Curry County Road Department

Curry County, Oregon

SIX YEAR ROAD CAPITAL IMPROVEMENT PLAN

JANUARY 2021

The Dyer Partnership Engineers & Planners, Inc.

Project No. 117.16

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INTRODUCTION

SECTION 1: **INTRODUCTION**

1.1 Overview

Over the years, transportation systems deteriorate due to age, use, and inadequate preventative maintenance programs. The deterioration of the transportation system affects the safety levels and how the roadways are utilized. The primary goal, as stated by Curry County Road Department is, "To successfully provide safe, efficient and economical road transportation services valued by the public through a creative, responsive workforce committed to excellence, integrity, and teamwork."

With the County facing dwindling funding resources a Capital Improvement Plan (CIP) has been developed for guidance on prioritization of anticipated and identified transportation system improvement projects. A Capital Improvement Plan is a list of planned improvements needed to correct deficiencies and/or satisfy growth within the area. Curry County's Capital Improvement Plan will provide increased safety with both short term and long term improvement projects needed to correct deficiencies in the County's transportation system. The Plan will summarize the components of the existing transportation system, analyze transportation needs, evaluate current conditions, identify the capital improvements necessary to remedy system deficiencies, and provide options for financing projects. The goal of the Plan is to provide efficient management for the County to maintain and improve the transportation system for the years of 2020 through 2026.

1.2 Objectives and Scope of the Capital Improvement Plan

In January of 2020, The Dyer Partnership, Engineers & Planners, Inc. was authorized by the Curry County Road Department to provide planning and engineering services. These services will develop a Six Year Road Capital Improvement Plan that will address the transportation system and funding issues facing the County. The Capital Improvement Plan is a comprehensive guide for the next six years of essential transportation system improvements. The CIP includes maintained roadways and bridges within the jurisdiction of the County. A summary of each objective included in the Plan is listed below.

Analysis of Existing System

Curry County has developed a road rating system. The ratings are on a scale of 1.0 to 5.0; with 1.0 being very poor and 5.0 very good. A rating of 3.0 is considered fair. Each roadway with a poor or fair rating will be further analyzed within the CIP. A detailed list of findings, concerns, and recommendations was assembled based on the results of the analysis of the area.

A recommendation of improvement projects for the transportation system is provided to address poor ride quality, significant roadway damages, impacts to public safety, maintenance needed, and growth within the County. A summary of Curry County's jurisdiction and responsibilities is provided. The projects were broken into different categories, but all projects are located within the County's jurisdiction. The transportation system includes: roadways, bicycle paths and lanes, pedestrian walkways, and bridges. Road classifications, traffic volume, traffic flow, and crash data were collected from the County. Detailed maps, roadway and bridge narratives, tables, and figures can be referenced for each of the recommended road and bridge projects.

Recommended projects along with scheduled maintenance and standard improvement projects are discussed and compared with Curry County's design criteria. Road Department Staff were consulted to properly address the design standards and trends that are affecting roadway improvement projects in Curry County.

The recommended project and costs for each category were developed based on recent construction and bidding results. All funds and rates were determined using the fiscal year of 2020 to 2021 with no inflation for future budgetary costs. See Section 5.4 for recommended adjustments for inflation.

Recommendations

Projects summarized in Section 6 have a rating of "fair" or "poor", emergency related, or were improvements requested by Curry County. Safety concerns, deficiencies, vehicular volume, and expected growth are considered within the rating system. An overlay and chip seal schedule is provided by the County. These tasks are performed on a specified schedule in order to address the entire County.

A summary was developed defining each recommended project after analysis of Curry County's transportation system. Projects necessary for the upkeep and preservation of the roadway by chip sealing were categorized as maintenance projects. All other contracted roadway or bridge projects were considered construction projects. For construction projects that encounter funding restrictions, alternate improvements were considered for recommendations. The provided recommendations also include studies and a Heavy Equipment Plan.

Multiple properties for land acquisition that could be considered for clean material disposal sites were discussed and are included in Section 4. Environmental concerns regarding the sites are discussed and the findings were recorded along with the site.

Financing

The main source of funding considered within the Capital Improvement Plan is from the County's Road Fund. An explanation of how County Road Funds are distributed is included in the Plan. An itemization of the County Road Fund and alternate funding sources is provided in the Plan. Alternate funding includes local resources, state programs, federal aid, and bond measures. The County's use of alternate funding for improvement projects is described.

Scheduling

The Six Year Road Capital Improvement Plan will detail the schedule of transportation system improvements for the years of 2020 through 2026. The schedules include costs and funding for construction, maintenance, studies, and heavy equipment replacement.

1.3 Planning Area

Curry County Road System

The Curry County Road Department is made up of twenty two employees who are responsible for all the County roads. The County roads include 191 miles of paved roadway, nine miles of oil mat roads, and twenty five miles of gravel roads. Paved roads have higher traffic volumes and receive a higher priority for improvements. Gravel and oil mat roads are critical for County maintenance.

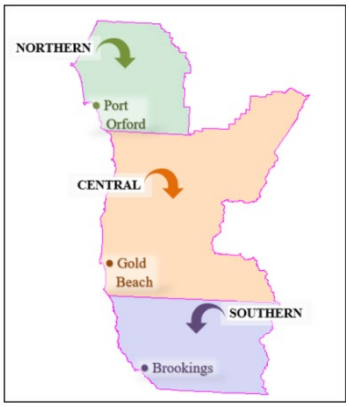
Bridges are included within the Curry County Road Department's responsibilities. Curry County has thirty four bridges within County Limits. Twelve bridges are identified in the Plan and require improvements ranging from basic structural repairs to full removal and replacement. Bridges are categorized separately based on the extensive needs for improvements. Improvements for the bridges are expected to be provided by alternate funding.

The Curry County Road Department transportation system includes the following infrastructure:

- 225 Miles of Total Maintained Roadway
- 2,085 Signs
- 34 Bridges
- 42,192 Feet of Guardrail
- 3,524 Culverts Comprising of 185,202 Lineal Feet

The Road Department has broken the County into three regions: Northern, Central, and Southern as shown in Figure 1.3.1. Separate areas ensure the necessary maintenance work, recommended project improvements, and funding are distributed equally throughout the entire County. Scheduling for maintenance and improvement projects is completed by region and rotated regularly.

FIGURE 1.3.1
CURRY COUNTY SITE MAP



1.4 Goals and Course of Action

The Capital Improvement Plan provides the County with a comprehensive planning tool to improve the transportation system and provide safer and more reliable roads. The CIP is organized not only as a guide to facilitate planning for the entire transportation system, but also as a quick reference to each individual road and bridge. Scheduled projects over the next six years include general construction of roadways, bridge structure improvements, surface preservation, maintenance, studies, and heavy equipment replacement. The Capital Improvement Plan provides an estimated schedule for project delivery and completion with possible funding sources.

The ideal outcome for transportation improvements is to develop a structurally sound roadway system that is capable of accommodating growth. To accomplish the goal it is paramount that the Plan meets the long term needs of the County in the most cost effective way.

1.5 Acknowledgements

The development of Curry County Road Department's Six Year Road Capital Improvement Plan is the result of the combined efforts of a number of individuals and agencies. The participation of these parties in collecting data, answering questions, reviewing drafts, attending meetings, and providing guidance for the Plan is greatly appreciated.

Dyer wishes to acknowledge the efforts of Richard Christensen, Roadmaster; Dan Crumley, Former Roadmaster; Jerry Story, LauraLee Snook, Gary Wolford, Rob Schafer, and the Road Department Staff.

SECTION 2:

EXISTING ROAD CONDITIONS

SECTION 2: **EXISTING ROAD CONDITIONS**

2.1 County Road Ratings

Curry County has periodically, 1989 through 2018, rated pavement conditions of their roads and has developed a strategy for pavement management. The strategy lists all roads maintained by the County; a rating has been given to each road within the County.

The County's road ratings are defined from the Oregon Department of Transportation *GFP Pavement Condition Rating Manual updated July 2010* found in Appendix B. Good-Fair-Poor (GFP) condition rating definitions for asphalt concrete pavement are shown in Figure 2.1.1.

FIGURE 2.1.1
ROAD CONDITION RATINGS

Condition	Rating	Definition
Very Good	5.0	Stable, no cracking, no patching, and no deformation. Excellent riding qualities. Nothing would improve the roadway at this time.
Good	4.0	Stable, minor cracking, generally hairline, and hard to detect. Minor patching and possibly some minor deformation evident. May have a dry or light-colored appearance. Very good riding qualities. Rutting may be present but is less than ½ inch.
Fair	3.0	Generally stable, minor areas of structural weakness evident. Cracking is easier to detect, patched but not excessively. Deformation more pronounced and easily noticed. Ride qualities are good to acceptable. Rutting may be present but is less than ¾ inch.
Poor	2.0	Areas of instability, marked evidence of structural deficiency, large crack patterns (alligatoring), heavy and numerous patches, deformation very noticeable. Riding qualities range from acceptable to poor. When rutting is present, rut depth is greater than ¾ inch.
Very Poor	1.0	Pavement in extremely deteriorated condition. Numerous areas of instability. Majority of section showing structural deficiency. Ride quality is unacceptable. (Vehicles need to slow down).

The purpose of this Section is to analyze the County's inspection of their existing roads by performing a field reconnaissance to confirm road conditions with the County's pavement condition rating of roads.

2.2 Existing Roadway Conditions and Deficiencies

Field evaluations were conducted on County roadways identified as having a Pavement Condition Rating of "3.0 – Fair" or below as rated by the County's 2018 Road Ratings. The County does not rate gravel roads on an annual basis.

It is anticipated that the County will provide ongoing maintenance for roads with surfaces indicated as "3.5 – Fair" and above. Due to time and budget constraints, it is assumed that the condition of the roads will not deteriorate and they were not evaluated further in this Plan.

Thirty-two roads were evaluated the week of February 10, 2020. The primary deficiencies noted in the field evaluations were alligator cracking, longitudinal cracking, transverse cracking, rutting, pavement raveling, patches, potholes, and slip planes. The majority of the roads driven confirmed the County's previous inspection and ratings, and the roads may have deteriorated further since previously rated. A brief description and repair option for each type of deficiency is outlined below. A detailed list of each road and recommended repair is located in Section 6.

Fatigue (Alligator) Cracking

Fatigue (alligator) cracking is a load associated structural failure. The failure can be due to weakness in the surface, base or subgrade; a surface or base that is too thin; poor drainage, or a combination of all three. It often starts in the wheel path as longitudinal cracking and ends up as alligator cracking after severe distress.

Alligator cracking in Curry County often appears as localized in nature requiring that only a section of the roadway require repair. Small localized areas have been successfully repaired in the past by removing the asphalt and the underlying road base and soft areas of the subgrade. The damaged areas are replaced with granular material and asphalt patching. Larger areas have been successfully repaired by utilizing "petro mat" during overlays and also by increasing the amount of tack applied to fill cracks and then overlaying. Large areas are reviewed and repaired on case by case basis depending on the severity of the cracking.

FIGURE 2.2.1
ALLIGATOR CRACKING

Longitudinal Cracking

Longitudinal cracks are single cracks that are parallel to the pavement's centerline or laydown direction. The cracks can be a result of pavement fatigue, reflective cracking, and/or poor joint construction. Joints are generally the least dense areas in a layer of pavement.

With less severe cracks measuring 1/2 inch or less longitudinal cracking can be repaired by sealing to prevent moisture from entering into the subgrade. Localized longitudinal cracks in sections of road

greater than 1/2 inch can be grinded and inlayed with asphalt pavement patch. Severe cracks are repaired by removing the cracked pavement layer and replacing the roadway with overlay.

FIGURE 2.2.2
LONGITUDINAL CRACKING

Transverse Cracking

Transverse cracks are single cracks perpendicular to the pavement's centerline or laydown direction. Transverse cracks can be caused by reflective cracks from an underlying layer, daily temperature cycles, and poor construction due to improper operation of the paver.

With less severe cracks measuring 1/2 inch or less longitudinal cracking can be repaired by sealing to prevent moisture from entering into the subgrade. Localized transverse cracks in sections of road greater than 1/2 inch can be grinded and inlayed with asphalt pavement patch. Severe cracks are repaired by removing the cracked pavement layer and replacing it with an overlay.

FIGURE 2.2.3
TRANSVERSE CRACKING

Rutting

Ruts are long channelized depressions developed by the recurrence of the wheels passing over the roadway. Rutting results from consolidation or lateral movement of any of the surface layers or the

subgrade under traffic. It is caused by insufficient material thickness; lack of compaction of the surface material, stone base, or soil. Other causes include weak asphalt mixes or moisture infiltration.

If rutting is minor or stabilized, the depressions can be filled. If the deformations are severe, the rutted area needs to be removed and replaced with suitable material. Pre leveled with ac pavement prior to overlays, if rutting areas are minor and localized. Severe ruttings are to be "dug out" and filled up with granular material and provided with an asphalt patch prior to overlays.

FIGURE 2.2.4
RUTTING

Raveling

Raveling is the on-going separation of aggregate particles in a pavement from the surface downward or from the edges inward. Usually, the fine aggregate wears away first and then leaves little "pockmarks" on the pavement surface. As the erosion continues, larger and larger particles are broken free and the pavement soon has the rough and jagged appearance typical of surface erosion.

Common causes that Curry County Road Department has encountered are when upward gravel slope approaches allow gravel to migrate onto the roadway, either by traffic on the slope approaches or stormwater. Vehicles running over the displaced gravel degrade the asphalt pavement to cause the same appearance. The County, during past overlays, has successfully avoided further problems by paving upward slope approaches twelve feet or to the raveling.

A common cause of raveling is placing asphalt too late in the season. The late application usually lacks warm-weather traffic which reduces pavement surface voids, further densification, and kneading of the asphalt mat. A repair option in this case is to apply a thin hot-mix overlay. Other solutions could include a chip seal or slurry seal.

FIGURE 2.2.5
RAVELING

Patches / Trench Patches

A patch is an area where the original pavement surface is removed and replaced, or additional material is applied to the pavement surface after the original construction. The level of distress present in the patch and the ride quality of the patch determine the severity level. The Curry County Road Department has encountered many instances where utility trench patches as permitted are usually not inspected for compliance resulting in many asphalt patch failures. Asphalt patch failure can be caused by not applying tack coat to adhere to existing asphalt, settling subgrade from poor compaction, or not properly matching into existing asphalt surfaces.

Patches are repaired by removing distressed or failed patching and reconstructing the roadway section.

FIGURE 2.2.6
PATCH

Potholes

A pothole is a depression or cavity on the road surface. Potholes are caused by wear or erosion of the road surface or base materials.

Repair potholes with cold mix fill for temporary repair or reconstruct the roadway section.

FIGURE 2.2.7
POTHOLE

Slip Planes or Failed Slopes

Repairing a slip plane or failed slope is costly. If the failure extends deeper than superficial surface erosion, the repair involves excavating and removing the failed fill material, to replace it with imported granular fill.

Slip planes and failed slopes can be repaired by removing all of the areas exhibiting slumping or settling and adding drainage structures, geogrids, retaining systems, or a combination of slope stability techniques to stabilize the slope.

FIGURE 2.2.8
SLIP PLANES OR FAILED SLOPES

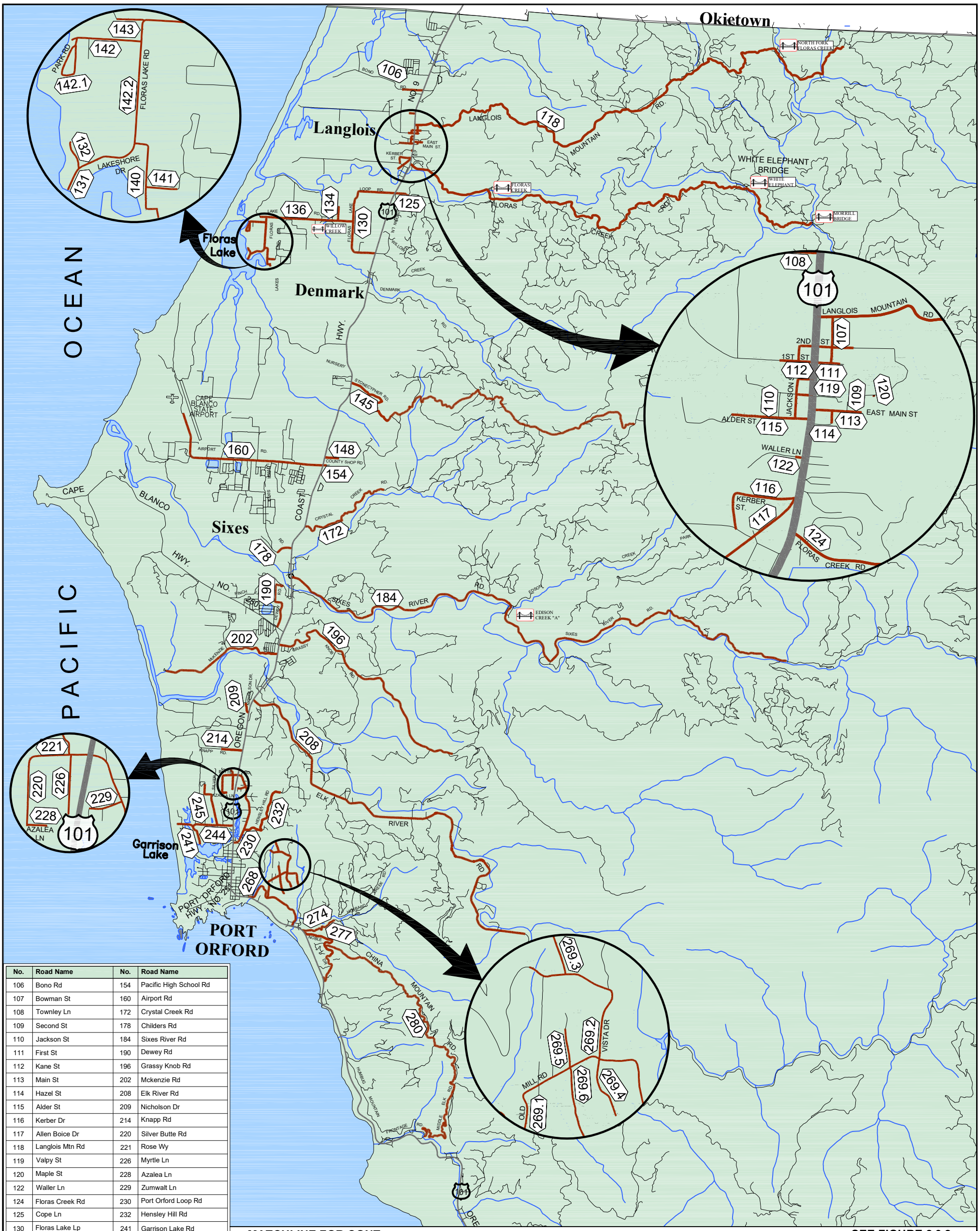
Other Deficiencies

Many other deficiencies were observed during field evaluations but were not as numerous as the deficiencies previously listed. Deficiencies include, but are not limited to, the following:

- Abrupt Edge or Slides
- Slumping or Settling
- Pavement Distortion or Disintegration
- Drainage Deficiencies
- Asphalt Corrugations or Gravel Washboarding
- Encroaching Vegetation
- Falling Rocks
- Evidence of Erosion
- Cutbanks Affects Site Distance Visibility or Drainage of the Roadway

2.3 Existing County Road Inventory

An inventory of all roads maintained by Curry County is provided in this Section beginning with Figures 2.3.1 through 2.3.4.



No.	Road Name	No.	Road Name
106	Bono Rd	154	Pacific High School Rd
107	Bowman St	160	Airport Rd
108	Townley Ln	172	Crystal Creek Rd
109	Second St	178	Childers Rd
110	Jackson St	184	Sixes River Rd
111	First St	190	Dewey Rd
112	Kane St	196	Grassy Knob Rd
113	Main St	202	Mckenzie Rd
114	Hazel St	208	Elk River Rd
115	Alder St	209	Nicholson Dr
116	Kerber Dr	214	Knapp Rd
117	Allen Boice Dr	220	Silver Butte Rd
118	Langlois Mtn Rd	221	Rose Wy
119	Valpy St	226	Myrtle Ln
120	Maple St	228	Azalea Ln
122	Waller Ln	229	Zumwalt Ln
124	Floras Creek Rd	230	Port Orford Loop Rd
125	Cope Ln	232	Hensley Hill Rd
130	Floras Lake Lp	241	Garrison Lake Rd
131	Lakeshore Dr	244	Paradise Point Rd
132	Oceanside Ln	245	Arizona St
134	Haga Rd	268	Cemetery Loop Rd
136	Floras Lake Rd	269.1	Old Mill Rd
140	Lakes End Dr	269.2	Vista Dr
141	I St	269.3	Cedar Hollow Rd
142	Boice Cope Rd	269.4	Humbug Wy
142.1	Boice Cope Park Rd	269.5	Blanchard Dr
142.2	Leeward Street	269.6	Park Rd
143	Woodruff Ln	274	Hubbard Creek Rd
145	Stonecypher Rd	277	Noble Dr
148	County Shop Rd	280	China Mountain Rd

MATCHLINE FOR CONT.

SEE FIGURE 2.3.2

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STREAM / WATER WAY
- COUNTY BRIDGE
- ### ROAD NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

NOT TO SCALE

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DATE: APRIL, 2020	
PROJECT NO.: 117.16	

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

NORTHERN CURRY COUNTY

FIGURE NO. 2.3.1

MATCHLINE FOR CONT.

SEE FIGURE 2.3.1

OCEAN

PACIFIC

Ophir

Nesika Beach

Agness

Illahe

ROGUE RIVER

MATCHLINE FOR CONT.

SEE FIGURE 2.3.3

No.	Road Name	No.	Road Name	No.	Road Name	No.	Road Name
375	Agness-Illahe Rd	510	Ophir Rd	524	Nesika Rd	535	Hillside Acres Rd
425	Cougar Ln	511.1	Horizon Dr	525	Grange Rd	537	Raccoon Ln
450	Oak Flat Rd	511.2	Humbug Ln	527	Chandler Rd	540	Edson Creek Rd
500	Arizona Ranch Rd	511.3	Mutts Wy	530	A St	541	Nesika Beach Dump
505	Euchre Creek Rd	515	Cedar Valley Rd	531	B St	545	N Bank Rogue River
507	Starkweather Rd	518	Ponderosa Rd	532	Kilgore Rd	548	Lobster Crk Youth Camp Rd
509	Coy Creek Rd	520	Mckinnon Dr	534	Gun Club Rd		

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STREAM / WATER WAY
- COUNTY BRIDGE
- ### ROAD NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

NOT TO SCALE

FIGURE NO. 2.3.2

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

CENTRAL CURRY COUNTY - PART 1

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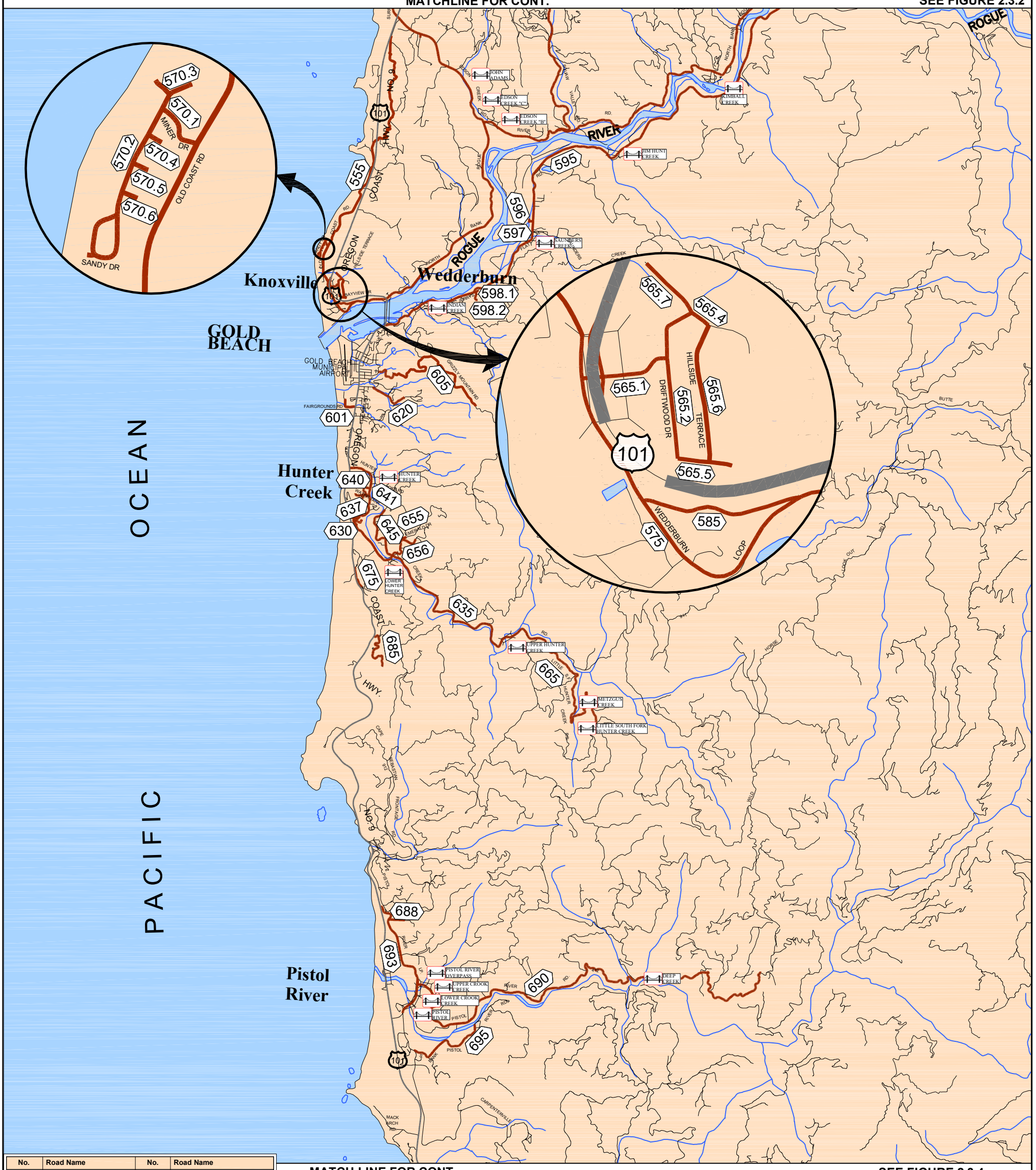
DATE: APRIL, 2020

PROJECT NO.: 117.16

MATCHLINE FOR CONT.

SEE FIGURE 2.3.2



No.	Road Name	No.	Road Name
555	Old Coast Rd	601	Fairgrounds Rd
565.1	Ocean Wy	605	Grizzly Mountain Rd
565.2	Driftwood Dr	620	Quarry Rd
565.4	Iris St	630	Hunter Crk Complex
565.5	Bayview Dr	635	Hunter Creek Rd
565.6	Hillside Tr	637	Hunter Creek Lp
565.7	Azalea Ln	640	Brooks Rd
570.1	Miner Dr	641	Water Tank
570.2	Sandy Dr	645	Mateer Rd
570.3	Cobblestone Ct	655	Hunter Creek Ht
570.4	Pebble Pl	656	Emerald Dr
570.5	Boulder Pl	665	Little South Fork Rd
570.6	Agate Pl	675	Thimbleberry Rd
575	Wedderburn Loop Rd	685	Eighty Acre Rd
585	Doyle Point Rd	688	Pistol River Cemetery Rd
595	Jerrys Flat Rd	690	N Bank Pistol River Rd
596	Curry St	691	Pistol River School Rd
597	Riverway Dr	693	Pistol River Lp
598.1	Vista Lp	695	S Bank Pistol River Rd
598.2	Hummingbird Hill Rd		

MATCH LINE FOR CONT.

SEE FIGURE 2.3.4

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STREAM / WATER WAY
- COUNTY BRIDGE
- ### ROAD NUMBER

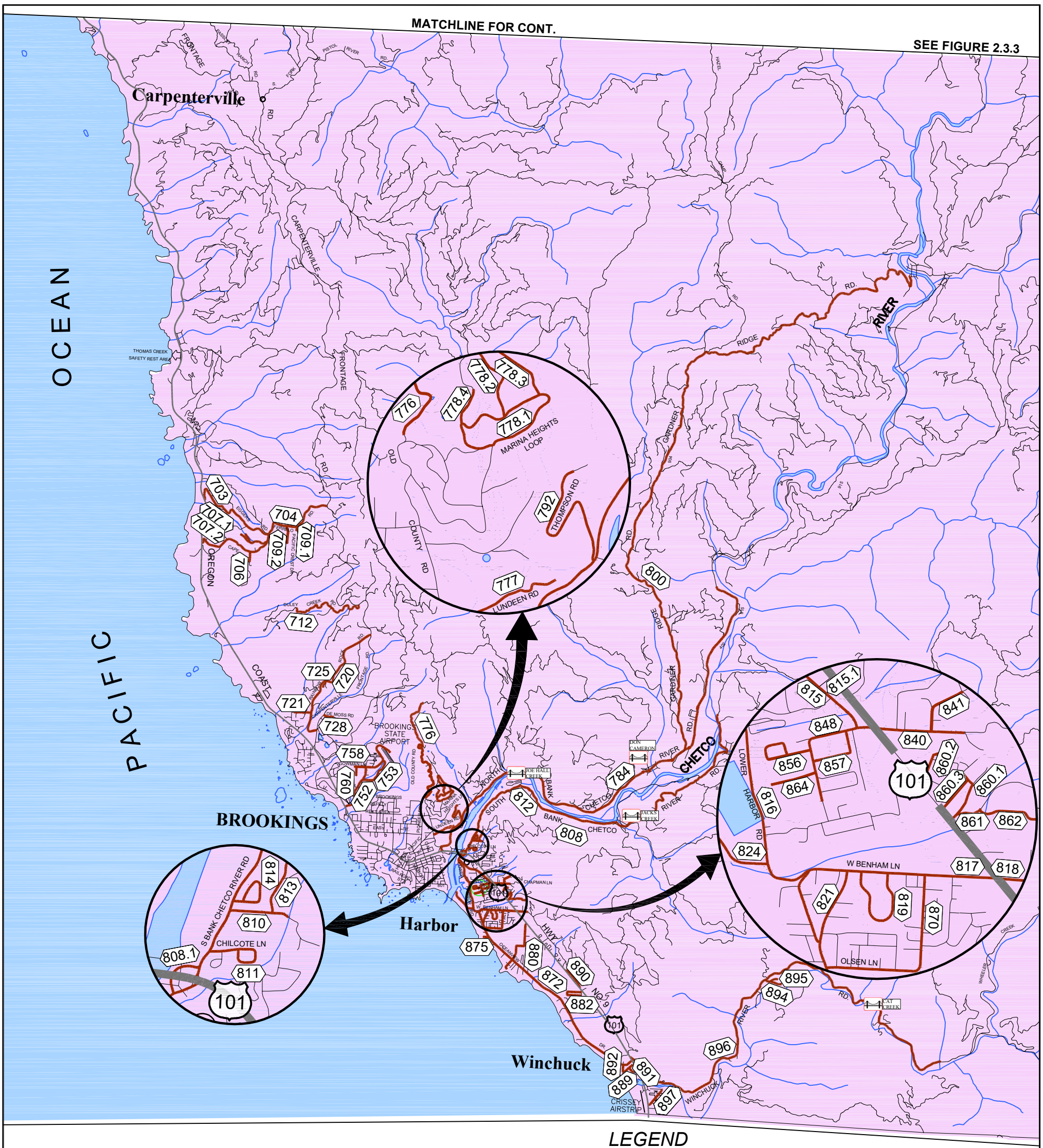
MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

NOT TO SCALE

THE DYER PARTNERSHIP ENGINEERS & PLANNERS	*CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN*	FIGURE NO.
DATE: APRIL, 2020	*CENTRAL CURRY COUNTY - PART 2*	*2.3.3*
PROJECT NO.: 117.16		



LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STREAM / WATER WAY
- COUNTY BRIDGE
- ### ROAD NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

NOT TO SCALE

No.	Road Name	No.	Road Name	No.	Road Name
703	Eggers Rd	784	N Bank Chetco River Rd	856	Crestline Lp
704	Cape Ferrelo Rd	792	Thompson Rd	857	Lively Ln
706	Cornett Rd	800	Gardner Ridge Rd	860.1	Floral Hill Dr
707.1	Brookside Dr	808	S Bank Chetco River Rd	860.2	Wedgewood Ln
707.2	N Brookside Dr	808.1	S Bnk Chetco Upas	860.3	Kings Wy
709.1	Pacific Crest Dr	810	Payne Rd	861	Tuttle Ln
709.2	Woodton Ln	811	Chilcote Ln	862	Gavin Ln
712	Duley Creek Rd	812	Salmonberry Rd	864	Titus Ln
720	Rainbow Rock Rd	813	Foster Rd	870	Olsen Ln
721	Coverdell Rd	814	Harbor View Cr	872	Oceanview Dr
725	Aqua Vista Ln	815	Shopping Center Ave	875	Holly Ln
728	Demoss Rd	815.1	Zimmerman Ln	880	Pedrioli Dr
752	Parkview Dr	816	Lower Harbor Rd	882	Camellia Dr
753	Dodge Av	817	W Benham Ln	889	Kemlin Pl
758	Gowman Ln	818	E Benham Ln	890	Museum Rd
760	Stafford Rd	819	Bayview Dr	891	Itzen Dr
776	Old County Rd	821	Wenbourne Ln	892	Wollam Rd
777	Lundeen Rd	824	Boat Basin Rd	894	Laurence Ln
778.1	Marina Heights Lp	840	E Hoffeldt Ln	895	Julia Wy
778.2	Pacific View Dr	841	Chapman Ln	896	Winchuck River Rd
778.3	Eastwood Ln	848	W Hoffeldt Ln	897	State Line Rd
778.4	Westwood Ln	856	Crestline Lp		

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DATE: APRIL, 2020	***SOUTHERN CURRY COUNTY***	***2.3.4***
PROJECT NO.: 117.16		

A summary of the information utilized by the County for examination and rating of the roadways is provided hereafter.

Road Number and Name

The roads are categorized into three separate sections. The roads in Northern Curry County numbered from 106 to 280, Central Curry County begin at 375 and end at 695, and Southern Curry County section numbered from 703 to 897.

Milepost

Mileposts (MP) provided the location of the segment of roadways where the data was collected.

Functional Class

The following classes describe the use of the road with either a high traffic volume (major collector) or a light traffic flow (minor collector).

Residential Local (R)

Residential Local (R) is a public road that is not a city street, state highway or federal road. A road connecting the local uses with the collector system. Property access is the main priority; through-traffic is not encouraged. All County roads not classified as arterials or collectors are the County's local roads, including resource, industrial, commercial, high density residential and residential. County road examples include Townley Lane, Coy Creek Road, and Eggers Road.

Rural Local (RL)

Rural Local (RL) is a public road within a rural area and expects less traffic. County road examples include Stonecypher Road, Arizona Ranch Road, Fairgrounds Road, and Boat Basin Road.

Rural Minor Collector (RMiC)

Rural Minor Collector (RMiC) is a public road providing service to small communities. This type of road links locally important land uses that generate trips with rural destinations. County road examples include Floras Lake Road, Nesika Road, and Oceanview Drive.

Rural Major Collector (RMaC)

Rural Major Collector (RMaC) is a public road providing service to land uses that generate trips such as consolidated schools, shipping points, parks, mining and agricultural areas. This type of road links minor collectors with roads of higher classification. County road examples include Airport Road, Cedar Valley Road, and North Bank Chetco River Road.

Rural Minor Arterial (RMiA)

Rural Minor Arterial (RMiA) is a public road that link cities or large traffic generators. Travel speeds will be relatively high with minimum interference to through traffic. Jerry's Flat Road is the only minor arterial within County jurisdiction.

Surface Type

Roadway surface types are defined as asphalt, gravel or oil mat. Gravel roads in high traffic or growing areas are considered for paving to improve the ride quality and durability of the road. Descriptions of the surface types are listed below.

Asphalt

Hot Mix Asphalt Concrete (HMAC) is a hot mixture of asphalt cement consisting of well graded, high quality aggregate with mineral filler and additives as required. The plant mixes HMAC into a uniformly coated mass, hot laid on a prepared foundation, and compacted to a specified density.

Gravel

Gravel consists of unpaved road surfaced with gravel from a quarry or stream bed.

Oil Mat

An oil mat is earth or gravel road that has an added bituminous surface and occasionally a seal coat.

Surface Width

The surface width is an average of the entire width of the road that is covered by the "surface type", whether it be asphalt, oil mat, or gravel. Surface width is important to provide a safe separation between lanes of traffic, as well as sufficient shoulder for pedestrians, bicyclists or emergency situations.

Average Daily Traffic (ADT)

The Average Daily Traffic (ADT) column shows the average daily traffic or an average number of vehicles, in both directions of travel, within the segment of road listed. The ADT data was not available for all of the County roads listed and date taken varies as shown in the table.

Color Scheme

- Green – Northern Curry County Roads
- Peach – Central Curry County Roads
- Purple – Southern Curry County Roads

Tables 2.3.1, 2.3.2, and 2.3.3 provide the County road ratings for all roads maintained by the County.

TABLE 2.3.1
CURRY COUNTY ROAD CLASSIFICATION IN NORTHERN MAINTENANCE DISTRICT

No.	Northern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	Date Taken
106	Bono Rd.	0.00	0.34	R	Asphalt	20	4.0	90	1/16/2014
107	Bowman St.	0.00	0.14	R	Asphalt	22	4.0		
108	Townley Ln.	0.00	0.11	R	Asphalt	14	5.0	10	1/16/2014
109	Second St.	0.00	0.05	R	Asphalt	37	4.0		

No.	Northern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	Date Taken
		0.05	0.10	R	Asphalt	21	4.0		
		0.10	0.16	R	Asphalt	18	4.0		
110	Jackson St.	0.00	0.05	R	Asphalt	22	4.0		
		0.05	0.16	R	Asphalt	21	4.0		
111	First St.	0.00	0.10	R	Oil Mat	22	4.0		
		0.10	0.18	R	Asphalt	24	4.0		
112	Kane St.	0.00	0.05	R	Asphalt	21	4.0		
113	Main St.	0.00	0.15	R	Asphalt	20	4.0		
114	Hazel St.	0.00	0.04	R	Oil Mat	28	4.0		
115	Alder St.	0.00	0.24	R	Asphalt	24	4.0		
116	Kerber Dr.	0.00	0.17	R	Asphalt	22	5.0		
		0.17	0.30	R	Asphalt	16	5.0		
117	Allen Boice Dr.	0.00	0.22	R	Asphalt	20	4.0		
		0.22	0.29	RL	Asphalt	20	4.0		
118	Langlois Mtn. Rd.	0.00	1.80	RMiC	Asphalt	24	5.0		1/16/2014
		1.80	4.19	RMiC	Asphalt	22	3.0	101	
		4.19	6.00	RMiC	Asphalt	18	3.5	111	
		6.00	8.26	RMiC	Asphalt	16	3.5	77	
		8.26	9.53	RMiC	Oil Mat	18	3.5	22	
119	Valpy St.	0.00	0.05	R	Asphalt	26	4.0		
120	Maple St.	0.00	0.03	RL	Gravel	12			
122	Waller Ln.	0.00	0.03	R	Asphalt	22	4.0		
124	Floras Creek Rd.	0.00	2.61	RMiC	Asphalt	25	4.0	206	1/30/2014
		2.61	3.21	RMiC	Asphalt	22	3.0		
		3.21	5.18	RMiC	Oil Mat	22	3.0	38	
		5.18	7.08	RMiC	Gravel	18			
		7.08	7.15	RMiC	Asphalt	16	2.0	32	
		7.15	8.68	RMiC	Gravel	18			
125	Cope Ln.	0.00	0.23	RL	Asphalt	22	5.0	149	1/16/2014
130	Floras Lake Loop	0.00	1.96	RMiC	Asphalt	21	4.0	155	1/30/2014
131	Lakeshore Dr.	0.00	0.37	R	Asphalt	22	4.0	61	2/6/2014
132	Oceanside Ln.	0.00	0.12	RL	Gravel	12			
134	Haga Rd.	0.00	0.24	RL	Asphalt	21	4.0	41	2/6/2014
136	Floras Lake Rd.	0.00	1.92	RMiC	Asphalt	22	4.0	204	2/6/2014
140	Lakes End Dr.	0.00	0.39	R	Asphalt	23	3.5	62	2/6/2014
141	I St.	0.00	0.13	RL	Asphalt	20	4.0		
142	Boice Cope Rd.	0.00	0.29	RL	Asphalt	23	4.0	82	2/6/2014
142.1	Boice Cope Park Rd.	0.00	0.33	RL	Asphalt	12	4.0		
142.2	Leeward Street	0.00	0.08	RL	Gravel	10			

No.	Northern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	Date Taken
143	Woodruff Ln.	0.00	0.12	RL	Asphalt	24	4.0	21	2/6/2014
145	Stonecypher Rd.	0.00	0.30	RL	Asphalt	21	3.0	55	2/13/2014
		0.30	1.14	RL	Gravel	18			
148	County Shop Rd.	0.00	0.23	RL	Asphalt	24	3.0	23	2/13/2014
154	Pacific High School Rd.	0.00	0.06	R	Asphalt	28	4.0		
160	Airport Rd.	0.00	2.89	RMiC	Asphalt	22	3.5	92	2/13/2014
172	Crystal Creek Rd.	0.00	0.54	RL	Asphalt	21	4.0	54	3/6/2014
		0.54	1.78	RL	Gravel	18		14	
178	Childers Rd.	0.00	0.27	RL	Asphalt	22	3.5	57	2/13/2014
184	Sixes River Rd.	0.00	3.35	RMiC	Asphalt	26	3.5	421	
		3.35	6.97	RMiC	Asphalt	26	3.5	185	
		6.97	8.53	RMiC	Asphalt	26	3.5	140	
		8.53	10.53	RMiC	Asphalt	24	3.5	122	
190	Dewey Rd.	0.00	0.94	RL	Asphalt	23	4.0	27	3/20/2014
196	Grassy Knob Rd.	0.00	2.04	RMiC	Asphalt	21	4.0	64	3/6/2014
		2.04	4.21	RMiC	Oil Mat	22	4.0	5	
202	McKenzie Rd.	0.00	0.48	RL	Asphalt	22	3.0	61	2/13/2014
208	Elk River Rd.	0.00	3.30	RMiC	Asphalt	26	5.0	419	3/20/2014
		3.30	7.55	RMiC	Asphalt	25	5.0	101	
209	Nicholson Dr.	0.00	0.18	RL	Asphalt	19	2.5	123	3/20/2014
214	Knapp Rd.	0.00	0.35	R	Asphalt	24	3.0	130	3/27/2014
220	Silver Butte Rd.	0.00	0.52	R	Oil Mat	21	4.0	271	3/27/2014
221	Rose Way	0.00	0.10	R	Oil Mat	13	4.0	25	3/27/2014
226	Myrtle Ln.	0.00	0.24	R	Oil Mat	20	3.5	158	3/27/2014
228	Azalea Ln.	0.00	0.08	RL	Gravel	20	1		
229	Zumwalt Ln.	0.00	0.14	R	Asphalt	23	3.5	86	3/27/2014
230	Port Orford Loop Rd.	0.00	0.79	R	Asphalt	26	4.0	511	3/27/2014
232	Hensley Hill Rd.	0.24	1.12	R	Asphalt	23	3.0	208	4/10/2014
241	Garrison Lake Rd.	0.00	0.33	R	Asphalt	23	5.0	64	4/10/2014
244	Paradise Point Rd.	0.00	0.94	R	Asphalt	22	4.0	305	4/10/2014
245	Arizona St.	0.00	0.78	R	Asphalt	21	3.5	165	4/10/2014
268	Cemetery Loop Rd.	0.00	1.34	RMiC	Asphalt	21	4.0	171	4/17/2014
269.1	Old Mill Rd.	0.00	0.97	R	Asphalt	20	5.0	169	4/17/2014
269.2	Vista Dr.	0.00	0.65	RMiC	Asphalt	19	5.0	111	4/17/2014
269.3	Cedar Hollow Rd.	0.00	0.18	R	Asphalt	20	5.0	37	4/17/2014
269.4	Humbug Way	0.00	0.26	R	Asphalt	19	5.0	59	4/24/2014
269.5	Blanchard Dr.	0.00	0.16	R	Asphalt	21	5.0	15	4/24/2014
269.6	Park Rd.	0.00	0.32	R	Asphalt	21	5.0	49	4/24/2014

No.	Northern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	Date Taken
274	Hubbard Creek Rd.	0.00	0.63	RL	Asphalt	20	4.0	79	4/24/2014
277	Noble Dr.	0.00	0.67	R	Asphalt	21	4.0	112	4/24/2014
		0.67	0.83	RL	Oil Mat	10	1		
		0.83	0.93	RL	Gravel	17			
280	China Mountain Rd.	0.00	0.21	RMiC	Oil Mat	17	5.0		
		0.21	5.85	RMiC	Gravel	16			

TABLE 2.3.2
CURRY COUNTY ROAD CLASSIFICATION IN CENTRAL MAINTENANCE DISTRICT

No.	Central Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	ADT Date
375	Agness-Illahe Rd.	0.00	3.30	RMiC	Asphalt	17	5.0	128	9/22/2011
		3.30	6.61	RMiC	Asphalt	18	4.5	94	
		6.61	7.55	RMiC	Oil Mat	10	3.0		
		7.55	8.07	RMiC	Gravel	10			
425	Cougar Ln.	0.00	0.28	RL	Asphalt	19	5.0	54	9/22/2011
450	Oak Flat Rd.	0.00	3.18	RMiC	Asphalt	15	4.5	104	9/22/2011
500	Arizona Ranch Rd.	0.00	0.85	RL	Asphalt	21	4.0	43	5/5/2011
505	Euchre Creek Rd.	0.00	1.90	RMiC	Asphalt	23	4.0	83	5/5/2011
507	Starkweather Rd.	0.00	0.42	R	Asphalt	20	5.0	27	5/5/2011
509	Coy Creek Rd.	0.00	1.90	R	Asphalt	22	4.0	61	2/10/2011
510	Ophir Rd.	0.00	2.21	RMiC	Asphalt	24	4.0	145	2/17/2011
		2.21	4.27	RMiC	Asphalt	24	4.5	274	
511.1	Horizon Dr.	0.00	0.19	R	Asphalt	21	4.0	63	5/5/2011
511.2	Humbug Ln.	0.00	0.10	R	Asphalt	20	4.0	32	5/5/2011
511.3	Mutts Way	0.00	0.07	R	Asphalt	21	4.0	23	5/5/2011
515	Cedar Valley Rd.	0.00	2.38	RMiC	Asphalt	23	3.5	176	2/10/2011
		2.38	4.00	RMiC	Asphalt	23	3.5		
		4.00	6.18	RMiC	Asphalt	24	4.0	186	
		6.18	7.86	RMiC	Asphalt	24	4.5	378	
		7.86	8.14	RMiC	Asphalt	24	4.5		
518	Ponderosa Rd.	0.00	0.45	R	Oil Mat	21	4.0	48	10/17/2013
520	McKinnon Dr.	0.00	0.26	R	Asphalt	19	3.5	63	10/17/2013
524	Nesika Rd.	0.00	1.24	RMiC	Asphalt	26	3.5	371	2/17/2011
525	Grange Rd.	0.00	0.27	R	Asphalt	24	4.0	75	9/12/2013
527	Chandler Rd.	0.00	0.17	R	Asphalt	22	4.0	60	9/12/2013
530	A St.	0.00	0.13	R	Asphalt	22	4.0	68	9/12/2013
531	B St.	0.00	0.11	R	Asphalt	22	4.0	50	9/12/2013

