

HCSD Revisions

Water Systems

Introduction

System Standards

Humboldt Bay Municipal Water District

6.4 Urban Study Areas

Urban study areas (USAs) are regions within the County either already served by both water and sewer systems or are under consideration for these services. Water study areas (WSAs) are regions within the County that have community water systems, and are covered in more detail in Section 0. The County's purpose in defining urban study areas is to identify areas for more detailed planning and analysis, mainly with respect to development capacity and the infrastructure required to service both existing and any further development that may occur within these areas. As a part of this effort, the County is working collaboratively with the special Districts to refine information regarding development potential and allow for more informed development timing policies within the County.

The following sections introduce the County's USAs and WSAs and provide a detailed discussion on development potential and water infrastructure assessment for each study area. Any water system infrastructure deficiencies will be identified along with plans for timing and financing of needed improvements. Some study areas consist of both an urban study area and water study area. In these instances, the water study area will be described in conjunction with the urban study area in this section.

USAs and WSAs for the most part share the name of the service district that provides water and wastewater service. The Humboldt Community Services District (HCSD) has a population of over 21,000 and is the County's largest and most diverse service district. Because the characteristics of the communities within and adjacent to the boundaries of the HCSD vary considerably, this district has been divided into multiple USAs and WSAs with names reflecting the community names and not the name of the service provider. The following USAs and WSAs have been evaluated with respect to HCSD:

- Freshwater WSA
- Humboldt Hill USA
- Indianola WSA
- Myrtle town USA & WSA

- South Eureka USA & WSA

To make the issues affecting the HCSD easier for the reader to understand, all of the USAs and WSAs within or adjacent to HCSD are presented together in Section 6.6 of this Chapter, following the discussion of the water systems located in the other USAs and WSAs.

6.5 Water Study Areas

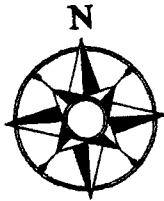
6.6 Humboldt Community Services District (HCSD) USA & WSA (Water)

HCSD was declared formed in September of 1952 after a successful special election was held. The District was formed as an independent multi-purpose special District organized pursuant to Section 61000 et seq. of the California Government Code, providing water, wastewater, and streetlight services. Formation of the District was prompted by an unmet need for urban type services in the rapidly growing "suburban" areas surrounding the City of Eureka. Because the desired services could not be obtained from the City, District formation was the only means available for providing those services necessary for the maintenance of existing and developing residential and commercial areas.

