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Memo

To:	Neal Carnam		
From:	Mark Hammer	Project:	Humbolt County Technical Report
CC:	Kay Backer		
Date:	March 14, 2008	Job No:	

RE: Suggestions for the Community Infrastructure and Services Technical Report, Dated November 2007

On March 4, 2008, a meeting was held at Winzler & Kelly Engineering in Eureka with Neal Carnam, Kirk Girard, John Miller, Kay Backer, and Mark Hammer to discuss the comments made by HDR on January 24, 2008. As part of that discussion Mark agreed to identify suggestions for improving the report based on the key HDR comments.

During the meeting Neal, Kirk, and John stated that the approach to water and wastewater infrastructure planning had changed in the course of the project. The original approach was to project infrastructure needs to year 2025 using the growth rates developed as part of the sketch plans. It was later determined that land use would be used as the basis for future housing and future infrastructure needs. Two projections of buildout were developed using the current General Plan and a higher density plan alternative. The lower land use density (LUD) and higher land use density (HUD) are not related to any specific date in the future.

HDR's concern about using the LUD and HUD for water and wastewater versus the housing (or population) projection, remains. The roadway needs, page 2-9 clearly refers to Sketch Plan 3 and the table shows V/C at year 2030, not at the LUD or HUD.

> The table below summarizes the GEATM data for 2005 and 2030 (based on the Sketch Plan 3 assumptions) by Urban Study Area (only those roadways with data in the GEATM are included in the table). V/C ratio and ADT values represent maximum values provided by the GEATM model for specific roadway segments and are not to be interpreted as applying to the entire roadway. Maps of specific roadways follow these tables that identify specific areas of existing and projected congestion are included in Appendix A.

Table 2-3. Roadway Capacity by Urban Study Area

Urban Study Area	Roadway Name	Functional Classification (DOT)	ADT 2005	ADT 2030	ADT Increase/ Decrease 2005-2030 (percent)	2005 MAX V/C Ratio	2030 MAX V/C Ratio
Alderpoint & Garberville	Alderpoint Road	Rural Major Collector	2,967	3,954	33%	28%	88%

In addition, Table 3-7 projected Sheriff's Office Operations Staff to year 2027. These values were apparently used to determine the facilities needed. There was no discussion of staffing or facilities needed for the LUD or HUD.

The HUD values range between 20 and 70 years in the future under the high growth plan (Sketch Plan 3) and significantly longer using historic growth rates, in many cases over 100 years. The biggest problem is that a person is not sure how to interpret the need or the costs because there is no timeframe context. It would have been better to have had the water and wastewater infrastructure projected based on population to be consistent with the road and law enforcement projection.

Given the discussion at our meeting and desire to use LUD and HUD for the water and wastewater infrastructure, the balance of this document is focused on improvements to water and wastewater.

This memo addresses the remaining comments:

1. The presentation of information is overly confusing
2. Development projections lack sound planning assumptions
3. Development projections (higher density land use plan) are overstated
4. The analysis does not provide the necessary information from which policy decisions can be made

Suggestions for improving the Community Infrastructure Report:

1. Page xiii, The reference to year 2025 should be replaced with a reference to the low and high buildout estimates based on land use. In addition, it is unclear if the report addresses "the timing of facility and service availability." If not, this should be removed.
2. Page xiv and description of Table ES-1. It is not clear why the LUD limits available capacity. Available capacity is available capacity even if greater than the LUD. How much capacity is available above the LUD is not reported. This becomes important when the report later presents the infrastructure needs for the high land use development. Suggestion: delete the columns of capacity limitation and description of limitation and report the total available capacity or explain why the LUD is a limitation on existing capacity under the HUD.
3. Page xxxvi, infrastructure cost summary. I saw in the detailed cost calculations that the cost for LUD and HUD include existing deficiencies, but I could not identify costs for changes in regulations for many of the service providers. Identify regulatory issues included or delete reference.

   "the unit costs should be lower under the high buildout scenario due to economies of scale. In the cost calculation section, it states that economies of scale were not included. The lower unit cost is due to a greater number of customers addressing the cost of existing deficiencies. The unit cost of new infrastructure is the same (no economy of scale).

   "where the low buildout costs are less than the high buildout costs is usually due to a condition where there is some existing infrastructure that can accommodate the low build out and additional infrastructure is needed in the high buildout case. This implies that the existing infrastructure is free as long as there is capacity and that the capacity is available on a first come, first serve basis.

   The costs should be revised to include the current connection fee as the cost of existing infrastructure. The cost of connecting at HUD may still be more because the unit cost of new infrastructure is higher and the current connection fee may need to be adjusted.
4. Table ES-3, why are the HUD water and wastewater costs compared with roadway and law enforcement costs. Were roadway and law enforcement both developed based on HUD? Why are the LUD costs not reported? What is the point of the table?

   Law enforcement costs are projected to 2027, fire protection costs are projected to 2030, it is unclear if the roadway costs accommodate the LUD or the HUD, but the tables seem to indicated that projections were made to 2030. The LUD and HUD for water and wastewater costs are timeless, but like fire and law enforcement facilities, has a capacity related to population needs. It is unclear why law, fire, and roadways were based on 2030, but water and sewer were developed for LUD and HUD.