No.	Central Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	ADT Date
532	Kilgore Rd.	0.00	0.06	R	Asphalt	18	4.0	15	9/12/2013
534	Gun Club Rd.	0.00	0.12	R	Asphalt	25	4.0	52	9/12/2013
535	Hillside Acres Rd.	0.00	0.79	R	Asphalt	21	3.5	142	2/17/2011
537	Raccoon Ln.	0.00	0.09	R	Oil Mat	10	2.5	41	10/17/2013
540	Edson Creek Rd.	0.00	2.29	RMiC	Asphalt	25	5.0	357	2/3/2011
541	Nesika Beach Dump	0.00	0.06	RL	Asphalt	20	4.0	113	10/17/2013
545	North Bank Rogue River	0.00	2.22	RMiC	Asphalt	25	4.0	1724	7/19/2018
		2.22	3.73	RMiC	Asphalt	26	4.5	1506	
		3.73	6.66	RMiC	Asphalt	24	5.0	952	
		6.66	9.63	RMiC	Asphalt	22	4.5		
		9.63	10.81	RMiC	Asphalt	22	4.5		
548	Lobster Creek Youth Camp Rd.	0.00	0.90	RL	Asphalt	10	5.0		
555	Old Coast Rd.	0.00	0.74	RMiC	Asphalt	25	4.0	150	10/3/2013
		0.74	2.55	RMiC	Asphalt	16	3.0	49	
		2.55	4.35	RMiC	Gravel	12		23	
		4.35	4.59	RMiC	Asphalt	12	3.0	28	
565.1	Ocean Way	0.00	0.14	R	Asphalt	32	4.0	864	11/7/2013
565.2	Driftwood Dr.	0.00	0.12	R	Asphalt	32	3.5		
		0.12	0.31	R	Asphalt	32	3.5		
565.4	Iris St.	0.00	0.04	R	Asphalt	28	3.5		
565.5	Bayview Dr.	0.00	0.11	R	Asphalt	28	3.0		
565.6	Hillside Ter.	0.00	0.10	R	Asphalt	28	3.5		
		0.10	0.27	R	Asphalt	10	2.0		
565.7	Azalea Ln.	0.00	0.13	R	Asphalt	28	3.5		
570.1	Miner Dr.	0.00	0.08	R	Asphalt	24	3.5	122	10/3/2013
570.2	Sandy Dr.	0.00	0.38	R	Asphalt	21	4.0		
570.3	Cobblestone Ct.	0.00	0.04	R	Asphalt	19	4.0		
570.4	Pebble Pl.	0.00	0.02	R	Asphalt	23	4.5		
570.5	Boulder Pl.	0.00	0.03	R	Asphalt	24	4.5		
570.6	Agate Pl.	0.00	0.03	R	Asphalt	22	4.5		
575	Wedderburn Loop Rd.	0.00	0.49	RMiC	Asphalt	32	4.0	711	11/7/2013
		0.49	1.28	RMiC	Asphalt	27	3.5	445	
585	Doyle Point Rd.	0.00	0.32	R	Asphalt	23	3.5	58	11/7/2013
595	Jerrys Flat Rd.	0.12	0.86	RMiA	Asphalt	34	4.5	2572	6/21/2018
		0.86	1.55	RMiA	Asphalt	26	3.5	1832	
		1.55	2.93	RMiA	Asphalt	28	4.0	1514	
		2.93	3.76	RMiA	Asphalt	36	5.0	639	

No.	Central Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	ADT Date
		3.76	6.94	RMiA	Asphalt	22	3.5	484	
		6.94	9.64	RMiA	Asphalt	21	4.0	401	
596	Curry St.	0.00	0.05	R	Asphalt	27	4.0		
597	Riverway Dr.	0.00	0.08	R	Asphalt	28	4.0	71	11/7/2013
598.1	Vista Loop	0.00	0.08	R	Asphalt	22	4.0	125	11/7/2013
598.2	Hummingbird Hill Rd.	0.00	0.15	R	Asphalt	20	4.0	123	11/7/2013
601	Fairgrounds Rd.	0.00	0.09	RL	Asphalt	18	3.5		
		0.09	0.17	RL	Asphalt	22	2.5		
		0.17	0.26	RL	Asphalt	35	2.0		
		0.26	0.28	RL	Oil Mat	12	1.5		
605	Grizzly Mountain Rd.	0.39	0.64	RMiC	Gravel	14			
		0.64	1.34	RMiC	Oil Mat	14	2.5		
		1.34	2.62	RMiC	Gravel	20			
620	Quarry Rd.	0.48	0.61	RL	Asphalt	20	4.0		
630	Hunter Creek Complex	0.00	0.10	RL	Asphalt	25	4.0	108	11/21/2013
635	Hunter Creek Rd.	0.00	0.22	RMiC	Asphalt	38	3.5	1498	6/14/2018
		0.22	4.91	RMiC	Asphalt	26	4.0	521	
637	Hunter Creek Loop	0.00	1.21	RMiC	Asphalt	22	4.0	810	7/2/2018
640	Brooks Rd.	0.00	0.45	R	Asphalt	20	2.5	209	11/21/2013
641	Water Tank	0.00	0.06	RL	Oil Mat	12	2.0		
645	Mateer Rd.	0.00	1.04	R	Asphalt	23	3.5	305	6/14/2018
655	Hunter Creek Hgts.	0.00	0.65	R	Asphalt	21	3.5	251	6/14/2018
656	Emerald Dr.	0.00	0.09	RL	Asphalt	20	3.0		
665	Little South Fork Rd.	0.00	2.63	RMiC	Gravel	19			
675	Thimbleberry Rd.	0.00	0.34	RL	Asphalt	20	4.0	42	7/2/2018
685	Eighty Acre Rd.	0.00	0.86	R	Asphalt	20	4.5	159	12/19/2013
688	Pistol River Cemetery Rd.	0.00	0.25	RL	Oil Mat	17	4.0	3	12/13/2018
690	North Bank Pistol River Rd.	0.00	2.02	RMiC	Asphalt	22	4.0	127	12/13/2018
		2.02	3.82	RMiC	Asphalt	24	3.5	109	
		3.82	5.08	RMiC	Gravel	18			
		5.08	5.14	RMiC	Asphalt	20	4.0		
		5.14	7.78	RMiC	Gravel	18			
691	Pistol River School Rd.	0.00	0.08	RL	Asphalt	12	4.5		
693	Pistol River Loop	0.17	2.03	RMiC	Asphalt	22	4.0	188	12/13/2018
695	South Bank Pistol River Rd.	0.00	1.34	RL	Asphalt	18	3.5	68	12/13/2018

TABLE 2.3.3
CURRY COUNTY ROAD CLASSIFICATION IN SOUTHERN MAINTENANCE DISTRICT

No.	Southern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	ADT Date
703	Eggers Rd.	0.00	1.53	R	Asphalt	22	4.5	139	9/29/2011
704	Cape Ferrelo Rd.	0.00	2.60	RMiC	Asphalt	22	4.0	557	9/29/2011
706	Cornett Rd.	0.00	0.16	R	Asphalt	21	3.5	239	9/29/2011
707.1	Brookside Dr.	0.00	0.48	R	Asphalt	21	4.5	76	9/29/2011
707.2	N Brookside Dr.	0.00	0.14	R	Asphalt	21	3.5	28	6/20/2013
709.1	Pacific Crest Dr.	0.00	0.27	R	Asphalt	21	3.0	75	9/29/2011
709.2	Woodton Ln.	0.00	0.07	R	Asphalt	21	4.0	45	9/29/2011
712	Duley Creek Rd.	0.00	1.35	R	Asphalt	22	4.5	168	10/6/2011
720	Rainbow Rock Rd.	0.00	1.00	RMiC	Asphalt	23	3.5	746	10/6/2011
		1.00	2.13	RMiC	Asphalt	23	4.5	166	
721	Coverdell Rd.	0.00	0.27	R	Asphalt	24	4.5	428	10/6/2011
725	Aqua Vista Ln.	0.00	0.11	R	Asphalt	16	4.0	86	10/6/2011
728	Demoss Rd.	0.00	0.16	R	Asphalt	20	2.5	197	10/6/2011
752	Parkview Dr.	0.90	1.56	RMiC	Asphalt	24	3.5	149	10/13/2011
753	Dodge Ave.	0.00	0.55	R	Asphalt	22	4.0	228	10/13/2011
758	Gowman Ln.	0.00	0.19	R	Asphalt	21	3.0	128	10/13/2011
760	Stafford Rd.	0.00	0.14	R	Asphalt	22	3.5	86	10/13/2011
776	Old County Rd.	0.88	2.11	RMiC	Asphalt	19	3.0	241	10/20/2011
		2.11	2.92	RMiC	Gravel	16			
777	Lundeen Rd.	0.30	0.37	R	Oil Mat	10	1		
778.1	Marina Heights Loop	0.00	0.67	R	Asphalt	21	3.5	88	10/20/2011
778.2	Pacific View Dr.	0.00	0.36	R	Asphalt	21	3.0	27	10/20/2011
778.3	Eastwood Ln.	0.00	0.32	R	Asphalt	21	3.5	113	10/20/2011
778.4	Westwood Ln.	0.00	0.11	R	Asphalt	21	4.0	26	10/20/2011
784	North Bank Chetco River Rd.	0.31	2.23	RMiC	Asphalt	26	4.5	2675	10/27/2011
		2.23	4.39	RMiC	Asphalt	26	4.5	1434	
		4.39	6.98	RMiC	Asphalt	25	4.0	814	
		6.98	7.98	RMiC	Asphalt	22	4.0	428	
792	Thompson Rd.	0.00	0.49	R	Asphalt	21	5.0	255	10/27/2011
		0.49	0.53	R	Asphalt	10	5.0		
800	Gardner Ridge Rd.	0.00	3.43	RMiC	Asphalt	22	4.0	344	11/3/2011
		3.43	6.97	RMiC	Asphalt	21	4.5	122	
		6.97	8.43	RMiC	Asphalt	21	4.5	47	
		8.43	9.08	RMiC	Asphalt	21	4.5		
		9.08	11.53	RMiC	Gravel	18			
808	South Bank Chetco	0.04	0.25	RMiC	Asphalt	36	4.0	3078	12/15/2011

No.	Southern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	ADT Date
	River Rd.								
		0.25	3.22	RMiC	Asphalt	24	5.0	831	
		3.22	5.59	RMiC	Asphalt	21	3.5	327	
		5.59	6.23	RMiC	Asphalt	21	4.0	85	
808.1	South Bank Chetco River Underpass	0.00	0.14	RMiC	Asphalt	32	4.0	3254	5/17/2012
810	Payne Rd.	0.00	0.17	R	Asphalt	24	4.5	778	5/17/2012
811	Chilcote Ln.	0.00	0.24	R	Asphalt	33	3.5	346	5/3/2012
812	Salmonberry Rd.	0.00	0.05	RL	Asphalt	24	3.5	86	4/19/2012
813	Foster Rd.	0.00	0.15	R	Asphalt	23	4.5	289	5/17/2012
814	Harbor View Cr.	0.00	0.21	R	Asphalt	39	4.5	218	4/19/2012
815	Shopping Center Ave.	0.00	0.62	RMiC	Asphalt	33	3.5	2272	5/14/2012
815.1	Zimmerman Ln.	0.00	0.05	RMiC	Asphalt	48	4.0	3300	5/14/2012
816	Lower Harbor Rd.	0.00	0.17	RMiC	Asphalt	44	5.0	4299	5/14/2012
		0.17	0.96	RMiC	Asphalt	38	5.0	3748	
817	W. Benham Ln.	0.00	0.43	RMiC	Asphalt	32	5.0	3762	8/22/2019
		0.43	0.70	RMiC	Asphalt	32	5.0	2709	
818	E Benham Ln.	0.00	0.18	RMiC	Asphalt	27	4.0		
819	Bayview Dr.	0.00	0.33	R	Asphalt	26	4.0	129	4/19/2012
821	Wenbourne Ln.	0.00	0.22	R	Asphalt	27	4.5	1495	6/20/2013
824	Boat Basin Rd.	0.00	0.11	RL	Asphalt	43	4.5	3260	5/3/2012
		0.11	0.41	RL	Asphalt	32	4.5	400	
840	E. Hoffeldt Ln.	0.00	0.26	R	Asphalt	23	4.0	649	4/19/2012
841	Chapman Ln.	0.00	0.17	R	Asphalt	20	3.0	469	4/19/2012
848	W. Hoffeldt Ln.	0.00	0.37	RMiC	Asphalt	24	4.0	1139	5/14/2012
856	Crestline Loop	0.00	0.12	R	Asphalt	20	2.0	136	5/3/2012
		0.12	0.25	R	Asphalt	15	3.0		
857	Lively Ln.	0.00	0.17	R	Asphalt	36	4.0	151	5/3/2012
860.1	Floral Hill Dr.	0.00	0.12	R	Asphalt	26	4.0	318	5/17/2012
860.2	Wedgewood Ln.	0.00	0.04	R	Asphalt	27	4.0	271	5/17/2012
860.3	Kings Way	0.00	0.10	R	Asphalt	27	4.0	204	5/17/2012
861	Tuttle Ln.	0.00	0.07	R	Asphalt	23	4.0	225	5/17/2012
862	Gavin Ln.	0.00	0.22	R	Asphalt	32	4.0	79	6/20/2013
864	Titus Ln.	0.00	0.13	R	Asphalt	20	3.0	139	4/12/2012
870	Olsen Ln.	0.00	0.54	R	Asphalt	24	5.0	447	4/12/2012
872	Oceanview Dr.	0.00	0.23	RMiC	Asphalt	22	5.0	222	3/22/2012
		0.23	1.49	RMiC	Asphalt	22	5.0	1445	
		1.49	3.52	RMiC	Asphalt	32	5.0	909	
875	Holly Ln.	0.00	0.08	R	Asphalt	30	5.0	91	4/12/2012

No.	Southern Roads	Begin (MP)	End (MP)	Functional Class	Surface Type	Surface Width (ft)	Road Rating	ADT	ADT Date
880	Pedrioli Dr.	0.00	0.70	RMiC	Asphalt	24	5.0	842	8/22/2019
		0.70	0.89	RMiC	Asphalt	22	5.0	122	
882	Camellia Dr.	0.00	0.49	R	Asphalt	22	4.0	327	4/12/2012
889	Kemlin Pl.	0.00	0.19	R	Asphalt	19	4.0	89	4/5/2012
890	Museum Rd.	0.00	0.36	RL	Asphalt	24	3.5	38	4/5/2012
891	Itzen Dr.	0.00	0.11	R	Asphalt	22	4.0	73	4/5/2012
892	Wollam Rd.	0.00	0.11	R	Asphalt	23	3.0	227	4/5/2012
894	Laurence Ln.	0.00	0.26	R	Asphalt	23	4.5	102	4/5/2012
895	Julia Way	0.00	0.13	R	Asphalt	18	4.5	44	4/5/2012
896	Winchuck River Rd.	0.00	2.10	RMiC	Asphalt	25	4.0	1013	3/1/2012
		2.11	4.10	RMiC	Asphalt	25	4.0	622	
		4.10	7.40	RMiC	Asphalt	25	4.0	124	
897	State Line Rd.	0.00	0.33	R	Asphalt	23	4.0	236	8/22/2019

2.4 Summary of Existing County Bridges

All bridges maintained by Curry County are listed hereafter. The information provided within the tables was acquired from current County records for each structure. The Oregon Department of Transportation's (ODOT) bridge inspection program yielded the bridge inspection information within the jurisdiction of Curry County. A description of the information provided in Table 2.4.1 is listed below.

Bridge and Road Name

Bridge names often match the river being crossed and are different from the road the bridge is located on. Each bridge also has a federal number to be registered in the national catalog and a County number that describes the bridge location within Northern, Central, or Southern Curry County.

Sufficiency Rating

The sufficiency rating formula is a method of evaluating highway bridge data by calculating four separate factors to obtain a numeric value which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge. The four factors are: structural adequacy and safety, serviceability and functional obsolescence, essentiality for public use, and special reductions.

FIGURE 2.4.1
GENERAL BRIDGE SUFFICIENCY RATING

Rating	Condition	Definition
N	Not Applicable	
90	Excellent Condition	
80	Very Good Condition	No problems noted.
70	Good Condition	Some minor problems.
60	Satisfactory Condition	Structural elements show some minor deterioration.
50	Fair Condition	All primary structural elements are sound but may have minor section loss, cracking, spalling, or scour.
40	Poor Condition	Advanced section loss, deterioration, spalling or scour.
30	Serious Condition	Loss of section, deterioration, spalling, or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
20	Critical Condition	Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
10	"Imminent" Failure Condition	Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put back in light service.
0	Failed Condition	Out of service – beyond corrective action.

Structural Deficiency

A poor or worse condition in any of the following four categories will result in a structurally deficient rating. The four categories are: deck condition, superstructure, substructure, and culvert.

Surface Length and Width

The structure length is the length of the roadway that is supported by the bridge structure, typically back to back of back-walls of abutments or from paving notch to paving notch. The surface width is the entire roadway width of the bridge.

Average Daily Traffic (ADT)

The Average Daily Traffic (ADT) is an average number of vehicles, in both directions of travel, within the segment of road listed.

TABLE 2.4.1
CURRY COUNTY BRIDGES AND RATINGS

Bridge Name	Road Name	YR Cons.	Sufficiency Rating	Struct. Deficient	Length (ft)	Width (ft)	ADT
Floras Creek	Floras Creek Rd.	1979	76.4	No	129.0	28.3	195
White Elephant	Floras Creek Rd.	1962	44.8	Yes	233.0	16.0	32
Morrill Bridge	Floras Creek Rd.	1990	18.4	Yes	84.0	17.9	20
Edson "A"	Sixes River Rd.	1952	92.3	No	101.0	30.6	202
Euchre Creek	Ophir Rd.	1927	23.8	Yes	91.0	23.7	125
Edson "B"	North Bank Rogue River	1959	76.5	No	50.0	29.8	1,030
Edson "C"	Edson Creek Rd.	2010	98.4	No	45.0	36.0	366
John Adams	Edson Creek Rd.	2004	98.4	No	37.5	36.0	366
Indian Creek	Jerrys Flat Rd.	1957	90.9	No	35.0	44.0	1,404
Hunter Creek	Hunter Creek Loop	1928	37.8	Yes	207.0	25.1	944
Lower Hunter	Hunter Creek Rd.	1959	46.3	Yes	174.0	29.0	947
Upper Hunter	Hunter Creek Rd.	1959	73.2	No	172.0	33.2	42
Pistol River	Pistol River Loop	1970	30.2	Yes	446.0	30.3	254
Deep Creek	North Bank Pistol River	2000	76.3	No	85.3	24.0	133
Lower Crook Creek	Pistol River Loop	1992	88.4	No	32.0	28.0	270
Upper Crook Creek	North Bank Pistol River	1959	70.6	No	45.0	29.7	173
Don Cameron	North Bank Chetco River	1952	43.1	Yes	165.0	30.4	1,112
Jacks Creek	South Bank Chetco River	2002	84.2	No	83.0	40.0	650
Mill Creek	South Bank Chetco River	1957	85.2	No	23.0	23.3	275
Saunders Creek	Jerrys Flat Rd.	1993	96.8	No	59.0	36.0	1,084
N. Fork Floras	Langlois Mtn. Rd.	1972	98.5	No	43.0	24.0	22
Willow Creek	Floras Lake Rd.	1961	49.6	Yes	44.0	24.1	245
Foster Creek	Agness-Illahe Rd.	1947	95.9	No	91.0	26.3	58
Myrtle Creek	Arizona Ranch Rd.	1925	34.3	Yes	81.0	20.5	15
Lobster Creek	North Bank Rogue River	1978	72.5	No	80.0	16.2	122
Metzgus Creek	Little South Fork Rd.	2004	92.5	No	58.5	24.0	0
Greggs Creek	Ophir Rd.	1978	N/A	N/A	20.0	28.3	101
Pistol River Overpass	Pistol River Loop	N/A	N/A	N/A	19.0	26.0	243
Jim Hunt Creek	Jerrys Flat Rd.	1957	N/A	No	42.0	26.3	443
Kimball Creek	Jerrys Flat Rd.	1957	71.0	No	181.0	27.1	513
Cat Creek	Winchuck River Rd.	2007	85.2	No	56.8	36.5	177
Little S Fork	Little South Fork Rd.	2009	88.5	No	59.0	44.0	0
Joe Hall Creek	North Bank Chetco River	2011	N/A	No	80.0	44.0	2,322
Portable Bridge	Hunter Creek Complex	N/A	N/A	No	N/A	N/A	N/A

SECTION 3:

EXISTING TRAFFIC CONDITIONS

SECTION 3: **EXISTING TRAFFIC CONDITIONS**

3.1 Road Condition Analysis

The existing traffic conditions address the road system and the current capability to sustain existing and future traffic demands. The previous Sections detailed the physical attributes of the roads and ride quality or visible defects in the roadways. This Section analyzes traffic volumes, population trends, and crash data.

Traffic Volume

Average Daily Traffic (ADT) is calculated and utilized to measure the traffic volume the roads can safely accommodate. The average daily traffic counts were provided by Curry County with variable dates. Each year ADT counts are collected for several roads within each region of the County. The ADT counts are determined by observing traffic over three days. The counts are averaged to give the current year's average daily traffic count.

In order to maintain a safe road system it is important to stay ahead of population and growth trends. Analyzing average daily traffic is a way to recognize areas of concerns. Roads that experience the highest average daily traffic are adjusted to accommodate the current traffic flow. Lanes are added and speeds are adjusted accordingly. The concern for roads such as Zimmerman Ln., Lower Harbor Rd., North Bank Chetco River Rd., and South Bank Chetco River Rd is the potential increase in population and a resulting increase in traffic flow. The higher volume of traffic makes these roads critical areas. There is a greater possibility of unsafe driving conditions and congestion in these areas.

Table 3.1.1 lists all roads with an average daily traffic greater than 300 vehicles per day. The data ranges for the years of 2011 to 2019. The ADT counts are listed from least to greatest with the date of collection included.

TABLE 3.1.1
HIGH VOLUME ROADS WITHIN CURRY COUNTY

Road Name	Width (ft)	Lanes	Rating	ADT	ADT Date
Mateer Rd.	23	2	3.5	305	6/14/2018
Paradise Point Rd.	22	2	4.0	305	4/10/2014
Floral Hill Dr.	26	2	4.0	318	5/17/2012
Camellia Dr.	22	2	4.0	327	4/12/2012
Gardner Ridge Rd.	22	2	4.0	344	11/3/2011
Chilcote Ln.	33	2	3.5	346	5/3/2012
Edson Creek Rd.	25	2	5.0	357	2/3/2011
Nesika Rd.	26	2	3.5	371	2/17/2011
Cedar Valley Rd.	24	2	4.5	378	2/10/2011
Elk River Rd.	26	2	5.0	419	3/20/2014
Sixes River Rd.	26	2	3.5	421	2/13/2014
Coverdell Rd.	24	2	4.5	428	10/6/2011
Olsen Ln.	24	2	5.0	447	4/12/2012
Chapman Ln.	21	2	3.0	469	4/19/2012

Road Name	Width (ft)	Lanes	Rating	ADT	ADT Date
Port Orford Loop Rd.	26	2	4.0	511	3/27/2014
Cape Ferrelo Rd.	22	2	4.0	557	9/29/2011
E. Hoffeldt Ln.	23	2	4.0	649	4/19/2012
Wedderburn Loop Rd.	32	2	4.0	711	11/7/2013
Rainbow Rock Rd.	23	2	3.5	746	10/6/2011
Payne Rd.	24	2	4.5	778	5/17/2012
Hunter Creek Loop	22	2	4.0	810	7/2/2018
Pedrioli Dr.	24	2	5.0	842	8/22/2019
Ocean Way	32	2	4.0	864	11/7/2013
Winchuck River Rd.	25	2	4.0	1013	3/1/2012
W. Hoffeldt Ln.	24	2	4.0	1139	5/14/2012
Oceanview Dr.	22	2	5.0	1445	3/22/2012
Wenbourne Ln.	27	2	4.5	1495	6/20/2013
Hunter Creek Rd.	38	2	3.5	1498	6/14/2018
North Bank Rogue River Rd.	25	2	4.0	1724	7/19/2018
Shopping Center Ave.	33	2	3.5	2272	5/14/2012
Jerrys Flat Rd.	34	2	4.5	2572	6/21/2018
North Bank Chetco River Rd.	26	2	4.5	2675	10/27/2011
South Bank Chetco River Rd.	36	2	4.0	3078	12/15/2011
South Bank Chetco River Underpass	32	2	4.0	3254	5/17/2012
Boat Basin Rd.	43	2	4.5	3260	5/3/2012
Zimmerman Ln.	48	4	4.0	3300	5/14/2012
W. Benham Ln.	32	2	5.0	3762	8/22/2019
Lower Harbor Rd.	44	2 to 3	5.0	4299	5/14/2012

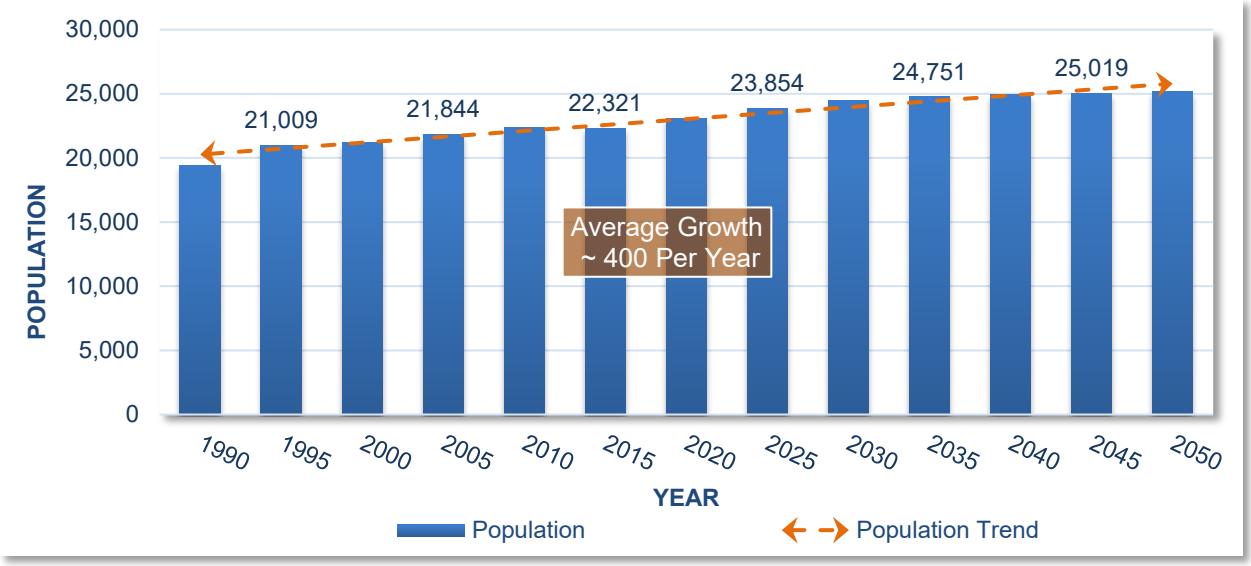
Population and Development Trends

The population of Curry County for the Year 2010 census was 22,364. The most recent population census was completed by the US Census Bureau in Year 2017 with a population of 22,669. Portland State University Population Research Center estimates the Year 2025 population of Curry County to be 24,491, based upon a slow and at times negative population growth. Curry County relies heavily on tourism to bolster the local economy. The population of Curry County fluctuates significantly throughout the year with an influx of tourism. Generally, from May through September there is an increase in both vehicular and pedestrian traffic. Tourists are critical for the local economy; therefore maintaining and improving the roads becomes essential.

Regulatory agencies require a population forecast developed or approved by the Oregon Department of Administrative Services Office of Economic Analysis (OEA). The OEA develops forecasts in coordination with Oregon counties to plan and implement programs and activities.

The estimated annual populations for Curry County for the years of 1990 to 2050 have been determined by the OEA as shown in Figure 3.1.1. The population is forecasted to change from 19,449 in Year 1990 to an estimated 25,187 in Year 2050. An average population growth of approximately 400 individuals each year is projected.

FIGURE 3.1.1
CURRY COUNTY CURRENT AND PROJECTED POPULATION



Curry County population forecast indicates minimal growth in the next six years, which advises slow development trends across the County. Curry County's population projection signifies a need for existing roadway preservation, maintenance, and improvements rather than extensive expansion.

Transportation development needs will remain similar to current conditions, with the exception of the summer season and an increase in tourists. The Curry County Road Department prioritizes maintenance and keeping road infrastructure in "good" condition as stated in the Six Year Road Capital Improvement Plan.

Crash Data

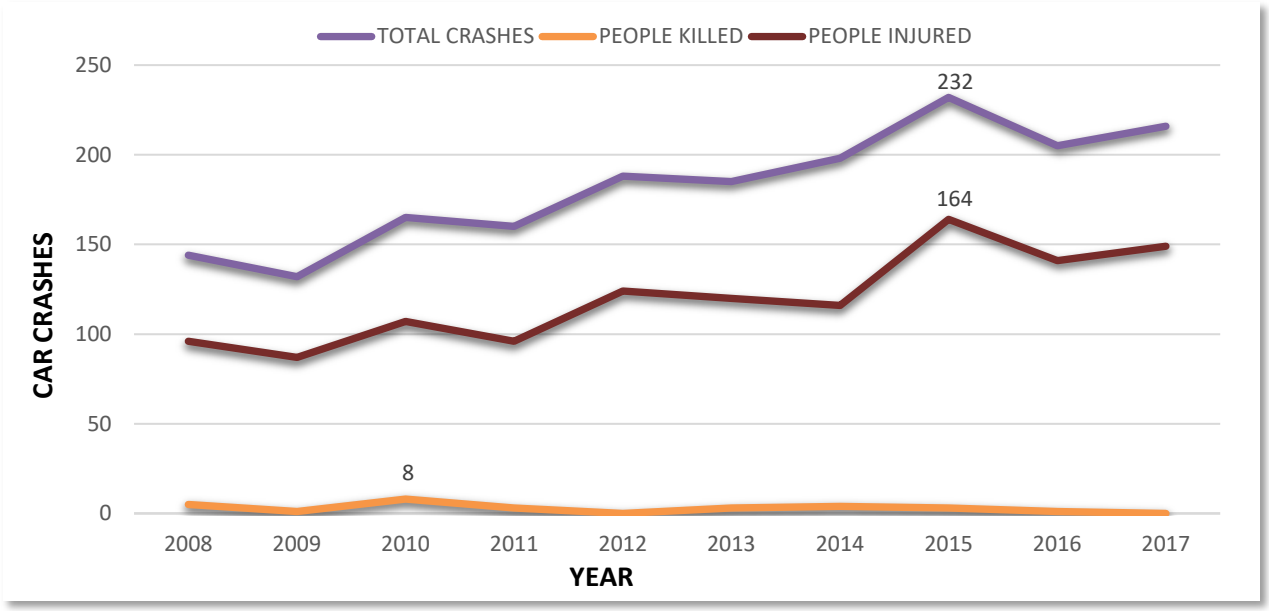
The crash data collected from ODOT is primarily focused on the effects of major roads within Curry County. Roads such as Highway 101 that experiences a higher traffic volume, but are not County maintained roads. The ODOT information on roads not associated with the County results in discrepancies within the data. Although, the highway shows an upward trend for injuries and fatalities due to car crashes, the County roads do not show any significant trend.

TABLE 3.1.2
ODOT ACCIDENT DATA DAMAGES

Year	Fatal Crash	Non-Fatal Crash	Intersection	Property Damage Only	Total Crashes	People Killed	People Injured
2008	5	59	38	80	144	5	96
2009	1	57	34	74	132	1	87
2010	7	75	48	83	165	8	107
2011	3	70	34	87	160	3	96
2012	0	91	63	97	188	0	124
2013	3	84	47	98	185	3	120
2014	4	84	54	110	198	4	116
2015	3	107	64	122	232	3	164
2016	1	108	63	96	205	1	141
2017	0	112	66	104	216	0	149

Curry County crash data is relatively inconclusive when considering trends in specific areas; but does identify other potential problem areas. Roads that experience higher traffic volumes and contain intersections that have more structural and safety concerns. Both the North and South Bank Chetco River Roads experience the following: the greatest number of accidents, some of the highest ADT values, and received good road sufficiency ratings. Crash data was provided for all roads in Curry County by the Oregon Department of Transportation.

FIGURE 3.1.2
DEATHS AND INJURIES DUE TO CRASHES



3.2 Speed Zone Investigations

The ODOT has the authority by Oregon law to establish speed zones on all roads in Oregon. The County would perform a field review to establish the results of the roadway investigation and submit an ODOT Speed Zone Request Form to request an investigation. See Appendix B for more information regarding establishing speed zones and the Speed Zone Request Form.

In Oregon, speed zones are established either by statute (statutory speed) or through an engineering and traffic investigation (designated speed). State statutes give Oregon motorists the following statutory speed limits.

TABLE 3.2.1
SPEED ZONES

MPH	Category
15	Alleys and narrow residential roadways.
20	Business districts, school zones, and some residential.
25	Residential districts, public parks, and ocean shores.
55	Some open rural highways; and trucks on some interstate highways.
60	Trucks on some interstate; and open rural highways.
65	Passenger vehicles, light trucks, motor homes, and light-duty commercial vehicles on some interstate highways; some open rural highways; trucks on some interstate highways.
70	Passenger vehicles, light trucks, motor homes, and light-duty commercial vehicles on some interstate highways.

Although the statutory speed limits are a good baseline, speed zones should be investigated as a result of development, traffic patterns, an increase in crashes, or public requests. The steps for establishing or changing a speed zone are provided in Appendix B.

3.3 Ownership and Maintenance

The repairs recommended within the Capital Improvement Plan will be on roads currently owned and maintained by the County. Designating ownership is critical for the proper maintenance of the roadways. Three categories of roads do not fall under the state, city, or federal governments. County roads, public roads and private roads are within the County's jurisdiction and described hereafter.

County Roads

County roads are a public road or easement which has been accepted by the Board of County Commissioners or designee by dedication, deed, or grant of right-of-way and are maintained by the County.

Public Roads

Public roads are defined as road intended for use by the general public, whether designated and known as a state, County, district, or any other kind of road. Another component of public roads is Local Access Roads (LARs). The County has authority over LARs but is not financially responsible for maintaining these roads. The LAR is further described in Section 3.4.

Private Roads

Private roads consist of a road which is owned, controlled and maintained by the owner or individuals it serves. Private roads provide the principal means of access to the abutting property and are not intended for use by the general public. The Curry County Zoning Ordinance regulates private roads within the County. The ordinance is administered by the County's Community Development Department.

3.4 Local Access Roads

A Local Access Road (LAR) is a road that was installed for home or landowners to access their property from an established road system. The LAR roads that are outside of city limits but within the County are deemed public roads. However, they are not the responsibility of the County. Although Curry County has authority over a LAR it is the responsibility of the adjacent landowners to maintain them. Many LARs were established before land-use regulations and road design standards were implemented. For this reason, LARs are often not maintained and in need of repair. The County may use the State Highway Fund (See Section 8 for additional information) to improve a local access road if there is an emergency or if the following criteria are met.

- At least sixty percent of the property owners, representing at least sixty percent of the property frontage along the road proposed to be repaired or maintained, sign a petition requesting the work be done. The petition shall contain a clause that the property owners agree to pay for all the materials used in the repair or maintenance; the County will provide all labor and equipment; and
- The County Roadmaster has recommended such an item of expenditure; and
- The public use of the road justifies the expenditure; and
- There are County funds or resources available for the request; and
- The expenditure of such funds or resources on the requested project will not jeopardize the maintenance or repair of County roads, which are the County's first priority.

SECTION 4:

TRANSPORTATION NEEDS

SECTION 4: **TRANSPORTATION NEEDS**

4.1 Roadway and Transportation Needs

This Section identifies the County's roadway and transportation needs for their road system. The roadway and transportation system is affected by the following factors.

Roadway Needs

Roadway needs consist of physical deficiencies and poor quality road surfaces and conditions creating poor rides which are indicators of the need for roadway improvements. Roads have been analyzed by the County to determine roadway ratings. A poor rating indicates the roadway has issues and needs immediate repair. A fair rating indicates roadway condition needs preventative maintenance soon to extend the life of the road. The need for improvement of specific deficiencies depends on the degree to which road conditions causes other problems, such as ride quality. Roads that are less than the standard minimum width for safe passage need to be widened if possible; within topographic and economic constraints.

Transportation Needs

Transportation needs entail roads with heavy use that experience periods of congestion and need to be improved to County standards while safely increasing the roads capacity. Roads within areas of rapid growth require improvements to avoid an increase in congestion. Roads considered "Poor" or "Hazardous" need to be improved to eliminate or reduce danger. A reduction in poor or hazardous conditions can be accomplished with physical changes, traffic control, or circulation improvements.

4.2 Public Survey Results

Community involvement is essential for transportation needs. The input from the community affects the County's project selection process and therefore the improvements completed for the local roads and bridges. The County collected community feedback through a public meeting and questionnaire.

Public Meeting

On July 14, 2020 from 5:00 pm to 7:00 pm a public meeting was held in the Curry County Annex for all County residents to voice their concerns or ask questions regarding Curry County's road system. Attendance at the meeting was minimal possibly due to COVID-19 and the following feedback was received.

1. Private road off of Wollam Road
    a. Road has issues and is not a County maintained road.
2. Driftwood Drive
    a. Ponding area on the corner of the road, across from Rogue River at Pacific Subdivision.

Questionnaire

In June and July 2020, a public survey was distributed to the residents of Curry County to provide feedback on roadways, bridges, and/or traffic concerns. The questionnaire asked for specific feedback on the roadways maintained by Curry County. The survey was advertised on local radio stations and conducted through Curry County's website. A copy of the questionnaire is provided in Appendix A. The questionnaire results are provided below for each road in the survey.

1. China Mountain Road

    a. Large pothole where it meets Highway 101.

2. Jerry Flat Road

    a. The area near Eagles Nest that is periodically just patched and continues to deteriorate. Also, speeding and reckless cars/drivers; the speed limit needs to be reduced in the residential area of Jerry Flat Road, such as the Saunders Creek area.

3. Hillside Terrace

    a. The south end of Hillside Terrace in Wedderburn has been pretty much neglected to the point where it needs to be redone. Large potholes and chunks of asphalt have been falling out for years. There are alligatored portions as well. Drainage from the road itself had become quite a problem during heavy rain. It deserves a look from our County Roadmaster. Check the road surface north and south of 30340 Hillside Terrace. Several years ago, the prior Roadmaster told 'em we were to have our road fixed but nothing has happened since then. Please … we're feeling a little neglected here.

4. Gardner Ridge Road

    a. Road cave-in about 7.5 miles up over two years ago, I was told by the Road Department. It would be fixed summer of 2020, but so far, no effort has been made what so ever.

    b. The road is sinking in numerous locations, literally has sections that have 4 to 6-inch drops.

    c. Someone is going to die on this road if the Curry County Road Department does not quit ignoring it.

    d. Road conditions have become very very unsafe on Gardner Ridge Road. The problems have been ignored for a couple of years now. I guess someone will have to die before they care enough to repair it. The lie of waiting for FEMA funds doesn't hold water since FEMA reimburses for the work you have completed. Quit giving road funds to other county departments and fix our road.

5. Hensley Hill Road

    a. Roadway slipping.

4.3 Miscellaneous Needs

Miscellaneous needs include items that present issues to be addressed in future planning. Population, development, traffic, public road, road standards, County or city turnover, bicycle transportation, pedestrian, maintenance, and land acquisition require consideration for improvement developments in accordance with the impacts to Curry County.

Population and Development Needs

Growth and expansion are not major concerns for the County at this time. Roadway improvement projects are necessary to maintain the safety and functionality of existing roads. Although construction projects are expensive upfront, the improvements greatly decrease future expenses and major repairs. Projects such as culvert replacements, bridge repairs, improvements to driver site distance, or roadway widening increase safety and improve the ride quality within the County.

Current developments within Curry County include Pacifica at Rogue Reef Subdivision that will consist of private ownership and is not maintained by the County. Some private development is also occurring within Curry County cities and will not impact County roads.

Traffic Volume Needs

A system for monitoring traffic volume on County maintained roads needs to be implemented and performed over time. Counting traffic volumes once every two years for a 24-hour period can be converted to Average Daily Traffic (ADT). The count of traffic volume would help determine growth and assist in ensuring improvements occur when and where needed. Seasonal factors will need to be accounted for as summer months will vary greatly from winter months due to tourism.

Curry County Staff does not have the manpower to gather extensive data on all of their roads with their current workload. However, an organized system of traffic counts within developing or high volume areas would be beneficial for future planning and improvements, especially if the County does start to see growth and expansion within the County.

Public Road Needs

The County should consider addressing public concerns regarding roads not maintained by a government entity. The current policy for public roads not maintained by the county, state, or federal agencies is to refer them to the Oregon Revised Statutes (ORS), which describes roads as local access roads. Maintenance of local access roads, like private roads, is the responsibility of the adjoining landowners and residents that use the local access roads. The County recommends discussing maintenance or repair with neighbors for an immediate solution to the current problems. The County also recommends and directs local access road users to the Local Access Roads document by the Association of Oregon Counties (provided in Appendix D) for available funding sources for future maintenance issues. Currently, the best option for providing long term road maintenance funding for residents that use public roads is to form a Special Road District or Local Improvement Districts (LID).

Many residents within Curry County do not have the funds to maintain their low volume roads. Roads not maintained regularly deteriorate and are major safety concerns for the public. The transportation system needs to be maintained and protected.

The County does not have adequate funds for improving and maintaining every public County road.

Roads within the County that do not fall within their maintenance jurisdiction are called Local Access Roads (LAR). To maintain LAR property owners may informally collect money from the area residents and hire a contractor to maintain the roads or form a Special Road District or Local Improvement Districts to tax area residents for road maintenance.

Road Standard Needs

Another issue with Curry County's maintenance of public roads is the standard for which the existing roads were constructed. Current road standards establish the design parameters within the County. The roads that are not built to County standards in most cases were built before the enactment of the standards. The roads not built to standard are of particular concern.

The County is unwilling to accept any new road into their infrastructure due to the loss of U.S. Forest Service Reciepts; even if roads meet current road standards. However, the County would like to downsize their road maintenance inventory to adjacent property owners and cities by vacating right-of-way where possible.

County / City Turnover Needs

Maintenance needs to be handled by city personnel for roadways within city limits. A cooperative agreement would dictate specific improvements to be made before turnover took place. An agreement with cities would eliminate the confusion of jurisdiction for the public.

Bicycle Transportation Needs

The County's primary bicycle route consists of the Oregon Coast Bike Route (OCBR), which is located along Highway 101. The OCBR shows a detour that departs from Highway 101 to Lower Harbor Road, which provides access to the busy Port of Brookings-Harbor. From Lower Harbor Road the bike route continues south and connects with the scenic Oceanview Drive where it then connects back into Highway 101.

There are not any extensive bicycle routes outside of the OCBR that are designated as bicycle routes serving Curry County. Most of the paved roadways within the County are too narrow to allow for a paved shoulder sufficient for cyclists, thus any bicycles must share the travel lanes with motorized vehicles and pedestrians.

The County needs to prepare for safe and convenient bicycle networks that connect between other scenic bike routes along the OCBR, residential areas, schools, and other activity centers. The County can incorporate bicycle elements, such as bike lanes or wider shoulders, in roadway upgrades where applicable. Some funding opportunities are available for roadways that improve bicycle safety.

A detailed map of bike routes along the Oregon Coast can be found at:
https://theoregoncoast.info/BikeRoute/Map.pdf.

Pedestrian Needs

Most sidewalks in the County exist along sections of Highway 101 and within the cities. There are very few sidewalks outside of city limits; with the exception of smaller urbanized areas, such as Harbor. Pedestrians in rural areas share narrow shoulders that vary in width and condition. The narrow shoulders can force pedestrians to utilize the road.

The County should ensure safe and convenient pedestrian networks that connect other residential areas, schools, and other activity centers. It is recommended that the County incorporate pedestrian elements, such as sidewalks or wider shoulders, in roadway upgrades where allowable.

In Harbor, on Lower Harbor Road and Boat Basin Road, approximately 0.8 miles of new sidewalk is being recommended. This project includes the addition of twelve new Americans with Disabilities Act (ADA) ramps.

Maintenance Needs

Curry County Road Department Staff discussed the need to adopt a maintenance policy to shape and clean ditches, and perform maintenance of slide areas. Maintenance methods described in the Oregon Department of Transportation *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practice* is a good resource for creating an effective policy for these items. A policy with the following criteria is recommended.

Ditch Shaping and Cleaning Maintenance

Roadside ditches are usually adequate to carry runoff immediately after construction. Debris and sediment from cut banks and ditch walls will eventually ravel down to the ditch. Debris or vegetation also may decrease ditch capacity over time if not maintained. A vegetated clean open ditch is important for draining the road surface and cut banks.

It is recommended the Curry County Road Department inspect ditches each fall before the rainy season and periodically during the winter.

Road-surface erosion from ditch overflow indicates a need for unplugging culverts or pulling the ditch with a grader or gradall. Ditch erosion indicates that ditch stabilization, larger cross drain culverts or some other type of stabilization are needed. The recommended frequency of culverts is provided in Table 4.3.1.

TABLE 4.3.1
CULVERT SPACING GUIDE

	SOIL TYPE		
Road Grade %	**Granite or Sandy**	**Shale or Gravel**	**Clay**
2	900	1,000	1,000
4	600	1,000	800
6	500	1,000	600
8	400	900	500
10	300	800	400
12	200	700	400
15	150	500	300
20	150	300	200
25+	100	200	150

Graders and gradalls are a good choice for cleaning ditches, and slightly moist soil conditions are desirable for ditch cleaning. Graders and gradalls can angle the blade to allow the corner to cut a V-shaped ditch. Ditches need to be cleaned where necessary. Keep stabilized sod-layers intact and avoid

undercutting the backslope. Material removed from ditches can be incorporated into the road surface where feasible, or placed in stable upland locations where it will not enter streams or waterways.

Up and Down Slope Slide Maintenance

Up and downslope slide maintenance includes removing landslide and/or rockslide materials from the roadway and restoring a suitable safe passage for traffic. Pull-back of unstable fills from the slide may be needed to prevent larger and more costly slope failures or debris torrents during wet years. Rock armoring or seeding with a soil-holding species is an appropriate way to stabilize slopes and fills. Planting must be done when soil moisture is high enough to support germination and growth.

Best Management Practices

Best Management Practices (BMP) should be implemented to minimize impacts to water quality and natural resources. The following Best Management Practices should always be used for ditch shaping, cleaning maintenance, and up and down slope slide maintenance:

- Use erosion control devices and other erosion control measures, when appropriate.
- Ditches should also be maintained in a manner that allows for efficient stormwater passage, storage, and infiltration while minimizing impacts to water quality.
- Reseed drainage ditches, steep slopes, and slide areas as appropriate to prevent erosion, sedimentation build-up, and establish native or preferred vegetation communities.
- Perform ditch work in optimum weather to minimize environmental impacts, where feasible.
- Evaluate and modify existing ditch slopes, where feasible and appropriate, to trap sediment and support development of vegetation.
- Dispose of collected ditching material above ordinary high water line and not in any waterbody or wetland.
- Dispose of excess waste material at appropriate upland sites.
- Near riparian corridors, determine if there is an existing barrier or natural bench to protect waterbodies from fallback materials.
- Prevent materials or debris from entering waterways, ditches, or storm drains at all times.
- Use appropriate measures to prevent waste and/or materials from entering these sites when practicable. Dispose of excess or waste material at appropriate sites.
- Maintain spill kits and equipment to ensure any equipment leaks or spills are prevented from entering any waters of the state.
- Work to restore the proper hydraulic function of ditch lines and culverts if they were damaged by the slide event to limit future erosion, siltation or sedimentation, when practicable.

Land Acquisition Needs

The Curry County Road Department has a need for convenient clean fill storage over the next fifty years and beyond. Acquiring local land disposal sites allows the County to have a convenient and cost-effective means of moving and storing clean landfill. Similar to the use of in-house chip seal equipment, the County will be able to do necessary projects at a more affordable rate.