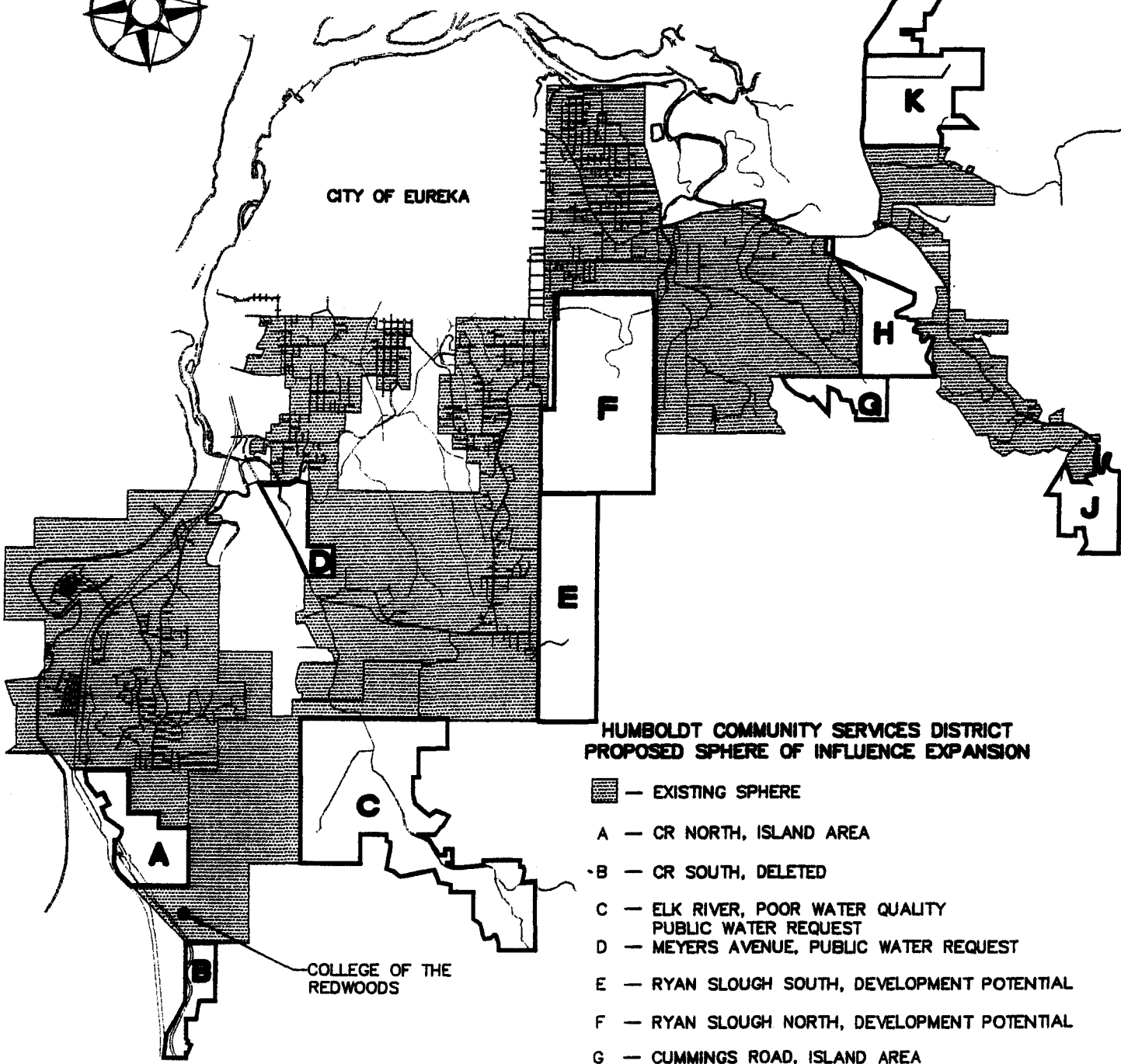
HCSD is located in the Humboldt Bay area ~~and virtually surrounds~~ **servicing the unincorporated areas of the County surrounding** the City of Eureka ~~on the east and south~~. The District extends from ~~Eureka Slough~~ **Freshwater Valley** on the north to ~~Fields Landing~~ **College of the Redwoods** in the south. Humboldt Bay and the City of Eureka form the districts western boundary and the eastern edge of the Freshwater Creek valley forms the eastern boundary. Included within or adjacent to the boundaries of the district are the following USAs and WSAs, each of which will be analyzed in detail below:

- Freshwater WSA
- Humboldt Hill USA
- Indianola WSA
- Myrtle town USA & WSA
- South Eureka USA & WSA


HCSD has requested that this General Plan Update support and recommend that specific areas be included in its application for Sphere of Influence (SOI) expansion before LAFCO. These SOI Areas are referenced as areas A through L (attached Map Exhibit). By law, areas that are not within a jurisdiction's SOI may not plan for or receive that agency's public services (in HCSD's case, sewer and water). HCSD has requested expansion of its SOI areas based on specific and varying reasons. Areas A, D, G, and H would eliminate "island" areas and result in a contiguous service area as recommended by LAFCO standards. Areas C, J, and L have water quality problems and its residents have requested public water. Areas E and F are adjacent to HCSD's service area and urban service boundary, currently contain HCSD facilities and could support additional long term development. Areas E and F are also similar in development character to the existing McKay Tract developments described in the County adopted 1995 Eureka Community Plan. Area B has been withdrawn for SOI consideration per County request.



