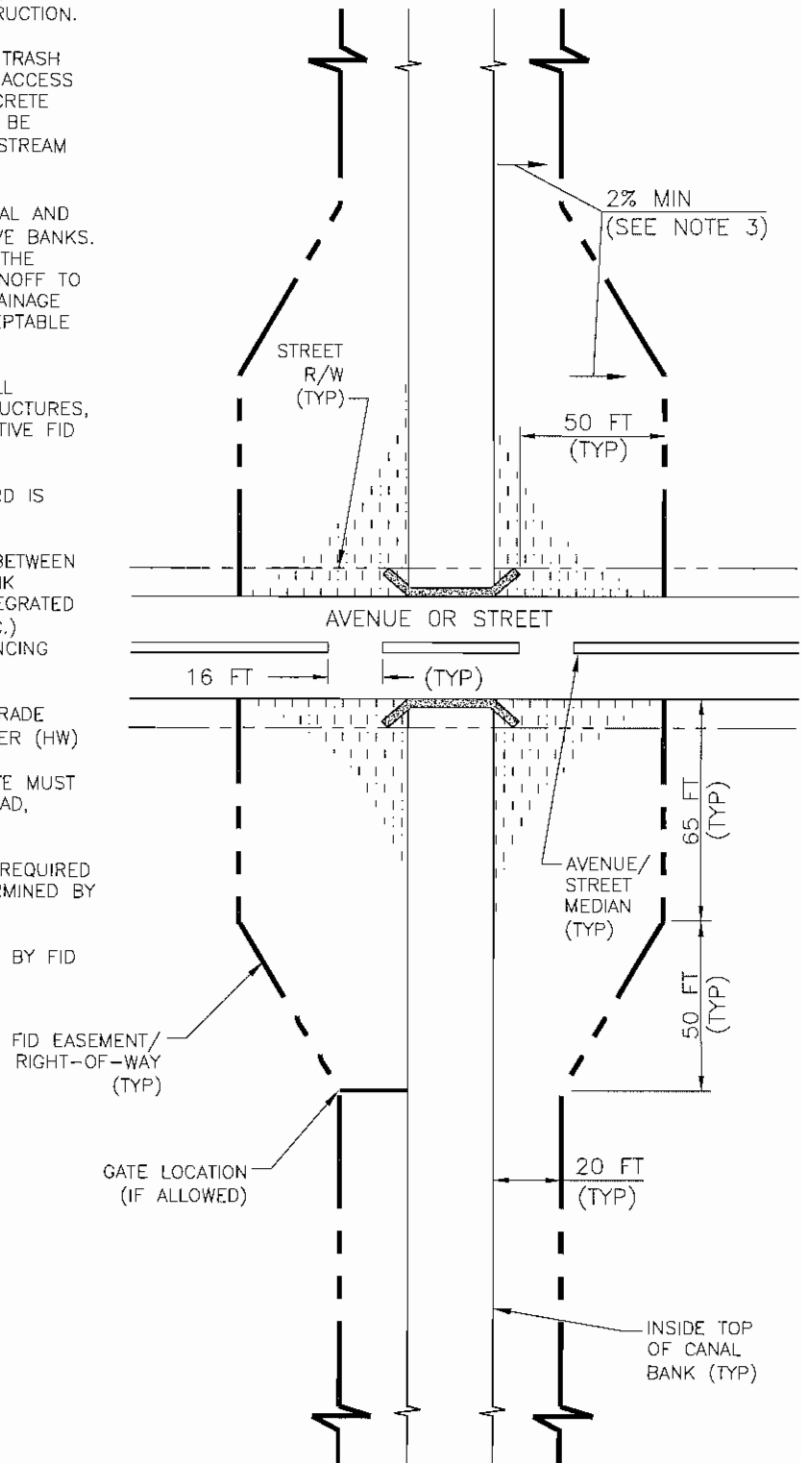
(6) BLOCK/MASONRY WALL SHALL BE REQUIRED BETWEEN THE OPEN CANALS AND DEVELOPMENT. CHAIN-LINK FENCING IS AN ACCEPTABLE ALTERNATIVE WITH INTEGRATED VISUAL BARRIERS (SLATS, SCREENS, SHEETING, ETC.) APPROVED ON A CASE-BY-CASE BASIS. WOOD FENCING WILL NO LONGER BE ACCEPTED.

(7) LINE CANAL BANKS OR RAISE SURROUNDING GRADE ELEVATIONS TWELVE (12) INCHES ABOVE HIGH-WATER (HW)

(8) IF AN ACCESS GATE IS PERMITTED BY FID, GATE MUST BE PLACED A MINIMUM OF 115 FT AWAY FROM ROAD, WHERE DRIVEBANK NARROWS TO 20 FT.

(9) THREE (3) INCH THICK GRAVEL BASE MAY BE REQUIRED AT THE ENTRANCE TO EACH DRIVE BANK AS DETERMINED BY FID ENGINEER.

(10) DRIVEWAY APPROACH WIDTH TO BE APPROVED BY FID ENGINEER.



DRIVE APPROACH IN URBAN AREAS

NOT TO SCALE