The major concerns when choosing sites for clean fill is the effects on wetlands and recharge zones. For areas that are upland or currently impermeable, such as former quarries or paved sites, the concern for further environmental effects is somewhat elevated. However, finding an available property that achieves both the desired physical qualities and locational can be difficult.

Three sites shown in Figure 4.3.1 fit the need for physical qualities and geographical location and are recommended for evaluation to purchase the land. The sites are located on Airport Road, Pistol River Loop, and Euchre Creek Road. All three sites have wetlands present and permits may be required to develop the land for clean fill activities and to determine if wetlands are present on the properties.

FIGURE 4.3.1
DISPOSAL SITES WITHIN CURRY COUNTY

Pistol River Road

An 80-acre property on Pistol River Loop is currently listed for sale at $480,000. This property sits between southern and central Curry County, providing disposal sites for both areas. This site is also easily accessible from Highway 101. However as seen in Figure 4.3.3, there are wetlands present and further permitting will be necessary if this area were to be used as a clean fill site.

FIGURE 4.3.2
DISPOSAL SITE ON PISTOL RIVER LOOP PROPERTY

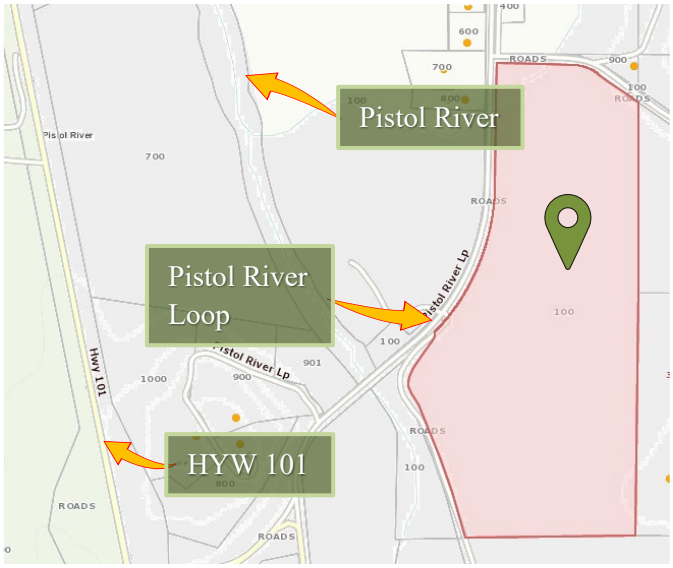
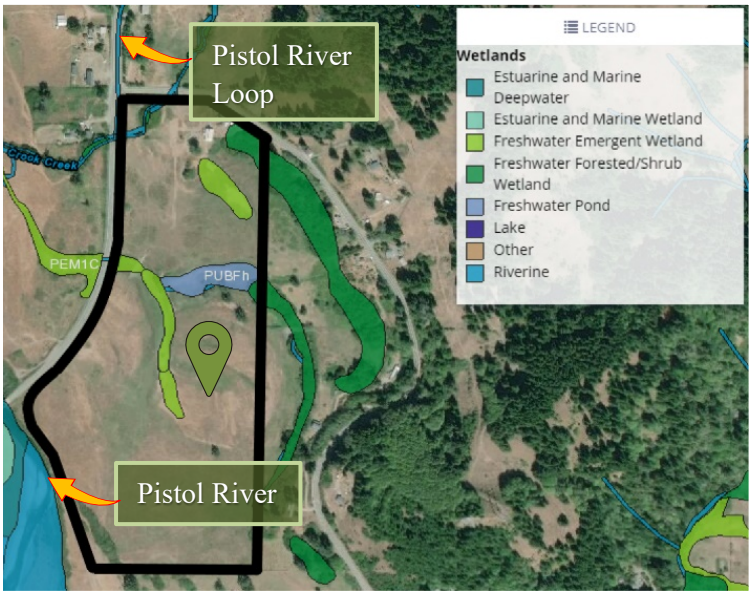


FIGURE 4.3.3
WETLAND MAP OF PISTOL RIVER LOOP PROPERTY



Euchre Creek Road

There is currently a 23.7-acre lot on Euchre Creek Road, listed for sale at $415,000. The property is located between central and northern Curry County. This site is also easily accessible from Highway 101. However as seen in Figure 4.3.5, there is a large area of wetlands present and further permitting will be necessary if these areas are used for clean fill.

FIGURE 4.3.4
DISPOSAL SITE ON EUCHRE CREEK ROAD PROPERTY

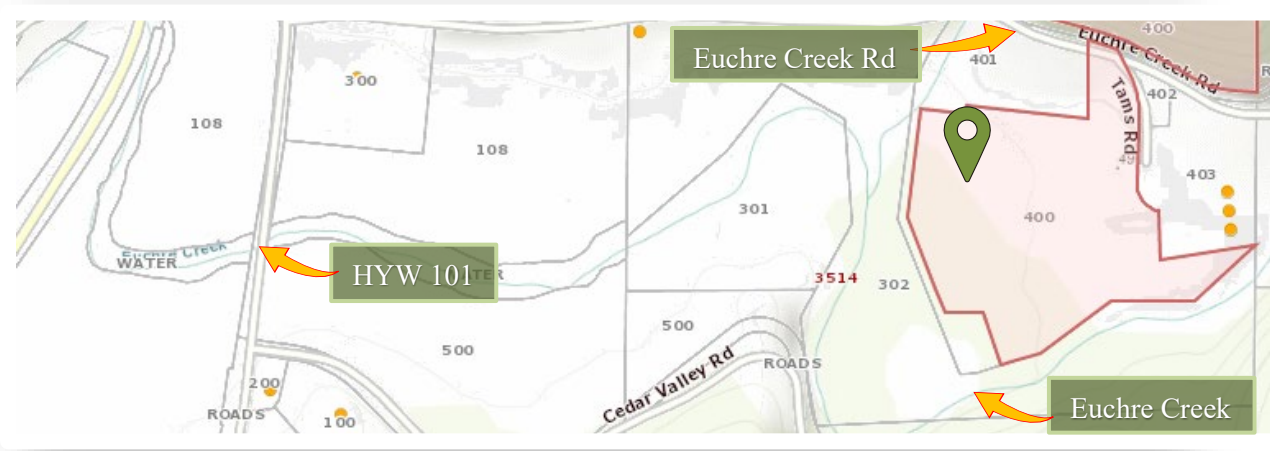
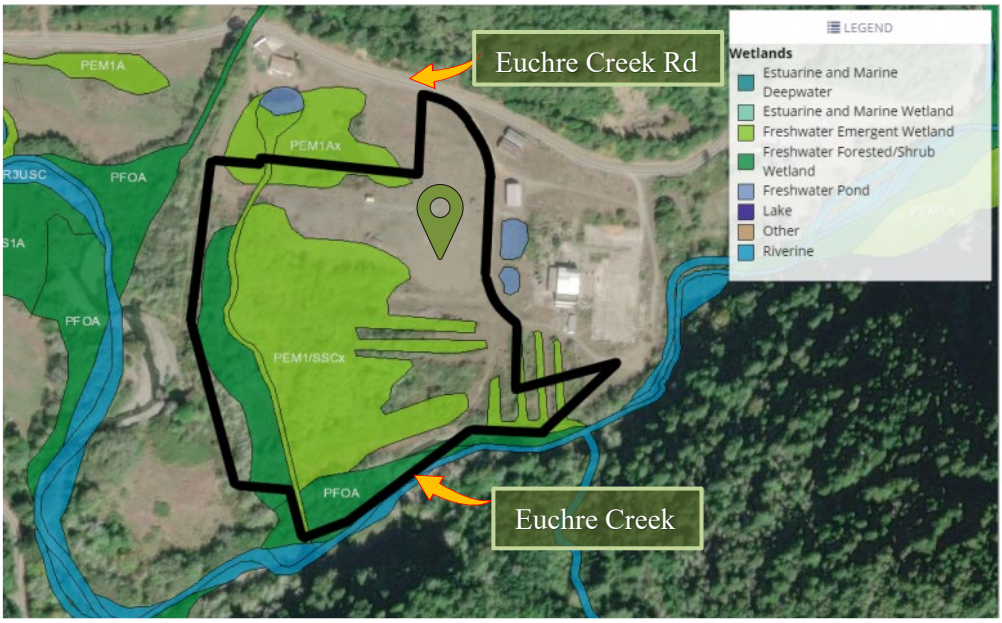


FIGURE 4.3.5
WETLANDS MAP OF EUCHRE CREEK ROAD PROPERTY

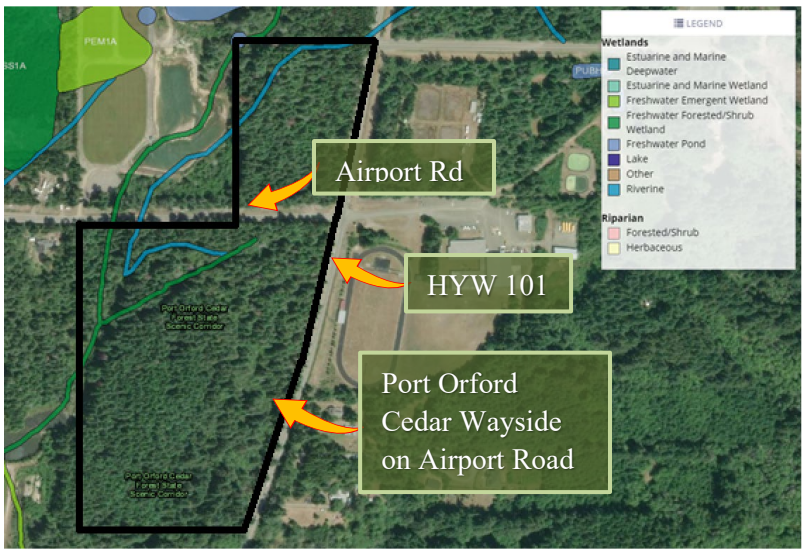


Airport Road

A 34-acre parcel referred to as Port Orford Cedar Wayside and located on Airport Road and Highway 101. This property is valued at $200,000. The Airport Road property is in an advantageous location for maintenance in northern Curry County. The north side of Airport Road property could be utilized for burning materials and the south side for clean fill disposal. As shown in Figure 4.3.7 there is a freshwater forested/shrub wetland present on the property and will require additional information and permitting before use as a clean fill site.

FIGURE 4.3.6
DISPOSAL SITE ON AIRPORT ROAD PROPERTY

FIGURE 4.3.7
WETLANDS MAP OF AIRPORT ROAD PROPERTY



Environmental Concerns

The Oregon Department of Environmental Quality (DEQ) *Clean Fill Determinations* states any solid wastes are to be disposed of at a site that accepts clean fill.

Clean Fill Evaluation

The clean fill definition in Oregon Administrative Rules (OAR) 340-093-0030 refers to material type as well as the presence of contaminants that could adversely impact waters of the state and human health. Both parts of the definition must be satisfied for the material to be considered clean fill.

1. The material type is limited to soil, rock, concrete, brick, building block, tile or asphalt paving and does not consist of putrescible wastes, construction and demolition wastes and industrial solid wastes.

2. The contaminants may not adversely impact the waters of the state or public health. The clean fill screening level tables are based on background concentrations (for metals) and risk screening levels published by Oregon DEQ and Environmental Protection Agency (EPA).

Curry County Water Quality Implementation Plan

The Curry County Water Quality Implementation Plan is a document that describes Curry County's efforts to maintain and improve water quality in areas where the County has jurisdiction. It contains essential information on the County's water quality efforts, ordinances, and laws. It is recommended when purchasing property for clean disposal sites the County follows and achieves water quality goals described in the implementation plan. The full document is located in Appendix C.

Removal and Fill Regulations

Oregon´s Removal-Fill Law (ORS 196.795-990) requires people who plan to remove or fill material in waters of the state to obtain a permit from the Department of State Lands (DSL). The purpose of the law, enacted in 1967, is to protect public navigation, fishery and recreational uses of the waters. "Waters of the state" are defined as "natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and non-navigable, including that portion of the Pacific Ocean that is in the boundaries of this state." The law applies to all landowners, whether private individuals or public agencies.

Permits or general authorizations are required for:

- Projects requiring the removal or fill of 50 cubic yards or more of material in waters of the state.

- The removal or fill of any material regardless of the number of cubic yards affected in a stream designated as essential salmon habitat.

- The removal or fill of any material from the bed and banks of scenic waterways regardless of the number of cubic yards affected.

Permits requiring a DSL permit will often require a permit from the US Army Corps of Engineers (USACE) as well. The DSL and the USACE have a joint permit application for such requirements.

Fish and Wildlife

The Oregon Department of Fish and Wildlife (ODFW) and National Marine Fisheries Service (NMFS) share responsibility for implementing the Endangered Species Act (ESA). To protect endangered species, they implement a set of guidelines to protect fish passage, water quality and habitat. All federal agencies, including funding agencies are required to consult NMFS on any activity that may affect a listed species.

4.4 Summary of Needs

Curry County roadways have a relatively low fatality rate, but several high volume roads need continued maintenance and improvements to maintain lower crash rates and improve roadway safety. Curry County's road rating system reports that five percent of maintained roads within the County are rated "poor," with twenty-nine percent rated "fair." Ideally, the County's goal would be to improve all of the roads to meet "good" condition. Chip seal and overlay projects provide the County with two low-cost surface preservation options. However, County maintained roads will face a significant funding shortfall due to the looming reduction in transportation revenues. The shortfall of revenue places importance on maintaining the current infrastructure within the County. If the County does not have funds for maintenance it has to prolong surface preservation projects and roads could deteriorate and will require costly future repairs. Adopting maintenance policies and having adequate land for clean disposal sites are key needs for maintaining the road system.

Approximately twenty-five percent of bridges maintained by the Curry County Road Department have a rating of less than 50 by the Oregon Department of Transportation (ODOT) inspection reports. Bridges rated 50 or less make qualifying for State funding possible. However, the competition for funding is highly competitive. Several bridges require high priority corrective actions or replacement but do not have a definitive date for improvements because of the dependence on outside funding.

SECTION 5:

EVALUATE DESIGN STANDARDS AND COST GUIDELINES

SECTION 5: EVALUATE DESIGN STANDARDS AND COST GUIDELINES

5.1 Design Standards

Financing is often the limiting factor in moving forward with improvement projects. Providing consistency with design standards for state and federal funding agencies is critical in securing funds for projects. All adopted design guidelines and standards should be flexible and sensitive to the context of the project and the surrounding environment.

Curry County Road Standards Document

This Section analyzes and recommends revisions to current design criteria after reviewing *Curry County Road Standards* (Ordinance No. 17-02, October 3, 2017). The *Curry County Road Standards* are included in Appendix B for reference.

Curry County Road Standards do not include details and specifications for curbs, curb and gutters, valley gutters, sidewalks, driveway cuts, Americans with Disabilities Act (ADA) ramps, sign and signposts, manholes, catch basins, curb inlets, and ditch inlets. These items need to be implemented in the road standards document to provide consistency in Curry County for private and public development. Currently, the Oregon Department of Transportation (ODOT) standard drawings apply.

It is recommended for additional specifications to be added to storm drain requirements to strengthen design standards. Standards include minimum slopes, allowable piping materials for main lines and laterals, and testing requirements. Hydraulic and hydrology calculations signed by a registered Civil Engineer for review by the County will ensure minimum design requirements are being met.

The County will evaluate increasing high traffic residential roads from their standard surface depth of 2-inches minimum of asphalt to 3-inches; as increasing the depth of asphalt would increase the life of these roads and provide less maintenance for the County.

Compaction testing for aggregate base and asphalt is important for: informing developers how many tests are required, who is responsible for payment, what is required if a test fails, and listing the testing method required by the County.

Details and specifications from the Oregon Department of Transportation's *Oregon Standard Specifications for Construction* can be used as a basis of design for the County's standards. It is suggested that the County modify and adopt standards for road standards based on County needs.

Road Safety

The goal of roadway improvements within the County is to ensure the transportation system is safe and functional. This does not mean settling for a lower level of safety, but to continue to make choices about safety and use sound judgment when making safety decisions such as high-value additions with minimal costs. Every project is different, but the improvements need to either make the transportation system safer or maintain the existing safety level for the system.

Bicycle Safety

The Oregon Bicycle and Pedestrian Plan is a statewide plan that recommends shoulders that are six feet wide for bicycle use, although a minimum four-foot shoulder is considered adequate when there are physical width limitations. Wider shoulders allow a cyclist to ride far enough from the edge of pavement to avoid debris and far enough from passing vehicles to avoid conflicts. Pave shoulders to a minimum width of six feet during roadway rehabilitation projects or new roadway construction, where feasible. If funding becomes available on roads that are part of the Oregon Coast Bicycle Route (OCBR), it is suggested the County coordinates with the state.

Pedestrian Safety

Curry County Road Department has limited existing pedestrian routes but will take special consideration when roadways with existing pedestrian access are altered. Americans with Disabilities Act (ADA) requires that all sidewalks be brought up to standard whenever a street, roadway, or highway with pedestrian access is altered. Existing ramps must meet current standards or be removed and replaced. Locations that do not have curb ramps must be updated to provide curb ramps where street level pedestrian walkways cross curbs.

Permits

Permit requirements are getting more stringent over time. The *Curry County Road Standards* need to be revised for developers responsible for obtaining all necessary state and federal permits required for construction and/or development near streams, wetland areas, other waterways, or if hazardous materials are present on the property. A list of permits and contact information for the *Curry County Road Standards* would assist private and public development with obtaining necessary permits for construction and/or development within Curry County. A list of permitting agencies includes, but not limited to, the following:

- Oregon Department of State Lands (DSL)
- Oregon Department of Environmental Quality (DEQ)
- US Army Corps of Engineers (USACE)
- US Environmental Protection Agency (EPA)
- Oregon Department of Transportation (ODOT)
- National Marine Fisheries Services (NMFS)
- Oregon Department of Fish and Wildlife (ODFW)
- US Fish and Wildlife Services (USFWS)
- Oregon Department of Forestry (ODF)
- Oregon State Historic Preservation Office (SHPO)
- Bureau of Land Management (BLM)

5.2 Pavement Rehabilitation Methods

Pavement rehabilitation methods depend upon local conditions and pavement distress types. Pavement rehabilitation methods, in addition to restoring structural integrity and shape, mitigate or stop the process responsible for the damage. Without routine maintenance for issues like cracks or potholes, pavement will deteriorate more quickly and those cracks or potholes will grow larger. The following methods are effective roadway rehabilitation or preservation methods.

Crack Sealing

Crack sealing is a localized treatment where debris is removed from a crack and then filled with a sealant. Crack sealing is used to prevent water and debris from entering a crack. Sealing cracks helps prevent moisture from infiltrating the pavement structure and weakening the structural subsurface layers leading to increased pavement deterioration. The expected life of crack sealant is three to five years. Crack sealing prolongs the pavement life and needs to be completed before other surface treatments. Crack sealing is best installed the year after chip sealing.

Advantages: Prevents water infiltration and further degradation through cracks.

Disadvantages: The life expectancy of repairs is limited to three to five years. Creates bumps in surface profile.

Slurry Sealing

Slurry seal is a mixture of asphalt, water, and an emulsion agent. Slurry seals are used to prevent raveling, seal minor cracks, and improve surface friction. The expected life of a slurry seal is five to seven years depending upon traffic loading, environmental conditions, existing pavement condition, and the quality of construction. This repair method is not recommended for concrete surfaces.

Advantages: Seals minor cracks, retards surface raveling, improves surface friction, and has a relatively low cost in relation to other maintenance and repair methods.

Disadvantages: There is a need for a curing period after placement. Adequate underlying pavement support is required. Repair and seal surface defects must be completed before sealing. The life expectancy is five to seven years.

Chip Sealing

Chip seal is an application of asphalt followed by an aggregate cover. Chip seals are used to waterproof the surface, provide minor crack sealing, and restore surface friction. The expected life of a chip seal is ten to twelve years in Curry County depending upon traffic loading, environmental conditions, and existing pavement conditions. Also, frequent stopping and turning movements reduce repair life and cause local deterioration. This repair method is not recommended for concrete surfaces.

Advantages: Chip seal waterproofs the surface; it seals small to medium-size cracks, and increases surface friction. Curry County's recent purchase of equipment for placing chip seal reduces the cost of chip sealing roadways significantly versus the alternative improvements and repairs. The investment in chip spreaders, haulers, rollers, and other various pieces of equipment allows the Road Department to effectively place all chip seals and reduce overall costs to the County.

Disadvantages: There is a need for adequate underlying pavement support. Large surface defects may need to be repaired and sealed. There are weather-related construction restraints. Loose chips damage vehicles. Increased tire noise may occur. Current County practices have greatly reduced damage to vehicles from loose chips, by limiting the presence of loose chips from over application resulting in minimal sweep-off. Also, by utilizing a steel drum roller for final rolling further embedment of the chips occurs resulting in less loose rock. This final rolling also flattens the chips resulting in a reduction of tire noise and wear. The service life is ten to twelve years.

Asphalt Pavement Overlay

Asphalt pavement overlay is an application of a heated mixture of mineral aggregate and asphalt cement. An overlay is used on various types of roadways, including concrete, to enhance smoothness, profile the roadway, and increase surface friction. The expected life of a 2-inch overlay in Curry County is up to twenty years depending upon traffic loading, environmental conditions, existing pavement conditions, and the quality of construction.

Advantages: Enhanced smoothness, increased friction, ability to profile the roadway, if desired, and increased life expectancy concerning other maintenance and repair methods. Glass grid paving fabric could be used to help prevent reflective cracking under an overlay for an extended life that would otherwise need reconstruction.

Disadvantages: The use of paving fabric further increases the overall cost of the overlay and is not typically used in Curry County. No additional load-carrying capacity, roadway grade change, and higher costs in relation to other maintenance and repair methods.

Asphalt Pavement Inlay

An asphalt pavement inlay can provide an outstanding life expectancy when existing asphalt pavement has a sound subgrade foundation yet requires some rehabilitation work on the uppermost surface layer. This process includes cold plane pavement removal to grind down to the upper layer of the existing asphalt and remove any surface fractures, ruts, and flaws. After the surface is removed a new top layer of asphalt is installed to complete the process. The expected life of an asphalt inlay in Curry County is up to twenty years.

Advantages: Enhanced smoothness, increased friction, ability to profile the roadway (if desired), matching grades, and increased life expectancy versus other maintenance and repair methods.

Disadvantages: No additional load-carrying capacity and higher cost in relation to other maintenance and repair methods. Typically done in areas where curb, curb and gutter, or bike lanes are present. Examples include Lower Harbor Road and West Benham Lane.

Paving of Gravel Streets

Paving of gravel streets includes scarifying existing gravel, installation of the new gravel base, and one application of asphalt pavement. The expected life of the improvement is up to twenty years depending upon traffic loading, environmental conditions, and the quality of construction. If a gravel road is to be paved, the road base must meet County road standards of 12-inches.

Advantages: Enhanced smoothness, better surface drainage, and reduced maintenance costs for the County.

Disadvantages: Adjoining infrastructure is impacted and the initial financial investment for construction is more than gravel street repairs.

Roadway Reconstruction – Type I

Type I roadway reconstruction is the removal of the pavement surface, removal of the base material, verification of adequate subgrade, installation of the new gravel base, and one or two applications of AC pavement depending on the design standard of the road as needed. Reconstruction may also include grinding the existing surface to full depth, consolidating the grindings into the existing base, and resurfacing. The expected life of a reconstructed roadway is twenty years before the need to resurface. The need for resurfacing is dependent upon traffic loading, environmental conditions, and the quality of construction.

Advantages: Enhanced smoothness, increased friction, the ability to profile the roadway (if desired), and increased life expectancy versus other maintenance and repair methods.

Disadvantages: Surface drainage correction may be required prior to reconstruction, adjoining infrastructure is impacted, and the initial financial investment for construction is greater than other options.

Roadway Reconstruction – Type II

Type II roadway reconstruction is similar to asphalt inlay, but the removal and the replacement of the asphalt is full depth of pavement to the road base rock. The expected pavement life of this reconstruction area method is twenty years depending upon traffic loading, environmental conditions, and the quality of construction. Type II roadway reconstruction is recommended when the existing asphalt has deteriorated and is need of replacement, but the roadway has adequate subgrade and base rock beneath the pavement.

Advantages: Enhanced smoothness, increased friction, ability to profile the roadway (if desired), and increased life expectancy versus other maintenance and repair methods.

Disadvantages: Surface drainage correction may be required prior to reconstruction, adjoining infrastructure is impacted, and the initial financial investment for construction is greater than other options.

5.3 Costs Associated with Pavement Rehabilitation

Culvert Replacement

The County has an inventory for all culverts in the system that are located under or along maintained roads. The County evaluates the culverts with a grading system of poor, fair, and good. The County inventory generally notes culverts which are known to be undersized or are receiving increased flows from logging or other developments. The current practice for new and pipe replacements in the County is to use HDPE, which increases the hydraulic flow capacity over the same size of metal pipe due to less friction.

Prior to asphalt pavement overlays or inlay projects, driveway culverts and cross culverts are brought to good condition.

Prior to chip seal projects, only cross culverts are brought to good condition.

Costs for the Six Year Road Capital Improvement Plan (CIP) include replacement of poor and fair culverts as evaluated by the County, matching the same size pipe. Culverts and drainage were not evaluated as part of this Plan. An evaluation of the culverts and drainage system is suggested prior to the construction of the recommended projects.

Driveway Approaches

Driveway approaches are paved by the County as part of overlay projects in order to match grades to existing driveways and protect the edge of the newly raised roadway. Paved driveway approaches also provide a barrier between a gravel driveway and the paved roadway, which reduces the amount of gravel entering the roadway. The current County standard is not to pave driveway approaches when chip sealing the roadway.

5.4 Cost Guidelines

The Capital Improvement Plan (CIP) developed budgetary costs for the repair and maintenance of roads within Curry County. The cost estimates were made with respect to construction costs and additional project costs. The cost guidelines are intended to assist County Staff with planning and budgeting for upcoming repair and rehabilitation efforts. The budgetary costs should not be used for final cost estimates. Final construction cost estimates are performed after the completion of the design.

Detailed road evaluations, surveys, repair method verification, measurement of final quantities, and updated project costs may be required for final cost estimates prior to construction.

All cost estimates in the CIP have four major components: construction costs, engineering costs, contingencies, and legal and administrative costs. The cost estimates are preliminary and are based on a large scale planning detail. As projects enter the individual planning stage and are closer to being realized, more information will be gathered and the cost estimates will be refined. At the time of construction, actual costs may differ from what is presented in the CIP.

Construction Cost

The estimated construction costs are based on actual construction bidding results from similar work, published cost guides, and other construction cost experience. Estimates will be based on preliminary layouts of the proposed improvements. Estimated unit items and their respective costs are provided in Table 5.4.1.

TABLE 5.4.1
ESTIMATED UNIT COSTS YEAR 2020 TO 2021

Number	Item	Units	2020 - 2021
1	Flagging	HR	$60
2	Rock Excavation	CY	$85
3	Roadway Excavation	CY	$25
4	Cold Plane Pavement Removal	SY	$15
5	Foundation Stabilization	CY	$75
6	Slope Protection	CY	$100
7	Aggregate Base (Shoulder Rock)	TONS	$40
8	Aggregate Base (Base Rock)	TONS	$40
9	AC Pavement Overlay - 2" Depth	TONS	$100
10	AC Pavement R & R- 2" Depth (Trench)	LF	$15

Number	Item	Units	2020 - 2021
11	AC Pavement R & R- 4" Depth (Trench)	LF	$30
12	Reconstruction Type I (2" AC & 12" Agg Base R & R)	SF	$6
13	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	SF	$8
14	Reconstruction Type II - (4" AC R & R)	SF	$5
15	Driveway Approach	EA	$1,200
16	Curb - Type "C"	LF	$35
17	Curb & Gutter	LF	$50
18	Valley Gutter	LF	$60
19	Concrete Sidewalk	SF	$12
20	Additional Work for Access Ramps	EA	$3,000
21	Retaining Wall - Gabion Style	SF	$100
22	Retaining Wall - Concrete	SF	$80
23	Granular Backfill	CY	$25
24	6" Subdrain	LF	$35
25	12" Storm Drain - Rock Backfill	LF	$60
26	18" Storm Drain - Rock Backfill	LF	$120
27	8" Storm Drain R & R - Rock Backfill	LF	$50
28	12" Storm Drain R & R - Rock Backfill	LF	$75
29	18" Storm Drain R & R - Rock Backfill	LF	$150
30	24" Storm Drain R & R - Rock Backfill	LF	$200
31	36" Storm Drain R & R- Rock Backfill	LF	$300
32	48" Storm Drain R & R - Rock Backfill	LF	$350
33	60" Storm Drain R & R - Rock Backfill	LF	$400
34	72" Storm Drain R & R- Rock Backfill	LF	$500
35	Curb Inlet	EA	$3,500
36	Ditching	LF	$3
37	Manhole Frame Adjustment	EA	$500
38	Signs	EA	$300
39	Traffic Symbols	EA	$300
40	Pavement Markers	EA	$1.50
41	Striping	LF	$1
42	Thermoplastic Stop Bars/Cross Walks	LF	$15
43	Guardrail	LF	$65

Future changes in the cost of labor, equipment, and materials may justify comparable changes in the cost estimates presented herein. For this reason, common engineering practices usually tie the cost estimates to a particular index, which varies in proportion to long-term changes in the national economy. The Engineering News Record (ENR) Construction Cost Index is most commonly used. The index is based on the value of 100 for the Year 1913.

Average yearly values for the past ten years are summarized in Table 5.4.2. Estimates in this Plan are based on the Year 2019 costs. Future yearly ENR Indices can be used to calculate the cost of projects for their construction year based on the annual growth in the ENR index. Without using the future ENR Index, costs for construction performed in later years should be projected using an increase of 2.79 percent per year.

TABLE 5.4.2
ENR INDEX – YEARS 2010 TO 2019

Year	Index	% Change
2010	8,799	2.67
2011	9,070	3.08
2012	9,308	2.62
2013	9,547	2.57
2014	9,806	2.71
2015	10,035	2.34
2016	10,338	3.02
2017	10,737	3.86
2018	11,062	3.03
2019	11,281	1.98
Avg. Annual %		2.79

Engineering Cost

The cost of engineering services for roadway projects typically includes special investigations, surveying, preparation of contract drawings and specifications, bidding services, construction management, inspection, and construction staking.

Depending on the size and type of project, engineering costs may range from fifteen to twenty-five percent of the contract cost when all of the above services are provided. The lower percentage applies to large projects without complicated layouts. The higher percentage applies to small, complicated projects. For this Plan, engineering costs were estimated at eighteen percent of the total construction cost.

Contingencies

A contingency factor equal to twenty percent of the estimated construction costs has been added to account for uncertainties concerning actual construction conditions. In recognition that the cost estimates presented are based on conceptual design, allowances must be made for variations in final quantities, bidding market conditions, adverse construction conditions, unanticipated specialized investigations and studies, and other difficulties which cannot be foreseen at this time but may tend to increase final costs.

Legal and Administrative Cost

An allowance of three percent of construction costs has been added for legal and administrative services. The allowance is intended to include internal project planning and budgeting, grant administration, liaison, interest on interim loan financing, legal services, review fees, legal advertising, and other related expenses associated with the project.

SECTION 6:

RECOMMENDED CAPITAL IMPROVEMENT PROJECTS

SECTION 6: RECOMMENDED CAPITAL IMPROVEMENT PROJECTS

6.1 Proposed Roadway Capital Improvement Projects

Recommended improvement projects for the transportation system have been established for Curry County based on the use of field evaluations, consideration of existing and planned development, input from the public, and Curry County Road Department Staff input. This Section contains a breakdown of all of the capital improvement projects evaluated and anticipated within the next six years for the Curry County roadway system.

The entire road system was not fully evaluated as part of this Capital Improvement Plan due to time and budget constraints. Roadway capital improvement projects were created from field evaluations that were conducted on County roadways identified as having a Pavement Condition Rating of "3.0 – Fair" or below as rated by the County's 2018 Road Ratings, described in Section 2.

Roadway integrity issues and degradation were noted through field investigations and road condition reports generated by County Staff. Road infrastructure was further reviewed and evaluated by The Dyer Partnership. Roads that received a rating of fair and below were evaluated.

Roadway projects that include overlays are critical and the most common improvement projects scheduled over the next six years. Roadway reconstruction prior to chip sealing the roadway is also common. These cost for roadway reconstruction is included in the Capital Improvement Plan (CIP), while the chip seal portion is included in the County's maintenance costs because they perform the work themselves. Chip seal and overlays significantly improve and extend the life of the roadways.

Emergency funded Federal Emergency Management Agency (FEMA) projects and projects requested through County input are also included as CIP projects.

Detailed roadway evaluations of existing roadway conditions and recommended improvements are provided hereafter. A breakdown of each project cost estimate for the recommended proposed roadway capital improvement projects are located in Appendix D. The cost estimates provided indicate that there is a significant cost required to repair and maintain roadways in the Curry County road system. In addition to the rehabilitation and repair costs, financial resources will be required to maintain the existing streets with a roadway rating above "good".

Maps showing the location of proposed roadway capital improvement projects are included in Appendix E.

FIGURE 6.1.1
GARDNER RIDGE ROAD AT MP 8.1

PROJECT NO.	1	PROJECT YEAR:	2020 to 2021
Project Name:	Gardner Ridge Rd.	**Project Limit (MP):**	8.1
Road Rating.:	4.5 - Good	**Description:**	Slide Repair
ADT:	47	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Southern-800	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$800,670
Width (ft):	21'	**Funding Source:**	FEMA

EXISTING CONDITIONS:
A storm event caused the outside lane of Gardner Ridge Road to slide. The road is currently open as a one lane roadway and requires a permanent solution for the slide repair.

PROPOSED IMPROVEMENT PROJECT:
A retaining wall system will be installed to repair the slide. The retaining wall system lowers the impact on the right-of-way, poses fewer constructability challenges, and is a safer method for installation and preserving the stability of the road.

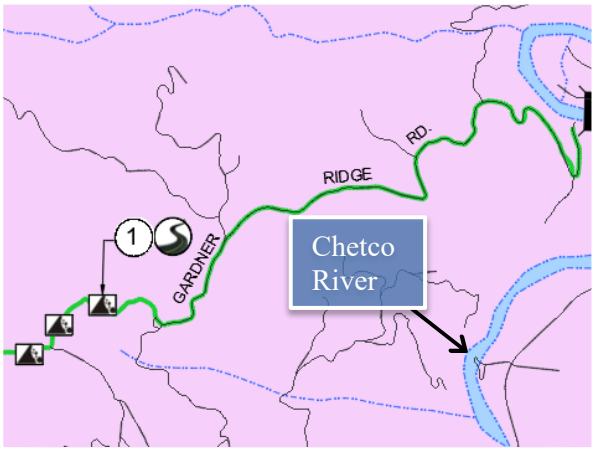
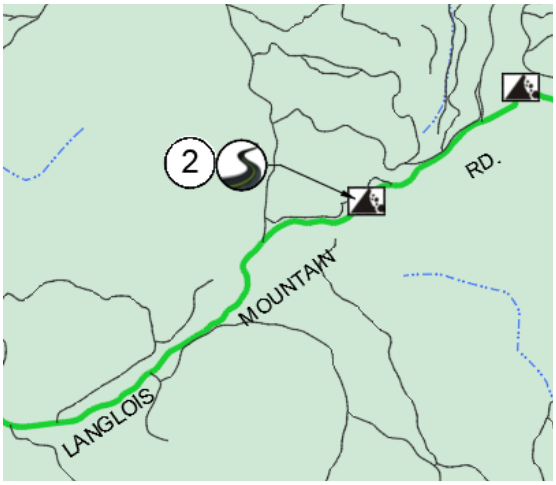


FIGURE 6.1.2
LANGLOIS MOUNTAIN ROAD AT MP 5.7

PROJECT NO.	2	PROJECT YEAR:	2020 to 2021
Project Name:	Langlois Mtn. Rd.	**Project Limit (MP):**	5.7
Road Rating.:	3.5 - Fair +	**Description:**	Slider Repair/Drainage
ADT:	111	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Northern-118	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$324,550
Width (ft):	18'	**Funding Source:**	FEMA

EXISTING CONDITIONS:
An active slide area located primarily below the roadway at Milepost (MP) 5.74 has impacted the road for 400 lineal feet. The road needs a permanent solution to combat future slide concerns.

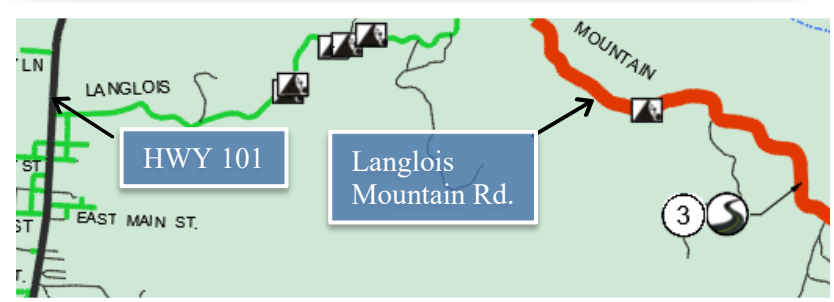


PROPOSED IMPROVEMENT PROJECT:
Geotechnical investigations recommend that drainage improvements address the roadway issues at Milepost 5.74. These improvements include placement of deep sub drainage systems, a paved roadway ditch on the north side of the road along with ditch inlets, and a catch basin to convey surface water away from the road.

After the drainage improvements are installed a grind and inlay is recommended for a smooth-riding surface.

FIGURE 6.1.3
LANGLOIS MOUNTAIN ROAD

PROJECT NO.	3	PROJECT YEAR:	2023 to 2024
Project Name:	Langlois Mtn. Rd.	**Project Limit (MP):**	0 to 9.53
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Chip Seal
ADT:	111	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Northern-118	**Chip Seal Cost:**	$202,000
Pavement Type:	Asphalt	**Project Cost:**	$120,870
Width (ft):	22'	**Funding Source:**	County Road Fund



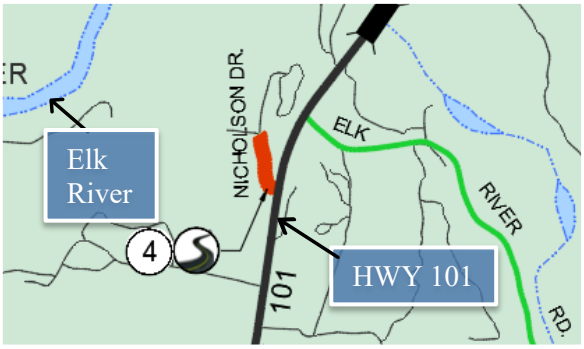
EXISTING CONDITIONS:
Langlois Mountain Road from MP 1.8 to MP 4.2 has longitudinal and transverse cracking throughout the entire section of the roadway. There are also multiple areas where the road has been patched, which provides an uneven or rough driving surface. Near Milepost 4.15, the edge of the road has settled slightly along the ditch line and will need to be repaired. County maintenance history shows the road had a 2-inch overlay in 1999.

PROPOSED IMPROVEMENT PROJECT:
This section of roadway is due for road maintenance to preserve and extend the life of the existing pavement. Recommended improvements include isolated reconstruction areas to repair sections of pavement, followed by chip sealing the roadway.

FIGURE 6.1.4
NICHOLSON DRIVE

PROJECT NO.	4	PROJECT YEAR:	2020 to 2021
Project Name:	Nicholson Dr.	**Project Limit (MP):**	0 to 0.18
Road Rating.:	2.5 - Poor +	**Description:**	Drainage/Spot Repair/Overlay
ADT:	123	**Functional Class:**	Rural Local
Region-Road No.:	Northern-209	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$110,250
Width (ft):	19'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Nicholson Drive shows significant signs of distress. Isolated potholes and some alligator cracking are present through the roadway. The road appears to have drainage issues due to insufficient ditching or drainage infrastructure, which can cause a decrease in the life of the pavement.

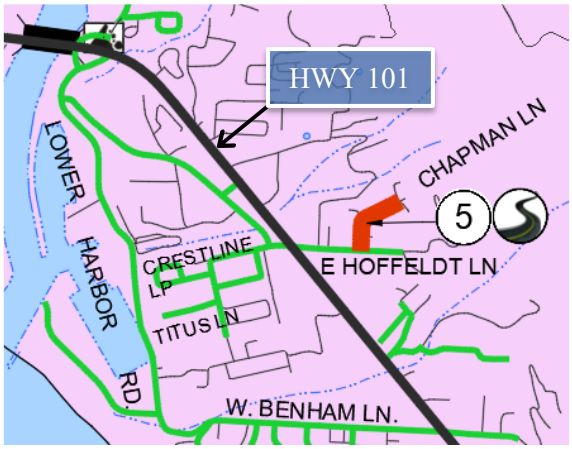


PROPOSED IMPROVEMENT PROJECT:
A 2-inch asphalt overlay is recommended to preserve the existing asphalt road. Reconstruction areas will be required as necessary to fix potholes and sections where the asphalt has broken off and subgrade has deteriorated. Ditching is recommended on the east side of the road and culvert improvements to convey drainage across the roadway. These improvements are recommended to extend the life of the road and avoid costly repairs in the future.

FIGURE 6.1.5
CHAPMAN LANE

PROJECT NO.	5	PROJECT YEAR:	2021 to 2022
Project Name:	Chapman Ln.	**Project Limit (MP):**	0 to 0.17
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Overlay
ADT:	469	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-841	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$154,590
Width (ft):	20'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Chapman Lane has signs of fatigue with areas of longitudinal and transverse cracking. At the end of the County road, there is cracking and settling near an existing utility trench. Also, local residences complaining of vehicles driving at high speeds around the corner.

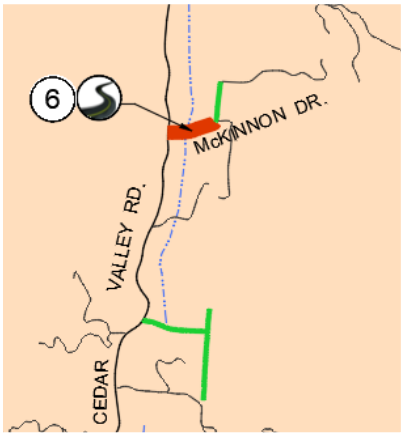


PROPOSED IMPROVEMENT PROJECT:
It is recommended to reconstruct areas of the roadway where necessary. After reconstruction is completed Chapman Lane needs a 2-inch asphalt overlay to preserve the existing roadway. Posted speed signs would increase safety by reducing vehicle speeds along the densely populated residential road.

FIGURE 6.1.6
CEDAR VALLEY AND MCKINNON DRIVE

PROJECT NO.	6	PROJECT YEAR:	2020 to 2021
Project Name:	Cedar Valley & McKinnon Dr.	**Project Limit (MP):**	N/A
Road Rating.:	3.5 - Fair +	**Description:**	Drainage/Overlay
ADT:	176	**Functional Class:**	Rural Minor Collector
Region-Road No:	Central-515	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$471,080
Width (ft):	23'	**Funding Source:**	FEMA

EXISTING CONDITIONS:
The culvert located at the intersection of McKinnon Drive and Cedar Valley Road was damaged during a storm event last winter and needs to be replaced. The replacement culvert must meet fish passage design.

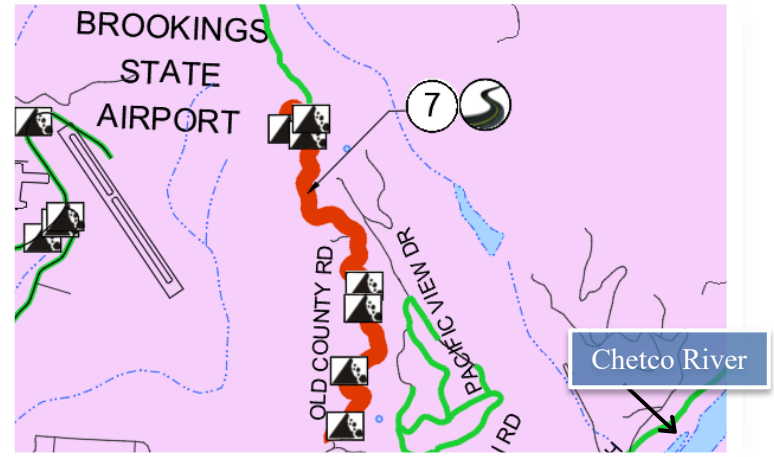


PROPOSED IMPROVEMENT PROJECT:
Remove existing 60-inch diameter Corrugated Metal Pipe (CMP) culvert and replace it with a 19 foot - 6 inch wide by 9-foot-high bottomless arch culvert to meet fish passage design standards. Construct a pre-treatment bioswale. Reconstruct existing removed roadway with new 22-foot wide roadway with type “c” curbs, 4-inches of ac pavement on 12-inches of aggregate base.

FIGURE 6.1.7
OLD COUNTY ROAD

PROJECT NO.	7	PROJECT YEAR:	2021 to 2022
Project Name:	Old County Rd.	**Project Limit (MP):**	0.88 to 2.92
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Chip Seal
ADT:	241	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Southern-776	**Chip Seal Cost:**	$55,000
Pavement Type:	Asphalt	**Project Cost:**	$84,890
Width (ft):	19'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Old County Road has multiple patched areas from existing slide repairs and has been mapped by the County. The roadway shows some signs of fatigue with several longitudinal cracks and some alligator cracking in isolated areas. Due to high and heavy truck traffic from a local rock pit. County records show that Old County Road had a 2-inch overlay in 1998.



PROPOSED IMPROVEMENT PROJECT:
Old County Road needs to be chip sealed to preserve and extend the life of the existing pavement. To avoid further damages, some isolated areas require repair before chip sealing. The subbase needs to be examined while exposed, to determine if replacement is necessary.

FIGURE 6.1.8
WOLLAM ROAD

PROJECT NO.	8	PROJECT YEAR:	2021 to 2022
Project Name:	Wollam Rd.	**Project Limit (MP):**	0 to 0.11
Road Rating.:	3.0 - Fair	**Description:**	Subbase Inv./Chip Seal
ADT:	227	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-892	**Chip Seal Cost:**	$4,000
Pavement Type:	Asphalt	**Project Cost:**	$17,220
Width (ft):	23'	**Funding Source:**	County Road Fund

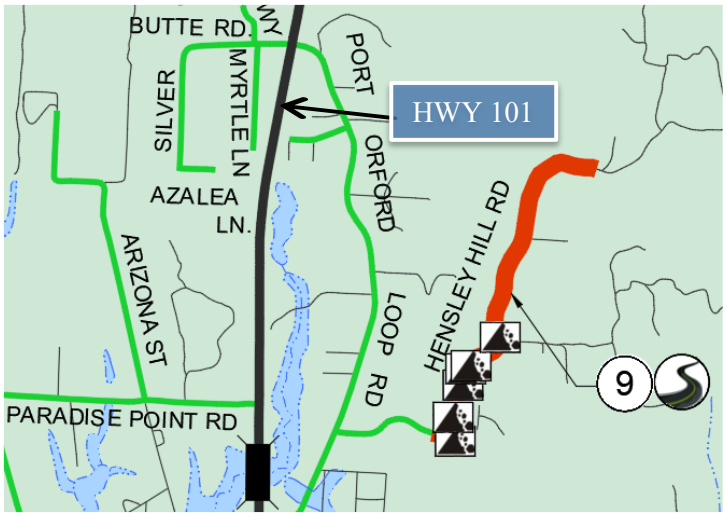
EXISTING CONDITIONS:
Wollam Road is showing signs of wear and tear. The road has some longitudinal cracking along the centerline of the road and a section of alligator cracking at MP 0.05.

PROPOSED IMPROVEMENT PROJECT:
Recommended repair for Wollam Road includes a chip seal to preserve the existing asphalt and extend the life of the road. The alligator cracking area at MP 0.05 needs to be investigated prior to chip sealing for subbase failure.