CITY OF EUREKA



**HUMBOLDT COMMUNITY SERVICES DISTRICT
PROPOSED SPHERE OF INFLUENCE EXPANSION**

-  — EXISTING SPHERE
- A — CR NORTH, ISLAND AREA
- ~~B~~ — CR SOUTH, DELETED
- C — ELK RIVER, POOR WATER QUALITY
PUBLIC WATER REQUEST
- D — MEYERS AVENUE, PUBLIC WATER REQUEST
- E — RYAN SLOUGH SOUTH, DEVELOPMENT POTENTIAL
- F — RYAN SLOUGH NORTH, DEVELOPMENT POTENTIAL
- G — CUMMINGS ROAD, ISLAND AREA
- H — PIGEON POINT ROAD, ISLAND AREA
- I — NOT USED
- J — PACIFIC LUMBER CAMP ROAD,
PUBLIC WATER REQUEST.
- K,L — INDIANOLA, POOR WATER QUALITY
PUBLIC WATER REQUEST

COLLEGE OF THE
REDWOODS

**HUMBOLDT COMMUNITY
SERVICES DISTRICT**

**PROPOSED SPHERE OF INFLUENCE
EXPANSION AREA'S**

DATE: FEBRUARY 2008

Findings and Recommendations – Where the Findings sections recommends that HCSD Service Area be expanded to include specific areas, it is implicit that the General Plan Update supports the planning process required to effect these changes including specific plan update, urban limit line expansion, SOI change, and boundary annexation.

Freshwater WSA

The Freshwater Valley was originally served water by private, individual wells and several private water companies. In 1992, the residents requested that HCSD create the Freshwater Assessment District to provide high quality public water to solve a long standing water quality problem. A map showing the Freshwater WSA is attached as Figure 6-18. The Freshwater WSA is located within a beautiful rural valley east of Humboldt Bay. The Freshwater WSA has 3,568 total acres, of which 1,637 acres are underdeveloped and/or vacant parcels. ~~Of this total acreage, 1,024 acres within the WSA are developable.~~ With respect to development potential, the Freshwater WSA has both underdeveloped and vacant parcels that could see further development. The area's land use guidelines and development potential are covered in the Freshwater Community Plan, which was last updated in May 1985. **Existing zoning restrictions and lack of sewer service restrict the development potential of this area. One of the major concerns of the residents during the Freshwater Assessment District formation was that expansion of public water would result in accelerated growth and development, irregardless of the existing zoning. However, fewer County building permits have been issued since receiving public water than previous to the Assessment District Formation.**

Pacific Lumber Camp Road (Area J) - Most of the Freshwater WSA is within the boundaries or SOI of the HCSD. The Pacific Lumber Camp Road area is outside the current district SOI, **and Lumber Camp Road residents have requested that the Freshwater Assessment District be extended to include them because of similar water quality problems.** ~~but the district has requested that LAFCO consider adding this area upon adoption of the General Plan Update. The HCSD has also requested that the area located between the ends of Cummings and Felt Roads in the Mitchell Heights area be included within their SOI. The Freshwater/Mitchell Heights area was annexed to HCSD in 1992. A more detailed description of the HCSD can be found in Section 0.~~

~~The Freshwater WSA receives water service through Humboldt CSD, who also serves several other study areas including the Humboldt Hill USA, Myrtle town USA and WSA, and South Eureka USA and WSA. The Freshwater WSA represented approximately 9.4% of total housing units within these multiple study areas in 2005.~~

The County estimates there were 803 housing units within the Freshwater WSA in 2005. ~~Based on the County's housing growth projections of between 0.5% and 2.5%, the Freshwater WSA could have between 887 and 1,316 total housing units by 2025. According to **Error! Reference source not found.**, the high~~ The projected build-out estimate for total development potential within the Freshwater WSA, which takes into consideration physical and zoning constraints, is 1,138. ~~Therefore, the high growth rate projection for the WSA is in excess of what the land can bear.~~

~~The high estimate for total development potential of 1,138 housing units in the WSA was used for infrastructure assessment and recommendations. **This represents 335 new**~~

housing units within the Freshwater WSA or 2.9% of the total new housing units in the District.

Findings

Humboldt HCSD's water system in Freshwater is in good condition overall. There are no major infrastructure deficiencies associated with the existing system, as it was constructed in 1992. The Freshwater WSA is expected to receive up to 335 new housing units before reaching build-out conditions. To the extent that development occurs where existing service is provided, no major improvements will be needed. However, where development is not adjacent to an existing water main, an extension of service will be needed.