   Suggestions: Identify the land use capacity associated with the roadway improvements, fire protection, and law enforcement projections.

   If none of these are applicable for the high land use development projection, delete the HUD for

water and sewer from the report so that the report reflects a future that is consistent for roads, law, fire, water, and wastewater.

Suggestion: provide the date and ENR number associated with the cost values. Is everything reported in 2007 or 2008 dollars? Are some costs projected?

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operational issues outlined herein. While rates for water and sewer service have historically been low and have generally not been adequate to cover the whole cost of providing the service, the increases that will be needed to fund operation and maintenance, capital replacement, and regulatory changes will potentially send "rate shock" through these Districts. Working collaboratively could provide opportunities to reduce the costs for providing these essential services.

Sections 6.6 and 7.6

Rates. Most service providers within the County have historically charged low rates that generally do not adequately cover the costs of providing water service. This practice has led to degraded systems, deteriorating levels of service, and a lack of reserves to address and improve the situation. The Element will recommend policies and programs the County can implement to get the service providers to conduct rate studies and reduce costs of providing services to reduce "rate shock" within the County.

Where is the nexus for these comments? For the smaller communities, the cost of correcting the deficiencies all at once and out of rates is significant. But the report does not present the current rates or a look at a longer time frame over which deficiencies could be corrected.

6. Page

Influencing State Regulations: The County could proactively support the water and sewer service providers in affecting legislation and state agencies. In particular, issues related to wastewater disposal could have a profound effect on the county's infrastructure needs.

Where is the nexus for this comment? The costs presented in the report are for rehabilitation, fire, and safety. The comment may refer to Section 7.5, but it was not covered in Section 7.6. Because of the importance, additional detail should be presented in Section 7.6.

7. Delete section 1.3.2. Humboldt County Population and Housing Growth because the LUD and HUD information were used in the analysis to determine infrastructure needs. There is no point to the population and housing growth information and it's presentation is confusing because it is not used.

8. In each of the study areas in Section 6.4, there is a comparison between the growth to 2025 and the LUD and HUD. Page 6-6, Arcata for example,

The County estimates there were 190 housing units within the Arcata USA in 2005. Based on the estimated range of housing growth projections of between 0.5% and 2.5%, the Arcata USA could have between 210 and 311 total housing units by 2025. According to Table 1-6, the high build-out estimate for total development potential within the USA, which takes into consideration physical and zoning constraints, is 395 housing units. Therefore, the fair share growth projections for the Arcata USA are within the range of what the land can bear.

This is unnecessary and adds to the confusion of the report. Delete this section in each of the study areas, present only the LUD and HUD values and proceed with the analysis which is based on the LUD and HUD.

9. In Arcata, for example, the LUD is 2 housing units and the HUD is 205 with a change in units/acre from 0.16 to 16.73. This represents a significant change to the land use and infrastructure required to serve the projected population. A change of this magnitude deserves some consideration (discussion) of the conditions, requirements, and timeframe over which this will occur.

There should be a comment as to what is happening in the areas where the LUD is significantly less

than the HUD. As projections are made under HUD the question becomes: what conditions support the development to the HUD.

10. Section 6.4 is the general introduction to the calculation of water infrastructure costs. There is no discussion of the cost per connection versus the financing cost ($/month). In the case of the existing deficiencies, one would expect to see the costs reported in $/month since they would be paid out of rates. This section did not include a discussion of when the deficiencies would be corrected (it appears to be all at once in year 2008) and no discussion of the time frame over which the debit is to be repaid (20 or 30 years). It is unclear why the cost per connection is represented. It is also not clear what the existing rate is and what is the potential resulting rate.

    For the LUD and HUD costs, the table presents the cost per connection and $/month for both the existing repairs and future infrastructure. However, because rates are going up to pay for the identified repairs, the rates for existing and future customers should be the same. The connection fee should be just for the needs of future infrastructure needs. The existing connection fee should be presented along with the connection cost of future infrastructure. It would then be apparent that differences may exist and rate and connection fee studies are warranted.

    Each of the tables in Sections 6.4.x.1 should be updated to appropriately reflect the impact of infrastructure on rates and connection fees.

    It may be more appropriate to discuss the issue of rates versus connection fees and present the calculation and general discussion of the need for rate studies.

    In each section, there should be a statement based on the results of the rate and fee calculation for the LUD and HUD (are they low, high, ok?).

11. Table 7-3 shows that there is adequate wastewater capacity for development. It is hard to tell if the modifications to treatment and flow control are required as part of repairs or just to accommodate development. The I/I upgrades are certainly a repair issue. These need to be separated so that the repairs can be factored into rates and the improvements supporting development are used in the connection charge. Existing rates and charges should be presented.
12. Table 7-5 shows that no new connections are available, but the costs do not include any costs for expansion. The two costs listed for upgrades to meet current regulations and I/I upgrades appear to be maintenance issues and related to rates. The expansion costs for 294-450 new units needs to be determined or explained.
13. Table 7-6 identifies WWTP upgrades, but does not address any WWTP expansion costs. The expansion costs and I/I upgrades should go to rates, while the treatment expansion costs should be determined and go to connection costs.
14. All of the wastewater tables, costs, and discussion need to be reviewed for repair versus expansion costs and appropriate allocation of those costs to rates or connection fees.