FIGURE 6.1.9
HENSLEY HILL ROAD

PROJECT NO.	9	PROJECT YEAR:	2023 to 2024
Project Name:	Hensley Hill Rd.	**Project Limit (MP):**	0.24 to 1.12
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Curb/Overlay
ADT:	208	**Functional Class:**	Residential/Local
Region-Road No.:	Northern-232	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$527,540
Width (ft):	23'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Where the County maintained portion of Hensley Hill Road begins, the road splits and there are significant signs of distress and movement. Uphill, where the road ties back together from the split, there are isolated locations of fatigue and cracking. The single lane road that conveys traffic downhill has some areas of significant cracking that will need to be repaired. Overall, the roadway is in fair condition.

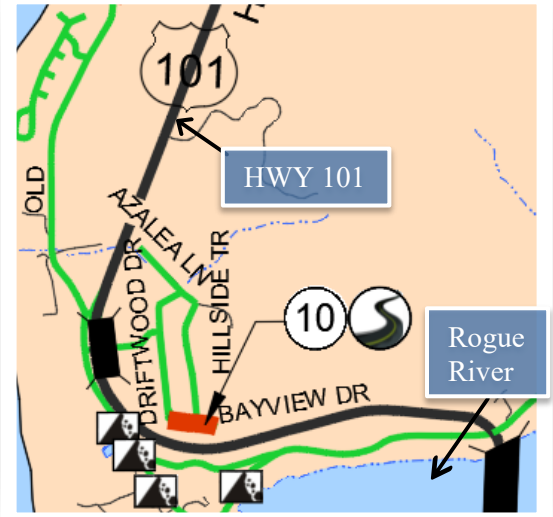


PROPOSED IMPROVEMENT PROJECT:
Curbing with a curb inlet and culvert across the road is recommended for preservation at the beginning of the County section of roadway. Some reconstruction areas will be needed to fix sinking pavement in this section of the road. Low lying areas on the uphill side of the single lane road could use sub-drainage systems to convey water across the road. Some cracking areas will require reconstruction. A 2-inch overlay is recommended after repairs have been made to the entire roadway.

FIGURE 6.1.10
BAYVIEW DRIVE

PROJECT NO.	10	PROJECT YEAR:	Unscheduled
Project Name:	Bayview Dr.	**Project Limit (MP):**	0 to 0.11
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Curb/Overlay
ADT:	-	**Functional Class:**	Residential/Local
Region-Road No.:	Central-565.5	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$287,610
Width (ft):	28'	**Funding Source:**	TBD

EXISTING CONDITIONS:
Bayview Drive has drainage issues as the streets were not constructed to County standards. There is a large gap between the existing curbs and asphalt. Also, curbs do not run through driveways. At the intersection of Bayview Drive and Hillside Terrace water builds up and flows across the intersection, which deteriorates the road, and causes cracking in the asphalt.

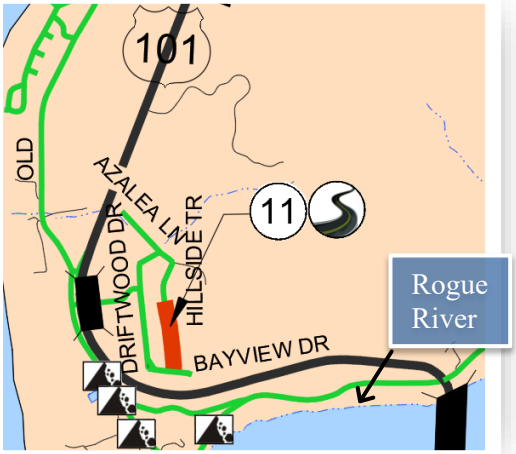


PROPOSED IMPROVEMENT PROJECT:
Recommended improvements include removing curbs and adding curbs and gutters with a 2-inch taper grind and 2-inch asphalt inlay. Provide reconstruction of the asphalt, 18-inches outside of the new gutter to install the curb and gutter. Driveways will need to be paved or reconstructed with new curb and gutter construction. A curb inlet should be installed at the northeast and northwest intersections of Bayview Drive and Hillside Terrace with a culvert installed to convey flows to the north and into the Hillside Terrace drainage system.

FIGURE 6.1.11
HILLSIDE TERRACE

PROJECT NO.	11	PROJECT YEAR:	2022 to 2023
Project Name:	Hillside Ter.	**Project Limit (MP):**	0.1 to 0.27
Road Rating.:	2.0 - Poor	**Description:**	Full Reconstruction
ADT:	-	**Functional Class:**	Residential/Local
Region-Road No.:	Central-565.6	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$574,260
Width (ft):	10'	**Funding Source:**	TBD

EXISTING CONDITIONS:
This section of Hillside Terrace Road accommodates many homes and is showing significant signs of distress. In some areas, the asphalt pavement is cracked and the subbase is exposed. The road is steep and does not drain properly into the ditches and culverts to the east. The north end of the road is very narrow and restricts the line of sight at the top of the hill.

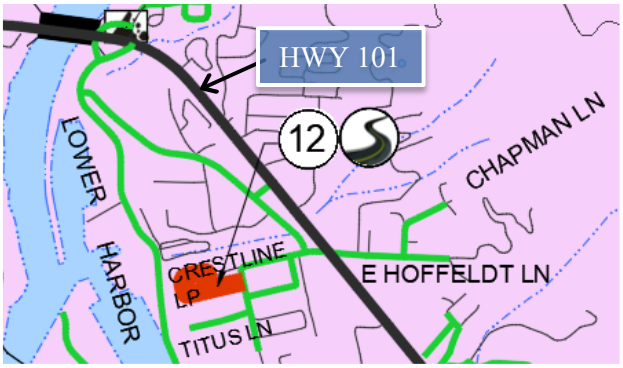


PROPOSED IMPROVEMENT PROJECT:
Based on meetings and discussions with the Road Department, the recommended improvement is to bring this road up to current County design standards, which entails full road reconstruction with curb and gutters on each side of the road, storm drainage infrastructure and road widening at the north end of the street. Existing ditching on the east side of the road would be replaced with piping. The north end of the road will be widened and designed to provide proper site distance from oncoming traffic on the top of the hill. The total length of road improvements is 850 lineal feet with a 20 foot wide paved road.

FIGURE 6.1.12
CRESTLINE LOOP

PROJECT NO.	12	PROJECT YEAR:	2021 to 2022
Project Name:	Crestline Loop	**Project Limit (MP):**	0 to 0.25
Road Rating.:	2.0 - Poor	**Description:**	Spot Repair/Overlay
ADT:	136	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-856	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$157,580
Width (ft):	20'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:



This project consists of Curry Section ID CRESTL856 and CRESTL856A. CRESTL856 has signs of fatigue with a significant amount of utility trench patching across the road, which creates bumps and a rough roadway. At the end of the road is a large concrete trench patch that will need to be removed prior to roadway improvements.

CRESTL856A is a narrow road that shows signs of fatigue. There are isolated areas of asphalt raveling, alligator cracking, and trench patches that have settled or were not constructed correctly. Also, a significant amount of gravel migrates on to the road from gravel driveways.

PROPOSED IMPROVEMENT PROJECT:

CRESTL856 needs a 2-inch asphalt overlay with leveling and some reconstruction areas prior to paving. CRESTL856A should be a one lane road. Due to low traffic residential flow, the road could be maintained at the current width of 12-feet and add a couple of one way signs to direct traffic in one direction around the loop. Reconstruction areas will be required before a 2-inch overlay. Asphalt driveway aprons are recommended to keep gravel off the roadway, which will help extend the life of the road and avoid costly maintenance.

FIGURE 6.1.13
TITUS LANE

PROJECT NO.	13	PROJECT YEAR:	2021 to 2022
Project Name:	Titus Ln.	**Project Limit (MP):**	0 to 0.13
Road Rating.:	3.0 - Fair	**Description:**	Overlay
ADT:	139	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-864	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$86,660
Width (ft):	20'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
There are many existing utility patches on Titus Lane. The existing asphalt is showing some raveling with minor transverse and longitudinal cracking. The trench patch in the west lane is an existing grind and inlay that is in good condition.

PROPOSED IMPROVEMENT PROJECT:
Titus Lane requires a 2-inch overlay to preserve the existing road and avoid more costly repairs in the future. In addition, manhole frame adjustments will be performed as needed for the overlay.

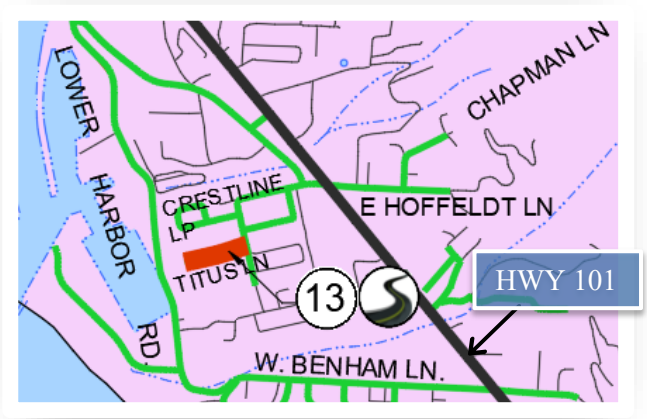
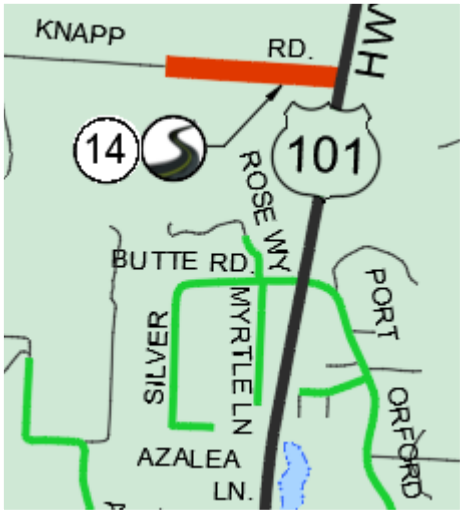


FIGURE 6.1.14
KNAPP ROAD

PROJECT NO.	14	PROJECT YEAR:	2023 to 2024
Project Name:	Knapp Rd.	**Project Limit (MP):**	0 to 0.35
Road Rating.:	3.0 - Fair	**Description:**	Drainage/Overlay
ADT:	130	**Functional Class:**	Residential/Local
Region-Road No.:	Northern-214	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$251,280
Width (ft):	24'	**Funding Source:**	County Road Fund

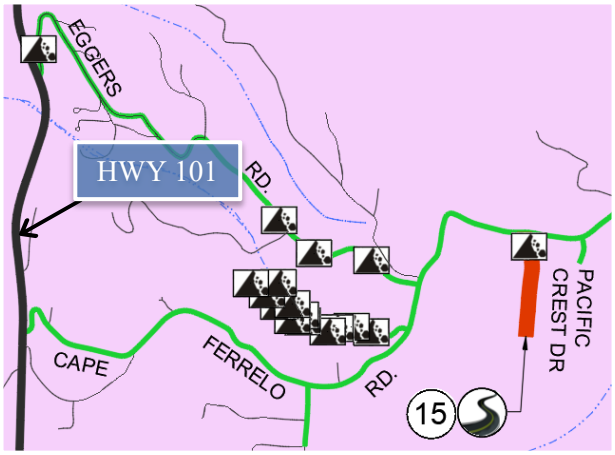
EXISTING CONDITIONS:
County records show that Knapp Road had a single chip seal in 2004 and is due for maintenance. Knapp Road has a large longitudinal crack along the centerline of the road with some transverse cracks. It appears the road is flat and may not drain well in some sections.



PROPOSED IMPROVEMENT PROJECT:
A 2-inch asphalt overlay is recommended to preserve the existing road. The center of the road will have an increased depth of asphalt to reestablish the crown of the road where the road appears to be flat. Work includes drainage ditching and adding culverts in areas that do not currently have drainage infrastructure.

FIGURE 6.1.15
PACIFIC CREST DRIVE

PROJECT NO.	15	PROJECT YEAR:	2024 to 2025
Project Name:	Pacific Crest Dr.	**Project Limit (MP):**	0 to 0.27
Road Rating.:	3.0 - Fair	**Description:**	Widening/Overlay/Chip Seal
ADT:	75	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-709.1	**Chip Seal Cost:**	$9,000
Pavement Type:	Asphalt	**Project Cost:**	$155,120
Width (ft):	21'	**Funding Source:**	County Road Fund



EXISTING CONDITIONS:
The approach to Pacific Crest Drive off of Cape Ferrelo Drive has a substandard curve and width. The photo shows a utility box and rebar bent from a vehicle running over the top of it. Pacific Crest Drive has been chip sealed in the past. At 19056 Pacific Crest Drive the asphalt pavement has alligator cracking and the edge of the road on the east side has slid and caused the pavement to settle at the edge of the roadway.

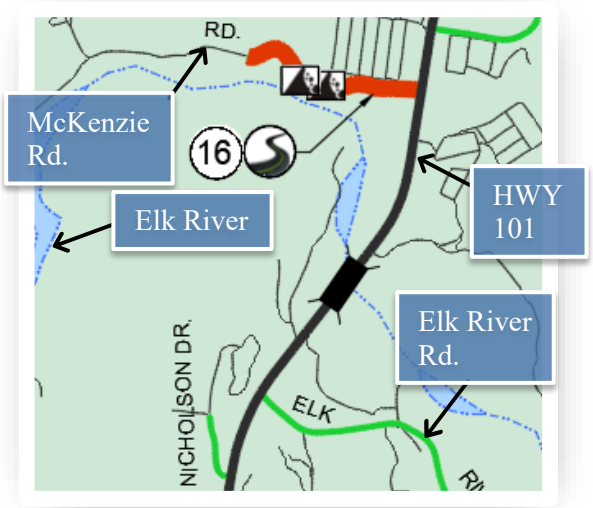
PROPOSED IMPROVEMENT PROJECT:
The approach to Pacific Crest Drive needs to be widened to Curry County standards. Near the driveway at 19056 Pacific Crest Drive the pavement is cracking and settling on the edge of the road that will require road reconstruction. It is recommended to provide a new chip seal after areas of the road have been repaired and the approach widened.

FIGURE 6.1.16
MCKENZIE ROAD

PROJECT NO.	16	PROJECT YEAR:	2023 to 2024
Project Name:	McKenzie Rd.	**Project Limit (MP):**	0 to 0.48
Road Rating.:	3.0 - Fair	**Description:**	Slide/Spot Repair/Chip Seal
ADT:	61	**Functional Class:**	Rural Local
Region-Road No.:	Northern-202	**Chip Seal Cost:**	$15,000
Pavement Type:	Asphalt	**Project Cost:**	$236,130
Width (ft):	22'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:

The last recorded County maintenance on McKenzie Road was a chip and slurry seal in 1999. The intersection at McKenzie Road and Highway 101 has signs of failure and a substandard turning radius off of Highway 101. McKenzie Road has multiple areas where the edge of the road is moving due to steep embankment, causing settling or slides. At Milepost 0.3, an active slide area has impacted the south edge of the roadway. There are multiple areas of fatigue and cracking throughout the roadway.



PROPOSED IMPROVEMENT PROJECT:

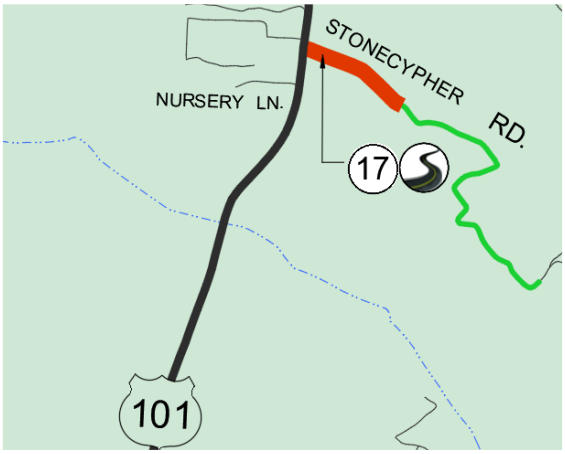
The intersection of McKenzie Road should be reconstructed to meet Curry County standards. Based on the geotechnical report completed by GRI for the active slide located at Milepost 0.3, the report outlines recommendations for a soil nail wall system to resolve this slide area. The report also outlines a temporary drainage and groundwater system for improving the drainage in this area including a paved ditch, subsurface drain system and upgrading the ditch inlet. The County has opted for the temporary drainage system for the proposed project. Multiple areas along the roadway will require reconstruction. After reconstruction areas are repaired it is recommended the McKenzie Road be chip sealed to preserve existing pavement and extend the life of the road. Maintenance of the ditch on the north side of the roadway will avoid water flooding across the road.

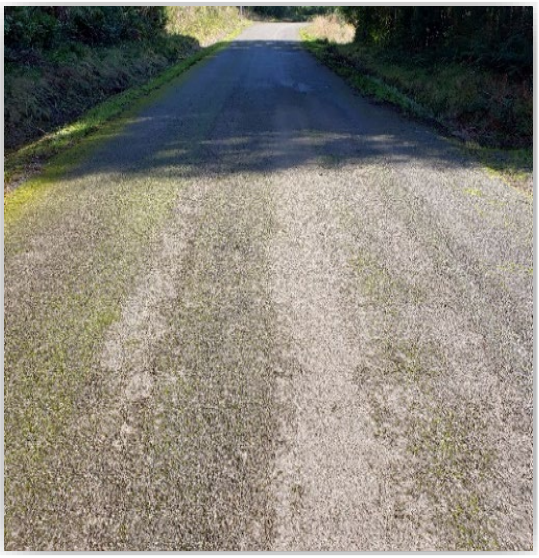
FIGURE 6.1.17
STONECYPHER ROAD

PROJECT NO.	17	PROJECT YEAR:	2023 to 2024
Project Name:	Stonecypher Rd.	**Project Limit (MP):**	0 to 0.3
Road Rating.:	3.0 - Fair	**Description:**	Overlay
ADT:	55	**Functional Class:**	Rural Local
Region-Road No.:	Northern-145	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$110,470
Width (ft):	21'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
The existing asphalt on Stonecypher Road is raveling and showing signs of fatigue.

PROPOSED IMPROVEMENT PROJECT:
A 2-inch asphalt overly is recommended to preserve the existing pavement and avoid costly repairs in the future.





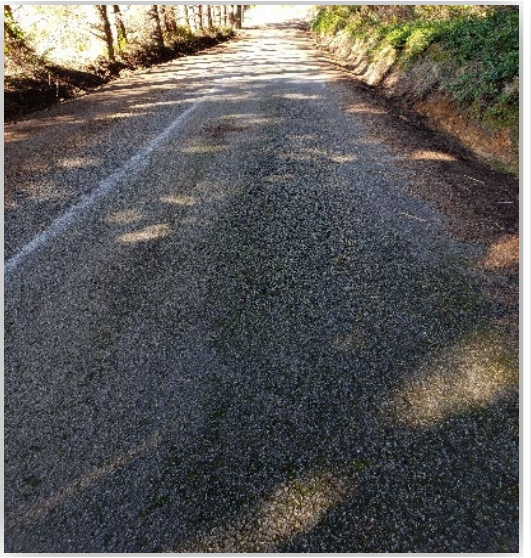
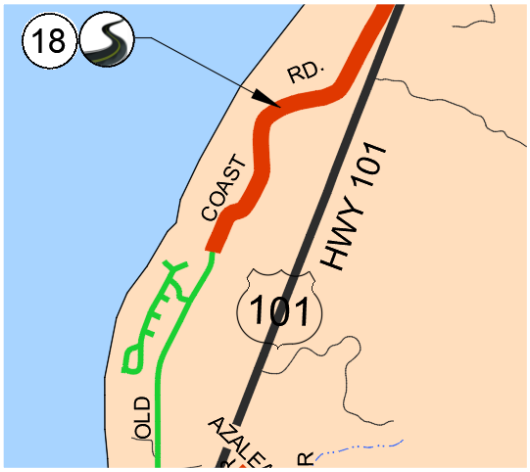


FIGURE 6.1.18
OLD COAST ROAD

PROJECT NO.	18	PROJECT YEAR:	2024 to 2025
Project Name:	Old Coast Rd.	**Project Limit (MP):**	0.74 to 2.55
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Chip Seal
ADT:	49	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Central-555	**Chip Seal Cost:**	$100,000
Pavement Type:	Asphalt	**Project Cost:**	$208,900
Width (ft):	16'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Per County records this section of road had a 1.5-inch asphalt overlay in 2001 and is due for maintenance. Milepost 0.737 to MP 1.734 has been recently chip sealed and is in good condition. From MP 1.734 to MP 2.554 the road has significant signs of fatigue that include raveling and cracking and result in a deteriorating road and a rough ride.



PROPOSED IMPROVEMENT PROJECT:
Milepost 0.737 to Milepost 1.734 on Old Coast Road has some pothole areas to be repaired. Ditch maintenance is suggested where necessary.

It is recommended that MP 1.734 to MP 2.554 on Old Coast Road be chip sealed to preserve the existing asphalt. Isolated repair areas are recommended prior to chip sealing.

FIGURE 6.1.19
OLD COAST ROAD

PROJECT NO.	19	PROJECT YEAR:	2024 to 2025
Project Name:	Old Coast Rd.	**Project Limit (MP):**	4.35 to 4.59
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Chip Seal
ADT:	28	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Central-555	**Chip Seal Cost:**	$15,000
Pavement Type:	Asphalt	**Project Cost:**	$54,650
Width (ft):	12'	**Funding Source:**	County Road Fund

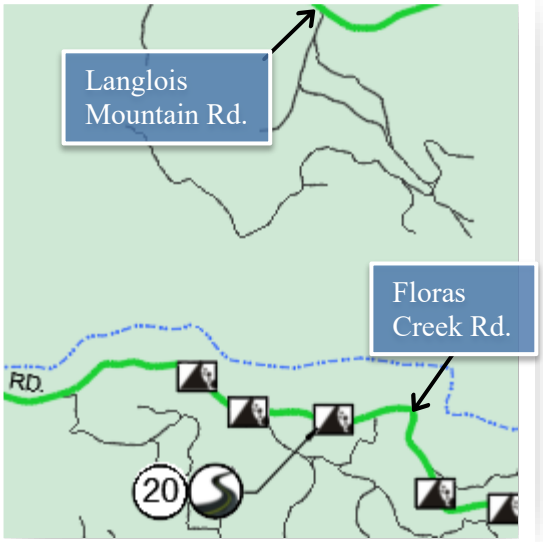
<u>EXISTING CONDITIONS:</u>
The intersection of Old Coast Road and Highway 101 is showing significant signs of distress with exposed subbase where asphalt has deteriorated or broke loose and cracking. It appears there is a very thin layer of asphalt at this intersection. South of the intersection the road has a chip seal, but the rock is very loose. There are many tree roots across the road that provide a rough ride. At the south end of this section of the road, the asphalt is broken up and needs to be repaired. There does not appear to be any drainage on this section of Old Coast Road.

<u>PROPOSED IMPROVEMENT PROJECT:</u>
The roadway section needs to be chip sealed to preserve the existing pavement. The beginning and end of this section of Old Coast Road needs to be reconstructed prior to the chip seal. Tree roots will be cut out of the road and the asphalt and base repaired after removing the roots. A ditch installed on the east side of the road will ensure the water is redirected from the road.

FIGURE 6.1.20
FLORAS CREEK ROAD AT MP 2.9

PROJECT NO.	20	PROJECT YEAR:	Unscheduled
Project Name:	Floras Creek Rd.	**Project Limit (MP):**	2.9
Road Rating.:	3.0 - Fair	**Description:**	Drainage/Widening/Slide Repair
ADT:	N/A	**Functional Class:**	Rural Major Collector
Region-Road No.:	Northern-124	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$650,130
Width (ft):	13'	**Funding Source:**	TBD

EXISTING CONDITIONS:
At Milepost 2.9, the road narrows to 13 feet due to the repair of an existing slide area. This creates a pinch point for vehicles passing each other without an adequate location to pull off the road and let the other vehicle pass. The 72-inch diameter culvert is in poor condition. A wooden structural pipe support was built at the outfall to direct flows down a steep embankment and it is in poor condition.

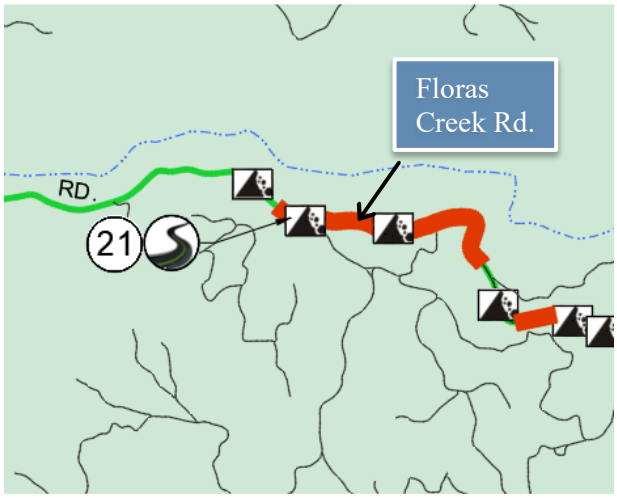


PROPOSED IMPROVEMENT PROJECT:
The road needs to be widened to the south to a standard 20-foot wide road. To widen the road a 100-foot section of gabion style retaining wall will need to be installed along the road and across the 72-inch diameter culvert for slope stability. The assumed height of the retaining wall is 12 feet. The existing ditch will need to be filled in and replaced with 12-inch diameter culverts running parallel to the road and conveying flows to the 72-inch diameter inlet. The 72-inch diameter culvert and structure are recommended to be replaced. A culvert outlet structure will need to be installed to replace the existing wooden structural pipe support. A geotechnical investigation and environmental permitting are included in the construction cost estimate.

FIGURE 6.1.21
FLORAS CREEK ROAD AT MP 2.7

PROJECT NO.	21	PROJECT YEAR:	Unscheduled
Project Name:	Floras Creek Rd.	**Project Limit (MP):**	2.7
Road Rating.:	3.0 - Fair	**Description:**	Bank Stabilization
ADT:	N/A	**Functional Class:**	Rural Major Collector
Region-Road No.:	Northern-124	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$231,680
Width (ft):	22'	**Funding Source:**	TBD

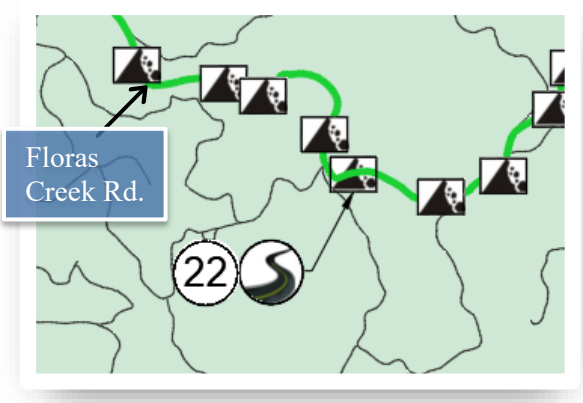
EXISTING CONDITIONS:
At Milepost 2.7 on Floras Creek, the inlet side of an existing CMP culvert is crushed, and silted in. The north shoulder appears to be degraded due to water flowing across the road and an over steepened bank.



PROPOSED IMPROVEMENT PROJECT:
An 80-foot gabion style retaining wall installed along the north side of the road would keep the bank from eroding further. The height of the retaining wall is assumed to be 10 feet. The existing 18-inch diameter CMP culvert that conveys water across the road is in poor condition and needs replacement. The inlet side of the road needs to be ditched parallel to the road on each side of the new culvert. A geotechnical investigation and environmental permitting are included in the construction cost estimate.

FIGURE 6.1.22
FLORAS CREEK ROAD AT MP 3.96

PROJECT NO.	22	PROJECT YEAR:	Unscheduled
Project Name:	Floras Creek Rd.	**Project Limit (MP):**	3.96
Road Rating.:	3.0 - Fair	**Description:**	Slide Repair/Widening
ADT:	38	**Functional Class:**	Rural Major Collector
Region-Road No.:	Northern-124	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$421,450
Width (ft):	22'	**Funding Source:**	TBD



EXISTING CONDITIONS:
The curved road at Milepost 3.96 on Floras Creek Road is narrow and a safety concern. This section of the road is a mapped existing slide area that has been repaired.

PROPOSED IMPROVEMENT PROJECT:
Installation of a 120-foot of gabion style retaining wall on the north inside side of the curve is recommended. The road should be widened to County standards. The assumed height of the retaining wall is 10 feet. The existing roadway will be realigned 100 feet east of the curve. Fog line installation on each side of the road is suggested for safety. The existing culvert outlet on the north side of the road will need to be replaced and extended, ten feet. Rip rap installation on the outlet side will ensure slope stabilization. A geotechnical investigation and environmental permitting are included in the construction cost estimate.

FIGURE 6.1.23
FLORAS CREEK ROAD AT MP 3.31

PROJECT NO.	23	PROJECT YEAR:	Unscheduled
Project Name:	Floras Creek Rd.	**Project Limit (MP):**	3.31
Road Rating.:	3.0 - Fair	**Description:**	Realignment/Widening/Drainage
ADT:	38	**Functional Class:**	Rural Major Collector
Region-Road No.:	Northern-124	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$179,420
Width (ft):	13'	**Funding Source:**	TBD

EXISTING CONDITIONS:
At Milepost 3.31 on Floras Creek Road, an existing slide was repaired and the repair left unnecessary bends within the roadway.

PROPOSED IMPROVEMENT PROJECT:
The road needs to be realigned to fix sharp curves and widen the road to County standards. Work will include the replacement of 200 feet of roadway to straighten the road, embankment, and extending the existing culvert 20 feet to the south. Limits of the right-of-way will need to be determined prior re-aligning the roadway.

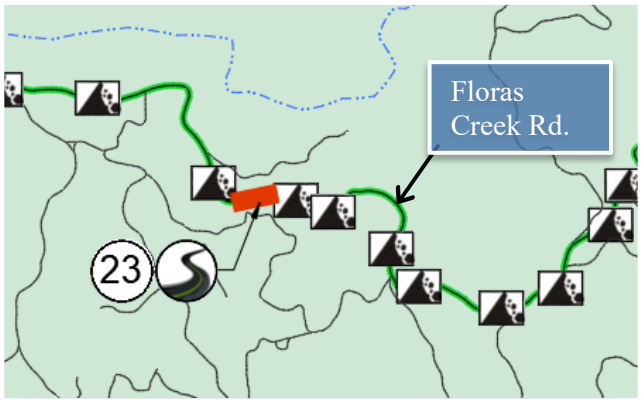
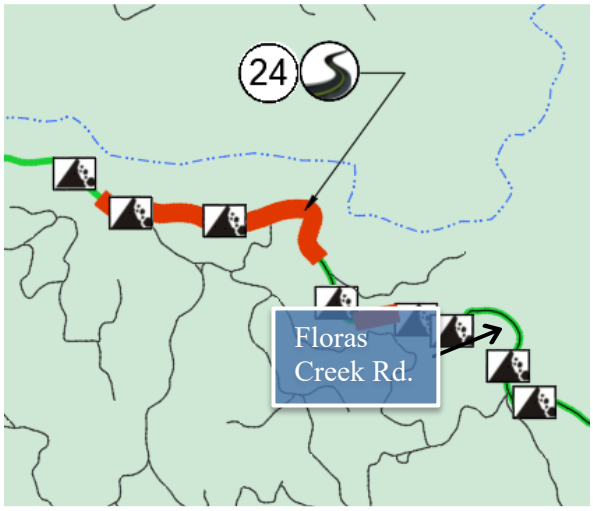


FIGURE 6.1.24
FLORAS CREEK ROAD

PROJECT NO.	24	PROJECT YEAR:	2023 to 2024
Project Name:	Floras Creek Rd.	**Project Limit (MP):**	2.61 to 5.18
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Chip Seal
ADT:	38	**Functional Class:**	Rural Major Collector
Region-Road No.:	Northern-124	**Chip Seal Cost:**	$119,000
Pavement Type:	Asphalt	**Project Cost:**	$219,990
Width (ft):	22'	**Funding Source:**	County Road Fund



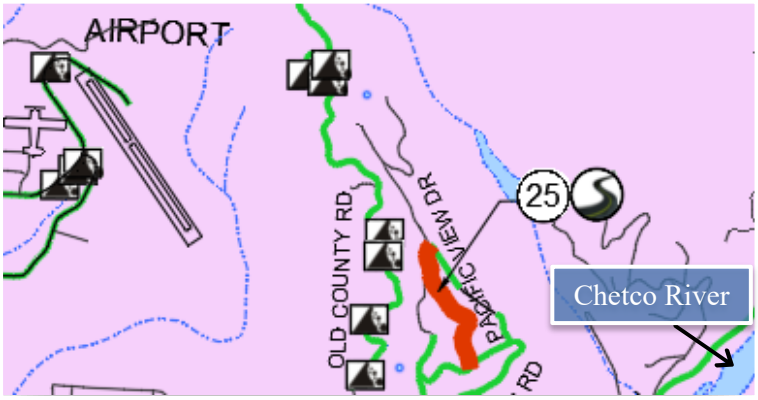
EXISTING CONDITIONS:
This section of Floras Creek Road shows signs of distress and a heavy amount of patching from numerous ongoing slide failure areas where the edge of the road or shoulder has moved. Road striping ends at Milepost 3.4. The absence of fog lines creates safety issues in low visibility conditions.

PROPOSED IMPROVEMENT PROJECT:
Recommended improvements include chip sealing the existing roadway to preserve the pavement. Some isolated areas of reconstruction are recommended to fix sinking and cracking areas, primarily along the edge of the road. These repairs will take place prior to chip sealing. Fog lines need to be added on each side of the roadway for safety. Projects 20, 21, 22, and 23 address a few individual problem areas in this section of the roadway.

FIGURE 6.1.25
PACIFIC VIEW DRIVE

PROJECT NO.	25	PROJECT YEAR:	2025 to 2026
Project Name:	Pacific View Dr.	**Project Limit (MP):**	0 to 0.36
Road Rating.:	3.0 - Fair	**Description:**	Grind/Chip Seal
ADT:	27	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-778.2	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$153,060
Width (ft):	21'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
County records indicate Pacific View Drive had a single chip seal in 2002. The east bank of the road has shifted in three locations causing the existing pavement to settle and crack. Pine needles in the roadway and debris in the ditches and culverts could cause roadway issues if not maintained.

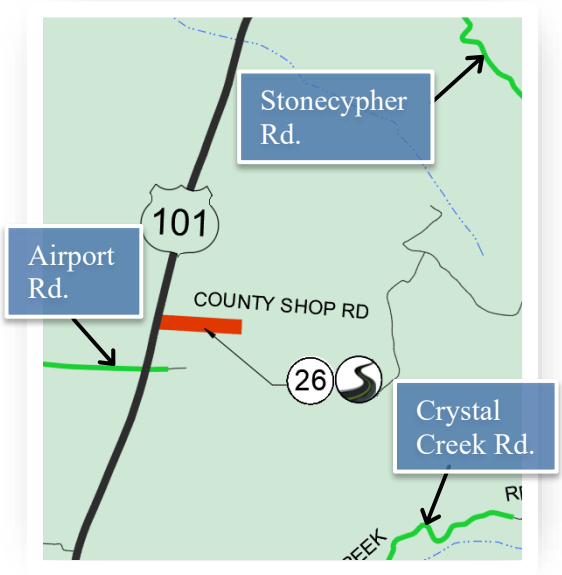


PROPOSED IMPROVEMENT PROJECT:
Overlaying Pacific View Drive after the repair areas are addressed is recommended. Reconstruction includes grinding out the existing asphalt to subbase and paving back to grade before chip sealing. Attention should be given to the subbase to determine if any replacement will be necessary. Foundation stabilization should be used as required. Maintenance of ditches, culverts, and sweeping the roadway is to be provided by the County as necessary. The Curry County guardrail replacement project will ensure guardrail improvements are made.

FIGURE 6.1.26
COUNTY SHOP ROAD

PROJECT NO.	26	PROJECT YEAR:	Unscheduled
Project Name:	County Shop Rd.	**Project Limit (MP):**	0 to 0.23
Road Rating.:	3.0 - Fair	**Description:**	Drainage/Spot Repair/Overlay
ADT:	23	**Functional Class:**	Rural Local
Region-Road No.:	Northern-148	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$209,230
Width (ft):	24'	**Funding Source:**	TBD

EXISTING CONDITIONS:
County Shop Road has longitudinal and transverse cracks with some isolated alligator cracking throughout the roadway. The shoulder near the culvert on the north end of the road moved and caused the pavement to settle along the edge of the road.



PROPOSED IMPROVEMENT PROJECT:
Some reconstruction areas will be necessary to repair the roadway, specifically near the County Shop Road and Highway 101 intersection and near the culvert on the north side of the road. After repair areas have been completed the road will have a 2-inch overlay with leveling to preserve the existing asphalt. A majority of culverts on this road are in fair/poor condition and need to be brought to good condition prior to overlaying the roadway. Permitting may be required for culvert replacements and is included in the cost for this project.

FIGURE 6.1.27
AZALEA LANE

PROJECT NO.	27	PROJECT YEAR:	2020 to 2021
Project Name:	Azalea Ln.	**Project Limit (MP):**	0 to 0.08
Road Rating.:	1.0 - Very Poor	**Description:**	Widening/Paving
ADT:	N/A	**Functional Class:**	Rural Local
Region-Road No.:	Northern-228	**Chip Seal Cost:**	N/A
Pavement Type:	Gravel	**Project Cost:**	$87,880
Width (ft):	12'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Azalea Lane is gravel with substandard width. Azalea Lane appears to serve two homes.

PROPOSED IMPROVEMENT PROJECT:
It is recommended to widen the road to 16 feet and pave Azalea Lane with 2-inches of asphalt on 12-inches of aggregate base to bring it up to County standards. Prior to paving an investigation to determine if existing rock can be used as a road base for cost savings should be performed. Paving would decrease County maintenance and preserve the life of the road.

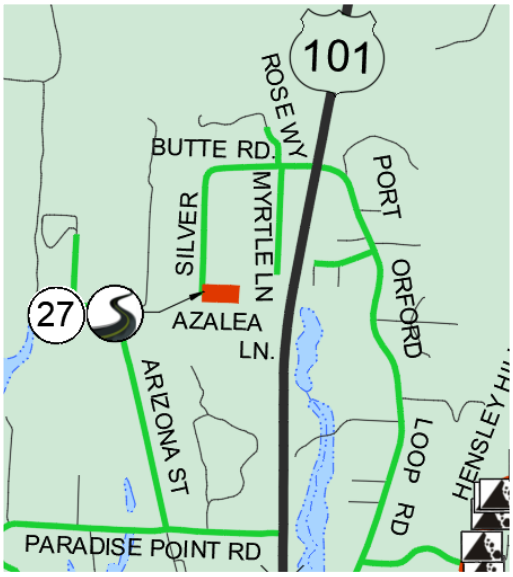


FIGURE 6.1.28
DEMOSS ROAD

PROJECT NO.	28	PROJECT YEAR:	2021 to 2022
Project Name:	Demoss Rd.	**Project Limit (MP):**	0 to 0.16
Road Rating.:	2.5 - Poor+	**Description:**	Spot Repair/Overlay
ADT:	197	**Functional Class:**	R - Residential/Local
Region-Road No.:	Southern-728	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$116,280
Width (ft):	20'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Demoss Road is on a hill with a steep grade that is showing signs of fatigue. Alligator cracking and potholes are visible because of wear and tear on the road.

PROPOSED IMPROVEMENT PROJECT:
Demoss Road will have a 2-inch asphalt overlay to preserve the life of the existing asphalt pavement and to avoid costly repairs in the future. Work includes reconstruction areas to repair potholes and cracking as necessary before the overlay.

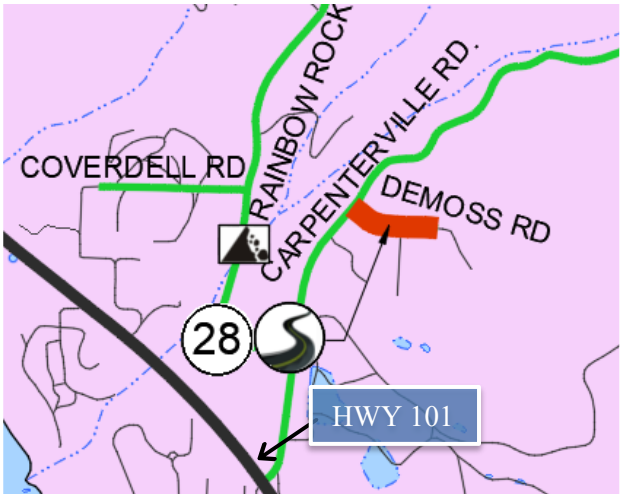
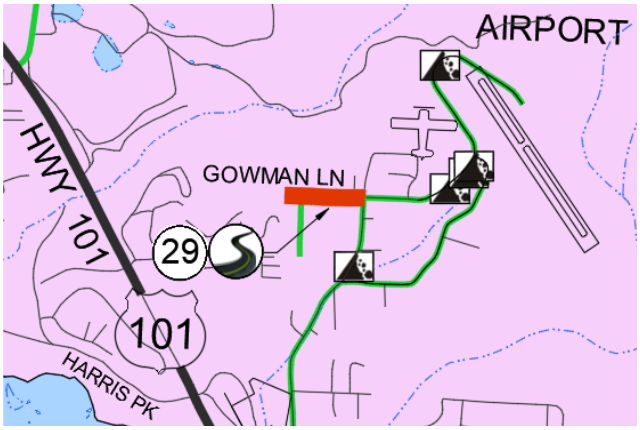


FIGURE 6.1.29
GOWMAN LANE

PROJECT NO.	29	PROJECT YEAR:	2021 to 2022
Project Name:	Gowman Ln.	**Project Limit (MP):**	0 to 0.19
Road Rating.:	3.0 - Fair	**Description:**	Full Reconstruction
ADT:	128	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-758	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$320,680
Width (ft):	21'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Gowman Lane has significant road failure, alligator cracking, and blocking through the entire roadway, specifically on the west and east ends of the project limits. Cracking may have occurred due to insufficient subbase or poor drainage.

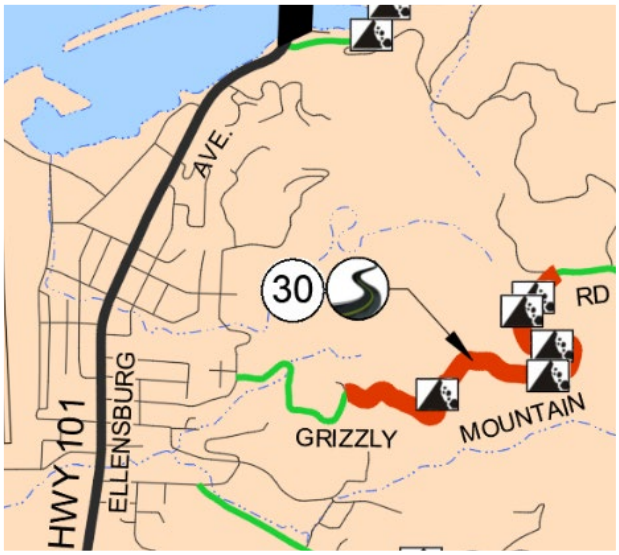


PROPOSED IMPROVEMENT PROJECT:
A full roadway reconstruction for Gowman Lane with 2-inches of asphalt on 12-inches of aggregate base is suggested. The subbase will be investigated and replaced with foundation stabilization as necessary. A drainage investigation is necessary prior to roadway improvements.

FIGURE 6.1.30
GRIZZLY MOUNTAIN ROAD

PROJECT NO.	30	PROJECT YEAR:	2024 to 2025
Project Name:	Grizzly Mountain Rd.	**Project Limit (MP):**	0.39 to 1.34
Road Rating.:	2.5 – Poor+	**Description:**	Spot Repair/Overlay/Drainage
ADT:	-	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Central-605	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$315,760
Width (ft):	14'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
This section of Grizzly Mountain Road is located in very steep terrain. Multiple slides have been recorded and repaired by the County. Due to the steepness of the road and embankments, there are signs of fatigue and cracking on relatively new asphalt. There is a lack of culverts where proper drainage is necessary.

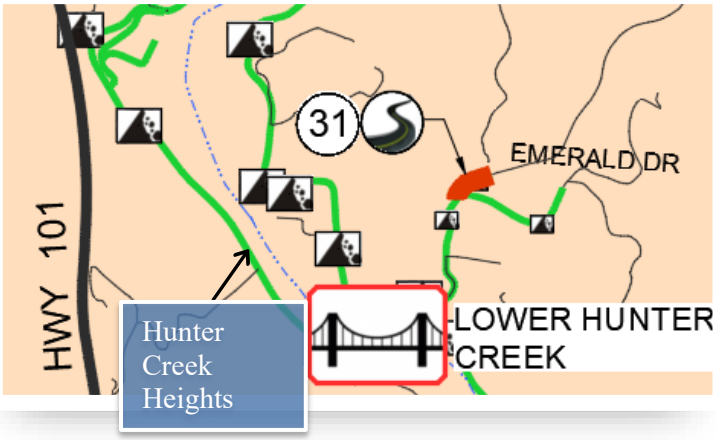


PROPOSED IMPROVEMENT PROJECT:
Recommendations include spot repairs for asphalt removal and paving back 4-inches where necessary. The spot repairs will be followed by a 2-inch overlay. The County will ensure a reduction of water from flooding the road and erosion of the bank by installing additional culverts and maintaining ditching. Where new culverts are installed down stream flow paths need to be evaluated to avoid damage to existing properties that could occur outside of existing drainages. Fog lines on each side of the road are suggested for safety during low visibility conditions.

FIGURE 6.1.31
EMERALD DRIVE

PROJECT NO.	31	PROJECT YEAR:	2024 to 2025
Project Name:	Emerald Dr.	**Project Limit (MP):**	0 to 0.09
Road Rating.:	3.0 - Fair	**Description:**	Realign/Spot Repair/Overlay
ADT:	-	**Functional Class:**	Rural Local
Region-Road No.:	Central-656	**Chip Seal Cost:**	$3,000
Pavement Type:	Asphalt	**Project Cost:**	$199,800
Width (ft):	20'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
The approach to Emerald Drive off of Hunter Creek Heights does not have proper site distance and is a safety concern. Emerald Drive road has significant signs of distress. There is a substantial amount of alligator and longitudinal cracking throughout this section of the roadway. Vegetation and debris have grown up along the existing ditches and need to be maintained. At the end of this section of road, the shoulder on the north side of the road moved and caused the pavement to settle at the edge of the roadway.

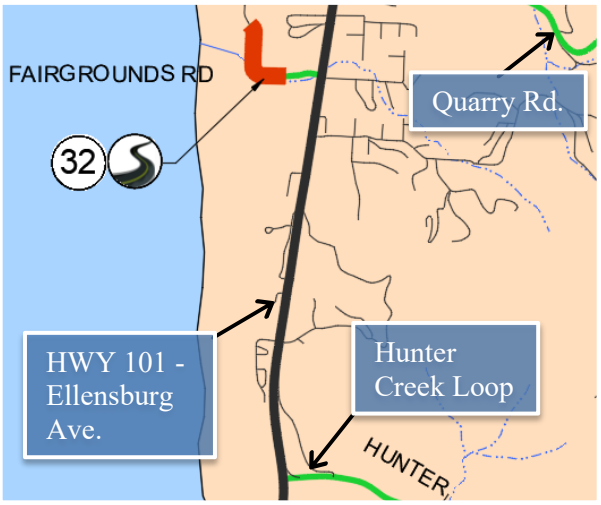


PROPOSED IMPROVEMENT PROJECT:
For proper site distance, it is recommended to realign and change the elevation of 300 linear feet of road starting at Hunter Creek Heights. Right-of-way may need to be procured to the east of Emerald Drive to realign the road. The remaining portion of the road will be reconstructed where necessary and a 2-inch overlay for pavement preservation to increase the life of the road. The County should provide ditch maintenance.