Pacific Lumber Camp Road (Area J) - The District has also received a request from some residents on Pacific Lumber Camp Road to extend water service to their residences, which are located in the WSA. **It is recommended that the District be allowed to expand its SOI and serve the Lumber Camp area and improve the health, safety and water quality of this area.**

Cummings Road (Area G) and Pigeon Point Road (Area H) – **The Freshwater Assessment District includes both the Freshwater Valley to the East and Mitchell Heights area on the West resulting in the Freshwater Valley area being non-contiguous with the rest of the District. It is recommended that the District be allowed to expand its SOI in this area to eliminate the non-contiguous "island" area.**

Humboldt Hill USA

The Humboldt Hill USA was created in the 1980's with the purchase of the Pialorsi Private Water System and take-over of the County Service Area 3 (CSA 3) Sewer System.

A map showing the Humboldt Hill USA is attached as Figure 6-5. The Humboldt Hill USA represents some of the greatest development potential within unincorporated Humboldt County. The Humboldt Hill USA has 3,967 total acres, of which 1,937 acres are underdeveloped and/or vacant parcels. Of this total acreage, 1,224 acres within the USA are developable. With respect to development potential, the majority of the Humboldt Hill USA has a significant amount of both underdeveloped and vacant parcels. The area's land use guidelines and development potential are covered in the Eureka Community Plan, which was last updated on April 25, 1995.

The County estimates there were 1,791 housing units within the Humboldt Hill USA in 2005. ~~Based on the County's housing growth projections of between 0.5% and 2.5%, the Humboldt Hill USA could have between 1,979 and 2,935 total housing units by 2025. According to~~ **Error Reference source not found.** The high **projected** build-out estimate for total development potential within the Humboldt Hill USA, which takes into consideration physical and zoning constraints, is 3,861. Therefore, the growth estimates are within the range of what the land can bear, and the Humboldt Hill USA has additional development potential beyond the 20-year planning horizon.

~~The high build-out estimate for total development potential of 3,861 housing units in the USA was used for infrastructure assessment and recommendations.~~ This represents 2,070 new housing units within the Humboldt Hill USA **or 18% of the total new housing units in the District.** Overall, there is potential for an estimated 11,602 new housing units within the Humboldt CSD service area.

Most of the Humboldt Hill USA is within the boundaries of Humboldt Community Services District (HCSD). Two areas, identified by the HCSD as the Humboldt Hill South area (the area located between Humboldt Bay and the district boundaries near the U.S. 101 Tompkins Hill exist) and the College of the Redwoods area, are not located within the HCSD SOI. The district has requested that LAFCO consider adding this area upon adoption of the General Plan Update.

Following the purchase of the Pialorsi Water System, the District drilled three municipal water wells to further serve the Humboldt Hill USA. The Humboldt Hill USA's water system is served almost exclusively by the well water sources, although HBMWD water can be supplied to this part of the system. Reservoirs serving Humboldt Hill include the 1.0 MG Blue Spruce tank and the 0.5 MG Donnae Drive tank, for a total storage capacity of 1.5 MG.

Water service within the Humboldt Hill USA is generally very good. The District has an ongoing program for ~~replacing some old steel water line of various sizes and anticipates that all of it will be replaced by 2012~~ **upsizing undersized water mains installed by the Pialorsi Water Company to improve fire protection.** The Humboldt Hill study area's main water source is the District's wells. Current peak day demands within the study area are estimated at 40% of the well's total capacity.

College of the Redwoods (Area A) – College of the Redwoods is within the HCSD SOI and currently receives public water. The area to the north of College of the Redwoods has requested public water. Area A is an "island" area bordering the existing water main.

Findings

HCSD's water system in Humboldt Hill area is in fair to good condition. The only major deficiency associated with the existing system serving the existing development on Humboldt Hill is an aging distribution system that was purchased from a private water system and is in ~~significant~~ need of repair. **HCSD anticipates adding an additional 1.0 Million gallons of water storage to support planned development, to provide fire protection and to serve the higher elevation zones in the Humboldt Hill area.**

Additionally, the Humboldt Hill USA is expected to receive up to an additional 2,070 units before reaching build-out conditions. Humboldt CSD will need to expand its water system infrastructure to serve this additional growth. Humboldt CSD has made improvements to the system wells and reservoirs since it purchased this system in the early 1980's.

College of the Redwoods (Area A) – Recommend expanding the HCSD SOI to include College of the Redwoods Area A.

Indianola WSA

The Indianola WSA (Area k & L) is currently served by individual wells and is not within the City of Eureka, Arcata, or HCSD Service Area or SOI.

A map showing the Indianola WSA is attached as Figure 6-18. The WSA encompasses the community of Indianola, located just east of Humboldt Bay along Old Arcata Road between Arcata and Eureka, CA. The Indianola WSA has 1,916 total acres, of which 1,269 acres are underdeveloped and/or vacant parcels. Of this total acreage, 835 acres within the WSA are developable. With respect to development potential, the Indianola WSA contains mostly underdeveloped parcels with some vacant parcels that could see

further residential development. The area's land use guidelines and development potential are covered in the Humboldt Bay Area Plan.

There is currently no provider of municipal drinking water in the Indianola area. The study area relies ~~solely~~ almost exclusively on private water sources of poor water quality and quantity for supply. The City of Eureka's sphere of influence covers a small portion of the WSA, and HCSD's service boundary borders the southern end of the WSA. The City of Eureka water transmission line from HBMWD passes by the Indianola area and the City boundaries extend north east along US 101 to the edge of the Indianola WSA boundary. The City of Eureka has ~~several~~ a number of retail water customers in this area including the Humboldt Area Foundation and provides a limited network of fire hydrants. Residents in Indianola have stated that private wells provide poor water quality and **has requested that Humboldt HCSD has shown interest in extending** service to the study area. An amendment to the Humboldt Bay Area Plan (HBAP) will be required to extend the urban limit line for this to occur. It is recommended that this extension of service be allowed to improve water service within the study area. The Indianola area is located outside the urban limit line established in the HBAP. Municipal water systems cannot be extended to Indianola until it is included within the urban limit line. The urban limit line will have to be extended to include the Indianola WSA if either HCSD or the City of Eureka is to serve the area. Since Indianola WSA is a rural residential area, modifications to the urban limit line may only be made in conformance with Section 3.22 B of the HBAP.

The Indianola WSA is expected to receive up to 162 new housing units before reaching build-out conditions. Therefore, in addition to extending service to serve existing housing units, the new system would have to expand to serve this additional growth.

Summary of Required Improvements

Because the Indianola WSA is not located within the HCSD boundaries and no HCSD infrastructure is located within the WSA, a separate assessment of in-frastructure required to provide service to this area was made. The following table summarizes the infrastructure assessment for the Indianola WSA and addresses infrastructure needs for existing development and for build-out conditions. There are no planned developments within the WSA, and therefore infrastructure for the next 10-year planning horizon was not assessed.

Findings

Indianola Area (Areas K & L) - It is recommended that extension of service to serve the Indianola area's K & L be allowed to improve the health, safety, and water quality service within the study area.

Table 0-1. Water system infrastructure assessment for the Indianola WSA.

WATER SYSTEM STATISTICS	
# of Existing Houses Needing Service	516
Storage Capacity	0
Estimated Usage Rate (gpd/connection)	629 (HCSD)
CORRECTION OF EXISTING DEFICIENCIES	
Proposed Infrastructure Upgrades	Estimated Cost (\$)
<i>Install storage – 0.444 MGD ¹</i>	\$888,000
<i>Install distribution piping – 3 miles ²</i>	\$1,584,000
Estimated Cost for Existing Deficiencies (\$)	\$2,472,000
Estimated Cost per Existing Connection (\$)	\$4,791
Estimated Financing Cost per Existing Connection (\$/Month)	\$25.61
LOW BUILD-OUT ESTIMATE	
# of Projected New Connections	99
Proposed Infrastructure Upgrades	Estimated Cost (\$)
<i>Install storage – 0.062 MGD ³</i>	\$124,000
Estimated Cost for Build-Out Infrastructure (\$)	\$124,000
Estimated Cost per New Connection (\$)	\$1,253
Combined Cost for Build-Out and Existing Deficiencies (\$)	\$2,596,000
Estimated Cost per Connection (\$)	\$4,221
Estimated Financing Cost per Connection (\$/Month)	\$22.56
HIGH BUILD-OUT ESTIMATE	
# of Projected New Connections	162
Proposed Infrastructure Upgrades	Estimated Cost (\$)
<i>Install storage – 0.102 MGD ³</i>	\$204,000
Estimated Cost for Build-Out Infrastructure (\$)	\$204,000
Estimated Cost per New Connection (\$)	\$1,259
Combined Cost for Build-Out and Existing Deficiencies (\$)	\$2,676,000
Estimated Cost per Connection (\$)	\$3,947
Estimated Financing Cost per Connection (\$/Month)	\$21.10