FIGURE 6.1.32
FAIRGROUNDS ROAD

PROJECT NO.	32	PROJECT YEAR:	2024 to 2025
Project Name:	Fairgrounds Rd.	**Project Limit (MP):**	0.09 to 0.28
Road Rating.:	2.0 - Poor	**Description:**	Spot Repair/Inlay
ADT:	-	**Functional Class:**	Rural Local
Region-Road No.:	Central-601	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt & Gravel	**Project Cost:**	$286,320
Width (ft):	Varies	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
Fairgrounds Road Section FAIRGR601A has signs of fatigue and cracking. At the 90 degree turn, there are several large potholes. Curry County records show a 1.5-inch overlay was completed in 1997. The road is now overdue for maintenance.



Fairgrounds Road Section FAIRGR601B has signs of fatigue, with a few patched potholes. The north end of this section has a large amount of gravel on top of the asphalt, but there are visible signs of longitudinal cracking. The road will need to be cleaned in this section and examined to investigate if further repairs are needed.

Fairgrounds Road Section FAIRGR601C is currently gravel and in poor condition.

All sections of Fairgrounds Road are fairly flat and do not have proper drainage, which decreases the life of the roadway. Clarification is needed on on the ownership of Fairgrounds Road.

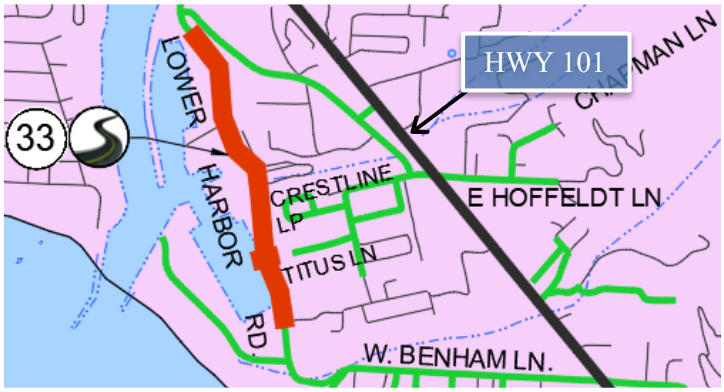
PROPOSED IMPROVEMENT PROJECT:
FAIRGR601A&B A 2-inch grind and inlay is necessary for these sections of the road to avoid replacing the full width of asphalt pavement. Potholes and sinking areas will need to be repaired as necessary before the inlay. A proper drainage system is recommended with valley gutters, ditches, and culverts to reduce the amount of water on the road during storm events.

FAIRGR601C will need full reconstruction per Curry County standards.

FIGURE 6.1.33
LOWER HARBOR ROAD

PROJECT NO.	33	PROJECT YEAR:	Unscheduled
Project Name:	Lower Harbor Road	**Project Limit (MP):**	0.17 to 0.96
Road Rating.:	5.0 - Very Good	**Description:**	Sidewalk Improvements
ADT:	3748	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-816	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$1,089,720
Width (ft):	38'	**Funding Source:**	TBD

EXISTING CONDITIONS:
Sidewalks on the west side of Lower Harbor Road from the Boat Ramp/Ocean Side Diner Restaurant to Ocean Side Suites Motel near Boat Basin Road would improve pedestrian safety. This would complete the sidewalk system on Lower Harbor Road.

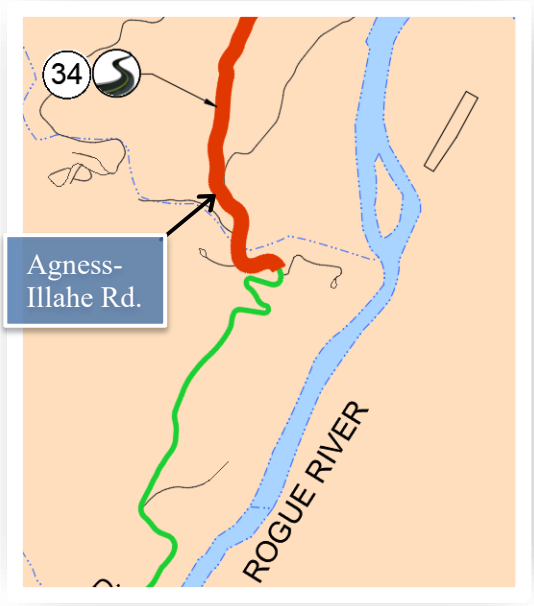


PROPOSED IMPROVEMENT PROJECT:
This project includes adding 3,500 lineal feet of 5-foot-wide concrete sidewalks on Lower Harbor Road. Work for the sidewalk improvements will include some new curb installation/relocation, retaining walls, Americans with Disabilities Act (ADA) ramps, driveway approaches, storm drainage improvements where necessary, and relocation of utilities as required.

FIGURE 6.1.34
AGNESS-ILLAHE ROAD

PROJECT NO.	34	PROJECT YEAR:	2022 to 2023
Project Name:	Agness-Illahe Rd.	**Project Limit (MP):**	6.61 to 7.55
Road Rating.:	3.0 - Fair	**Description:**	Spot Repair/Chip Seal
ADT:	N/A	**Functional Class:**	Rural Minor Collector
Region-Road No.:	Central-375	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$53,840
Width (ft):	10'	**Funding Source:**	County Road Fund

EXISTING CONDITIONS:
This section of Agness-Illahe Road is very narrow with few turnouts. From Milepost 6.61 to just past Billings Road Milepost 6.8, it appears the road has been chip sealed recently and is in good condition. After this section of road, there are signs of fatigue with large longitudinal cracks throughout. The road has some alligator cracking towards Illahe Lodge. At Illahe Lodge turnoff a long section of asphalt is missing in the middle of the road.

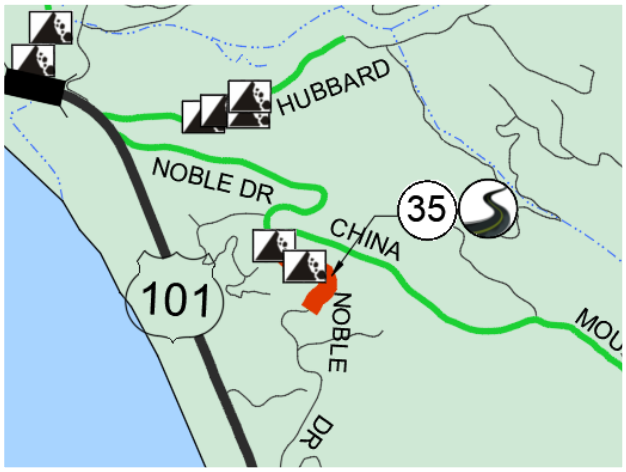


PROPOSED IMPROVEMENT PROJECT:
It is recommended to finish chip sealing from Milepost 6.8 to Milepost 7.548 to preserve and extend the life of the existing pavement. The turnoff at Illahe Lodge and some isolated areas will need repaired prior to the chip seal.

FIGURE 6.1.35
NOBLE DRIVE

PROJECT NO.	35	PROJECT YEAR:	Unscheduled
Project Name:	Noble Dr.	**Project Limit (MP):**	0.67 to 0.83
Road Rating.:	1.0 - Very Poor	**Description:**	Full Reconstruction
ADT:	N/A	**Functional Class:**	Rural Local
Region-Road No.:	Northern-277	**Chip Seal Cost:**	N/A
Pavement Type:	Oil Mat	**Project Cost:**	$177,860
Width (ft):	10'	**Funding Source:**	TBD

EXISTING CONDITIONS:
This section of Noble Drive is in very poor condition. It appears the road is currently a private drive with a gate. At the beginning of the road, there is a trench patch that has settled. Vegetation has grown up on the east side of the road, where there was an existing ditching. The road has some sinking areas, tree roots, and cracking throughout. At the end of the road is a very large section of asphalt missing with the subbase exposed.

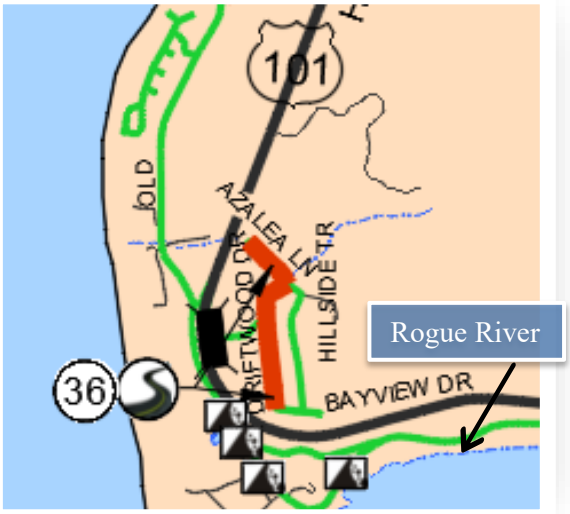


PROPOSED IMPROVEMENT PROJECT:
It is recommended for Curry County to transfer this road to the adjacent property owners for sole use of the roadway. If the County does not vacate the road, costs for full reconstruction of the roadway are provided.

FIGURE 6.1.36
DRIFTWOOD DR, AZALEA LN, AND IRIS ST

PROJECT NO.	36	PROJECT YEAR:	Unscheduled
Project Name:	Driftwood Dr.	**Project Limit (MP):**	0 to 0.31
Road Rating.:	3.5 - Fair +	**Description:**	Drainage/Reconstruction
ADT:	-	**Functional Class:**	Residential/Local
Region-Road No.:	Central-565.2	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$1,415,170
Width (ft):	32'	**Funding Source:**	TBD

EXISTING CONDITIONS:
Driftwood Drive Milepost 0 to Milepost 0.31, Azalea Lane Milepost 0 to Milepost 0.041, and Iris Street Milepost 0 to Milepost 0.13 has drainage issues as the streets were not constructed to County standards. There is a large gap between the existing curbs and asphalt. Also, curbs do not run through driveways. Driftwood Drive is 32 feet wide and Azalea Lane and Iris Street are 28 feet wide.



PROPOSED IMPROVEMENT PROJECT:
Recommended improvements include removing curbs and replacing them with curb and gutters. A 2-inch grind, and 2-inch asphalt inlay. A reconstruction area, 18-inches from the existing curb line prior to the inlay is recommended to repair the large gap between existing curbs and asphalt. The storm drain system needs upgraded with new culverts, storm drain pipes and catch basins. It is suggested the drainage system is investigated for capacity and condition assessment during the design of the new storm drain system.

FIGURE 6.1.37
LOWER HARBOR AND SHOPPING CENTER INTERSECTION

PROJECT NO.	37	PROJECT YEAR:	Unscheduled
Project Name:	Lower Harbor & Shopping Center Intersection	**Project Limit (MP):**	0.68
Road Rating.:	5.0 - Very Good	**Description:**	Intersection Improvement
ADT:	3,748	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-816	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$977,640
Width (ft):	38’	**Funding Source:**	TBD

EXISTING CONDITIONS:
In the Port of Brookings-Harbor *Strategic Business Plan* the Port of Brookings-Harbor identified flow issues with the Port Boat Launch Facility exit and the intersection of Lower Harbor Road and Shopping Center Ave. The Plan recommends a roundabout entryway to address traffic issues in the intersection.

PROPOSED IMPROVEMENT PROJECT:
Installing a roundabout addresses flow issues from the boat launch parking and Shopping Center intersection and will increase safety. The proposed roundabout with sidewalks would encompess an 80 foot radius, which may require some additional right-of-way. This item is not included in the cost of the project. The Port of Brookings-Harbor would need to fund or partner with the Curry County Road Department for this project to move forward.

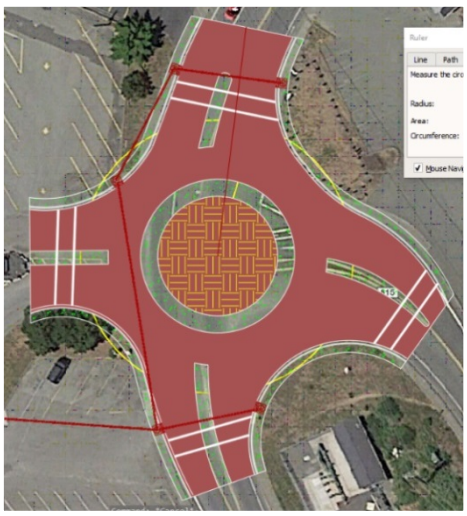
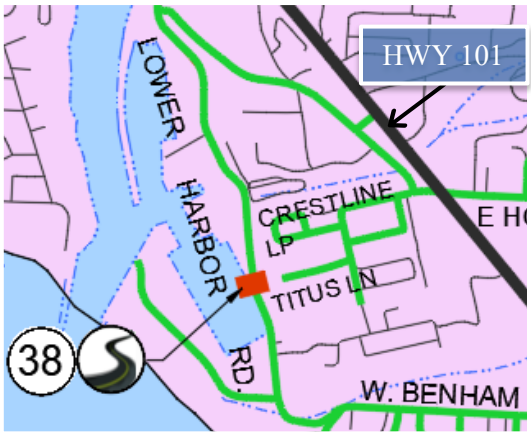


FIGURE 6.1.38
LOWER HARBOR AND COMMERCIAL INTERSECTION

PROJECT NO.	38	PROJECT YEAR:	Unscheduled
Project Name:	Lower Harbor & Commercial Intersection	**Project Limit (MP):**	0.12
Road Rating.:	5.0 - Very Good	**Description:**	Intersection Improvement
ADT:	3,748	**Functional Class:**	Residential/Local
Region-Road No.:	Southern-816	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$1,027,480
Width (ft):	38'	**Funding Source:**	TBD

EXISTING CONDITIONS:
In the Port of Brookings-Harbor *Strategic Business Plan* the Port of Brookings-Harbor proposed a new private road that would connect to Lower Harbor Road. The Plan recommends a roundabout entryway to address traffic in the intersection.



PROPOSED IMPROVEMENT PROJECT:
Installing a roundabout at this intersection would address any flow issues and increase safety. The proposed roundabout and sidewalks footprint would inlcude an 80 foot radius. Steep ground and an existing retaining wall prohibit construction of the roundabout to the east of Lower Harbor Road. Land aquistion needs procured to the west of Lower Harbor Road for right-of-way. It appears the Seal Cove Reality Building is located within the construction area and would need to be purchased and removed. These items are not included in the cost of this project. The Port of Brookings-Harbor and/or developer of the private road would need to fund or partner with the Curry County Road Department for this project to move forward.

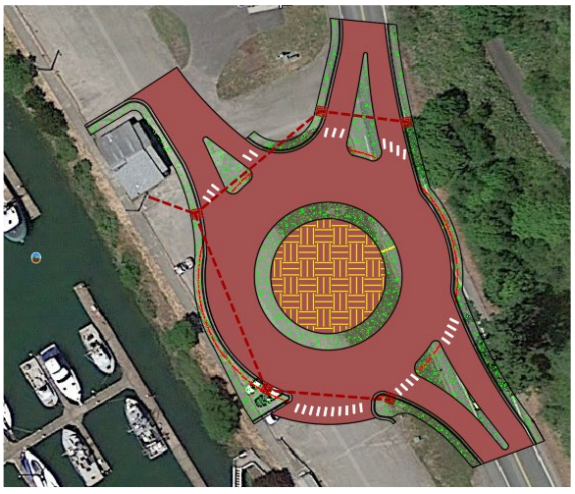
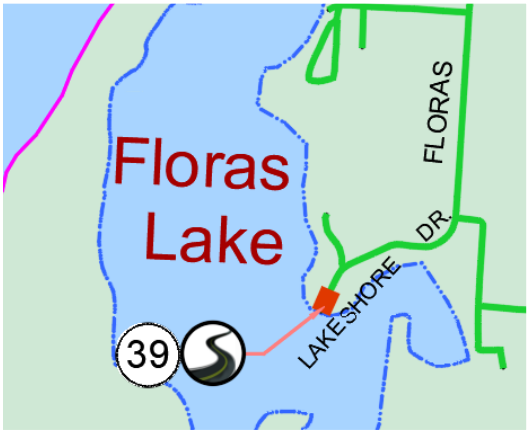


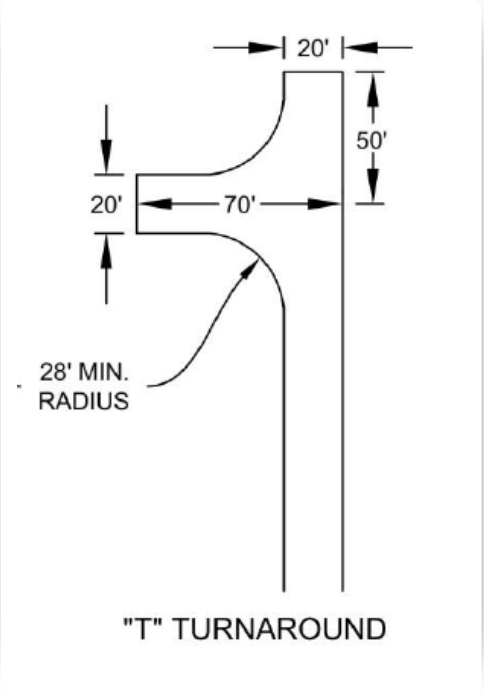
FIGURE 6.1.39
LAKESHORE DRIVE TURNAROUND

PROJECT NO.	39	PROJECT YEAR:	Unscheduled
Project Name:	Lakeshore Drive Turnaround	**Project Limit (MP):**	0.37
Road Rating.:	4.0 - Good	**Description:**	Turnaround Improvement
ADT:	61	**Functional Class:**	Residential/Local
Region-Road No.:	Northern-131	**Chip Seal Cost:**	N/A
Pavement Type:	Asphalt	**Project Cost:**	$98,270
Width (ft):	22'	**Funding Source:**	TBD

EXISTING CONDITIONS:
Lakeshore Drive dead ends at Floras Lake and the narrow road makes it difficult for vehicles to turn around. Residences have approached the County with concerns that the public is using their personal driveways to turn around at this location and causing property damage. Additionally, the public is using the dead-end road for parking when they access the lake at this location.



PROPOSED IMPROVEMENT PROJECT:
Installing a "T" turnaround at the end of this road would address preexisting issues. Gabian retaining wall will be installed at the end of Lakeshore Drive. Signs can be posted to deter the public from parking and using the dead end road for lake access.



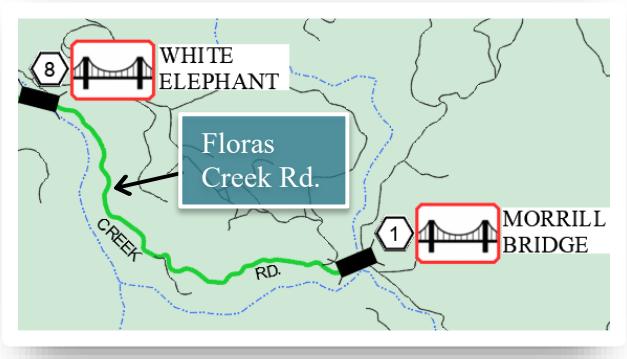
6.2 Proposed Bridge Capital Improvement Projects

A list of County bridges with Oregon Department of Transportation (ODOT) sufficiency ratings was provided for overview and recommendations. Bridges considered structurally deficient or achieving a sufficiency rating below 50 are addressed individually and considered for improvements. Curry County has thirty-four bridges, twelve require improvements or replacement, and eight are below the fifty percent threshold. Morrill Bridge construction is currently funded, under design, and receiving the highest priority based upon the level of structural dilapidation. Structural concerns are significant and ratings include a variety of criteria, from scouring to deck geometry. Bridge inspections are regularly done on all bridges within the National Bridge Inventory (NBI) and provide a comprehensive list of necessary repairs. However, three bridges within Curry County are not incorporated within the NBI list and require separate inspections. The bridges are: Curry County's portable bridge, Gregg's Creek Bridge, and Pistol River Overpass. Each of the bridges are less than twenty feet in length.

Listed hereafter is a summary of each proposed bridge project and the current condition. Further evaluation is needed to determine the extent of repair for all bridges listed, excluding Morrill Bridge, Edson "A" Bridge, and Myrtle Creek Bridge. Estimated costs for each bridge is included in Sections 9.

TABLE 6.2.1
MORRILL BRIDGE

PROJECT NO.	1	YEAR BUILT:	1990
Project Name:	Morrill Bridge	**Material:**	Timber
County No.:	BR03	**2018 Bridge Rating:**	18.4
Total Width (ft):	17.9	**Project Cost:**	$2,500,000
Total Length (ft):	84	**Funding Source:**	STIP

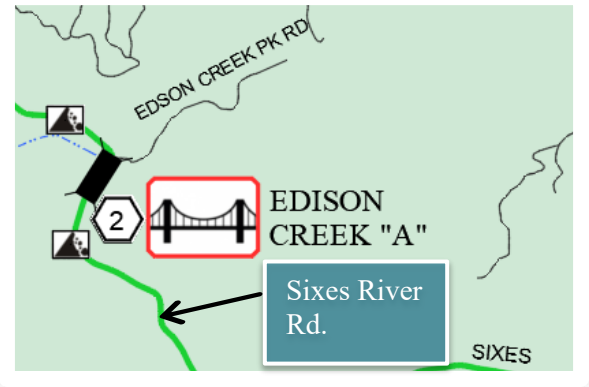


Bridge Status:
Structurally deficient and high priority of replacement. Morrill Bridge is a timber bridge primarily used for logging transport and residents.

Morrill Bridge is currently in the design phase of full removal and replacement scheduled for 2020 to 2021.

TABLE 6.2.2
EDSON CREEK "A" BRIDGE

PROJECT NO.	2	YEAR BUILT:	1952
Project Name:	Edson "A"	**Material:**	Concrete
County No.:	BR04	**2018 Bridge Rating:**	92.3
Total Width (ft):	30.6	**Project Cost:**	$366,000
Total Length (ft):	101	**Funding Source:**	TBD

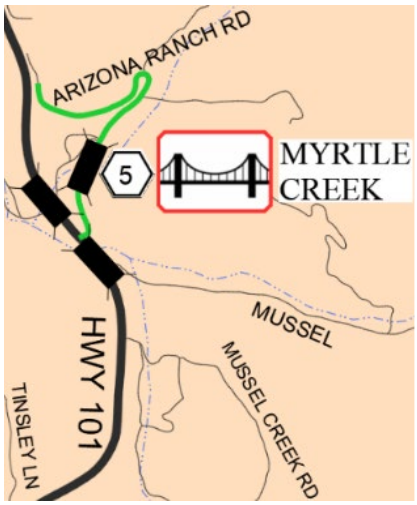


Bridge Status:
The Sixes River Road Edson Creek Bridge is a 100-foot long 3-span reinforced concrete deck girder bridge. The bridge was originally constructed in 1952 and later widened in 1965. A longitudinal expansion joint separates the original and widened portions of the structure into two structurally independent bridges from a vertical load perspective. There are load rating deficiencies on both portions of the structure controlled by positive flexure (bending) of the middle span exterior girders. The bridge is currently restricted to one lane, placing traffic on the widened portion of the bridge in order to minimize the impact of the load rating to commercial traffic.

The proposed recommendation is to strengthen the existing bridge girders in accordance with the *ODOT Bridge Design Manual* as needed for flexure and shear. This bridge is scheduled for improvements in 2021 to 2022 depending on securing external funding.

TABLE 6.2.3
MYRTLE CREEK BRIDGE

PROJECT NO.	3	YEAR BUILT:	1925
Project Name:	Myrtle Creek	**Material:**	Timber
County No.:	BR24	**2017 Bridge Rating:**	34.3
Total Width (ft):	20.5	**Project Cost:**	$3,410,000
Total Length (ft):	81	**Funding Source:**	TBD

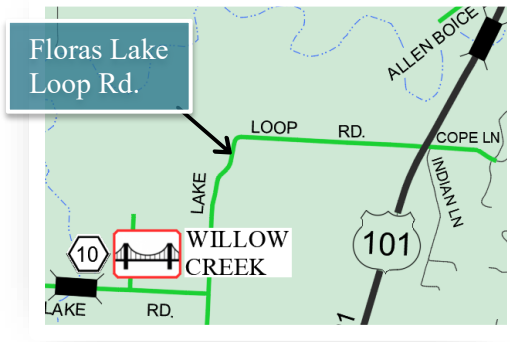


Bridge Status:
The timber structure has a sufficiency rating of 30.3, driven by a low inventory rating of 11.9 tons, a narrow bridge width and substandard bridge rail, transitions, approach rail, and rail ends. This bridge serves the Arizona Beach State Park and Recreation Site and provides sole access to emergency vehicles responding to residences on Arizona Ranch Road. Build-up due to silt and gravel from fish enhancement projects has created capacity concerns with clearance from the bottom of the bridge and the creek bed. The new bridge needs to be elevated and lengthened to expand clearance.

The proposed recommendation is a full bridge replacement with a modern bridge type of sufficient width and clearance, including standard bridge rails and approach rail features. The replacement bridge is assumed to be a single span structure with a width of less than 20 feet so that is not considered a deficient two-lane bridge. This bridge is scheduled for replacement in 2025 to 2026 depending on securing external funding.

TABLE 6.2.4
WILLOW CREEK BRIDGE

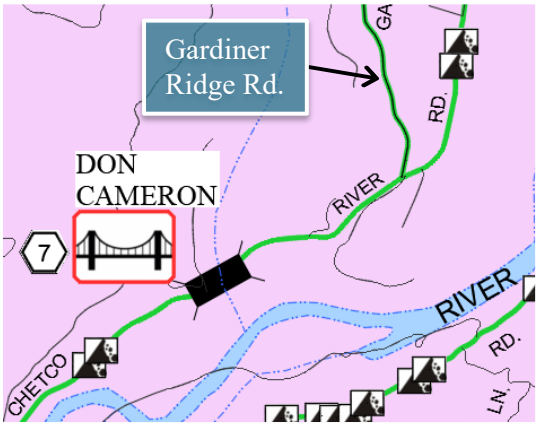
PROJECT NO.	4	YEAR BUILT:	1961
Project Name:	Willow Creek	**Material:**	Timber
County No.:	BR22	**2018 Bridge Rating:**	49.6
Total Width (ft):	24.1	**Project Cost:**	TBD
Total Length (ft):	44	**Funding Source:**	TBD



Bridge Status:
Willow Creek Bridge was considered in fair condition and somewhat better than minimum adequacy to tolerate being left in place as is during previous bridge inspections. The County stated that the bridge has deteriorated since last bridge inspection and anticipates a much lower bridge rating. This bridge is considered priority for replacement.

TABLE 6.2.5
DON CAMERON BRIDGE

PROJECT NO.	5	YEAR BUILT:	1952
Project Name:	Don Cameron	**Material:**	Combination
County No.:	BR17	**2018 Bridge Rating:**	43.1
Total Width (ft):	30.4	**Project Cost:**	TBD
Total Length (ft):	165	**Funding Source:**	TBD



Bridge Status:
The Don Cameron Bridge is in fair to poor condition and meets minimum tolerable limits. All steel members contain red lead primer.

If funds become available minor repairs would improve the Don Cameron Bridge significantly.

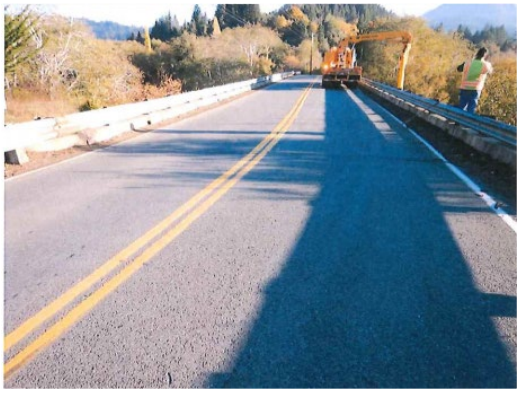
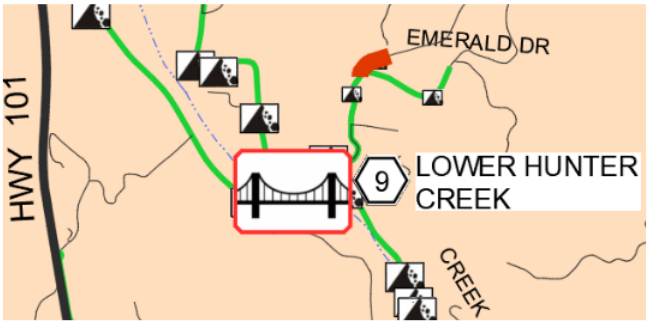


TABLE 6.2.6
LOWER HUNTER CREEK BRIDGE

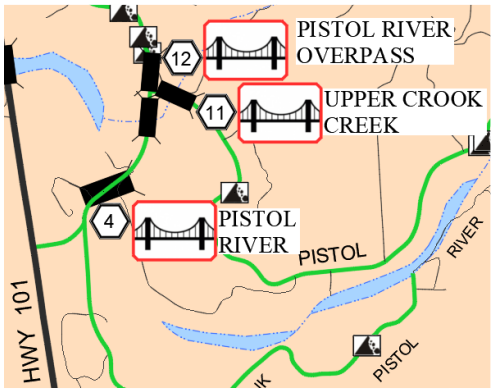
PROJECT NO.	6	YEAR BUILT:	1959
Project Name:	Lower Hunter Creek	**Material:**	Concrete
County No.:	BR11	**2018 Bridge Rating:**	46.3
Total Width (ft):	29	**Project Cost:**	TBD
Total Length (ft):	174	**Funding Source:**	TBD



Bridge Status:
Lower Hunter Creek Bridge is in fair to poor condition and a high priority for corrective action.

TABLE 6.2.7
UPPER CROOK CREEK BRIDGE

PROJECT NO.	7	YEAR BUILT:	1959
Project Name:	Upper Crook Creek	**Material:**	Combination
County No.:	BR16	**2017 Bridge Rating:**	70.6
Total Width (ft):	29.7	**Project Cost:**	TBD
Total Length (ft):	45	**Funding Source:**	TBD

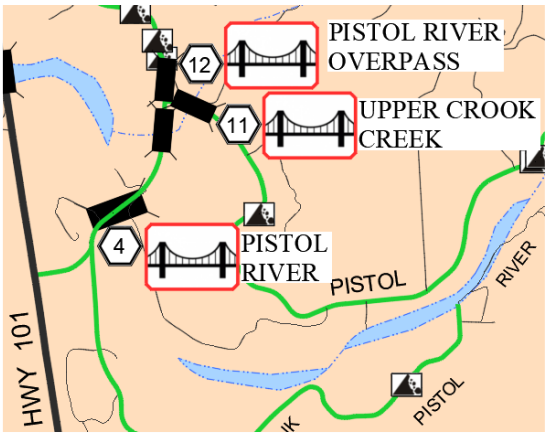


Bridge Status:
Upper Crook Creek Bridge is in good condition.

Although the bridge structure is in good condition, there is very low clearance between the bottom of the bridge and creek bed. This location has been experiencing buildup of silt and gravel from upstream salmon habitat projects. The buildup is causing capacity concerns, and excavating is not an option due to regulatory requirements. The bridge needs to be elevated and lengthened to accommodate flow levels.

TABLE 6.2.8
PISTOL RIVER OVERPASS

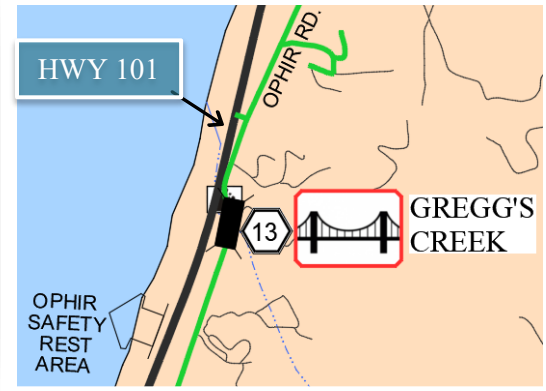
PROJECT NO.	8	YEAR BUILT:	N/A
Project Name:	Pistol River Overpass	**Material:**	Timber
County No.:	BR28	**Bridge Rating:**	N/A
Total Width (ft):	26	**Project Cost:**	TBD
Total Length (ft):	19	**Funding Source:**	TBD



Bridge Status:
Pistol River Overpass Bridge received a fair condition rating and would benefit from the replacement of damaged/rotten members. The County would like to abandon this bridge and provide current residents with an alternative route to cut costs for bridge maintenance and future repairs.

TABLE 6.2.9
GREGG'S CREEK BRIDGE

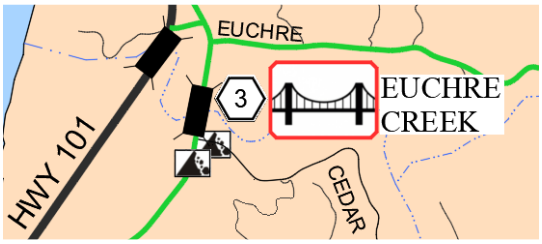
PROJECT NO.	9	YEAR BUILT:	1978
Project Name:	Gregg's Creek	**Material:**	Concrete
County No.:	BR27	**Bridge Rating:**	N/A
Total Width (ft):	28.3	**Project Cost:**	TBD
Total Length (ft):	20	**Funding Source:**	TBD



Bridge Status:
Gregg's Creek Bridge received a high structural inspection rating and would highly benefit from railing replacement, additional approach guardrail, and an upgrade to current safety standards. There is a scheduled install of object markers at all four corners of the structure. Monitoring of the footing, cracks in beams, and erosion is needed.

TABLE 6.2.10
EUCHRE CREEK BRIDGE

PROJECT NO.	10	YEAR BUILT:	1927
Project Name:	Euchre Creek	**Material:**	Concrete
County No.:	BR05	**2018 Bridge Rating:**	23.8
Total Width (ft):	23.7	**Project Cost:**	TBD
Total Length (ft):	91	**Funding Source:**	TBD



Bridge Status:
Euchre Creek Bridge is in critical to serious condition with a sufficiency rating of 23.8 and is a high priority for replacement.

Euchre Creek Bridge has been identified as a historical structure and may be eligible for alternate funding. There are alternate routes available if this bridge were to be closed due to safety concerns and the County could elect to abandon the bridge if repairs are too costly.

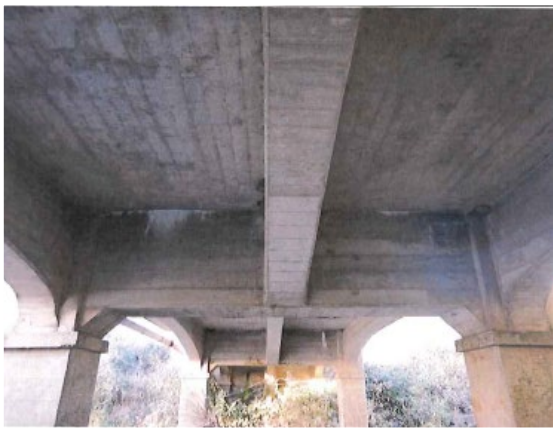
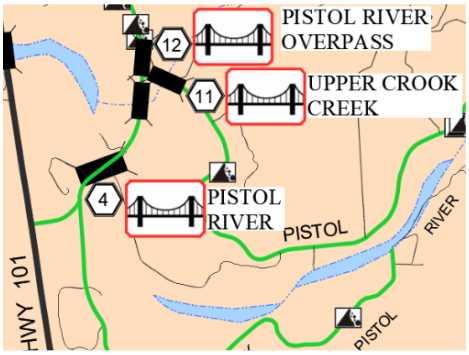


TABLE 6.2.11
PISTOL RIVER BRIDGE

PROJECT NO.	11	YEAR BUILT:	1970
Project Name:	Pistol River	**Material:**	Concrete
County No.:	BR13	**2018 Bridge Rating:**	30.2
Total Width (ft):	30.3	**Project Cost:**	TBD
Total Length (ft):	446	**Funding Source:**	TBD

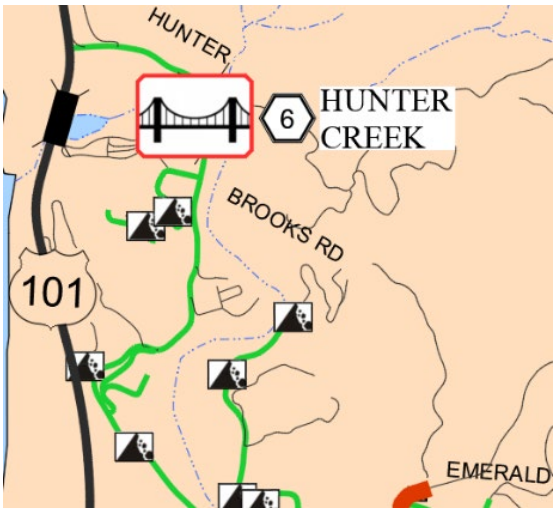


Bridge Status:
Pistol River Bridge was rated as structurally deficient.

This is one of the longest bridges maintained by Curry County. The bridge is located on a looped roadway; because of the looped road, the bridge is not crucial for traffic conveyance. If funding cannot be acquired, an option would be to abandon the bridge.

TABLE 6.2.12
HUNTER CREEK BRIDGE

PROJECT NO.	12	YEAR BUILT:	1928
Project Name:	Hunter Creek	**Material:**	Concrete
County No.:	BR10	**2018 Bridge Rating:**	37.8
Total Width (ft):	25.1	**Project Cost:**	TBD
Total Length (ft):	207	**Funding Source:**	TBD



Bridge Status:
Hunter Creek Bridge is in serious condition, basically intolerable, and a high priority for corrective action.

This bridge is also located on a looped roadway and abandoning the structure may be an option if funding cannot be secured.

SECTION 7:

RANK OF CAPITAL IMPROVEMENTS

SECTION 7: **RANK OF CAPITAL IMPROVEMENTS**

7.1 Ranking Roadway Improvement Projects

The roadway construction projects or improvement projects were ranked by Curry County Road Department Staff based upon safety concerns, deficiencies, the extent of use, and future trends. The construction improvement projects listed in Table 7.1.1 incorporate an assortment of construction repair projects. The projects often include repairs ranging from fixing potholes to major slide repairs. Many of the projects also include recommendations for overlays and chip seal to further improve the ride quality and pavement preservation of the roadway. For a detailed analysis of each project refer to Section 6.

The numbering of the projects does not represent the order for which the projects are prioritized to be constructed. Non-emergency projects should be completed if other construction or maintenance work is conducted in a project area or if funding becomes available.

Table 7.1.1 lists all thirty-nine roadway capital improvement projects in order of rank by the County.

TABLE 7.1.1
ROADWAY IMPROVEMENT PROJECTS IN ORDER OF RANK

Project No.	Roadway Name	Milepost	Road Rating	Total Width	Average Daily Traffic
1	Gardner Ridge Rd.	8.1	4.0 - Good	21'	47
2	Langlois Mtn. Rd.	5.7	3.5 - Fair +	18'	111
3	Langlois Mtn. Rd.	0 to 9.53	3.0 - Fair	22'	111
4	Nicholson Dr.	0 to 0.18	1.5 - Poor +	19'	123
5	Chapman Ln.	0 to 0.17	3.0 - Fair	20'	469
6	Cedar Valley & McKinnon Dr.	N/A	3.5 - Fair +	23'	176
7	Old County Rd.	0.88 to 2.92	3.0 - Fair	19'	241
8	Wollam Rd.	0 to 0.11	3.0 - Fair	23'	227
9	Hensley Hill Rd.	0.24 to 1.12	3.0 - Fair	23'	208
10	Bayview Dr.	0 to 0.11	3.0 - Fair	28'	N/A
11	Hillside Ter.	0.1 to 0.27	2.0 - Poor	10'	N/A
12	Crestline Loop	0 to 0.25	2.0 - Poor	20'	136
13	Titus Ln.	0 to 0.13	3.0 - Fair	20'	139
14	Knapp Rd.	0 to 0.35	3.0 - Fair	24'	130
15	Pacific Crest Dr.	0 to 0.27	3.0 - Fair	21'	75
16	McKenzie Rd.	0 to 0.48	3.0 - Fair	22'	61
17	Stonecypher Rd.	0 to 0.3	3.0 - Fair	21'	55
18	Old Coast Rd.	0.74 to 2.55	3.0 - Fair	16'	49
19	Old Coast Rd.	4.35 to 4.59	3.0 - Fair	12'	28
20	Floras Creek Rd.	2.9	3.0 - Fair	13'	N/A
21	Floras Creek Rd.	2.7	3.0 - Fair	22'	N/A
22	Floras Creek Rd.	3.96	3.0 - Fair	22'	38
23	Floras Creek Rd.	3.31	3.0 - Fair	13'	38
24	Floras Creek Rd.	2.61 to 5.18	3.0 – Fair	22'	38

Project No.	Roadway Name	Milepost	Road Rating	Total Width	Average Daily Traffic
25	Pacific View Dr.	0 to 0.36	3.0 - Fair	21'	27
26	County Shop Rd.	0 to 0.23	3.0 - Fair	24'	23
27	Azalea Ln.	0 to 0.08	1.0 - Very Poor	12'	N/A
28	Demoss Rd.	0 to 0.16	2.5 – Poor +	20'	197
29	Gowman Ln.	0 to 0.19	3.0 - Fair	21'	128
30	Grizzly Mountain Rd.	0.39 to 1.34	2.5 – Poor +	14'	N/A
31	Emerald Dr.	0 to 0.09	3.0 – Fair	20'	N/A
32	Fairgrounds Rd.	0.09 to 0.28	2.0 - Poor	Varies	N/A
33	Lower Harbor Rd.	0.17 to 0.96	5.0 -Very Good	38'	3,748
34	Agness-Illahe Rd.	6.61 to 7.55	3.0 - Fair	10'	N/A
35	Noble Dr.	0.67 to 0.83	1.0 - Very Poor	10'	N/A
36	Drifwood Dr., Azalea Ln., & Iris St.	0 to 0.31	3.0 - Fair	32'	N/A
37	Lower Harbor and Shopping Center Intersection	0.68	5.0-Very Good	38’	3,748
38	Lower Harbor and Commercial Intersection	0.12	5.0-Very Good	38’	3,748
39	Lakeshore Dr. Turnaround	0.37	4.0 - Good	22’	61

7.2 Ranking Bridge Improvement Projects

The National Bridge Inventory System, bridge location, and Oregon Department of Transportation (ODOT) inspection data were all utilized in developing the following ranking seen in Table 7.2.1. Project rankings were ultimately based on the level of structural dilapidation the bridge is experiencing and the dependency on the bridge for conveying traffic. Some of the seemingly irregular projects listed below are due to their overall evaluation or their location. Projects such as Edson “A” Bridge received a sufficiency rating of 92.3. This implies that the bridge is in very good condition, yet it is the second-highest ranking for bridge improvements. Edson “A” received a very high structural evaluation, but the deck geometry proved to be a major concern. As loads (vehicles) travel across the bridge the weight of the vehicle is not being conveyed properly into the supports. This is due to the “geometry” of the bridge.

All bridge improvement projects are costly and will depend on outside funding. If funding is not acquired bridges such as Euchre Creek, Pistol River, and Hunter Creek could be abandoned because of their location on looped roadways. A looped roadway means all connecting roads can be accessed using alternate routes. Although some of the bridges have a low rating they are not necessary for traffic conveyance making permanent closure a viable option. Further evaluation of all bridges is needed to determine if they can be repaired. By completing the repairs, bridges can be maintained instead of requiring replacement or abandonment.

Table 7.2.1 lists all twelve bridge improvement projects in order of rank by the County.

TABLE 7.2.1
BRIDGE IMPROVEMENT PROJECTS IN ORDER OF RANK

Project No.	Bridge Name	County No.	Date Constructed	Sufficiency Rating	Length (ft)	Width (ft)
1	Morrill Bridge	BR03	1990	18.4	84	17.9
2	Edson "A"	BR04	1952	92.3	101	30.6
3	Myrtle Creek	BR24	1925	34.3	81	20.5
4	Willow Creek	BR22	1961	49.6	44	24.1
5	Don Cameron	BR17	1952	43.1	165	30.4
6	Lower Hunter	BR11	1959	46.3	174	29
7	Upper Crook Creek	BR16	1959	70.6	45	29.7
8	Pistol Overpass	BR28	N/A	N/A	19	26
9	Gregg's Creek	BR27	1978	N/A	20	28.3
10	Euchre Creek	BR05	1927	23.8	91	23.7
11	Pistol River	BR13	1970	30.2	446	30.3
12	Hunter Creek	BR10	1928	37.8	207	25.1

SECTION 8:

FINANCING

SECTION 8: **FINANCING**

8.1 Annual Road Department Budget

Funding for the Road Department is constitutionally and statutorily restricted per 16 US Code 500, Oregon Constitution Article IX, Section 3a. Oregon Revised Statute (ORS) 294.060 and ORS 368.705. All County Road Funds come from dedicated sources as described above and cannot be used for non-road purposes.

In accordance with ORS 368.705, the County Road Fund must be used in establishing, laying out, opening, surveying, altering, improving, constructing, maintaining, and repairing County roads and bridges. Curry County is one of seven Oregon counties that were forced to allow County law enforcement access to County Road Fund money for Sheriff's patrol of County roads. The County receives a portion of the Oregon State Highway Fund, as previously described. The returns go into the County Road Fund.

The County Road Fund also includes a bike and footpath fund which represents one percent of the funds received by the County Road Fund each year from the State Highway Fund, which must be spent on footpaths and bicycle lanes per ORS 366.514. The bike and footpath fund is constitutionally and statutorily restricted per Oregon Constitution Article IX, Section 3a, and ORS 366.514. The funds can only be used for work associated with footpaths and bicycle lanes.

Curry County Road Department receives funding from several resources that make up the total County Road Fund. The categories for the Capital Improvement Plan (CIP) were divided into eight categories: State Motor Vehicle Fuel Tax, Surface Transporation Program (STP) Fund Exchange, Secure Rural Schools (SRS) Funding, Total IGS / Shop Revenue, Equipment Reserve Fund, Reserve Fund Interest, External Funds, and Contingent upon Funding. A summary of each categories is provided below.

State Motor Vehicle Fuel Tax

Curry County receives revenues from the Oregon State Highway Fund annually which is generated from a combination of state motor fuel taxes, vehicle licensing, registration fees, and weight-mile tax assessed on trucks. The amount Curry County receives from the Oregon State Highway Fund varies annually. The CIP uses $2.157 million annually derived from the fiscal year of 2020 to 2021. Projections for this fund are difficult to predict and will fluctuate over the next six years because of the unreliability of fuel tax revenue, increased fuel efficiency, and use of alternative fuels.

Surface Transporation Program (STP) Fund Exchange

The Federal Fund Exchange Program managed by the ODOT allows local public agencies to exchange all or some of their Federal STP dollars for Oregon State Highway Fund dollars. Federal STP Funds can be exchanged for state dollars at a rate of 0.94 per 1.00 dollar of federal funds. Agencies can only exchange their Federal STP Funds allocated from the Association of Oregon Counties and League of Oregon Cities agreement. They are not eligible to exchange other federal funds they may have access to through other processes and programs. Federal funds for any projects outside of bridges can utilize the fund exchange program, ultimately decreasing the number of entities involved in the project; lowering the overall project costs and time.

The STP Fund Exchange allows Curry County flexibility in their projects. The amount Curry County receives from the STP Fund Exchange varies annually. The CIP uses $180,000 annually derived from the fiscal year of 2020 to 2021.

Secure Rural Schools (SRS) Funding

The primary source of revenues for the Curry County Road Department Reserve Fund used to be provided by US Forest Service Reciepts. The US Forest Service shared twenty-five percent of the timber harvesting receipts with counties containing large areas of federal land. By law it was required to dedicate seventy-five percent of share to roads and twenty-five percent to schools. This resource historically fluctuated according to the status of the County's timber based economy. US Forest Service Receipts were significant when the Road Reserve Fund was first established, but is no longer a source of revenue due to the reduction in forestry practices and elimination of the program.

The Secure Rural Schools and Community Self-Determination Act of 2000 (SRS) Act was enacted to provide five years of transitional assistance to rural counties affected by the decline in revenue from timber harvests to forest lands. Aside from the first five years of the program, funds were never adequate to fund the road department. Congress has been passing extensions and the County has received variable funding from this source over the years. The program expired in September 2020.

Curry County received $1.062 million SRS revenue sharing payments in the fiscal year of 2020 to 2021. The current SRS program expired in September 2021. Counties and school districts will receive one more payment in April of year 2021. If Congress does not reauthirze the program for two more years then rural counties and school districts will no longer receive SRS funds. While this fund may be reauthorized, no revenue is budgeted beyond the fiscal year of 2020 to 2021.