NOTES: ¹ Additional storage requirements are based on 1 day of estimated maximum day use using existing HCSD usage rates (629 gpd/connection x 516 connections = 0.324 MG) plus minimum fire storage of 120,000 gallons.

² Estimated length of distribution system required to serve existing residences. Distribution requirements for future development are not estimated at this planning level, and are assumed to be covered by the developer(s).

³ Additional storage requirements are based on 1 day of estimated maximum day use for new connections (# of projected new connections x 629gpd/connection).

The above estimated costs are based upon assumptions and the actual costs will be different. With a lack of reserves in place, funding for correcting existing deficiencies would likely come in the form of a low interest loan, like a State Revolving Fund loan which currently has loan terms of 20 years at 2.5% interest. At this rate, annual payments for a \$2.472 million loan would amount to approximately \$159,000 per year. With 516 potential existing ratepayers, monthly bills to cover the above infrastructure would be approximately \$26 per month to fund this loan. In reality, we would expect the District to apply for and hopefully obtain some grant funding that would reduce the local cost. In addition, we would expect the actual improvements to be sized to correct both existing deficiencies and have additional capacity to serve future development. To the extent that this can be done it will provide savings through economies of scale.

Myrtle town USA & WSA

A map showing the Myrtle town USA and WSA is attached as Figure 6-5. The Myrtle town USA represents one of the larger development potentials within the County. The Myrtle town USA is located just east of the City of Eureka along Myrtle Avenue. The WSA is located on the northeastern corner of the USA and borders the Eureka Slough on the north.

The Myrtle town USA has 830 total acres, of which 278 acres are underdeveloped and/or vacant parcels. Of this total acreage, 249 acres within the USA are developable. The Myrtle town WSA has 61 total acres, of which 18 acres are underdeveloped and/or vacant parcels. Of this total acreage, 16 acres within the WSA are developable. With respect to development potential, the majority of the Myrtle town USA has a significant amount of both underdeveloped and vacant parcels. The Myrtle town WSA consists of mainly underdeveloped parcels. The area's land use guidelines and development potential are covered in the Eureka Community Plan, which was last updated on April 25, 1995.

~~Discussions with property owners and developers are currently ongoing for the future of all McKay tracts. These areas are within the proposed expanded USA.~~

The Myrtle town study area contains both a USA and WSA. The County estimates there were 1,760 USA and 4 housing WSA units within ~~the Myrtle town USA and WSA, respectively in 2005. Based on the County's housing growth projections of between 0.5% and 2.5%, the Myrtle town USA could have between 1,945 and 2,884 total housing units by 2025, while the Myrtle town WSA could have between 4 and 7 total housing units by 2025. According to~~ **Error! Reference source not found.**, the high **The projected** build-out estimates for total development potential within the **Myrtle town** USA and WSA, which takes into consideration physical and zoning constraints, are 2,781 and 85, respectively. Therefore, the growth projections for each study area are within the range of what the land can bear.

The high build-out estimates for total development potential of 2,781 and 85 housing units in the USA and WSA were used for infrastructure assessment and recommendations. This represents a combined 1,102 new housing units within the Myrtle town USA **or 9.5% of total new housing units in the District.**

Findings

Myrtle town's water system is in good condition overall. There are no major infrastructure deficiencies associated with the existing system. Some older steel pipe in the distribution system is currently being replaced. The Myrtle town USA and WSA is expected to receive up to 1,102 new housing units before reaching build-out conditions. Humboldt CSD will need to expand its water system infrastructure to serve this additional growth.