Total IGS / Shop Revenue

Total IGS and Shop Revenue includes reimbursement funds from bike and footpaths, towers, road vehicle services, general services, as well as miscellaneous shop revenues. The County is reimbursed $164,250 annually for these reimbursement funds, but this may vary by year.

Equipment Reserve Fund

The Curry County Road Department is currently working on developing an Equipment Reserve Fund. The goal of the Equipment Reserve Fund would be for the County to allocate funding intended for purchasing or replacing heavy equipment. The Equipment Reserve Fund is expected to utilize $4.68 million out of the Reserve Fund over seven years. The Equipment Reserve Fund, if spent as scheduled, will be exhausted the fiscal year of 2026 to 2027 and will require reevaluation at that time.

Reserve Fund Interest

The Reserve Fund & Equipment Reserve Fund collects an interest rate of 0.06 percent each year. As the total County Road Funds decreases, the Reserve Funds interest will decrease annually until the Reserve Funds are exhausted.

External Funds

Capital improvement projects not covered within the County's budget will require external funding. External funding consists of any funding outside the County Road Fund, including state and federal funds. External funds secured for current and future projects are included in this category.

Contingent on Funding

Capital improvement projects not covered within the County's annual budget are considered contingent on funding. The County can only pursue contingent projects if funding is secured. Contingent projects

were added to the CIP schedule in Section 9 in anticipation that the County will pursue and secure outside funding required for construction projects or studies. Contingent projects, including bridge replacements or major road improvements, rely on outside funding to generate the capital funds needed for these improvements. Funds received outside annual County Reserve Funds, such as the Statewide Federal Emergency Management Agency (FEMA), Federal Land Access Program (FLAP Grant), or other sources listed in Section 8.3 fall within this category.

The projected annual budget fluctuates based on the County's variable funding sources. Specific funding sources are provided in Table 8.1.1. All funds and rates were determined using the fiscal year of 2020 to 2021 with no inflation. See Section 5.4 for recommended adjustments for inflation.

TABLE 8.1.1
ANNUAL ROAD DEPARTMENT BUDGET

CATEGORIES	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026
State Motor Vehicle Fuel Tax	$2,157,000	$2,157,000	$2,157,000	$2,157,000	$2,157,000	$2,157,000
STP Fund Exchange	$180,000	$180,000	$180,000	$180,000	$180,000	$180,000
SRS Funding	$1,062,000	$0	$0	$0	$0	$0
Total IGS/Shop Revenue	$164,250	$164,250	$164,250	$164,250	$164,250	$164,250
Equipment Reserve Fund	$680,000	$890,000	$680,000	$620,000	$630,000	$610,000
Reserve Fund Interest	$148,152	$129,457	$109,776	$95,568	$59,919	$54,945
External Funds	$3,072,225	$0	$3,190,000	$0	$0	$0
Contingent on Funding	$0	$436,000	$0	$370,000	$100,000	$3,410,000
Total County Road Funds	**$7,463,627**	**$3,956,707**	**$6,481,026**	**$3,586,818**	**$3,291,169**	**$6,576,195**

8.2 Road Reserve Fund

The Road Reserve Fund was established by resolution of the Curry County Board of Commissioners in June of 1988. The primary objective of the resolution was to provide the financial resources to implement a Countywide road improvement plan and stabilize County Road Funds.

The total amount of County Road Funds does not cover annual expenses and depends heavily on the Road Reserve Fund. The Road Reserve Fund is a limited resource that has been used each year for the completion of essential projects. The pending exhaustion of this resource emphasizes the need for securing external funding and maintaining a Road Reserve Fund for future emergency projects.

The Road Reserve Fund has a current value of $25.4 million. The Equipment Reserve Fund will utilize $4.68 million from the Road Reserve Fund towards purchasing equipment. The remaining amount in the reserve is $20.7 million after the reallocation of funds.

8.3 Funding Sources

Curry County's budget opportunities substantially change with the approval of grants and outside funding. Repairs on the bridges alone would not be possible without external assistance. Curry County is receiving aid for the fiscal years of 2020 and 2021. It is essential to keep up to date with applications for future programs to help maintain a safe and reliable road system.

The following includes a brief description of programs that may represent potential funding options for improvement projects.

Local Programs

There is insufficient funding for maintaining all of the roads within the County, based upon the limited State Highway Funds and the number of roads already within the County's area of responsibility. For this reason, many counties are encouraging or implementing local programs such as Special Road Districts, Local Improvement Districts, or Transportation System Development Charges to establish long term upkeep for local access roads.

Special Districts

Special Districts can be formed to provide street lighting, fire protection, landscape, and road maintenance services. Special Districts are created when residents of an area desire a level of service beyond what the County normally provides. Property owners define the desired level of service, and then assess themselves to pay for the services. Developing Special Road Districts is a long-term solution for maintaining local access roads.

Under ORS 371.305-371.385, property owners on contiguous County roads may petition to form a Special Road District where property taxes are collected to pay for road repair. A Special Road District has a three-member board appointed by the Board of County Commissioners or elected by the district to manage and approve road projects.

Local Improvement Districts (LID)

Under ORS 371.605-371.660, landowners can petition the County to create a Local Improvement District (LID) and agree to pay the cost of the road improvement in a lump sum or over time. The petition needs signatures from sixty percent of landowners representing at least sixty percent of the total land area abutting the road. Landowners typically enter into LIDs because they see economic advantage to the improvements. The LIDs can be implemented to fund new connector roads that will benefit one or more groups of landowners at a higher rate than the County as a whole. The LIDs are beneficial to improve local roadways to County standards. The LIDs generally are limited geographically, but can be matched with other funds where a project has a system wide benefit. The formation of a LID is governed by state law and local jurisdictional development codes. Revenues can only be used to fund new capital improvement projects and not for maintenance expenses. Revenues can be combined with other revenue sources.

Transportation System Development Charges (SDC)

Transportation System Development Charges (SDC) are one time assessments on new developments based on the number of vehicles trips the developments are forecast to generate. The cost of increased capacity road projects are spread equally to new development because new and expanding developments

rely on improvements to the road network provided through the County's capital improvement program. The funds are dedicated to projects that improve capacity, may not be used for maintenance projects, and are restricted to projects on an adopted list within a geographic area.

Improved capacity can include operational efficiencies, for example signalization, that increase the number of travelers to accommodate the system or add roadway miles.

Federal and State Programs

It is not possible to finance Countywide improvements solely on grants and outside funding programs. One or more grant programs, with local funding match is typically necessary to generate necessary capital funds for major road or bridge improvements. State and federal programs need to be based on a clear understanding of the program and the selection of program that matches the intended project. The CIP provides basic planning and analysis required to facilitate construction of projects.

Statewide Transportation Improvement Program (STIP)

The Statewide Transportation Improvement Program (STIP) is Oregon's four-year transportation capital improvement program. The STIP identifies the funding for, and scheduling of, transportation projects and programs on federal, state, city and county transportation systems, multimodal projects (highway, passenger rail, freight, public transit, bicycle and pedestrian) and projects in the National Parks, National Forests and Indian tribal lands.

The STIP includes a process for identifying projects that receive federal funds as well as a portion of Oregon State Highway Fund. The current STIP process divides funding into the two main categories of Enhance and Fix-it.

Enhance
The enhance program consists of projects to enhance, expand or improve the transportation system. Eligible project activities include: bicycle and/or pedestrian facilities; Development STIP (D-STIP); modernization projects that add capacity to the system; most projects previously eligible for Transportation Enhancement Funds; projects eligible for Flex Funds; protective right-of-way purchases; public transportation; safe routes to schools; scenic byways; transportation alternatives, and Transportation Demand Management (TDM).

Fix-it
Fix-it includes all the capital funding categories that maintain or fix the Oregon Department of Transportation's (ODOT) portion of the transportation system. Fix-it does not include non-capital maintenance and operations programs because they are not included in the STIP.

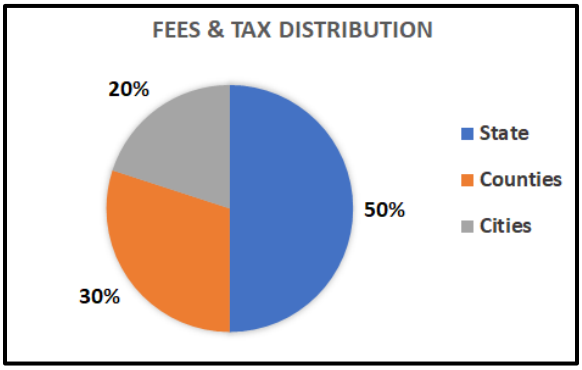
Many bridge projects are funded through the STIP program.

State Highway Fund

The major source of funding for statewide transportation capital projects is from the Oregon State Highway Fund. Oregon State Highway Fund revenues in the state have several major sources: motor vehicle registration and title fees, driver's license fees, motor vehicle fuel taxes, and weight-mile taxes.

The fees and taxes collected are distributed to local government agencies after debt servicing and are based upon applicable ORS sections. Revenues from tax rates are shared as shown in Figure 8.3.1. Improved fuel efficiency could reduce gas tax revenues.

FIGURE 8.3.1
OREGON STATE HIGHWAY FUND



Oregon Pedestrian and Bicycle Program

The Oregon Pedestrian and Bicycle Program is based around a requirement in ORS 366.514 which mandates at least one percent of the Highway Fund received by ODOT, counties, and cities be expended for the development of footpaths and bikeways. The ODOT administers the bicycle and pedestrian funds, handles bikeway planning, design, engineering, construction, and provides technical assistance and advice to local governments concerning bikeways.

Connect Oregon

Connect Oregon is a lottery bond-based initiative to invest in air, rail, marine, transit, bicycle, and pedestrian infrastructure to ensure Oregon's transportation system is strong, diverse and efficient. Connect Oregon projects are eligible for up to eighty percent of project costs for grants and one hundred percent for loans. A minimum of twenty percent cash match is required from the recipient for all grant funded projects.

Projects eligible for funding from state fuel tax revenues are not eligible. If a highway or public road element is essential to complete the functioning of the proposed project, applicants are encouraged to work with their ODOT region, city or county to identify the necessary funding sources.

The previous focus on air, rail, marine and transit projects limited the 20-year Transportation Safety Planning (TSP) projects appropriate for funding from this source. With the addition of active transportation projects, this may be an appropriate TSP funding source in the future.

Immediate Opportunity Funds (IOF)

The Immediate Opportunity Funds (IOF) supports primary economic development in Oregon through construction and improvement of streets and roads. The 1987 Legislature created state funding for immediate economic opportunities with certain motor vehicle gas tax increases. Access to this fund is discretionary and the fund may only be used when other sources of financial support are unavailable or insufficient. The IOF is not a replacement or substitute for other funding sources.

The IOF is designed to meet the following objectives:

- Provide needed street or road improvements to influence the location, relocation or retention of a firm in Oregon.

- Provide procedures and funds for the Oregon Transportation Commission (OTC) to respond quickly to economic development opportunities.

- Provide criteria and procedures for the Business Oregon, other agencies, local governments and the private sector to work with ODOT in providing road improvements needed to ensure specific job development opportunities for Oregon, or to revitalize business or industrial centers.

The use of the IOF is limited to:

- Type A: Specific economic development projects that affirm job retention and job creation opportunities.

- Type B: Revitalization of business or industrial centers to support economic development.

- Type C: Preparation of Oregon Certified Project-Ready Industrial Sites.

Special Public Works Fund (SPWF)

The Special Public Works Fund (SPWF) provides funds for publicly owned facilities that support economic and community development in Oregon. Funds are available to public entities for: planning, designing, purchasing, improving and constructing publicly owned facilities, replacing publicly owned essential community facilities, and emergency projects as a result of a disaster.

Federal Highway Trust Fund

Revenues for the Federal Highway Trust Fund originate from motor vehicle fuel taxes, sales taxes for heavy trucks and trailers, tire taxes, and annual heavy truck use taxes. This fund is allocated to individual states on an annual basis. Revenues from this fund are used by the state, counties, and cities and must be matched with state and local funds.

Federal Lands Access Program

The Federal Lands Access Program (FLAP Grant) was created by Moving Ahead for Progress in the 21st Century Act (MAP-21) to improve access to federal lands. The program is directed towards public highways, roads, bridges, trails and transit systems that are under state, county, town, township, tribal, municipal or local government jurisdiction or maintenance and provide access to federal lands. The following activities are eligible for consideration:

- Preventive maintenance, rehabilitation, restoration, construction and reconstruction.

- Adjacent vehicular parking areas.

- Acquisition of necessary scenic easements and scenic or historic sites.

- Provisions for pedestrians and bicycles.

- Environmental mitigation in or adjacent to federal land to improve public safety and reduce vehicle caused wildlife mortality while maintaining habitat connectivity.

- Construction and reconstruction of roadside rest areas, including sanitary and water facilities.

- Operation and maintenance of transit facilities.

Proposed projects must be located on a public highway, road, bridge, trail or transit system that is located on, is adjacent to, or provides access to federal lands for which title or maintenance responsibility is vested in a state, county, town, township, tribal, municipal or local government.

Highway Bridge Replacement and Rehabilitation Program (HBRR)

The Highway Bridge Replacement and Rehabilitation Program (HBRR) provides funds to assist the states in their programs to replace or rehabilitate deficient highway bridges and to seismic retrofit bridges located on any public road. Placement and construction of new bridges are not eligible for funding under this program. Program funds are currently distributed through the Statewide Transportation Improvement Program (STIP) under "Bridge Replacement and Rehabilitation". These funds are distributed according to the Unified Bridge Program, a rating system that indicates the condition and traffic level on each bridge in the state.

Emergency Funding Programs

The following funds are available for some emergency related projects. Emergency funds should never be considered a reliable source for funding projects.

Federal Emergency Management Agency (FEMA)

Federal Emergency Management Agency (FEMA) grant funds are available for pre and post emergency or disaster related projects. These funds support critical recovery initiatives, innovative research and many other programs. Grants are the principal funding mechanism FEMA uses to commit and award federal funding to eligible state, local, tribal, territorial, certain private non-profits, individuals and institutions of higher learning.

FHWA Emergency Relief Program

Congress authorized in Title 23, United States Code, Section 125, a special program from the Highway Trust Fund for the repair or reconstruction of federal aid for highways and roads on federal lands which have suffered serious damage as a result of natural disasters or catastrophic failures from an external cause. The FHWA program, commonly referred to as the Emergency Relief (ER) Program, supplements the commitment of resources by states, their political subdivisions, or other federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

The applicability of the ER program to a natural disaster is based on the extent and intensity of the disaster. Damage to highways must be severe, occur over a wide area, and result in unusually high expenses to the highway agency. Applicability of ER to catastrophic failure due to an external cause is based on the criteria that the failure was not the result of an inherent flaw in the facility but was sudden, caused a disastrous impact on transportation services, and resulted in unusually high expenses to the highway agency.

Other Possible Funding Programs

Many of the grant and outside funding programs described below may not apply to the improvements outlined in the CIP, but may represent viable funding options for specific improvements.

Urban Renewal or Tax Increment Financing (TIF)

Urban Renewal raises money for public improvements through Tax Increment Financing (TIF) in blighted areas. Local investments focus on creating jobs, helping businesses, improving communities and increasing the tax base to result in long-term financial stability for local service providers and property owners. The use of funds from urban renewal districts is customized to meet the needs of the approved plan for the urban renewal area.

Expenditures are restricted to making improvements within the geographic limits of the urban renewal area in which the funds were raised; and focus on funding infrastructure consistent with the adopted urban renewal plan. Urban renewal frequently provides matching funds for money from federal, state, regional and other local sources.

Taxes

Many local taxes can be used as a source of funding for transportation related projects or maintenance of roads. The following includes taxes that may represent potential funding options for improvement projects or maintenance.

Gas Tax
Local gas taxes could be assessed at the pump and used as a source of funding for the County Road Fund.

Hotel or Lodging Tax
Curry County could impose a local hotel or lodging tax to dedicate revenue to the County Road Fund.

Property Tax
Local property taxes could be used as a source of revenue for the County Road Fund.

Build Grant

The Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grant program provides a unique opportunity for the ODOT to invest in road, rail, transit and port projects that promise to achieve national objectives. Previously known as Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants, Congress has dedicated nearly $7.9 billion for eleven rounds of National Infrastructure Investments to fund projects that have a significant local or regional impact.

Oregon Watershed Enhancement Board (OWEB)

The Oregon Watershed Enhancement Board (OWEB) is a state agency that provides grants to help Oregonians take care of local streams, rivers, wetlands and natural areas. Community members and landowners use scientific criteria to decide jointly what needs to be done to conserve and improve rivers and natural habitat in the places where they live. The OWEB grants are funded from Oregon Lottery, federal dollars, and salmon license plates revenue.

The OWEB will be accepting applications for restoration, technical assistance and land acquisition. The grants support voluntary efforts by Oregonians to protect and restore healthy watersheds, including actions in support of the Oregon Plan for Salmon and Watersheds, and the Oregon Conservation Strategy.

National Fish Passage Program

The US Fish and Wildlife Service (USFWS) National Fish Passage Program is a voluntary, non-regulatory conservation assistance program that provides financial and technical support to remove or bypass artificial barriers that impede the movement of fish and other aquatic species and contribute to their decline. The program implements fish passage improvement-based, cost shared projects to protect, restore or enhance habitats that support fish and other aquatic species and their populations. All or a portion of project funds may be transferred to partner organizations through cooperative agreements if the USFWS lacks the capability to implement a project.

Fish America Foundation

Fish America, in partnership with the National Oceanic and Atmospheric Administration (NOAA) Restoration Center, awards grants to local communities and government agencies to restore habitat for marine and anadromous fish species. Successful proposals have community-based restoration efforts with outreach to the local communities. The grants are small, but help with bridge scour projects.

8.4 Summary

The declining trend in revenue is inadequate to support Curry County's road preservation, maintenance, and improvement needs. The depleted revenue will eventually compromise the County's ability to extend the life of its existing assets to avoid costly improvements in the future. Curry County should continue to aggressively seek grant funding to support planning and design efforts in order to increase the probability of receiving additional funding for project construction. Resources such as state, federal, special districts, local improvement districts, taxes, and other funding programs will be essential to supplement the availability of County Road Funds for continual improvement, maintenance, and preservation of the County's transportation system.

SECTION 9:

CAPITAL IMPROVEMENT PLAN

SECTION 9: **CAPITAL IMPROVEMENT PLAN**

9.1 Total Road Expenses

The Curry County Road Department Reserve Fund is administered by an appointed County Roadmaster with the support of Staff. Engineering technicians, maintenance foremen, mechanics, road crews, shop foremen, and clerical compile the Staff. The Road Department is responsible for maintenance of the County's road system which includes, but is not limited to: design and engineering of road improvements, road surface maintenance, striping, signing, vegetation control, and drainage control.

The Road Department is also responsible for other departments such as general vehicle service, vehicle replacement, roadside improvement, road capital improvement reserve, general fund equipment self-insurance, and road equipment self-insurance.

Expenses were simplified for the Capital Improvement Plan (CIP) and categorized into five categories accounting for total road expenses for the County. Each category incorporates aspects of various projects. A detailed description follows.

Total Personnel Services

Total personnel services include Curry County Road Department's expenses for payroll, administrative fees, and material and services. Total personal services costs the County $2,021,000 annually derived from the fiscal year of 2020 to 2021. This category will vary by year.

Construction

Capital Improvement Plan construction projects require work to be contracted by services outside of Curry County Staff. Construction projects include, but are not limited to: inlays, overlays, road realignments, road widening, reconstruction, slides, spot repairs, sidewalk expansion, bridge repairs, storm drainage, guardrail replacement, striping, tree removal, and structural improvements.

Select roadway and bridge CIP projects require extensive work are summarized in Section 6 with their correlating cost estimates. The CIP projects were analyzed based upon the following: existing County's road rank of "3.0 – Fair" or below, emergency projects, projects identified by County Staff, or receiving a low rank in bridge inspection reports provided by the state. Each project in Section 6, with the exception of several bridge improvements, have cost estimates based on Best Management Practices (BMP) for maintaining or repairing roads and bridges.

Overlays are the most frequently recommended improvements in the Plan. Overlays are beneficial for a wide range of road failings and a cost effective means of improving the longevity of existing roads. Most roads are corrected with an overlay of no less than 2-inches of asphalt. Major damages and future expenditures can be avoided with the resurfacing of roads showing weathering and deterioration. County Staff identified many overlay projects to be scheduled in the Plan.

Annual construction items and their associated costs are included in the construction schedule listed hereafter.

Striping

Striping of roads is contracted and accounts for $250,000 annually. Striping costs consist of $100,000 in contractor fees and $150,000 in materials. Striping consists of repainting center lines or fog lines for miles of roads each year. The County stripes approximately 180 miles of roadway per year.

Tree Removal

The County contracts $15,000 annually for professionals to remove large or dangerous trees near roads that present safety hazards to the public.

Storm Drainage Projects

Storm drainage projects improve the longevity of the roadway and drainage system. The County anticipates contracting $400,000 per year allocated to drainage projects. Future repairs, due to natural events such as storms, flooding, or landslides cannot be predicted and are not scheduled, but could be funded under storm drainage projects.

Guardrail Replacement

There are 42,192 lineal feet of guardrail within Curry County. Seventy five percent or 31,644 lineal feet of the existing guardrail needs to be repaired or replaced to meet current County standards. Guardrail replacement is an important aspect of improving roadway safety. For the next six years, $100,000 annually will be contracted and dedicated to guardrail improvements.

Maintenance

Maintenance involves chip sealing, land acquisition, and other miscellaneous items. The County determines maintenance based on their needs and Staff capabilities. Maintenance is dependent on funding allocation and budget flexibility.

Maintenance is necessary for minimizing future repair projects while being cost effective. The County utilizes the Staff and equipment for chip seal projects; reducing costs for the County to preserve existing roadways.

Land acquisition is necessary for the continued disposal of clean fill. Recommended locations are provided in Section 6 based on accessibility to the County's three regions. Both properties are near main roads and offer a considerable amount of property that can be utilized for years to come. Expansive local sites for storing clean fill will reduce costs for the County. Costs are reduced for hauling clean fill and frequently purchasing land.

Studies

The CIP identifies several planning efforts to provide additional information for capital improvement project needs in specific areas of the County. Future studies are to be undertaken as part of the implementation of the CIP.

Heavy Equipment Replacement

Curry County utilizes their maintenance equipment and has the capability of completing many maintenance related projects. Project completed by County Staff reduces costs for the County and allows for projects to be completed in a timely manner. The cost of equipment repairs and replacement can be seen in the final six year schedule.

Table 9.1.1 lists the anticipated total road expenses for the Curry County Road Department over the next six years. All cost estimates and rates were determined using the fiscal year of 2020 to 2021 with no inflation. See Section 5.4 for recommended adjustments for annual costs and inflation.

TABLE 9.1.1
TOTAL ROAD EXPENSES

CATEGORIES	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026
Total Personnel Services	$2,021,000	$2,021,000	$2,021,000	$2,021,000	$2,021,000	$2,021,000
Construction	$6,269,430	$2,443,900	$5,003,100	$2,631,280	$2,427,550	$4,721,060
Maintenance	$719,000	$808,000	$525,000	$896,000	$691,600	$540,000
Studies	$0	$394,000	$0	$370,000	$100,000	$0
Heavy Equipment Replacement	$680,000	$890,000	$680,000	$620,000	$630,000	$610,000
Total Road Expenses	**$9,689,430**	**$6,556,900**	**$8,229,100**	**$6,538,280**	**$5,870,150**	**$7,892,060**

9.2 Prioritization of the Capital Improvement Plan

To assist the County in planning efforts, the proposed capital improvements have been prioritized into six years of projects. Various factors affect prioritization of the projects within the Plan. Improvements will not be accomplished in the strict order as ranked in Section 7. Projects are scheduled to accommodate these factors briefly described below.

Project Consolidation

Many projects are combined together where similar improvements within the same general location are proposed, regardless of ranking. This is usually the case more often with overlay projects rather than widening or slide repair projects, where project complexity is a factor. Where projects are not accomplished in-house by County Staff, contract preparation costs are also reduced by consolidation.

County Staff Considerations

Since studies, bridges, slide repairs, widening, and to a lesser degree roadway reconstruction, improvements often involve engineering, legal and administrative support work. Such projects are distributed throughout the six years to spread out the work load. Limited time and the number of Staff preclude scheduling many large or complex studies or projects in any given year.

Maintenance Crew Considerations

Most maintenance improvements, such as chip seals will be accomplished by County Road Maintenance Crews. Therefore, applicable projects are typically distributed and completed yearly within a single region. This reduces costs associated with equipment mobilization.

Region and Location Considerations

Most maintenance and construction projects were scheduled within the same region to reduce costs associated with equipment mobilization and manpower utilized. Improvements are also allocated within the six years to minimize traffic impact where one general area is to receive several involved projects.

9.3 Capital Improvement Plan

The CIP schedule is intended to be flexible to allow the County to revise or update the schedule at any time. Factors that could necessitate change include Staff workload, changing traffic conditions, growth patterns, safety concerns, site conditions affecting cost, or funding.

The recommended schedule and associated costs for the next six years are provided hereafter. Detailed descriptions of CIP projects are provided in Section 6. Cost estimates for CIP projects are located in Appendix D.

CIP Schedule for the Fiscal Year 2020 to 2021

Construction Projects

CIP Projects
Projects 1, 2, and 6 are emergency drainage projects designed to repair major roadway damages caused by storms, flooding, landslides, or other natural events. Projects are included for the years of 2020 through 2021 schedule and seventy-five percent of each project is funded by the Federal Emergency Management Authority (FEMA), but future repairs, due to natural events, cannot be predicted and are not scheduled.

Projects 4 and 27 are localized projects on Nicholson Drive and Azalea Lane. Nicholson Drive requires areas of reconstruction and an overlay. Azalea Lane is currently a gravel road that needs to be paved to decrease County maintenance and preserve the life of the road.

Morrill Bridge is the highest priority bridge project in the CIP. The majority of funding for this replacement project is coming from the state.

Curry County Identified Overlay Projects

Overlay projects identified by the County for this fiscal year include Cemetery Loop, Port Orford Loop, Zumwalt Lane, and Cedar Valley Road.

A summary of construction projects and associated costs are provided in Table 9.3.1.

TABLE 9.3.1
FISCAL YEAR 2020 TO 2021 CONSTRUCTION PROJECTS

Project Name	Begin	End	Cost	External Funds	Road Fund
Project No. 1 - Gardner Ridge Rd.at MP 8.1	8.1	8.1	$800,670	$600,502	$200,168
Project No. 2 - Langlois Mtn. Rd. at MP 5.7	5.7	5.7	$324,550	$243,413	$81,137
Project No. 4 - Nicholson Dr.	0	0.18	$110,250	$0	$110,250
Project No. 6 - Cedar Valley & McKinnon	N/A	N/A	$471,080	$353,310	$117,770
Project No. 27 - Azalea Ln.	0	0.08	$87,880	$0	$87,880
Bridge Project No. 1 - Morrill Bridge	N/A	N/A	$2,500,000	$1,875,000	$625,000
Cemetery Loop	0	1.34	$250,000	$0	$250,000
Port Orford Loop	0	0.79	$200,000	$0	$200,000
Zumwalt Ln.	0	0.14	$30,000	$0	$30,000

Project Name	Begin	End	Cost	External Funds	Road Fund
Cedar Valley Rd.	0	4	$730,000	$0	$730,000
Striping	N/A	N/A	$250,000	$0	$250,000
Storm Drainage Projects	N/A	N/A	$400,000	$0	$400,000
Guardrail Replacement	N/A	N/A	$100,000	$0	$100,000
Tree Removal	N/A	N/A	$15,000	$0	$15,000
Total			**$6,269,430**	**$3,072,225**	**$3,197,205**

Maintenance Projects

A summary of the County's chip seal projects and associated costs are provided in Table 9.3.2.

TABLE 9.3.2
FISCAL YEAR 2020 TO 2021 MAINTENANCE PROJECTS

Project Name	Begin	End	Cost	Road Fund
Cedar Valley Rd.	4	8.14	$160,000	$160,000
Hunter Creek Complex	0	0.1	$5,000	$5,000
Hunter Creek Loop	0	1.21	$44,000	$44,000
Hunter Creek Rd.	0	4.91	$200,000	$200,000
Mateer Rd.	0	1.04	$40,000	$40,000
North Bank Rogue River Rd.	2.22	6.66	$170,000	$170,000
South Bank Chetco River Rd.	3.22	6.23	$100,000	$100,000
Total			**$719,000**	**$719,000**

Heavy Equipment Replacement

A summary of the County's proposed heavy equipment purchases is provided in Table 9.3.3.

TABLE 9.3.3
FISCAL YEAR 2020 TO 2021 HEAVY EQUIPMENT REPLACEMENT

Equipment Name	Cost	Equipment Reserve Fund
Cat 314F Wheeled Excavator	$320,000	$320,000
Kenworth 10-12 Yard Dump Truck	$180,000	$180,000
Cat 920 Loader	$180,000	$180,000
Total	**$680,000**	**$680,000**

CIP Schedule for the Fiscal Year 2021 to 2022

Construction Projects

CIP Projects
Projects 5, 12, 13, and 28 all require repairs prior to overlaying the road. Projects 7 and 8 both require subbase investigation and repairs. The repairs are important prior to chip sealing to extend the life of the existing pavement. Project 29 will require full roadway reconstruction.

Edson "A" Bridge is included in the Statewide Transportation Improvement Program (STIP) application for replacement. Funding will need to be secured prior to moving forward with this project.

Curry County Identified Overlay Projects

The overlay projects identified by the County for this fiscal year include West Hoffeldt Lane, Lively Lane, Stafford Road, Museum Road, and Wilderness Road.

A summary of construction projects and associated costs are provided in Table 9.3.4.

TABLE 9.3.4
FISCAL YEAR 2021 TO 2022 CONSTRUCTION PROJECTS

Project Name	Begin	End	Cost	Contingent on Funding	Road Fund
Project No. 5 - Chapman Ln.	0	0.17	$154,590	$0	$154,590
Project No. 7 - Old County Rd.	0.88	2.92	$84,890	$0	$84,890
Project No. 8 - Wollam Rd.	0	0.11	$17,220	$0	$17,220
Project No. 12 - Crestline Loop	0	0.25	$157,580	$0	$157,580
Project No. 13 - Titus Ln.	0	0.13	$86,660	$0	$86,660
Project No. 28 - Demoss Rd.	0	0.16	$116,280	$0	$116,280
Project No. 29 - Gowman Ln.	0	0.19	$320,680	$0	$320,680
Bridge Project No. 2 - Edson "A" Bridge	N/A	N/A	$366,000	$366,000	$0
West Hoffeldt Ln.	0.05	0.37	$135,000	$0	$135,000
Lively Ln.	0	0.17	$90,000	$0	$90,000
Stafford Rd.	0	0.14	$30,000	$0	$30,000
Museum Rd.	0	0.36	$75,000	$0	$75,000
Wilderness Rd.	0	0.2	$45,000	$0	$45,000
Striping	N/A	N/A	$250,000	$0	$250,000
Storm Drainage Projects	N/A	N/A	$400,000	$0	$400,000
Guardrail Replacement	N/A	N/A	$100,000	$0	$100,000
Tree Removal	N/A	N/A	$15,000	$0	$15,000
Total			**$2,443,900**	**$366,000**	**$2,077,900**

Maintenance Projects

A summary of the County's chip seal projects and associated costs are provided in Table 9.3.6. The County also intends to purchase thirty-four acres of land on Airport Road for clean fill disposal and burning debris.

TABLE 9.3.5
FISCAL YEAR 2021 TO 2022 MAINTENANCE PROJECTS

Project Name	Begin	End	Cost	Road Fund
Old County Rd.	0.88	2.92	$55,000	$55,000
Wollam Rd.	0	0.11	$4,000	$4,000
Itzen Dr.	0	0.11	$3,500	$3,500
Kemlin Pl.	0	0.19	$5,500	$5,500
North Bank Chetco River Rd.	0.31	8.06	$290,000	$290,000
North Bank Pistol River Rd.	0	3.85	$140,000	$140,000
Pistol River Loop	0.17	2.3	$70,000	$70,000
South Bank Pistol River Rd.	0	1.34	$40,000	$40,000
Airport Road Land Acquisition	N/A	N/A	$200,000	$200,000
Total			**$808,000**	**$808,000**

Studies

Curry County Storm Drainage Plan
Stormwater is an integral part of the long-term preservation of Curry County's roadways. The steep terrain can result in runoff quickly overwhelming poorly maintained stormwater systems and lead to standing water. The water left on the roads is a major safety concern for drivers and detrimental to the foundational integrity of the road. A comprehensive Storm Drainage Plan is highly recommended and scheduled for the fiscal year of 2020 through 2021. The plan will include the improvement and maintenance of culverts, drains, ditches, and retention areas.

Harbor Hills Storm Drainage Plan
Harbor is the largest unincorporated community within Curry County that has a significant amount of drainage structures. A comprehensive Storm Drainage Plan for the Harbor Hills area is highly recommended and scheduled for the fiscal year of 2020 through 2021. The plan will include the improvement and maintenance of culverts, drains, ditches, and retention areas.

Curry County Tower Facility Plan
The existing Curry County emergency communication towers are the backbone of the radio dispatch system of the Curry County Sheriff, City of Port Orford, City of Gold Beach and Coos Forest Patrol. There are five towers, of which four have onsite generators. The existing 2006 generators are having outages due to new biodiesel fuels gelling up. Changes in the radio frequencies used by the County do not fully reach the entire County. A new facility plan is needed to provide an analysis of how to address the lack of area coverage via new tower sites as well as updating the existing tower facilities.

Heavy Equipment Plan
Curry County's Heavy Equipment Plan includes an inventory of existing equipment, the equipment's current level of operation, and salvage value. A comprehensive equipment replacement plan as well as criteria for replacement will be developed for future equipment purchases. The plan includes recommendations for the resale of under-utilized equipment and reducing unnecessary maintenance.

A summary of studies and associated costs are provided in Table 9.3.6.

TABLE 9.3.6
FISCAL YEAR 2021 TO 2022 STUDIES

Study Name	Cost	Contingent on Funding	Road Fund
Curry County Storm Drainage Plan	$200,000	$0	$200,000
Harbor Hill Storm Drainage Plan	$94,000	$0	$94,000
Curry County Tower Facility Plan	$70,000	$70,000	$0
Heavy Equipment Plan	$30,000	$0	$30,000
Total	**$394,000**	**$70,000**	**$324,000**

Heavy Equipment Replacement

A summary of the County's proposed heavy equipment purchases is provided in Table 9.3.7.

TABLE 9.3.7
FISCAL YEAR 2021 TO 2022 HEAVY EQUIPMENT REPLACEMENT

Equipment Name	Cost	Equipment Reserve Fund
05515 924 Cat Front Loader	$180,000	$180,000
00415 Low Boy Trailer	$80,000	$80,000
03349 Dump Truck with Snow Plow & Sander	$230,000	$230,000
New Vactor Truck	$400,000	$400,000
Total	**$890,000**	**$890,000**

CIP Schedule for the Fiscal Year 2022 to 2023

Construction Projects

Curry County Identified Overlay Projects
Project 11 includes street infrastructure improvements on Hillside Terrace. Project 34 will complete paving in the Agness-Illahe Road area. Overlay projects identified by the County for this fiscal year are Jerry's Flat Road and North Bank Rogue. Jerry's Flat Road will be funded with a Federal Lands Access Program (FLAP Grant).

A summary of construction projects and associated costs are provided in Table 9.3.8.

TABLE 9.3.8
FISCAL YEAR 2022 TO 2023 CONSTRUCTION PROJECTS

Project Name	Begin	End	Cost	External Funds	Road Fund
Project No. 11 - Hillside Ter.	0.1	0.27	$574,260	$0	$574,260
Project No. 34 - Agness-Illahe Rd.	6.61	7.55	$53,840	$0	$53,840
Jerry's Flat Rd.	1.56	9.69	$3,100,000	$2,790,000	$310,000
North Bank Rogue River Rd.	6.66	9.63	$510,000	$0	$510,000
Striping	N/A	N/A	$250,000	$0	$250,000
Storm Drainage Projects	N/A	N/A	$400,000	$0	$400,000
Guardrail Replacement	N/A	N/A	$100,000	$0	$100,000
Tree Removal	N/A	N/A	$15,000	$0	$15,000
Total			**$5,003,100**	**$2,790,000**	**$2,213,100**

Maintenance Projects

The County will be assisting US Forest Service (USFS) with chip sealing 16.21 miles of road within the County on their land. The County will be reimbursed accordingly for labor, materials, and equipment. A summary of the County's chip seal projects and associated costs are provided in Table 9.3.9.

TABLE 9.3.9
FISCAL YEAR 2022 TO 2023 MAINTENANCE PROJECTS

Project Name	Begin	End	Cost	External Funds	Road Fund
Agness Illahe Rd.	6.61	7.55	$30,000	$0	$30,000
Cougar Ln.	0	0.28	$10,000	$0	$10,000
Oak Flat Rd.	0	3.18	$85,000	$0	$85,000
USFS - Bear Camp Road	0	16.21	$400,000	$400,000	$0
Total			**$525,000**	**$400,000**	**$125,000**

Heavy Equipment Replacement

A summary of the County's proposed heavy equipment purchases is provided in Table 9.3.10.

TABLE 9.3.10
FISCAL YEAR 2022 TO 2023 HEAVY EQUIPMENT REPLACEMENT

Equipment Name	Cost	Equipment Reserve Fund
Replace 2018 Chevy 3/4 Ton Double Cab 4X4 with 1 Ton 4X4 Long Bed Crew Cab & Lift Gate	$30,000	$30,000
Roadside Spray Truck	$190,000	$190,000
Cat 926 Loader with Diamond Mower	$260,000	$260,000
06304 Replace 550 Rock Run Truck with De-Ice System & Rock Plow	$100,000	$100,000
62561 Replace 8,000 Gallon Road Oil Tank	$100,000	$100,000
Total	**$680,000**	**$680,000**

CIP Schedule for the Fiscal Year 2023 to 2024

Construction Projects

CIP Projects
For Projects 3 and 24 repairs and chip seal are required to bring the road to very good standards. Project 9 requires repairs, a new curb and gutter, and an overlay. Project 14 proposes drainage improvements and overlay. To ensure roadway stability on Project 16 slide and spot repairs are required prior to chip seal. Project 17 requires repair with an overlay.

Curry County Identified Overlay Projects
Overlay projects identified by the County for this fiscal year include Arizona Street, Paradise Point Road, Lakes End Road, and I Street.

A summary of construction projects and associated costs are provided in Table 9.3.11.

TABLE 9.3.11
FISCAL YEAR 2023 TO 2024 CONSTRUCTION PROJECTS

Project Name	Begin	End	Cost	Road Fund
Project No. 3 - Langlois Mtn. Rd.	0	9.53	$120,870	$120,870
Project No. 9 - Hensley Hill Rd.	0.24	1.12	$527,540	$527,540
Project No. 14 - Knapp Rd.	0	0.35	$251,280	$251,280
Project No. 16 - McKenzie Rd.	0	0.48	$236,130	$236,130
Project No. 17 - Stonecypher Rd.	0	0.3	$110,470	$110,470
Project No. 24 - Floras Creek Rd.	2.61	5.18	$219,990	$219,990
Arizona St.	0	0.78	$140,000	$140,000
Paradise Point Rd.	0	0.94	$180,000	$180,000
Lakes End Rd.	0	0.36	$70,000	$70,000
I St.	0	0.05	$10,000	$10,000

Project Name	Begin	End	Cost	Road Fund
Striping	N/A	N/A	$250,000	$250,000
Storm Drainage Projects	N/A	N/A	$400,000	$400,000
Guardrail Replacement	N/A	N/A	$100,000	$100,000
Tree Removal	N/A	N/A	$15,000	$15,000
Total			**$2,631,280**	**$2,631,280**

Maintenance Projects

A summary of the County's chip seal projects and associated costs are provided in Table 9.3.12.

TABLE 9.3.12
FISCAL YEAR 2023 TO 2024 MAINTENANCE PROJECTS

Project Name	Begin	End	Cost	Road Fund
Langlois Mtn. Rd.	0	9.53	$202,000	$202,000
McKenzie Rd.	0	0.48	$15,000	$15,000
Floras Creek Rd.	2.61	5.18	$119,000	$119,000
Noble Dr.	0	0.68	$20,000	$20,000
Childers Rd.	0	0.27	$9,000	$9,000
Cope Loop	0	0.23	$7,500	$7,500
Floras Lake Loop	0	1.96	$60,000	$60,000
Lakeshore Dr.	0	0.37	$12,000	$12,000
Haga Rd.	0	0.24	$7,500	$7,500
Floras Lake Rd.	0	1.96	$61,000	$61,000
Boice Cope Rd.	0	0.29	$9,500	$9,500
Woodruff Ln.	0	0.12	$4,500	$4,500
Sixes River Rd.	5	10.53	$219,000	$219,000
Grassy Knob Rd.	0	4.21	$150,000	$150,000
Total			**$896,000**	**$896,000**

Studies

Curry County Bridge Resiliency Plan
A Bridge Resiliency Plan will be developed to address potential damages that could occur from seismic activity. The resiliency plan will include recommendations for reinforcing existing structures, design requirements for future bridge structures, and alternate routes in case of emergency closures.

Curry County Transportation System Plan (TSP)
A Transportation System Plan (TSP) describes a transportation system and outlines projects, programs, and policies to meet transportation needs now and in the future based on community aspirations. A TSP typically serves as the transportation component of the local comprehensive plan. Alternate funds may be used to fund TSP projects.

A summary of the studies and associated costs are provided in Table 9.3.13.

TABLE 9.3.13
FISCAL YEAR 2023 TO 2024 STUDIES

Study Name	Cost	Contingent on Funding	Road Fund
Bridge Resiliency Plan	$120,000	$120,000	$0
Transportation System Plan (TSP)	$250,000	$250,000	$0
Total	**$370,000**	**$370,000**	**$0**

Heavy Equipment Replacement

A summary of the County's proposed heavy equipment purchases is provided in Table 9.3.14.

TABLE 9.3.14
FISCAL YEAR 2023 TO 2024 HEAVY EQUIPMENT REPLACEMENT

Equipment Name	Cost	Equipment Reserve Fund
00355 Replace Low Boy Tractor	$130,000	$130,000
06306 Replace 550 Rock Run Truck with Rock Plow	$80,000	$80,000
98413 Replace Belly Dump	$80,000	$80,000
99414 Replace Belly Dump	$80,000	$80,000
Replace 2019 Dodge 4X4 Quad Cabs	$15,000	$15,000
Shop Service Truck	$85,000	$85,000
Storm Line TV Camera System	$150,000	$150,000
Total	**$620,000**	**$620,000**

CIP Schedule for the Fiscal Year 2024 to 2025

Construction Projects

CIP Projects
Project 15 requires Pacific Crest Drive approach to be widened, reconstruction areas, and a chip seal. Projects 18 and 19 need repairs prior to chip sealing the road. Projects 30, 31, and 32 are all located in the Gold Beach area.

Curry County Identified Overlay Projects
Overlay projects identified by the County for this fiscal year include Ponderosa Road, McKinnon Drive, North Bank Rogue River Road, River Way, Curry Street, Vista Loop, and Hummingbird Hill Road.

A summary of construction projects and associated costs are provided in Table 9.3.15.

TABLE 9.3.15
FISCAL YEAR 2024 TO 2025 CONSTRUCTION PROJECTS

Project Name	Begin	End	Cost	Road Fund
Project No. 15 - Pacific Crest Dr.	0	0.27	$155,120	$155,120
Project No. 18 - Old Coast Rd.	0	2.55	$208,900	$208,900
Project No. 19 - Old Coast Rd.	4.35	4.59	$54,650	$54,650
Project No. 30 - Grizzly Mtn. Rd.	0.39	1.34	$315,760	$315,760
Project No. 31 - Emerald Dr.	0	0.09	$199,800	$199,800
Project No. 32 - Fairgrounds Rd.	0.09	0.28	$286,320	$286,320
Ponderosa Rd.	0	0.45	$80,000	$80,000
McKinnon Dr.	0	0.26	$50,000	$50,000
North Bank Rogue River Rd.	9.63	10.81	$210,000	$210,000
River Way	0	0.08	$35,000	$35,000
Curry St.	0	0.05	$20,000	$20,000
Vista Loop	0	0.08	$20,000	$20,000
Hummingbird Hill Rd.	0	0.15	$27,000	$27,000
Striping	N/A	N/A	$250,000	$250,000
Storm Drainage Projects	N/A	N/A	$400,000	$400,000
Guardrail Replacement	N/A	N/A	$100,000	$100,000
Tree Removal	N/A	N/A	$15,000	$15,000
Total			**$2,427,550**	**$2,427,550**

Maintenance Projects

A summary of the County's chip seal projects and associated costs are provided in Table 9.3.16.

TABLE 9.3.16
FISCAL YEAR 2024 TO 2025 MAINTENANCE PROJECTS

Project Name	Begin	End	Cost	Road Fund
Pacific Crest Dr.	0	0.27	$9,000	$9,000
Old Coast Rd.	0	2.55	$115,000	$115,000
Emerald Dr.	0	0.092	$3,000	$3,000
Euchre Creek Rd.	0	1.9	$70,000	$70,000
Arizona Ranch Rd.	0	0.85	$30,000	$30,000
Coy Creek Rd.	0	1.9	$65,000	$65,000
Horizon Dr.	0	0.19	$7,000	$7,000
Humbug Ln.	0	0.1	$3,200	$3,200
Mutts Way	0	0.07	$2,300	$2,300
Miner Dr.	0	0.08	$3,200	$3,200
Sandy Dr.	0	0.38	$13,000	$13,000

Project Name	Begin	End	Cost	Road Fund
Cobblestone Ct.	0	0.04	$1,200	$1,200
Pebble Pl.	0	0.02	$1,000	$1,000
Boulder Pl.	0	0.03	$1,000	$1,000
Agate Pl.	0	0.03	$1,000	$1,000
Jerry's Flat Rd.	0.12	1.55	$80,000	$80,000
Wedderburn Lp.	0.03	0.21	$6,500	$6,500
Edson Creek Rd.	0	2.29	$88,000	$88,000
Hunter Creek Hgts.	0	0.65	$21,000	$21,000
Eggers Rd.	0	1.53	$52,000	$52,000
Cape Ferello Rd.	0	2.6	$90,000	$90,000
Brookside Dr.	0	0.48	$16,000	$16,000
North Brookside Dr.	0	0.14	$5,000	$5,000
Cornett Rd.	0	0.16	$5,200	$5,200
Woodton Ln.	0	0.07	$3,000	$3,000
Total			**$691,600**	**$691,600**

Studies

Curry County Critical Lifeline Transportation Plan
The plan for critical lifeline transportation routes in Curry County establishes a baseline for transportation routes and response in case of a crisis. Maintaining the transportation system is critical for emergency response, access to vital locations, restoration of utilities, and re-establishing industry.

A summary of studies and associated costs are provided in Table 9.3.17.

TABLE 9.3.17
FISCAL YEAR 2024 TO 2025 STUDIES

Study Name	Cost	Contingent on Funding	Road Fund
Critical Lifeline Transportation Plan	$100,000	$100,000	$0
Total	**$100,000**	**$100,000**	**$0**

Heavy Equipment Replacement

A summary of the County's proposed heavy equipment purchases is provided in Table 9.3.18.

TABLE 9.3.18
FISCAL YEAR 2024 TO 2025 HEAVY EQUIPMENT REPLACEMENT

Equipment Name	Cost	Equipment Reserve Fund
01416 Replace Belly Dump	$80,000	$80,000
13307 Replace 550 Rock Run Truck	$80,000	$80,000
Replace 08271 Chevrolet Extended Cab Pickup	$25,000	$25,000
Replace 17277 Ram 4X2 Crew Cab with 1 Ton 4X4 Dually "Utility Boxes, Lift Gate and Fuel Tank"	$90,000	$90,000
Replace 17278 Ram 4X2 Crew Cab with 1 Ton 4X4 Dually "Utility Boxes, Lift Gate and Fuel Tank"	$90,000	$90,000
Add Road Widener to fleet	$140,000	$140,000
Cat CS34 Compactor-Steel Drum Rubber Tire Roller	$85,000	$85,000
Replace 89604 Gas Air Compressor with Diesel Compressor with Jack Hammers & Clay Spade	$40,000	$40,000
Total	**$630,000**	**$630,000**

CIP Schedule for the Fiscal Year 2025 to 2026

Construction Projects

CIP Projects
Project No. 25 requires repair prior to overlay.

Myrtle Creek Bridge needs full replacement, but will not be constructed unless the County can secure funding.

Curry County Identified Overlay Projects
Overlay projects identified by the County for this fiscal year include Marina Heights Loop, Eastwood Lane, Westwood Lane, and Chilcote Lane.

A summary of construction projects and associated costs are provided in Table 9.3.19.

TABLE 9.3.19
FISCAL YEAR 2025 TO 2026 CONSTRUCTION PROJECTS

Project Name	Begin	End	Cost	Contingent on Funding	Road Fund
Project No. 25 - Pacific View Dr.	0	0.36	$153,060	$0	$153,060
Bridge Project No. 3 - Myrtle Creek Bridge	N/A	N/A	$3,410,000	$3,410,000	$0
Marina Heights Lp.	0	0.67	$125,000	$0	$125,000
Eastwood Ln.	0	0.32	$65,000	$0	$65,000
Westwood Ln.	0	0.11	$28,000	$0	$28,000
Chilcote Ln.	0	0.24	$175,000	$0	$175,000
Striping	N/A	N/A	$250,000	$0	$250,000
Storm Drainage Projects	N/A	N/A	$400,000	$0	$400,000
Guardrail Replacement	N/A	N/A	$100,000	$0	$100,000
Tree Removal	N/A	N/A	$15,000	$0	$15,000
Total			**$4,721,060**	**$3,410,000**	**$1,311,060**

Maintenance Projects

A summary of the County's chip seal projects and associated costs are provided in Table 9.3.20.

TABLE 9.3.20
FISCAL YEAR 2025 TO 2026 MAINTENANCE PROJECTS

Project Name	Begin	End	Cost	Road Fund
Floral Hill Dr.	0	0.12	$6,000	$6,000
Wedgewood Ln.	0	0.04	$2,000	$2,000
Kings Way	0	0.1	$5,000	$5,000
Laurence Ln.	0	0.26	$15,000	$15,000
Julia Way	0	0.13	$4,000	$4,000
Rainbow Rock Rd.	0	2.13	$78,000	$78,000
Coverdell Rd.	0	0.27	$11,000	$11,000
Duley Creek Rd.	0	1.35	$48,000	$48,000
Dodge Ave.	0	0.55	$20,000	$20,000
Winchuck River Rd.	0	7.4	$300,000	$300,000
Tuttle Ln.	0	0.74	$3,000	$3,000
Gavin Ln.	0	0.22	$13,000	$13,000
Camellia Dr.	0	0.49	$25,000	$25,000
E. Benham Ln.	0	0.18	$10,000	$10,000
Total			**$540,000**	**$540,000**

Heavy Equipment Replacement

A summary of the County's proposed heavy equipment purchases is provided in Table 9.3.21.

TABLE 9.3.21
FISCAL YEAR 2025 TO 2026 HEAVY EQUIPMENT REPLACEMENT

Equipment Name	Cost	Equipment Reserve Fund
Cat 415 Industrial Loader with Drag Box	$105,000	$105,000
11524 Replace Cat Rubber Tire Excavator	$300,000	$300,000
Replace 08272 Ford Fusion with 4X4 Dodge Durango	$30,000	$30,000
Replace 09275 Ford Crew Cab and Fuel Tank with 1 Ton 4X4 Crew Cab	$50,000	$50,000
Replace 2022 1 Ton 4X4 Crew Cab	$5,000	$5,000
Replace 04555 13 Ton Roller with 8 Ton Steel Drum Roller	$120,000	$120,000
Total	**$610,000**	**$610,000**

Unscheduled CIP Projects

Unscheduled projects are a lower priority, but recommended within the Capital Improvement Plan to maintain the roadway system and future development. Many of these projects will be reliant on outside funding or reprioritizing currently scheduled projects. A summary of unscheduled CIP projects and associated costs are provided in Table 9.3.22. Funding is to be determined.

TABLE 9.3.22
UNSCHEDULED CIP PROJECTS

Project Name	Begin	End	Construction Cost	Road Fund
Project No. 10 - Bayview Dr.	0	0.11	$287,610	TBD
Project No. 20 - Floras Creek Rd.	2.9	2.90	$650,130	TBD
Project No. 21 - Floras Creek Rd.	2.7	2.70	$231,680	TBD
Project No. 22 - Floras Creek Rd.	3.96	3.96	$421,450	TBD
Project No. 23 - Floras Creek Rd.	3.31	3.31	$179,420	TBD
Project No. 26 - County Shop Rd.	0	0.23	$209,230	TBD
Project No. 33 - Lower Harbor Rd.	0.17	0.96	$1,089,720	TBD
Project No. 35 - Noble Dr.	0.67	0.83	$177,860	TBD
Project No. 36 - Driftwood Dr., Azalea Ln, & Iris St.	N/A	N/A	$1,415,170	TBD
Project No. 37 – Lower Harbor Rd. & Shopping Cntr. Intersection	0.12	0.12	$977,640	TBD
Project No. 38 – Lower Harbor Rd. & Commercial Rd. Intersection	0.68	0.68	$1,027,480	TBD
Project No. 39 - Lakeshore Drive Turnaround	0.37	0.37	$98,270	TBD
Total			**$6,765,660**	**TBD**

All bridge improvement projects are dependent on outside funding and are ranked based on priority. Cost and funding are to be determined upon evaluation of each bridge. The County will need to establish cost estimates for bridges to be included in the next round of Oregon Department of Transportation (ODOT) STIP applications. The Bridge Resiliency Plan slated for the fiscal year of 2023 to 2024 will assist in prioritizing bridge projects and to determine if the bridge can be repaired or requires full replacement. A summary of unscheduled bridge improvement projects is provided in Table 9.3.23.

TABLE 9.3.23
UNSCHEDULED BRIDGE IMPROVEMENT PROJECTS

Project Name	Construction	Road Fund
Bridge Project No. 4 - Willow Creek Bridge	TBD	TBD
Bridge Project No. 5 - Don Cameron Bridge	TBD	TBD
Bridge Project No. 6 - Lower Hunter Bridge	TBD	TBD
Bridge Project No. 7 - Upper Crook Creek Bridge	TBD	TBD
Bridge Project No. 8 - Pistol Overpass Bridge	TBD	TBD
Bridge Project No. 9 - Gregg's Creek Bridge	TBD	TBD
Bridge Project No. 10 - Euchre Creek Bridge	TBD	TBD
Bridge Project No. 11 - Pistol River Lp. Bridge	TBD	TBD
Bridge Project No. 12 - Hunter Creek Bridge	TBD	TBD
Total	**TBD**	**TBD**

9.4 Capital Improvement Plan Summary

Since the Reserve Fund was established it has been identified as the most reliable source of funding for the Road Department to date. Declining revenue has caused the Reserve Fund to be exhausted due to increasing external costs of maintaining a safe transportation system. The County will need to find other viable sources or the Reserve Fund will be completely depleted. Outside funding programs discussed in Section 8 may represent potential funding sources. As projects are initiated, the County can utilize outside funding programs to maintain and improve the transportation system.

The Reserve Fund summary for the next six years is provided in Table 9.4.1.

TABLE 9.4.1
RESERVE FUND SUMMARY

CATEGORIES	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026
Reserve Fund	$20,692,000	$18,466,197	$15,866,004	$14,117,930	$11,166,468	$8,587,487
Total County Road Funds	$7,463,627	$3,956,707	$6,481,026	$3,586,818	$3,291,169	$6,576,195
Total Road Expenses	($9,689,430)	($6,556,900)	($8,229,100)	($6,538,280)	($5,870,150)	($7,892,060)
Remaining Reserve Fund	**$18,466,197**	**$15,866,004**	**$14,117,930**	**$11,166,468**	**$8,587,487**	**$7,271,622**

9.5 Capital Improvement Plan Recommendations

The Six Year Road Capital Improvement Plan recommendations are as follows:

- When projects are adjacent to the state highways, Port of Brookings-Harbor, or a city within the County, the County could look for cost sharing opportunities.
- To maintain local access roads for private use the landowners need to form Special Road Districts, Local Improvement Districts, or a combination of both.
- Consider the feasibility of vacating roads that serve limited development. If County roads are located within a Special Districts, Local Improvement Districts, or city ownership the road could be transferred to the appropriate Special District, Local Improvement District, or city to encourage more responsive maintenance.
- Enforcing roadway standards would minimize future maintenance and costs.
- Expansion of pedestrian walkways in residential areas.
- Expand shoulders where feasible to accommodate bicyclists.
- Improving or replacing bridges to meet current structural and safety standards.

The Capital Improvement Plan serves as a guideline for proposed improvements and maintenance, but the County needs to be flexible in the interpretation. The Plan needs to be updated regularly, evaluated annually, and revised, if necessary, to accommodate unforeseen or changes in conditions.

APPENDICES

APPENDIX A: Improvement Questionnaire

CURRY COUNTY ROAD IMPROVEMENT QUESTIONNAIRE

A Six-Year Road Capital Improvement Plan is being developed by The Dyer Partnership for the Curry County Road Department, and will include current safety and traffic conditions, and a priority schedule for road improvements. This questionnaire is intended to allow county residents and businesses to express their opinions, concerns, and suggestions relating to transportation needs. Only roads currently owned and maintained by the Curry County Road Department are listed in the questionnaire. Please restrict your responses to the listed roads only. Your cooperation will be appreciated.

Please answer each question for one or more roads listed below. Be as specific as possible concerning the location, address, etc.

1. Where are the most critical safety problems located?
    a. Insert pulldown tab with road names.

Explain: _____

_____

_____

2. What roads have deficient pavement/surfacing?
    a. Insert pulldown tab with road names.

Explain: _____

_____

_____

3. What roads need better alignment, width, and/or site distance?
    a. Insert pulldown tab with road names.

Explain: _____

_____

_____

4. Comments on road conditions, storm drainage deficiencies, and/or vegetation in the roadway:
    a. Insert pulldown tab with road names.

Explain: _____

_____

_____

5. What roads have deficient pavement/surfacing?

Comments here: _____

_____

_____

APPENDIX B: Road Standards, Ratings & Maintenance

Curry County Road Standards

GFP Pavement Conditions Rating Manual

Chip Seal Application

How Speeds are set in Oregon

Process for Establishing Speed Zones

Speed Zone Request

Curry County Road Standards

CURRY COUNTY ROAD STANDARDS

Ordinance No. 17-02

Effective Date: October 3, 2017

28425 Hunter Creek Road
Gold Beach, OR 97444
Phone: (541) 247-7097 Fax: (541) 247-7804

Web Address: http://www.co.curry.or.us/Departments/Road

Email: roadinfo@co.curry.or.us

FILED IN CURRY COUNTY
Renee' Kolen, County Clerk
Commissioners' Journal

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BEFORE THE BOARD OF COUNTY COMMISSIONERS
IN AND FOR THE COUNTY OF CURRY, OREGON

In the Matter of the repeal and replacement)
Of Curry County Code Article 3 – Roads.) ORDINANCE NO. 17-02

The Board of Curry County Commissioners ordains as follows:

SECTION I. TITLE

This ordinance shall be known as Ordinance 17-02, an ordinance amending the Curry County Code.

SECTION 2. AUTHORITY

This ordinance is enacted pursuant to ORS 203.035.

SECTION 3. PURPOSE

The purpose this ordinance is to repeal and replace Curry County Road Article 3 (last amended by Ordinance 02-06).

SECTION 4. ADOPTION

Exhibit "A" attached hereto and incorporated by reference, is adopted as Article 3 – Roads of the Curry County Code.

SECTION 5 – SEVERANCE CLAUSE

If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held to be unconstitutional or unlawful, such decision shall not affect the validity of the remaining portions of this ordinance.

DATED this 21st day of June, 2017.

BOARD OF CURRY COUNTY COMMISSIONERS

7/25/17
Thomas Huxley, Chair

Sue Gold, Vice-Chair

Opposed
Court Boice, Commissioner

Recording Secretary:

John T. Jezuit

John Jezuit

First Reading: June 21, 2017
Second Reading: July 5, 2017
Effective Date: October 3, 2017

Approved as to Form:

John Huttl
Curry County Legal Counsel

EXHIBIT "A"

CURRY COUNTY CODE
ARTICLE 3 - ROADS

CURRY COUNTY CODE

ARTICLE THREE - ROADS

TABLE OF CONTENTS

ARTICLE THREE – ROADS

DIVISION ONE: CURRY COUNTY ROAD STANDARDS

CHAPTER ONE: INTRODUCTORY PROVISIONS

SECTION 3.01.010 RESERVED

SECTION 3.01.020 PURPOSES

The several purposes of this division are: a) to establish specifications and standards for the construction and reconstruction of all roads, driveways and bridges in Curry County; b) to delineate responsibilities of individuals and Curry County as to the maintenance of roads; and c) to promote public health, safety, convenience and general welfare.

SECTION 3.01.030 DEFINITIONS

As used in this article, the masculine includes the feminine and neuter and the singular include the plural. The following words and phrases, unless the context otherwise requires, shall mean:

(1) "AASHTO" – American Association of State Highway and Transportation Officials.

(2) "ADT" – Average Daily Traffic on a given road.

(3) "Alley" – A street or highway primarily intended to provide access to the rear or side of lots or buildings in urban areas and not intended for through vehicular traffic.

(4) "Arterial Road" – Roads that link cities or large traffic generators. Travel speeds will be relatively high with minimum interference to through movement.

(5) "Avenue" – A wide street or main thoroughfare. A means of approach to a given place, activity or goal. "Avenue" may be used in immediate vicinity of any municipality.

(6) " AWDS" – All-weather Drivable Surface: A surface constructed of a minimum of two (2) inches of crushed aggregate placed on the required base aggregate to create a drivable surface. An AWDS may also be constructed of asphalt concrete or acceptable alternative surface treatments.

(7) "Base Aggregate" – A course of specified aggregate of planned thickness placed on the subgrade.

(8) "Board" or "Board of Commissioners" - The Curry County Board of Commissioners.

(9) "CCZO" - Curry County Zoning Ordinance - An ordinance designed to provide and coordinate regulations in Curry County governing the development and use of lands and to implement the Curry County Comprehensive Plan.

(10) "Collector Road" – A road supplementary to the arterial road system and used for both through traffic and access to abutting properties.

(11) "County" – The County of Curry, State of Oregon.

(12) "County Road" – A public road which has been accepted into the County road system by the County Board of Commissioners or designee by dedication or deed or grant of right-of-way and is maintained by the County.

(13) "Drive" – A scenic road, especially for leisure driving.

(14) "Driveway" – Means of egress and ingress from thoroughfare to structure. A short private road as regulated and administered by the County Community Development Department.

(15) "Driveway/Road Approach Permit" - A permit allowing construction or alteration of a facility which provides ingress to or egress from a County road (i.e., a driveway, an intersecting road or street, a footpath, a bike path, widened vehicular access, etc.). The permit regulations apply to that portion of the facility which is or will be upon a County road right-of-way.

(16) "Easement" – A grant of one or more property rights by a property owner to or for use by the public or another person or entity.

(17) "Fog Coat" - An emulsified asphaltic surface treatment applied to existing asphalt concrete pavement surfaces to renew and seal the pavement surface. May be used with or without aggregate cover materials.

(18) "High Density Residential Road" – A road within an urban growth boundary providing direct access to abutting property which has a lot size density sufficient to qualify for high density status based upon the standards established in the respective urban growth boundary agreements.

(19) "HMAC" – Hot Mix Asphalt Concrete - A hot mixture of asphalt cement; well graded, high quality aggregate; mineral filler and additives as required; plant mixed into a uniformly coated mass, hot laid on a prepared foundation, and compacted to a specified density.

(20) "Lane" – Designation for all private thoroughfares. A limited passageway of course designated for vehicles.

(21) "Local Access Road" – A public road that is not a County road, State highway or Federal road. County has full jurisdiction, but no liability to maintain.

(22) "Local Road" – A public road that is not a city street, State highway or Federal road. A road connecting the local uses with the collector system. Property access is the main priority; through-traffic is not encouraged. All County roads not classified as arterials or collectors are the County's local roads, including Resource/Industrial/Commercial, High density Residential and Residential.

County Road Examples: Townley Lane, Coy Creek Road, Eggers Road.

(23) "Loop" – Road whose beginning and ending points intersect on a common road.

(24) "Major Collector" – A road providing service to land uses that generate trips such as consolidated schools, shipping points, parks, mining and agricultural areas. This type of road links minor collectors with roads of higher classification.

County Road Examples: Airport Road, Cedar Valley Road, North Bank Chetco River Road.

(25) "Major Road Improvement" - An improvement or alteration for which detailed plans and adherence thereto are deemed necessary by the Roadmaster.

(26) "Minor Arterial" – Roads that link cities or large traffic generators. Travel speeds will be relatively high with minimum interference to through movement. Jerry's Flat Road is the only minor arterial within the County.

(27) "Minor Collector" – A road providing service to small communities. This type of road links locally important land uses that generate trips with rural destinations.

County Road Examples: Floras Lake Road, Nesika Road, Oceanview Drive.

(28) "Minor Road Improvement" - An improvement or alteration for which detailed plans are not deemed necessary by the Roadmaster.

(29) "Monument" – A permanent and fixed survey marker conforming to the requirements established by the State law and the regulations of Curry County.

(30) "Manual on Uniform Traffic Control Devices" (MUTCD) - The MUTCD contains the national standards governing all traffic control devices.

(31) "ODOT" – Oregon Department of Transportation.

(32) "Place" – A public square or thoroughfare in a town. A short street, or court, a private residence terrace, or some similar variation from the ordinary street.

(33) "Prime Coat" – A penetration treatment to aggregate surfaces to coat and bind the material into a hard surface.

(34) "Principal Arterial" – Corridors with substantial interstate and statewide travel. Highway 101 is the only principal arterial within the County.

(35) "Private Driveway" – A roadway which traverses and serves one lot or parcel as regulated and administered by the County Community Development Department.

(36) "Private Road" – A road which is owned, controlled and maintained by the persons it serves, providing the principal means of access to the abutting property, and not intended for use by the general public. Private roads are regulated by the Curry County Zoning Ordinance which is administered by the County Community Development Department.

(37) "Public Road" – A road over which the public has a right of use that is a matter of public record but which has not been accepted into the County road system per subsection (12) above.

(38) "Residential Road" – A road providing direct access to abutting property. Lot size and/or traffic volume indicate density of one or more lots per five acres, but less than four lots per acre.

(39) "Resource/Industrial/Commercial" – A road which primarily accesses adjacent land, carries significant volumes of timber, mining or agricultural products and/or provides service to a large industrial or commercial facility.

County Road Examples: McKenzie Road, Nesika Beach Dump Road, Boat Basin Road.

(40) "Right-of-Way" – Land reserved, used, or to be used for a highway, street, alley, walkway, drainage facility or other public purpose related to a transportation or public utility improvement.

(41) "Road" - The entire right-of-way of any public or private way that provides ingress to or egress from property by means of vehicles or other means or that provides travel between places by means of vehicles. "Road" includes, but is not limited to:

a. Ways described as streets, highways, throughways or alleys;

b. Road related structures that are in a right-of-way, such as tunnels, culverts or similar structures; and

c. Structures that provide for continuity of the right-of-way, such as bridges.

(42) "Road Encroachment Permit" - A permit allowing private facilities of a diverse nature, such as fences, structures, gates, stock guards, signs and landscaping, to be placed within a County road right-of-way. The permit shall state whether the permitted use is temporary or permanent.

(43) "Road Improvement Permit" - A permit allowing alterations or improvements, such as grading, surfacing or oiling, of a County road by a person not associated with the County Road Department.

(44) "Roadmaster" - The person designated by the County Board of Commissioners as being responsible for administration of the road activities of the County.

(45) "Roadway" - The portion of a road, including shoulders, for vehicular use.

(46) "Rural Road" – A road subject to low traffic volume, used as access to a remote area having density less than one lot per five acres.

(47) "Special Permit" - A permit allowing temporary use of a County road right-of-way for business operations or public events, such as log loading, an aircraft taxiway, scheduled public walks, runs and biking events.

(48) "Street" – A paved public way or thoroughfare, as in a city or town.

(49) "Subgrade" – That portion of the graded earthwork roadbed on which base course surfacing is to be placed.

(50) "Tack Coat" – Application of liquid asphalt to an existing asphalt concrete to insure a thorough bond between courses.

(51) "Turnaround" – A road over 150' in length must be terminated by a turnaround. See Exhibit "A" following the text of Division Four of Article Three for typical turnaround designs. Standards for Turnarounds outside of an Urban Growth Boundary are listed in Section 3.01.050 subsection (7) of this division.

(52) "Utility Permit" – A permit allowing the placement and routine maintenance of public facilities, such as water and sewer lines, gas lines and transmission lines, within a County road right-of-way.

(53) "Variance" – An authorized deviation from specific requirement(s) set forth in this division.

(54) "Way or Court" – A course, route, passage, track or path of any kind.

SECTION 3.01.040 COMPLIANCE WITH DIVISION PROVISIONS

No road shall hereafter be constructed, reconstructed, enlarged or altered contrary to the provisions of this division.

CHAPTER TWO: COUNTY ROADS

SECTION 3.01.050 CONSTRUCTION SPECIFICATIONS OF COUNTY ROADS

(1) RIGHT-OF-WAY – Right-of-ways shall be a minimum of 50 feet in width except that a lesser width not less than 40 feet is authorized when (a) specially permitted by the County Board of Commissioners and (b) the road meets the other standards set forth in this division as

otherwise provided. A wider than 50 foot right-of-way may be required, depending on variations or other engineering considerations. In no case shall the right-of-way be less than 40 feet.

(2) GRADES

(a) Minor Arterial:

8% to 10%	Maximum Length	1200"
Under 8%	Maximum Length	No Limit

(b) Major Collector:

8% to 12%	Maximum Length	1200'
Under 8%	Maximum Length	No Limit

(c) Minor Collector:

12% to 15%	Maximum Length	800'
8% to less than 12%	Maximum Length	1500'
Under 8%	Maximum Length	No Limit

The average grade for any mile of road length and for the roads entire length shall not exceed 10% for the roads listed in (a), (b) and (c) above.

(d) Residential:

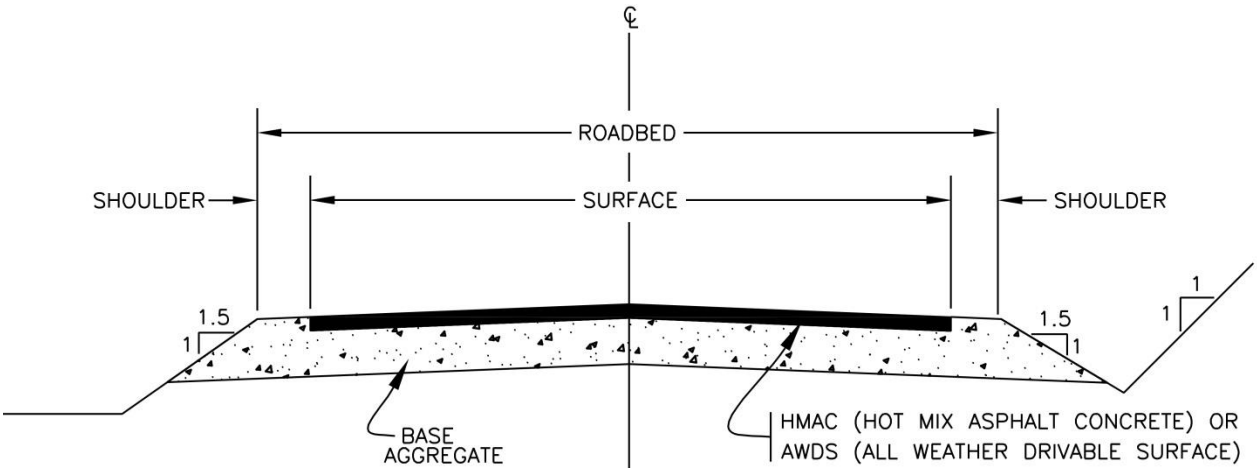
18% to 20%	Maximum Length	400'
16% to less than 18%	Maximum Length	600'
12% to less than 16%	Maximum Length	800'
8% to less than 12%	Maximum Length	1500'
Under 8%	Maximum Length	No Limit

(e) Resource/Industrial/Commercial

16% to 18%	Maximum Length	500'
12% to less than 16%	Maximum Length	800'
8% to less than 12%	Maximum Length	1500'
Under 8%	Maximum Length	No Limit

The average grade for any mile of road length and for the roads entire length shall not exceed 13.5% for the roads listed in (d) and (e) above.

(3) RURAL ROAD STANDARDS CHART



Functional Class	Surface Type	Minimum Surface Depth	Minimum Surface Width	Minimum Shoulder Width	Base Aggregate	Maximum Grade
Minor Arterial	HMAC	4”	26’	6’	12”	10%
Major Collector	HMAC	4”	26’	4’	12”	12%
Minor Collector	HMAC	4”	24’	2’	12”	15%
Resource/ Industrial/ Commercial	HMAC	4”	24’	2’	12”	18%
Residential 11+ dwelling units	AWDS	2”	* 20’	2’	12”	20%
Residential 5 to 10 dwelling units	AWDS	2”	* 18’	0’	12”	20%
Residential 4 or less dwelling units	AWDS	2”	* 16’	0’	12”	20%
Driveway	AWDS	2”	* 16’	0’	6”	20%
Turnarounds	See subsection (7) TURNAROUNDS below					

* Inter-visible opposing turnouts required. On roads where 16 foot, 18 foot or 20 foot surfaces are allowed, inter-visible opposing turnouts that result in an area of road surface at least 50’ in length, not including entry and exit tapering, by 22’ in width, exclusive of shoulders, are mandatory. Turn-outs shall be sited at least one every 500 feet, and opposing inter-visible where curves prohibit visibility.

Road Width with a Fire Hydrant: Adjacent to fire hydrants, roads shall have a minimum driving surface of not less than 26’ in width, exclusive of shoulders, extending 20’ in either direction from the fire hydrant.

Vertical Clearance: All roads shall have a minimum vertical height clearance of not less than fourteen feet.

Additional requirements, as stipulated by the rural fire protection district of the area in which the road is located, as well as the section entitled "Appendix D, Fire Apparatus Access Roads" of the Oregon Fire Code, may be required.

The standards for urban roads are as outlined in the Curry County Zoning Ordinance for the respective Urban Growth Boundary.

(4) DRIVEWAYS. Approaches shall be limited to a 60-90 degree intersection angle with the public road. There shall be enough room at the approach for a vehicle to be at a 90 degree angle to the road. See Exhibit "B" following the text of Division Four of Article Three for Typical Design.

Stopping sight distance shall be calculated for driveway entrances using the chart of Exhibit "C" following the text of Division Four of Article Three. The minimum stopping distance is calculated for wet road conditions using

$$D = \frac{V^2}{30(F+G)}$$ where:

V = Velocity
F = Coefficient of friction
G = Grade in percent
D = Total stopping distance in feet (reaction plus braking)

MINIMUM SIGHT DISTANCE
LEVEL ROADWAY (Wet Pavement)

Design Speed	Sight Distance (feet)		
MPH	Stopping	Passing	Corner Intersection
20	125	800	210
25	150	950	
30	200	1100	310
35	225-250	1300	
40	275-325	1500	415
45	325-400	1650	
50	400-475	1800	515
55	450-550	1950	
60	525-650	2100	650
65	550-725	2300	
70	625-850	2500	

*See Exhibit "C" following the text of Division Four of Article Three

(5) HORIZONTAL CURVES The minimum radius for horizontal curves shall be 60 feet on Local Roads. The following formula shall be used to determine minimum curve radius on all other functional classes.

$$R = \frac{V^2}{15(e+f)}$$ where:

R = minimum radius (feet)
V = design speed (MPH)
e = maximum super elevation (range 0.04 to 0.10)
f = maximum friction factor (range 0.10 to 0.17)

(6) VERTICAL CURVES Vertical curves shall be used at all grade changes where the difference in grades is 2% or greater. Minimum length of vertical curve shall be 100 feet.

(7) TURNAROUNDS In any area outside of an Urban Growth Boundary, turnarounds shall be provided for emergency vehicle maneuvering at the end of any road over 150' in length. Typical County turnarounds are shown in Exhibit "A" following the text of Division Four of Article Three.

(8) Minimum intersection spacing for roads of various functional classes shall be as noted in the following table:

Functional Class Intersection Type	**Public Road Type**	**Spacing***	**Private Driveway Type**	**Spacing****
Arterial Road/Hwy	At-grade	1/4 mile	L/R turns	500 ft.
Collector Road	At-grade	250 ft.	L/R turns	100 ft.
Local Road	At-grade	250 ft.	L/R turns	each lot
Alley	At-grade	250 ft.	L/R turns	each lot
* Between roads **Between driveways & intersections (measured from center to center)				

SECTION 3.01.060 FACILITY PERMITS

(1) No person, partnership, association or corporation may place, build or construct on the right-of-way of any County maintained road any approach road, structure, pipeline, ditch, cable or wire, or any other facility, thing or appurtenance or change the manner of using any such approach road without first obtaining a permit from the County Roadmaster.

(2) The Curry County Road Department shall be given the power to investigate and issue the facility permit.

(3) The holder of a facility permit shall follow the regulations and rules set out in Article Three, Division Four of this code.

SECTION 3.01.070 SIGNS

(1) Curry County has jurisdiction concerning the type and location of all signs on County maintained roads and public ways.

(2) The Roadmaster may lawfully remove or destroy, without resort to legal proceedings, any advertisement, bill, notice, sign, picture, card, or poster placed in violation of ORS 368.942.

(3) When in the Roadmaster's opinion there may be a need for a change in the speed limit for a road, he or she shall request the Oregon State Speed Control Board to study the road in question. If the Speed Control Board issues an order to post a speed limit on the road, Curry County will furnish and install the speed limit signs at the County's expense.

(4) Name signs for all roads shall have a retroreflectorized green background with retroreflectorized white letters as specified in the Manual on Uniform Traffic Control Devices.

(5) Signing will be paid for by the County as follows:

(a) Stop and name signs at intersections of two County maintained roads.

(b) Regulatory and warning signs along County maintained roads.

(c) The County may, at the Roadmaster's recommendation, install signs for non-County maintained roads. Cost of the sign, installation and maintenance will be paid for by the person(s) requesting the sign. This person may include the Board or its delegated authority.

SECTION 3.01.075 DELINEATION OF UTILITY LOCATIONS WITHIN COUNTY ROAD RIGHTS-OF-WAY

(1) Pole line locations shall have a minimum height above the traveled road surface of 18 feet. This 18-foot standard applies whether the pole lines cross the roadway or are located parallel to the roadway. Poles shall be located not less than 10 feet from the edge of pavement on paved-surfaced roads or the edge of gravel on gravel-surfaced roads. Wherever possible, poles shall be located along the tangent sections of roads and on the short radius side of curves. Poles to be located on the long radius side of curves will require additional approval by the Roadmaster and will be subject to special conditions.

(2) Buried cable or pipe depth shall be not less than 30 inches (36 inches for electrical) below the flow line of the roadside ditch. Where no ditch is present or where the proposed utility will be located a minimum of 5 feet from the ditch, the 30 inch (36 inch for electrical) bury depth shall be measured from the existing ground surface.

(3) Pedestals installed as part of a buried cable installation are to be located one foot from the right-of-way line unless permission is obtained from the Roadmaster to locate elsewhere. In no case shall the pedestals be located within the road maintenance operating area, including mowing

operations, or nearer the pavement edge than any official highway sign in the same general location.

See "Special Conditions for Underground Utilities Within County Road Rights-of-Way" in "Exhibit D, Permit Regulations & Classification", following the text of Division Four of Article Three for additional requirements and details.

SECTION 3.01.080 ROAD HAZARDS, WEED CONTROL AND DRAINAGE

(1) ROAD HAZARDS.

(a) No person, landowner or occupant of land shall obstruct road drains or waterways or create road hazards as set forth in ORS 368.251 and ORS 368.256.

(b) The County Roadmaster may abate any road hazard following the procedures set forth in ORS 368.261 and ORS 368.271.

(c) The Board may assess and recover costs from the person, landowner and occupant of the land responsible for the road hazard or the owner of the land that is the source of the hazard pursuant to the procedures in ORS 368.276 and ORS 368.281.

(2) WEED CONTROL. The County Board of Commissioners through its Roadmaster shall endeavor to prevent the spread or seeding of any noxious weed as set forth in ORS Ch. 570 on any land owned by the County or constituting the right-of-way for any County road, drainage or irrigation ditch, power or transmission line, or other purposes under their jurisdiction.

(3) DRAINAGE

(a) The purpose of highway drainage design is to prevent the accumulation and retention of water on and by the highway. Culverts, ditches and other drainage features shall be installed as needed to effectively remove water from the drivable surface under all types of weather conditions. Culverts shall be capable of supporting a single axle load of 32,000 pounds (Highway Loading H-20). Prior to submitting a development application and its related access feature where a stream crossing will be required, the applicant shall submit an Oregon Department of Fish and Wildlife (ODFW) determination to the Building Official indicating whether the stream crossing location is a fish habitat as required by ORS 509.585. If the ODFW determines that there is a potential for fish habitat or there is fish habitat in the stream crossing that will be impacted, fish passage shall be required consistent with Division 412 of the Oregon Administrative Rules (635-412-0005 through 635-412-0040).

(b) Surface water shall be conveyed along rights-of-way by the most direct means considering ease of maintenance with minimum disturbance of natural conditions.

(c) All drainage structures shall be sized for the following design flood frequencies.

Drainage Facility	Design Flood
Bridge	100 year flood
Culvert	25 year flood
Low Water Bridges	Optional
Depressed Roadway	25 year flood
Channel Change	100 year flood
Storm Sewer	10 year flood
Ditches, Gutters, Inlets	10 year flood

The design should be reviewed to ensure that backwater from the 100 year flood will not cause extensive property damage or result in loss of a bridge.

(d) The design of any water carrying system shall meet or exceed the design criteria set by the current ODOT Highway Division Hydraulics Manual.

Cross culverts shall be a minimum of 18 inches in diameter except:

A 12 inch cross culvert may be used to convey water from a catch basin to the closest natural drain if a grated inlet is used.

Connections to existing roadside culverts shall be at the same or greater capacity and must not inhibit the existing discharge of flow in any way.

SECTION 3.01.090 ROADWAY MATERIAL STANDARD SPECIFICATIONS

All roadway excavation, fill construction, subgrade preparation, aggregate bases, surfacing, prime coats and paving shall be built in accordance with the current edition of the ODOT Oregon Standard Specifications for Construction. Whenever these specifications refer to the State or Agency, consider that to mean the County of Curry, the appropriate County Department, or appropriate County address.

In case of discrepancy or conflict in the plans, standard specifications, supplemental standards specifications and special provisions, they shall govern in the following manner:

1. Special Provisions
2. Plans Specifically Applicable to the Project
3. Standard or General Plans
4. Supplemental Standard Specifications
5. Standard Specifications

(1) Subgrade. All subgrade shall be compacted in accordance with the Earthwork Compaction Requirements, Section 00330.43 of the Oregon Standard Specifications for Construction.

(2) Aggregate Base. Aggregates for aggregate base shall be crushed rock or pit run rock. Pit run materials, when used in place of crushed rock, shall be placed at 1.25 times the required

depth of aggregate. Crushed rock shall meet the requirements of Section 02630 of the Oregon Standard Specifications for Construction. Pit run material shall meet the durability and sand equivalent requirements of Section 02630 of the Oregon Standard Specifications for Construction and shall have the gradation approved by the Curry County Road Department. See the following tables.

(3) Asphalt Concrete Pavement. Where asphalt concrete pavement is required it shall be hot mix asphalt concrete pavement done in accordance with Section 00744 of the Oregon Standard Specifications for Construction. The class and grade mix design shall be in the contract. See the following tables.

SECTION 3.01.100 GRADATION CHARTS

(1) BASE AGGREGATES

Table 02630-1
Grading Requirements for Dense-Graded Aggregate
Separated Sizes

Sieve Size	2 1/2" - 0	2" - 0	1 1/2" - 0	1" - 0	3/4" - 0
	Percent Passing (by Weight)				
3"	100				
2 1/2"	95 - 100	100			
2"	–	95 - 100	100		
1 1/2"	–	–	95 - 100	100	
1 1/4"	55 - 75	–	–	–	
1"	–	55 - 75	–	90 - 100	100
3/4"	–	–	55 - 75	–	90 - 100
1/2"	–	–	–	55 - 75	–
3/8"	–	–	–	–	55 - 75
1/4"	30 - 45	30 - 45	35 - 50	40 - 55	40 - 60
No. 4 [1]	–	–	–	–	–
No. 10	[2]	[2]	[2]	[2]	[2]

[1] Report percent passing sieve when no grading requirements are listed
[2] Of the fraction passing the 1/4 inch sieve, 40 percent to 60 percent shall pass the No. 10 sieve

Fracture Of Base Aggregates - Fracture of base aggregates produced from rounded rock shall be determined according to AASHTO T 335. Provide at least one fractured face based on the following percentage of particles retained on the 1/4 inch sieve for the designated size:

Minimum Percent of Fractured Particles
(by Weight of Material)

Designated Size	Retained on 1/4 inch Sieve
1 1/2" - 0 and larger	50
Smaller than 1 1/2" - 0	70

Durability - Dense graded base aggregate shall meet the following durability requirement.

Test	Test Method	Requirements
Abrasion	AASHTO T 96	35.0% maximum
Degradation (coarse aggregate) Passing No. 20 sieve	ODOT TM 208	30.0% maximum
Sediment Height	ODOT TM 208	3.0" maximum

(2) ASPHALT CONCRETE AGGREGATES*

Sieve Size	1/2" ACP Control Points (% passing by Weight) Min.	Max.
3/4"	100	
1/2"	90	100
3/8"	-	90
No. 4	-	-
No. 8	28	58
No. 200	2.0	10.0
Asphalt Cement	5	6

*Aggregate for flexible pavements shall conform with Section 00744 of the "Oregon Standard Specifications for Construction"

Durability – Provide aggregate not exceeding the following maximum values:

Test	Test Method ODOT	Test Method AASHTO	Aggregates Coarse
Abrasion		T 96	30.0%
Degradation Passing No. 20 sieve	TM 208		30.0%
Sediment Height	TM 208		3.0"

Fractured Faces - Provide crushed aggregate with not less than the minimum number of fractured faces as determined by AASHTO T 335 as follows:

Type of Mix	Percent of Fracture (by Weight) Material Retained on 1", 3/4", 1/2" and No. 4 Sieve (two fractured faces)	Material Retained on No. 8 sieve (one fractured face)
All ACP	75	75

SECTION 3.01.110 MONUMENTATION

(1) The County and its agents shall monument County roads in accordance with the following standards:

- 5/8 inch rebar on both R/W lines at point of curvature and point of tangency of curve.
- 5/8 inch rebar along R/W lines at 500 foot intervals or property lines.
- Plastic caps branded "Curry Co. R/W" on rebar.
- Rebar along utilized property should be approximately 6 inches below ground level.
- Brass or aluminum caps shall be placed along R/W a minimum of once every mile. Two brass or aluminum caps shall be used as basis of bearing when other monuments are not available.
- Initial roadway point shall be marked by a brass or aluminum cap.
- All brass and aluminum caps shall be marked by a 4 inch by 4 inch by 4 foot treated white wooden post or a metal post.

(2) Roads within a subdivision must be monumented in accordance with current applicable state and local laws relating to the platting of subdivisions.

DEDICATION OF ROADS TO COUNTY ROAD SYSTEM

SECTION 3.01.130 ACCEPTANCE BY COUNTY

(1) TENTATIVE APPROVAL PRIOR TO CONSTRUCTION

(a) The developer submits plans and letter to the Board of Commissioners of his intent to dedicate a road to the County. A complete set of Improvement Plans shall be submitted and approved, in writing, by the Board of Commissioners prior to the start of construction on any public, private or subdivision road which is to become a dedicated County road. The "Complete Set" refers to the following:

1. Plan view of the proposed roadway
2. Profile
3. Description
4. Typical cross-section

All plans shall be stamped by a registered engineer or surveyor licensed in the State of Oregon.

(b) A statement in writing must be obtained from the Chief of the Rural Fire Protection District of the area in which the road(s) is/are located, and submitted with the plans, verifying that the District's large fire-fighting equipment can safely negotiate the road and serve all new parcels or lots. The statement shall also include an assessment of whether or not the access route proposed to each boundary of the subject property is safely negotiable.

(c) The County Road Department reviews the Improvement Plans and makes recommendations to the Board of Commissioners. The recommendations shall include any special considerations which may be pertinent to acceptance or rejection of the road as a dedicated County road.

(d) The developer's project is put on the agenda of a regular Board meeting for consideration of his intent to dedicate the road to the County. Upon submission of the developer's plans and letter of intent to dedicate the road, the Board will, within 30 days, consider the application in a public meeting.

(e) The Board will give a letter of intent to accept or deny the dedication of the road project presented by the developer. If the dedication of the road is denied, and the plans and specifications adhere to the "Curry County Road Standards" herein, the Board must give its reasons for denial, in writing to the developer, within thirty (30) days from the date of the public meeting.

(2) INSPECTION OF PROPOSED COUNTY ROADS

(a) The inspection of the base and paving shall be coordinated in advance with the Curry County Road Department to avoid scheduling conflicts. The base is to be inspected prior to the placement of the pavement.

If proper notification for inspection has not been given, the Curry County Road Department will not recommend granting acceptance of the road to the Board of Commissioners for twelve (12) months. Any deficiencies that develop in the road shall be corrected before the Road Department will recommend granting acceptance to the Board.

(b) After acceptance by the Board of Commissioners, the contractor shall guarantee construction of the road built under his supervision for a period of one year. Any defects within that time period shall be corrected by the contractor, at his own expense.

(c) All testing except as herein noted will conform to methods prescribed by the Oregon Department of Transportation (ODOT) or the American Association of State Highway and Transportation Officials (AASHTO).

(3) FINAL ACCEPTANCE.

A County governing body may initiate proceedings to accept a public road as a County road:

(a) On its own action; or

(b) If a person files with the governing body:

i) A petition described in ORS 368.081; or

ii) A written proposal to dedicate or donate land owned by that person for public road purposes.

(4) MAINTENANCE.

After acceptance the County shall maintain such highway, road or street as a County road.

CHAPTER THREE PUBLIC ROADS

SECTION 3.01.140 PUBLIC ROAD STANDARDS

A public road will conform in all ways with the standards set for a County road, except for the following condition:

Roads shall be constructed with an all-weather drivable surface on residential roads. See the Road Standards Chart in Section 3.01.050, subsection (3) for construction requirements.

SECTION 3.01.150 DEDICATION

(1) By presenting to the Board of Commissioners a good and sufficient deed or dedication properly executed forever dedicating the land and granting such public road easement, and the deed is accepted by the Board of Commissioners and placed of record.

(2) Presenting to the Board of Commissioners, as provided by law, any map or plat of any town, addition or subdivision, dedicating to the use of the public for road purposes all streets, roads, and alleys shown thereon and the map or plat is approved and accepted by the Board and placed of record.

SECTION 3.01.160 LIABILITY FOR MAINTENANCE

(1) All public roads shall be maintained pursuant to a maintenance agreement to be recorded with the final plat in the official records of Curry County. The recorded maintenance agreement shall include the following elements:

(a) The maintenance agreement shall be binding on all owners of parcels within the plat or map, other properties served by the dedicated way, and all interests in such property thereafter acquired. The owners shall maintain the road according to the terms of the maintenance agreement.

(b) Any person who is party to the agreement, or any interested public body who believes the dedicated way is impassable to emergency vehicles, may file a written complaint with the County Board of Commissioners. The Board shall direct the County Roadmaster to investigate the complaint and submit a report to the Board. This report shall contain an evaluation of the condition of the road and particularly whether the road's condition meets a

minimum standard for maintenance of such roads. The report shall also set forth an estimation of the costs, including all likely administrative costs, necessary to bring the road up to a passable condition. The Board shall hold a public hearing at which interested parties may appear. Notice of the hearing shall be given to the property owners benefitted by the road.

(c) When, in the opinion of the County Board of Commissioners, the road constitutes a hazard to public safety or is impassable to emergency vehicles, based upon the testimony at the hearing, the Board by its order may:

i) Declare the owners in default of the maintenance agreement; and either

ii) Direct the County Roadmaster to undertake the road work which, in the opinion of the Roadmaster, is necessary to bring the road up to a passable condition and allocate the costs as estimated by the Roadmaster pursuant to paragraph (b) above; or

iii) Initiate proceedings to improve the road as provided in ORS 371.605 et. seq.

(d) The County may collect the assessed costs from the owners either prior to or upon completion of the maintenance work.

(2) In no event shall the duties or liabilities of Curry County be greater than those provided in ORS 368.031.

SECTION 3.01.170 LOCAL ACCESS ROAD MAINTENANCE POLICY

(1) If the County Board of Commissioners determines that a requested repair or maintenance project on a local access road is an emergency, it may authorize the expenditure of County funds for such a project if it concludes that:

(a) The public use of the road justifies the expenditure;

(b) There are County funds or resources available for the request; and

(c) The expenditure of such funds or resources on the requested project will not jeopardize the maintenance or repair of County roads, which are the County's first priority.

(2) If the County Board of Commissioners determines that a requested repair or maintenance project on a local access road is not an emergency, it may authorize the expenditure of County funds for such a project if it concludes that:

(a) At least 60% of the property owners, representing at least 60% of the property frontage along the road proposed to be repaired or maintained, sign a petition requesting the work be done. The petition shall contain a clause that the property owners agree to pay for all the materials used in the repair or maintenance; the County will provide all labor and equipment; and

(b) The County Roadmaster has recommended such an expenditure; and

(c) The public use of the road justifies the expenditure; and

(d) There are County funds or resources available for the request; and

(e) The expenditure of such funds or resources on the requested project will not jeopardize the maintenance or repair of County roads, which are the County's first priority.

(3) The intent of these policies is to provide a vehicle by which local access roads may be repaired or maintained without obligating the County for future work on these roads.

(4) If the Board authorizes County financial support for a non-emergency request, it shall enact an order or resolution authorizing the work to be a single project so as to minimize future obligations to the County and encourage the owners to seek alternate sources for maintenance, i.e., special road districts.

CHAPTER FOUR PRIVATE ROADS, DRIVEWAYS AND BRIDGES

SECTION 3.01.180 DEFINITION REGARDING PRIVATE ROADS, DRIVEWAYS AND BRIDGES

A private road is any road in a privately owned and controlled right-of-way which is constructed, controlled, maintained and otherwise kept in a drivable condition by the efforts of the people it serves. A private road is not intended for use by the general public other than persons providing a public service to the lots or parcels served by the private road.

A private driveway is a roadway which traverses and serves one lot or parcel.

A private bridge is any bridge located on a private road or driveway.

SECTION 3.01.185 APPLICABILITY OF PRIVATE ROAD, DRIVEWAY AND BRIDGE STANDARDS

Private road, driveway and bridge standards are regulated by the Curry County Zoning Ordinance which is administered by the County Community Development Department.

CHAPTER FIVE VARIANCE

SECTION 3.01.210 AUTHORIZATION FOR VARIANCES

The Roadmaster may grant variances, (as described herein), from the provisions of this division where it has been shown that due to unusual topographic conditions, unusual conditions related to the shape of the property or the location of a building on the property, or other conditions over which the applicant has no control, the literal interpretation of this division

would cause an undue hardship upon the applicant. In granting a variance the Roadmaster may attach conditions which he or she finds necessary to protect the best interests of the County, surrounding property or neighborhood and to otherwise achieve the purposes of this division.