South Eureka USA & WSA

A map showing the South Eureka USA and WSA is attached as Figure 6-5. The South Eureka USA, containing both the Cutten and Ridgewood areas, represents one of the greatest development potentials within the County. The South Eureka WSA is located south of the South Eureka USA and east of the Humboldt Hill USA, along Elk River Road.

The South Eureka USA has 6,030 total acres, of which 3,207 acres are underdeveloped and/or vacant parcels. Of this total acreage, 2,279 acres within the USA are developable. The South Eureka WSA has 1,199 total acres, of which 651 acres are underdeveloped and/or vacant parcels. Of this total acreage, 175 acres within the WSA are developable. With respect to development potential, both the South Eureka USA and WSA have a significant amount of both underdeveloped and vacant parcels.

The area's land use guidelines and development potential are covered in the Eureka Community Plan, which was last updated on April 25, 1995.

The South Eureka study area contains both a USA and WSA. The South Eureka USA, containing both the Cutten and Ridgewood areas, receives water service through Humboldt CSD, who also serves several other study areas including the Freshwater WSA, Humboldt Hill USA, and Myrtle town USA and WSA. The South Eureka USA and WSA represented approximately 49% of total housing units within these multiple study areas in 2005.

~~With the exception of the areas known as the North and South McKay Tracts, the South Eureka USA is within the Humboldt Community Services District (HCSD) district boundaries or SOI. Most area within the district boundaries are currently provided water service through the HCSD. The WSA is either within the HCSD proposed sphere of influence or within an area requested by the HCSD to be included within its SOI (Elk River area south of Ridgewood Road and Elk River Road at Pine Hill Road) and would require annexation into the sphere in order to receive water service. See section 0 (Humboldt Hill USA) for a detailed description of the Humboldt CSD.~~

~~The County estimates there were 4,254 and 106 housing units within the South Eureka USA and WSA, respectively in 2005. Based on the County's housing growth projections of between 0.5% and 2.5%, the South Eureka USA could have between 4,700 and 6,971 total housing units by 2025, while the South Eureka WSA could have between 117 and 174 total housing units by 2025. According to **Error! Reference source not found.**, †The high projected build-out estimates for total development potential within the USA and WSA, which takes into consideration physical and zoning constraints, are 12,302 and 153, respectively. Therefore, although the growth projections for the South Eureka USA are within the range of what the land can bear, the high growth rate projections for the WSA are in excess of what the land can bear. The WSA would reach build-out conditions at a slower growth rate of 1.85% over the next twenty years.~~

The high estimates for total development potential of 12,302 and 153 housing units in the USA and WSA were used for infrastructure assessment and recommendations. This represents a combined 8,095 new housing units within the South Eureka USA **or 70% of the total new housing units in the District.**

Elk River Valley (Area C) – Similar to the Freshwater Valley, the Elk River Valley includes an enclave of homes that experience poor water quality and have requested public water. Currently the Elk River residents rely on sub-standard private wells or have their storage tanks filled by water truck haulers. This area is also considered an "island" area, separating the non-contiguous District areas of Humboldt Hill and Ridgewood.

Meyers Avenue (Area D) – Residents along Elk River Road, near Meyers Avenue, are not within the HCSD SOI or area boundary but currently receive public water for agricultural and domestic purposes.

Findings

HCSD's South Eureka's water system, ~~owned and operated by Humboldt CSD,~~ is in good condition overall. There are no major infrastructure deficiencies associated with the existing system. Some older steel pipe in the distribution system is currently being replaced **and additional water capacity storage added to support planned growth and improve fire protection.** The South Eureka USA and WSA is expected to receive up to 8,095 new housing units before reaching build-out conditions. H-CSD will need to expand its water system infrastructure to serve this additional growth.

Elk River Area (Area C) - It is recommended that the District expand its SOI to include the Elk River Valley (Area C) to improve the health, safety and water quality of the area.

Meyers Avenue (Area D) – It is recommended that HCSD expand its SOI to include this service area currently receiving public water and to eliminate another “island” area gap.

Humboldt Community Services District Infrastructure Assessment

Existing Capacity

The HCSD's water system is not limited by either source or treatment capacity with respect to its availability of connections. HBMWD has sufficient water supply to meet District demands, and the District has extensive available capacity within District wells.

Summary of Required Improvements

The following table summarizes the infrastructure assessment for all study areas served by Humboldt CSD, including the Humboldt Hill USA, Myrtle town USA and WSA, South Eureka USA and WSA, and Freshwater WSA. As noted above, the Indianola WSA is located outside the HCSD service area and its infrastructure assessment is presented above. **The Lumber Camp Road and Elk River WSA's are also outside the District and infrastructure assessment is not provided. Contingent on HCSD expanding its SOI in order to serve these areas, the customers requesting water service would probably form an Assessment District to finance the infrastructure improvement.** Due to the interconnectedness of the water system, the study areas could not be assessed individually and were instead assessed collectively. The following table addresses the District's infrastructure needs for existing development and for build-out conditions.

“REVISE” - Table 0-2. Water system infrastructure assessment for the **Humboldt HCSD** service area, including Humboldt Hill, Myrtle town, South Eureka, and Freshwater.

WATER SYSTEM STATISTICS	
# of Existing Connections ¹	7,494
# of Available Connections ²	---
Source Capacity (MGD)	Not limiting (HBMWD + wells)
Storage Capacity (MG)	4.785
Treatment Capacity (MGD)	Not required
Peak Day Use (MGD)	4.71
Usage Rate (gpd/connection)	629
CORRECTION OF EXISTING DEFICIENCIES	
Proposed Infrastructure Upgrades	Estimated Cost (\$)
Additional storage - 0.045-1.095 MG ³	\$90,000 \$1,090,000
Upgrade distribution system - 10-2 miles ⁴	\$5,280,000 \$1,056,000
Estimated Cost for Existing Deficiencies (\$)	\$5,370,000 \$2,146,000
Estimated Cost per Existing Connection (\$)	\$717 \$286
Estimated Financing Cost per Existing Connection (\$/Month)⁷	\$3.83 ???
LOW BUILD-OUT ESTIMATE	
# of Projected New Connections	4,314
Proposed Infrastructure Upgrades ⁶	Estimated Cost (\$)
Additional storage - 2.711 MG ⁵	\$5,422,000
Estimated Cost for Build-Out Infrastructure (\$)	\$5,422,000
Estimated Cost per New Connection (\$)	\$1,257
Combined Cost for Build-Out and Existing Deficiencies (\$)	\$10,792,000
Estimated Cost per Connection (\$)	\$914
Estimated Financing Cost per Connection (\$/Month)⁷	\$4.89
HIGH BUILD-OUT ESTIMATE	
# of Projected New Connections	11,602
Proposed Infrastructure Upgrades ⁶	Estimated Cost (\$)
Additional storage - 7.292 MG ⁵	\$14,584,000
Estimated Cost for Build-Out Infrastructure (\$)	\$14,584,000
Estimated Cost per New Connection (\$)	\$1,257
Combined Cost for Build-Out and Existing Deficiencies (\$)	\$19,954,000
Estimated Cost per Connection (\$)	\$1,045
Estimated Financing Cost per Connection (\$/Month)⁷	\$5.59

NOTES: ¹ The number of connections shown is for the entire Humboldt CSD service area and includes Humboldt Hill USA, Myrtle town USA and WSA, South Eureka USA and WSA, and Freshwater WSA.

² There is sufficient source supply from HBMWD and the wells to serve all development potential within the study areas.

³ Additional storage requirements are based on 1 day of existing maximum day use (4.71 MGD) plus minimum fire storage of 120,000 gallons minus existing storage (4.785 MG).

⁴ According to the DHS annual inspection report, approximately 10-2 miles of distribution system is steel (coal tar lined and galvanized) pipe in fair condition. Distribution requirements for future development are not estimated at this planning level, and are assumed to be covered by the developer(s).

⁵ Additional storage requirements are based on 1 day of estimated maximum day use for new connections (# of projected new connections x 629 gpd/connection).