SECTION 3.01.220 CIRCUMSTANCES FOR GRANTING A VARIANCE

A variance may be granted only in the event that all the following circumstances exist.

(1) Exceptional or extraordinary circumstances apply to the property which do not apply generally to other properties in the same vicinity and result from lot size, shape, topography, or other circumstances over which the owner of the property has no control.

(2) The variance is necessary for the preservation of a property right of the applicant substantially the same as owners of other property in the vicinity of the subject property.

(3) The variance would not be materially detrimental to the purposes of this division, or to property in the vicinity of the subject property, or otherwise conflict with the objectives of any County plan or policy.

(4) The variance requested is the minimum variance which would alleviate the hardship.

(5) The applicant shall provide a written statement from the governing board of the fire protection district having responsibility for structural fire protection in the area where the new dwelling or structure is to be located which states that their fire-fighting vehicles and equipment can negotiate the proposed road and/or driveway.

SECTION 3.01.230 FEASIBILITY REPORT

The applicant shall provide the Roadmaster a feasibility report on all requested variances. The Roadmaster shall contact all property owners abutting and using the road for which the variance has been requested and shall consider their comments regarding the requested variance.

SECTION 3.01.240 APPEALS OF VARIANCES

The applicant shall have the right of appeal of a denied variance. An affected property owner who has commented to the Roadmaster shall have the right to appeal an approved variance. Appeals of variances under this division shall be to the Board of Commissioners.

CHAPTER SIX GENERAL PROVISIONS

SECTION 3.01.260 PRE-EXISTING ROADS, DRIVEWAYS AND BRIDGES

(1) Substandard roads, driveways and bridges in existence on the effective date of adoption of this division shall be considered as nonconforming roads, driveways and bridges.

(2) Expansion of nonconforming roads, driveways and/or bridges shall be accomplished in

the following manner:

(a) Upgrade the road, driveway or bridge to the minimum standard required by this division; or

(b) Obtain an approved variance of the minimum standards as provided under Chapter Five of this division, except that a variance cannot be granted for the firefighting equipment access provisions of this division unless the agency providing fire protection concurs in the granting of the variance.

(c) Expansion of a nonconforming road or driveway includes the creation of additional parcels or lots by partitioning or subdivision of land accessed by the road and/or the construction of new habitable structures on land accessed by the road or driveway.

SECTION 3.01.270 INTERPRETATION

The provisions of this division shall be held to be the minimum requirements fulfilling its objectives. Where the conditions imposed by a provision of this division are less restrictive than conditions imposed by any other provisions of this division or of any other ordinance, resolution, regulation or statute; the provisions which are more restrictive shall govern.

SECTION 3.01.280 ABATEMENT AND PENALTY

Violations of the provisions of this division are subject to the following forms of abatement or penalties.

(1) If a person builds or maintains a road, driveway or bridge in violation of this division or violates this ordinance in any way, the County, in addition to other remedies provided by law, may institute an injunction, mandamus, abatement, or other appropriate proceedings to prevent, temporarily or permanently enjoin, abate or remove the unlawful road, driveway or bridge.

(2) In addition to the provisions of subsection (1) above, any violation of this division may be punishable by citation under appropriate provisions of Article 10 of this ordinance.

ARTICLE THREE – ROADS

DIVISION TWO: NAMING OF ROADS WITHIN CURRY COUNTY

SECTION 3.02.010: RESERVED

SECTION 3.02.020: AUTHORITY

The following procedures and requirements relating to the naming or renaming of roads in Curry County are hereby adopted pursuant to authority granted by ORS Chapter 215.

SECTION 3.02.030: DEFINITIONS

See Section 3.01.030 for definitions.

As used in this division the masculine includes the feminine and the singular includes the plural.

ROAD NAMING PROCESS

SECTION 3.02.040 ROAD NAMING

Roads shall be named or renamed by the Community Development Director or her/his designee.

SECTION 3.02.050 DUTIES

The Community Development Director shall have the duty of naming or renaming roads within unincorporated Curry County. The Director shall select a name for the road in question and notify the Roadmaster and Sheriff of the proposed name. The Roadmaster and Sheriff, within 10 working days of receiving the proposed name, shall advise the Community Development Director of their concurrence with the name or any objections. Upon consideration of the Roadmaster's and Sheriff's comments and determination of the road name the Community Development Director shall notify the abutting property owners of record of the road under consideration advising of the new road name. Should any abutting property owner object to the road name, the Community Development Director may re-evaluate the name and choose another name utilizing the same process as noted herein.

SECTION 3.02.060 NOTIFICATION OF PROPERTY OWNERS AND AGENCIES

The Community Development Director will send notice of the proposed road name change to all affected agencies, including the Road Department, County Surveyor, Assessor, Sheriff, Clerk, appropriate fire districts and forest protection district, appropriate ambulance services, appropriate 911 call centers, Post Office, appropriate cities, and abutting property

owners of record. Such notice shall include a statement as to where and when any objections should be filed pursuant to Section 3.02.070 below.

SECTION 3.02.070 APPEAL OF THE COMMUNITY DEVELOPMENT DIRECTOR DECISION

Upon receipt of the information regarding the road name, abutting property owners of record served by the road and agencies will have 10 working days to appeal the decision of the Community Development Director to the Board of Commissioners.

SECTION 3.02.080 FILING OF NEW ROAD NAME

Upon completion of the road naming process, the new road name shall be filed by the Community Development Director with the County Clerk, the County Assessor, the County Community Development Department, the County Roadmaster and the County Surveyor. The County Surveyor shall enter the new names of such roads or streets in red ink on any files, plats and tracings thereof which might be affected, together with the appropriate notations concerning the same.

SECTION 3.02.090 ROADS COVERED

Any County, public, or private street, road, highway or way visibly showing evidence of serving three or more existing residences, and a minimum of 500' in length is covered by this ordinance. Pursuant to ORS 227.120 those roads and streets within six (6) miles of the limits of any incorporated city shall not be renamed by the County.

SECTION 3.02.100 PREVIOUSLY NAMED ROADS

Requests to rename roads may be made through the Community Development Department by a majority of abutting property owners of record served by the road. Requests may be denied by the Community Development Director on the basis of length of the name, appropriateness of the name, disagreement among the property owners, confusion the name may cause, similarity to other road names or any other reasons the Community Development Director deems appropriate. No findings shall be required.

The Community Development Director may instigate renaming procedures on her/his own in order to bring roads into conformity with this division.

SECTION 3.02.110 LAMBERT GRID SYSTEM

The naming of roads under this system shall be done in such manner as to work compatibly with the Lambert Grid System which is utilized in Curry County.

(1) Addresses will be assigned only to improved lots or parcels which include a driveway leading onto the named road.

(2) Subsequent addressing of lots will be accomplished pursuant to Section 3.02.140 below.

SECTION 3.02.120 POSTING OF ROAD SIGNS

The Curry County Road Department may, at the Roadmaster's recommendation, install signs for non-County roads. Said signs shall be placed in a position to adequately indicate which road is being named. The signs may be placed upon public or private property for the protection of the health, safety, and welfare of the citizens of Curry County. The cost of the sign, installation and maintenance for non-County roads shall be borne by the person(s) requesting the sign. This person may include the Board or its delegated authority.

SECTION 3.02.130 ADDRESS NUMBER PLATES

The County Community Development Department shall assign addresses to new dwellings or developments when the owner is granted a building permit. At that time the Community Development Department will advise the Road Department of the address and the address number plate may be purchased from the County Road Department. If the address number plate is not purchased from the Road Department, it shall have a retroreflectorized green background with retroreflectorized white numbers. The numbers shall not be less than three inches in height. Upon completion of the dwelling or development the address number plate shall be posted by the property owner prior to the issuance of a certificate of occupancy. Said plates shall be conspicuously posted at all times by the resident in a manner to allow emergency vehicle drivers to immediately ascertain the address of each residence.

SECTION 3.02.140 PARTITIONS AND SUBDIVISIONS - ROAD NAMING AND POSTING

(1) At the time a partition or subdivision is requested, an applicant shall name each road within said partition or subdivision subject to approval of the Community Development Director.

(2) Upon completion of construction of the road(s), the applicant shall provide and install standard road name signs for each road in the partition or subdivision, said signs having a retroreflectorized green background with retroreflectorized white letters as specified in the Manual on Uniform Traffic Control Devices. Failure to provide and install standard road name signs can result in a disapproval of said partition or subdivision.

ARTICLE THREE – ROADS

DIVISION THREE REMOVAL OF THE COUNTY BOARD OF COMMISSIONERS FROM JURISDICTION OVER STATUTORY WAYS OF NECESSITY

SECTION 3.03.010 AUTHORITY

ORS 376.200 authorizes County Governing Bodies to remove themselves from jurisdiction over establishment of ways of necessity under ORS 376.150 to 376.200.

SECTION 3.03.020 REMOVAL FROM JURISDICTION

Because the Curry County Board of Commissioners feels that the Circuit Court is a preferable forum for litigating the establishment of statutory ways of necessity, it hereby removes the governing body of Curry County from jurisdiction over the establishment of ways of necessity under ORS 376.150 to 376.200.

ARTICLE THREE – ROADS

DIVISION FOUR USE OF ROAD RIGHTS-OF-WAY

SECTION 3.04.010 AUTHORITY

This division is being adopted by the Board of Curry County Commissioners under authority of ORS 374.309.

SECTION 3.04.020 DEFINITIONS

See Section 3.01.030 for definitions.

SECTION 3.04.030 WORK IN RIGHTS-OF-WAY; PERMIT REQUIRED; CONDITIONS; EQUITABLE REMEDIES

(1) Except as otherwise provided in this division, no person shall place, build, construct, extend, enlarge or otherwise work on any facility, thing or appurtenance in the right-of-way of a County road without first obtaining a permit from the County Roadmaster. This requirement applies to all work, including but not limited to, the following:

(a) Constructing, grading, surfacing or providing drainage facilities under the access to private driveway or approach road;

(b) Pipelines, irrigation lines, sewer lines, underground cables, overhead wires and utility poles;

(c) Signs, billboards, symbols, notices, advertisements or directional guides;

(d) Sidewalks, curbs, gutters, retaining walls, meters, inlet basins, fences and ornamental objects;

(e) Planting of trees or other vegetation; and

(f) Mailboxes and supports other than those conforming to design standards provided by the Road Department.

(2) No person shall construct or maintain any facility, thing or appurtenance within any such right-of-way in violation of any of the conditions of a permit or any of the provisions of this division.

(3) No person shall use, occupy or maintain any facility or thing placed wholly or partly within the road right-of-way in violation of, or without first obtaining the permits required by, any law in effect at the time such thing or facility is so placed.

(4) Nothing in this section shall be construed to prevent the County from removing anything from a County road right-of-way, whether or not the same is installed under a permit or in compliance with this division, where the County Board of Commissioners finds that such removal has become necessary to the public's use or improvement of the road.

SECTION 3.04.040 EXCEPTIONS TO CERTAIN REQUIREMENTS; INTERPRETATION.

(1) A permit is not required for the following, providing the work does not involve excavation:

(a) Performing maintenance or minor improvement to existing facilities lawfully in place;

(b) Utilizing lawfully installed facilities as intended when installed, including the following:

(1) Inspection and cleaning of sewer and storm water facilities;

(2) Inserting cables in existing conduits or making service connections within a terminal structure; and

(3) Utilization that is expressly acknowledged by prior permit provisions; and

(c) Other miscellaneous minor activities as specifically approved in writing by the Roadmaster.

(2) Nothing in this section shall:

(a) Limit or affect any of the powers granted to, or duties imposed upon, the County Board of Commissioners, the Department of Transportation or the Public Utility Commissioner by ORS 758.010 and 758.020, or any rights granted or authorized under those statutes or any other statutes pertaining to powers, duties and rights of the aforesaid;

(b) Grant any right for the construction or placing of an approach road, structure, pipeline, ditch, cable, wire or other facility, thing or appurtenance on the right-of-way of any County road; or

(c) Be deemed to affect any approach road, structure, pipeline, ditch, cable, wire or other facility, thing or appurtenance lawfully placed or constructed upon the right-of-way of any County road prior to September 13, 1967, subject, however, to the authority reserved to the County Board of Commissioners in Section 3.04.030 (4).

SECTION 3.04.050 CHANGE IN USE OF APPROACH ROAD; PERMIT REQUIRED.

A change in the manner of using an approach road that connects to or intersects a County road requires a permit, as provided by ORS 374.305. A changed use includes, but is not limited to:

(1) Any physical change requiring excavation, placing of an embankment, a culvert extension, construction of headwalls and repair or alteration of any existing lawfully installed facility pertinent to a driveway or approach road;

(2) Any substantial change in the type or number of vehicles reasonably anticipated during the application for, and the review and approval of the latest existing permit on file for a driveway or approach road; and

(3) Any other change in the approach road or its use which the Roadmaster finds may adversely affect the public's safety or the public's interest in the County road in the absence of limitations or conditions.

SECTION 3.04.060 REVIEW OF PERMIT APPLICATIONS.

From the date this division becomes effective the authority contained in ORS 374.305 through 374.325 relating to County roads applies to any facility, thing or appurtenance within a County road right-of-way. After a completed application with the required fee has been submitted, the Roadmaster, or his or her authorized representative, shall review the application and shall issue the permit if he or she determines that the proposal will comply with the provisions of this division and the applicable requirements imposed by State law. The Roadmaster may impose additional written conditions on a permit consistent with the provisions of this division if he or she finds such conditions to be necessary to the public interest in the safe use of the road and the preservation of the public improvements therein and on the property adjoining the same. The Roadmaster may also require the applicant to submit plans which, when approved, will become part of the conditions of the permit. The Roadmaster shall prepare appropriate forms to assist the applicant in providing the information necessary for the application review.

If the applicant disagrees with the Roadmaster's interpretation of the regulations or with the conditions imposed by the Roadmaster, or if the Roadmaster finds that the proposal raises problems of public safety or problems having to do with the public use or protection of the road, which problems are not addressed in the regulations, then either may refer the application to the County Board of Commissioners, which Board shall, within thirty days, afford them an opportunity to be publicly heard and make its final decision in the matter. If the Board finds that the proposal creates a problem to public interests in the road which cannot be solved by the application of the regulations or adequate conditions, the Board shall deny the application.

The Roadmaster shall arrange for whatever field study and inspection he or she deems to be appropriate to assure compliance with the requirements.

SECTION 3.04.070 PERMIT REGULATIONS AND CLASSIFICATION.

(1) The regulations pertaining to each of the various permits issued by the Roadmaster, which are set forth in Exhibit D, "PERMIT REGULATIONS & CLASSIFICATION" following the text of this division, are hereby adopted and made a part of this division.

(2) A permit fee shall be paid at the time the application for a permit is submitted to the Roadmaster. All permits issued by the Roadmaster shall be classified under one of the following headings on a general "Facility Permit" form.

(a) Driveway/road approach permit;

(b) Road encroachment permit;

(c) Road improvement permit;

(d) Special permit;

(e) Utility permit;

(3) Copies of the regulations appropriate to the classification, as determined by the Roadmaster, shall be attached to, or referenced on, each permit issued.

SECTION 3.04.080 PERMIT FEES.

Fees for the various permits required by this division shall be set by Board resolution.

SECTION 3.04.090 EXEMPTIONS FROM FEE REQUIREMENT.

No fee shall be required for a permit in the following circumstances:

(1) Where installation of public facilities by public or quasi-public entities is involved;

(2) Where the Roadmaster finds that the organization which proposes the installation is engaged in a nonprofit activity and that the activity is for the benefit of the general public;

(3) Where the permitted facility, thing or appurtenance in the right-of-way of the County road is in lawful existence as of the effective date of this division except that this exemption does not apply to work done after such effective date; and

(4) In any instance where the Roadmaster deems it to be in the best interests of the County to waive the permit fee.

SECTION 3.04.100 VIOLATIONS; REMOVAL OR CORRECTION OF INSTALLATIONS; PROSECUTION.

(1) If any person fails to obtain a permit or to comply with the appropriate regulations or permit conditions, then the Roadmaster may take appropriate action to remove or correct the installation and recover the cost from the person responsible, all in accordance with the authority contained in ORS 374.307 and 374.320 as such statutes relate to County roads. However, such action shall not waive the County's right to prosecute the offender under Section 3.04.990.

(2) In addition to the remedies set forth in subsection (1) hereof or prescribed by ORS 374.307 or 374.320, any person who violates or fails to comply with any of the provisions of this chapter may be punished as provided in Section 3.04.990. A separate offense may be deemed committed each day during or on which such unlawful condition is maintained or continued after citation or notice of violation has been given. Offenses under this section may be charged under Article 10 of the Curry County Code.

SECTION 3.04.110 ALTERATION OR REMOVAL OF TREES AND VEGETATION IN COUNTY ROAD RIGHTS-OF-WAY.

(1) All trees within a County road right-of-way are subject to the County's control, and no tree may be altered or removed without a permit from the County. The permit requirement does not apply to public utilities exercising their rights within the right-of-way pursuant to State law or franchise. The authority to issue a permit under this section is delegated to the Roadmaster or his or her authorized representative. In issuing a permit, the County shall have the authority to impose such conditions as it deems necessary for public safety and convenience.

(2) The County has and claims the right to remove or alter any tree, or remove any other vegetation, situated entirely within the County road right-of-way if, in the judgement of the Roadmaster, such removal is necessary to the use or improvement of the road or related facilities or for public safety.

(3) If the Roadmaster finds that a tree to be removed may have marketable or ornamental value to the owner of the land abutting the half of the right-of-way on which the tree is situated, the County shall first send notice to the abutting owner, giving the owner thirty days within which to secure a permit and alter or remove the tree or vegetation. If within that period of time the tree or other vegetation is not removed or altered to the extent necessary to the public safety and convenience as found by the Roadmaster, the County may remove or alter the tree or vegetation and, if it is a merchantable tree, retain it to defray the cost of removal. For purposes of giving notice under this subsection, the owner according to the Assessor's records of the property abutting the half of the right-of-way within which the tree is situated shall be deemed the owner of the underlying tree. Notwithstanding the foregoing, if the Roadmaster or his or her authorized representative determines that an emergency exists which may affect the public safety, no notice shall be required prior to the removal of the tree or vegetation.

(4) The Roadmaster may define by written policy those criteria by which he or she determines that the removal or alteration of a tree or other vegetation within a County road right-

of-way is necessary for public safety or convenience; that a tree is marketable or has ornamental value to abutting property; or that an emergency exists which may affect the public safety. When such written policy is approved by the Board of Commissioners, any determination made by the Roadmaster pursuant to the policy is final.

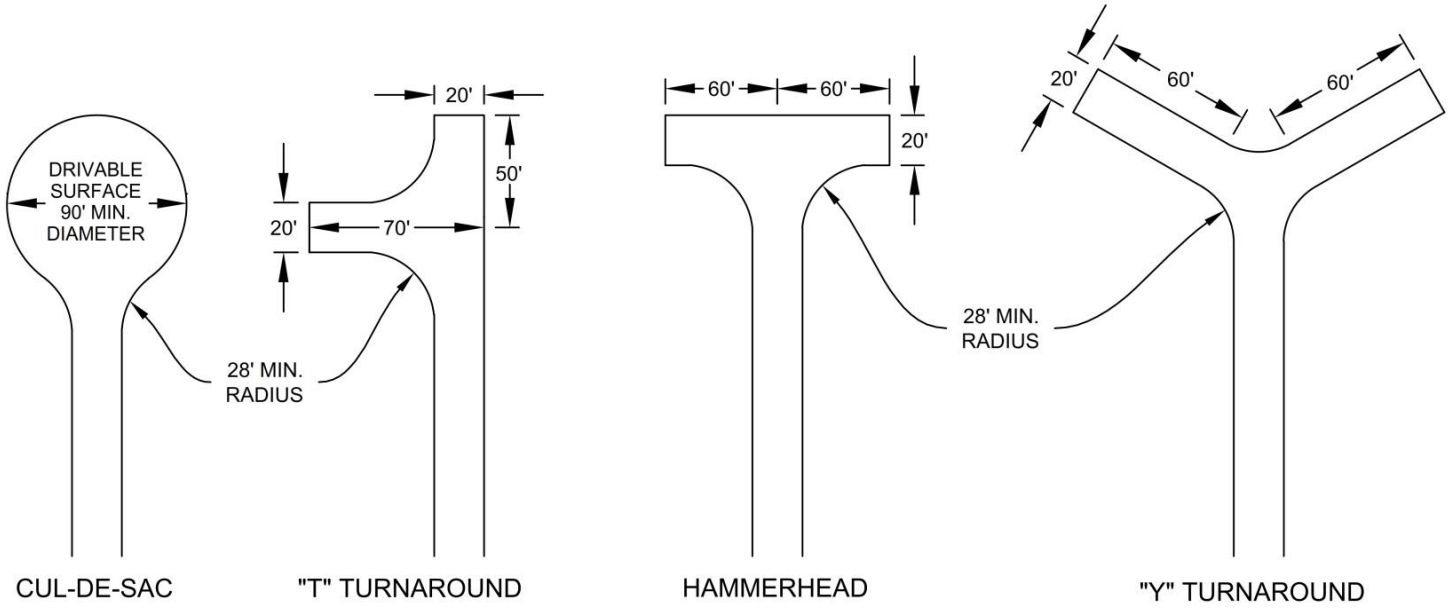
(5) Notwithstanding subsection (4) hereof, the Board of Commissioners may, on its own motion, within the said thirty days, review a proposal to remove a tree under this division and may determine, at its discretion, whether there is a public interest which outweighs the public safety issue raised by the presence or condition of the tree, or may determine at its discretion that the public safety and convenience can be adequately served without the removal of the subject tree considering its value or function.

SECTION 3.04.990 PENALTY.

Violations of this division may be punishable by citation under appropriate provisions of Article 10 of this ordinance.

EXHIBITS TO ARTICLE THREE

EXHIBIT "A"



NOTES:

1. SLOPES: 1% MINIMUM, 4% MAXIMUM.
2. SURFACING: PAVED PER FUNCTIONAL CLASS.
3. TURNAROUNDS FOR FIRE ACCESS REQUIRE FIRE DEPARTMENT REVIEW/ APPROVAL (THEIR STANDARDS MAY BE GREATER).
4. ALL CONSTRUCTION SHALL COMPLY WITH CURRY COUNTY ROAD STANDARDS AND AN APPROVED PLAN.

MINIMUM TURNAROUND STANDARDS FOR RURAL ROADS

EXHIBIT "B" TO DIVISION ONE

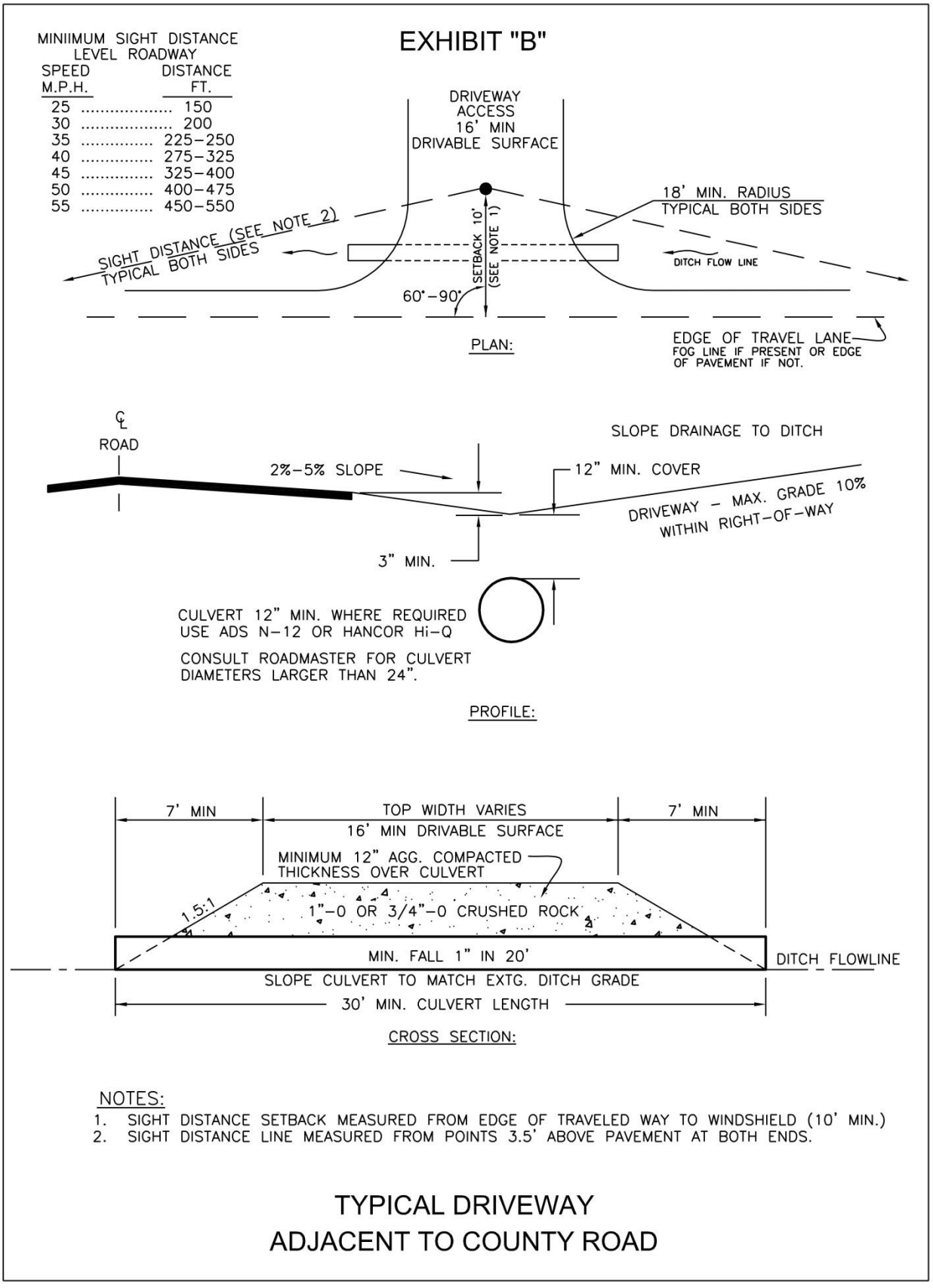


EXHIBIT "C" TO DIVISION ONE

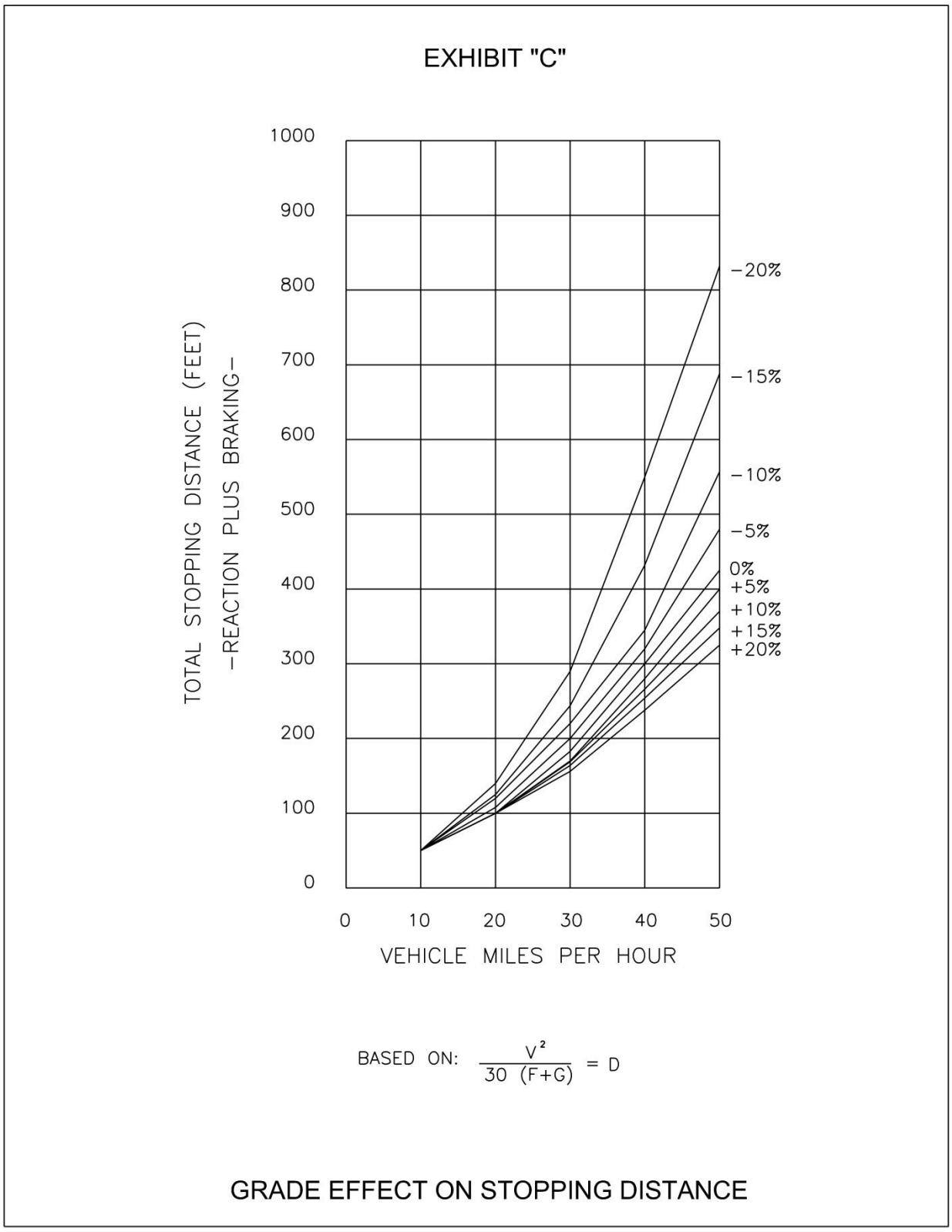


EXHIBIT "D" TO DIVISION FOUR

PERMIT REGULATIONS & CLASSIFICATION

APPLICATION FOR FACILITY PERMIT - EXAMPLE

APPLICATION FOR FACILITY PERMIT

(Subject to Conditions; Revocable)

CURRY COUNTY ROAD DEPARTMENT

28425 Hunter Creek Road

Gold Beach, OR 97444

PERMIT NO. _____

DATE: _____

TAX MAP _____

TAX LOT _____

PERMIT TYPE AND FEE COLLECTED:

_____ Driveway/Road Approach

_____ Road Encroachment

_____ Road Improvement

_____ Major

_____ Minor

_____ Special

_____ Utility

I, _____ hereby make application for a facility permit upon the right-of-way of

(Applicant's Name)

_____ Milepost (s) _____ in strict conformity to the

(Road Name-County Road Number)

exhibits attached hereto, subject to all terms, conditions, agreement stipulations, and provisions contained in the application and permit, and the rules and regulations regarding roads and rights-of-way, as set forth by the Curry County Code Article Three, and any other applicable regulations, law or ordinance.

DESCRIPTION OF FACILITY: _____

_____

_____

_____ _____

Signature Mailing Address

_____ _____

Phone Number City State Zip

_____

Email Address

FACILITY PERMIT

SPECIAL PROVISIONS: The terms and specifications which apply to this permit are as shown on the attachment herewith and the permit conditions listed on the reverse side of this application. Noncompliance with these terms, specifications and conditions will result in revocation of this permit.

ATTACHMENTS FOR:

_____ Driveway/Road Approach _____ Road Improvement _____ Utility

_____ Road Encroachment _____ Special

ADDITIONAL REQUIREMENTS:

_____

_____

_____

This permit shall be void unless the work herein contemplated shall have been completed before _____, 20_____.

APPROVED:

_____ Approved _____

Issue Date

_____ Denied _____

Douglas M. Robbins, Roadmaster

INSPECTED:

Date _____ Approved _____

By _____ Denied _____

RETURN completed Permit Application to:
Curry County Road Department, 28425 Hunter Creek Road, Gold Beach, OR 97444

A. This permit covers public right-of-way and/or County property only.

B. It is the responsibility of the permit holder to re-establish any survey monument, moved, destroyed, etc. while working within County right-of-way. Re-establishment of survey monuments must be done by an approved registered surveyor and all costs will be borne by the permit holder.

C. Notification to the Curry County Road Department is required 24 hours before beginning work under this permit - (541) 247-7097. Prior approval for modifications to permit specifications is required.

D. Failure of the permit holder to ensure strict conformance with all permit conditions shall be considered good and sufficient cause for revocation of the permit allowing work within the County road right-of-way. Permits may be terminated or suspended when the permit holder is found to have obtained a permit through misrepresentation of the facts or when, in the judgment of the Roadmaster, terms of the permit are being violated or public safety is threatened. Permits shall remain in effect until a change in land use occurs. The permit holder shall be responsible for the cost of design, installation or construction of additional roadway improvements and traffic control devices at any time in the future when the traffic generated by the use for which the access permit is authorized necessitate such installation in the interest of the public safety.

E. **HOLD HARMLESS CLAUSE -** The permit holder agrees that their performance under this permit is at their own sole risk and that they shall indemnify Curry County, its agents and employees and hold them harmless from any and all liability for damages, costs, losses and expenses resulting from, arising out of, or in any way connected with this permit, or from the permit holder's failure to perform fully hereunder, and the permit holder further agrees to defend Curry County, its agents, and employees, against all suits, actions or proceedings brought by any third party against them for which the permit holder would be liable hereunder.

F. The permit holder guarantees all restoration work for a period of one year from the date of completing the installation, except non-cement/sand slurry backfills under pavements shall be warranted for two years from the date of completing the installation.

G. Any sight posts, sign posts, or mailboxes that are removed will be replaced immediately in like condition in the same location and the area around them will be restored to a like or better condition.

H. As provided in O.R.S. 758.010 the Road Department, acting on behalf of the County Board of Commissioners, may designate where utilities may be located within a County road right-of-way and may order the location of such facility changed if deemed expedient.

DRIVEWAY/ROAD APPROACH PERMIT REGULATIONS - EXAMPLE

(Subject to Conditions; Revocable)

Name:_____ Permit No._____

Phone:_____ Road _____

Email:_____ Mile Post_____

Twp._____Rng._____Sec._____

Tax Lot(s)_____

Expiration Date_____

Compliance with the standard drawings attached hereto is required.

I. Materials

Culverts shall be double wall plastic (ADS N-12 or Hancor Hi-Q) pipe for diameters through 24". Consult with the Roadmaster for diameters larger than 24".

II. Construction Regulations

1. Obtain permit from the Curry County Road Department. Permits are to be signed by the property owner unless the contractor has an authorized paper signed by the property owner to obtain permits for them.

2. Absolutely no work is to begin without having the permit in hand. ALL WORK IS TO BE COMPLETED BEFORE THE EXPIRATION DATE.

3. Culvert shall be installed on straight lines, both vertical and horizontal, and have a minimum fall of 1" in 20 feet. Bell ends of pipe shall be placed facing towards the inlet end of the culvert. Any questions or problems regarding this paragraph shall be resolved **prior to proceeding with any further work.**

4. Flow line of culvert shall match the flow line of the ditch and allow for a minimum of 12" of cover over the culvert. Cover materials shall maintain a 2% slope away from the roadway to the back of the ditch. Cover material shall be 1"-0 or ¾"-0 crushed rock. Any questions or problems regarding this paragraph shall be resolved **prior to proceeding with any further work.**

5. The driveway/road approach shall intersect the County road as near to a right angle as possible.

6. The maximum grade of the driveway/road approach in the County right-of-way should be ten (10) percent and constructed so that the low point in the grade is over the culvert or so that the slope is away from the road to prevent storm water and surfacing materials from encroaching on the road shoulder.

7. For road approaches in curb and gutter sections of road, the curb cut construction must conform to the Department's standard drawing. Behind the curb a standard concrete apron must be constructed or the portion of the driveway on the right-of-way must be paved with asphaltic concrete. The County must inspect the forms prior to the concrete pour.

8. Call for final inspection.

III. General Provisions

1. The applicant declares that he or she is the owner or lessee of the real property abutting the above described County road and has the lawful authority to apply for this permit.

2. The County assumes no liability for any damage which may be caused to the approach due to routine road maintenance or road improvement. It shall be the responsibility of the holder of this permit to construct the approach to such lines and grades so as not to interfere with normal road maintenance operations.

3. A driveway/road approach permit may be denied when, in the opinion of the Roadmaster, lack of adequate sight distance would create a traffic safety hazard. The applicant may be required to remove brush, widen cut banks, relocate the proposed approach or otherwise satisfy sight distance requirements and to ensure that those distances are maintained. The minimum recommended sight distances for the estimated speed of the traffic are given below. The sight distance line shall be measured from points 42" above road surface at both ends.

Speed (mph)	Minimum Sight Distance (ft.)
25	150
30	200
35	225-250
40	275-325
45	325-400
50	400-475
55	450-550

4. Proper barricades and warning signs must be maintained at all times during construction by the holder of this permit so as to ensure the safety of the public.

5. The County road is to be restored to its original or to a better condition. All excess rock or dirt is to be removed from the traveled portion of the road by brooming or washing, as directed. Final clean-up is to be completed within one week after the approach is constructed.

6. Failure of the permit holder to construct the approach or approaches in strict conformance with all the provisions written herein, or with plans and standard drawings attached hereto, shall be considered good and sufficient cause for revocation of the permit allowing work within the County road right-of-way. Removal of the partially constructed approach or approaches shall be done at the applicant's sole expense.

ROAD ENCROACHMENT PERMIT REGULATIONS - EXAMPLE

(Subject to Conditions; Revocable)

Name:_____ Permit No._____

Phone:_____ Road _____

Email:_____ Mile Post_____

Twp._____Rng._____Sec._____

Tax Lot(s)_____

Expiration Date_____

General Conditions

This permit is subject to the below listed terms and conditions. Failure of the permit holder to ensure strict conformance with all permit conditions shall be considered good and sufficient cause for revocation of the permit allowing work within the County road right-of-way.

Description of Installation

Description goes here.

Location of Installation

_____(see attached sketch)

Special Terms and Conditions

1. This permit is valid only for work within the scope and extent as described above.

2. The holder of this permit shall indemnify and hold the County of Curry harmless and blameless from damages that may be caused or contributed by the above described installations.

3. In the event that County maintenance and/or construction require additional utilization of the public right-of-way this permit may be revoked and the permit holder may be required, **at his/her own expense**, to relocate the facilities to accommodate the work contemplated by the County. Curry County will make reasonable effort to provide the permit holder prior notification of any such planned activity.

4. In the event that the above described installation, in the opinion of the Roadmaster, adversely affects public safety, the Roadmaster shall revoke this permit. In this event, the permit holder shall immediately, and **at his/her own expense**, provide for the elimination of said encroachment and other items associated with the above described installation.

5. Additional pertinent road encroachment permit terms and conditions will be issued with the permit as needed.

ROAD IMPROVEMENT PERMIT REGULATIONS - EXAMPLE

(Subject to Conditions; Revocable)

Name:_____ Permit No._____

Phone:_____ Road _____

Email: _____ Mile Post_____

Twp._____Rng._____Sec._____

Tax Lot(s)_____

Expiration Date_____

General Conditions

This permit is for a major/minor road improvement. This permit is subject to the below listed terms and conditions. Failure of the permit holder to ensure strict conformance with all permit conditions shall be considered good and sufficient cause for revocation of the permit allowing work within the County road right-of-way.

Description of Installation

Description goes here.

Location of Installation

_____(see attached sketch)

Special Terms and Conditions

1. Traffic safety and convenience shall receive utmost consideration at all times. Permittee shall follow the attached signing plan.

2. The holder of this permit shall be responsible for all damages caused by any operations associated with the road improvement. All damaged areas shall be restored to an "as good as, or better than" condition as existed prior to the road improvement.

3. The holder of this permit guarantees all parts of the road construction for a period of two years from the date of completing the project.

4. The holder of this permit shall indemnify and hold the County of Curry harmless and blameless from damages that may be caused or contributed by the above described installation.

5. The County may order the work suspended as set forth in Section 180 of the Oregon Standard Specifications for Construction for any reason deemed to be in the public interest.

6. All work and materials shall conform to the Curry County Road Department specifications.

7. Each phase of construction (culverts, subgrade, base rock, etc.) shall be inspected and approved by the Road Department before proceeding with the next phase.

8. Detailed plans prepared and stamped by a professional engineer registered in Oregon shall be required for major improvements.

9. The contractor shall call the Road Department at (541) 247-7097 for subgrade and form inspections (24 hour notice).

10. Additional pertinent permit terms and conditions will be issued with the permit as needed.

SPECIAL PERMIT REGULATIONS - EXAMPLE

(Subject to Conditions; Revocable)

Name:_____ Permit No._____

Phone:_____ Road _____

Email: _____ Mile Post_____

Twp._____Rng._____Sec._____

Tax Lot(s)_____

Expiration Date_____

Failure of the permit holder to ensure strict conformance with all permit conditions shall be considered good and sufficient cause for revocation of the permit allowing work within the County road right-of-way.

Pertinent special permit conditions will be issued with the permit as needed.

UTILITY PERMIT REGULATIONS - EXAMPLE

(Subject to Conditions; Revocable)

General Conditions

1. This permit is granted for use only on roads under the jurisdiction of the Curry County Board of Commissioners and is not valid upon any federal highway, state highway, city or town street, or any road not in the County road system of Curry County.

2. As provided in O.R.S. 758.010 the Road Department, acting on behalf of the County Board of Commissioners, may designate where utilities may be located within a County road right-of-way, and may order the location of such facility changed if deemed expedient.

3. Permittee shall be responsible for all damages caused by any operations associated with the utility installation. All damaged areas shall be restored to an "as good as, or better than" condition as existed prior to the utility installation.

4. By acceptance of this permit, permittee agrees to be responsible for all permit conditions, including the attached special conditions, and said responsibility shall survive the suspension or termination of this permit.

5. Utility permit applications shall be accompanied by 2 sets of plans or a sketch that accurately depicts and locates the work to be done so that someone unfamiliar with the work can determine the location of the installation. Said plans shall be adhered to unless written permission to vary is granted by the Roadmaster.

Special Conditions

Compliance with the applicable "Special Conditions for Underground Utilities Within County Road Rights-of-Way", "Special Conditions for Underground Electric Power Line Installation Within County Road Rights-of-Way" and/or "Minimum Signing Requirements for Construction and Maintenance Areas" is required.

SPECIAL CONDITIONS FOR UNDERGROUND UTILITIES WITHIN COUNTY ROAD RIGHTS-OF-WAY

1. MAXIMUM LENGTH OF OPEN TRENCH

Unless otherwise approved by the Roadmaster, backfilling of longitudinal trenches shall be accomplished so that no more than 200 feet of trench is left open at any time. No more than half the road may be closed at any time for either longitudinal or transverse trenches.

2. CEMENT/SAND SLURRY BACKFILL AND BACKFILL MAINTENANCE

All paved surface cuts shall be backfilled with 1 sack cement/sand slurry poured at a 6"-8" slump. Slurry shall extend from the pipe zone to finish grade and be plated with 1/2" minimum steel plates of sufficient width to overlap the trench by 6". "BUMP" signs must be placed on either side of the plates to warn traffic. The slurry backfill is to stand on the angle of repose or it may be vertical if the edges are formed first. The edge of the slurry shall extend one foot outside of the edge of pavement. Steel plates shall be left in place until slurry is set. Plywood may not be used for traffic to pass over.

The surface of backfilled trenches using an alternate backfill material on larger longitudinal trenches shall be watered and graded as often as necessary to keep the travel way smooth and dust free. If required by the Roadmaster, an approved dust palliative shall be applied.

3. TEMPORARY PAVEMENT REPLACEMENT

Cross trenches or other local pavement cuts shall be repaved immediately unless the contractor chooses to wait until all trenching and backfilling is completed. Temporary asphalt covering (cold mix) may be constructed. The temporary surfacing shall be removed in its entirety before placement of the permanent pavement.

4. COMPACTION TESTING

Compaction testing shall proceed within a short distance behind the compaction phase. Permittee shall perform the testing at such locations and elevations as will be representative of the entire backfill. Final decision as to the location and frequency of testing shall reside entirely with the County Roadmaster or his authorized representative.

Areas showing failing compaction tests shall receive further attention without undue delay. Further attention may involve additional compactive effort, other compactive method or removal of the backfill material. In no case shall the main excavation phase proceed until the failing section has been corrected unless otherwise approved by the County Roadmaster.

5. ROAD RESTORATION REQUIREMENTS

Restoration is the process of bringing a roadway as near as possible to the life and structural section a road had prior to construction. It is also part of maintaining a safe surface for driving (i.e. consistent road surface types for braking and turning maneuvers). Typically the County has three (3) major types of restoration.

- Tee cut
- Grind and inlay
- Overlay

The restoration requirements on the permit/plans approved by the County should be considered as best case. They will be the standards used if the construction does not cause any extra damage, the trench walls do not cave in, no modifications to the alignment, and no conflicts are discovered.

The restoration requirements are based on several items including:

- Current condition of the road based on a pavement condition index (PCI) as determined on a regular basis (usually every 2 years) by the County
- Functional classification of the road
- Next regularly scheduled maintenance
- Site conditions (curves, road hazards, signage, and speed zone)
- Professional engineering judgement

When an open trench cut is proposed on a road which is scheduled to be surfaced within the next six (6) months, a tee cut shall be required.

When an open trench cut is proposed on a road which has a PCI greater than eighty (80), and it is not scheduled to be surfaced within the next six (6) months, a grind and inlay will be required.

When an open trench cut is proposed on a road which has site conditions such as sharp curves, road hazards, or in a school zone, an overlay may be required.

When an open trench cut is proposed on a road which has been surfaced within the last five (5) years, open cuts may not be allowed. At the County's discretion, tap and bores may be allowed with a grind and inlay for any bore pit.

6. PROSECUTION AND PROGRESS OF ROAD RESTORATION

Traffic safety and convenience shall receive utmost consideration at all times. Permittee shall ensure that road restoration work is prosecuted diligently and completed as quickly as practicable after trench compaction and testing. On lengthy projects, complete road restoration may be required on one section prior to continuance of the excavation phase on another.

7. INSPECTION AND SUPERINTENDENCE

When required by the Roadmaster, permittee shall provide for a full time representative on the project. The representative shall be an experienced inspector or engineer who will be responsible to ensure compliance with the contract documents and the County's General and Special Conditions of the project permit.

In case of conflict between the project plans and contract documents and the "Terms and Conditions of this Permit", the latter shall prevail.

8. STANDARDS AND SPECIFICATIONS

Except as otherwise shown or referred to in these Special Conditions, or as otherwise approved by the Roadmaster, all work and materials affecting roads and road structures shall conform to the Curry County Road Standards. Said standards and specifications include, by reference, the Oregon Department of Transportation "Oregon Standard Specifications for Construction" and the Federal Highway Administration "Manual on Uniform Traffic Control Devices" (MUTCD.).

9. CLEANUP AND REPAIR

All areas affected by the construction shall be brought to an "As good as or better than" condition prior to completion of the project. Repairs shall include, but are not limited to:

A. Roadway Repairs

In addition to road reconstruction within the trench area, the permittee shall ensure the repair of any other pavement, base material or subgrade damaged as a result of project operations. This includes damage to shoulders and pavement edges caused by detouring traffic and equipment around the work area. In case of excessive damage, reconstruction or an asphaltic overlay may be required.

B. Replacement of Contaminated Gravel

All gravel surfaces contaminated with mud, dirt, oversize rock or other foreign material shall be removed and replaced with 3/4"-0 crushed rock meeting the requirements hereinabove set forth.

C. Slopes and Roadside Ditches

Slopes and roadside ditches shall be trimmed, smoothed and compacted to the original lines and grades.

D. Driveways, Culverts and Ditches

Driveways, culverts and ditches shall be replaced to the original lines and grades.

E. General Cleanup

The contractor shall at all times during the work keep the roadway clean and orderly. All broken pavement, concrete, excess excavation material or other objectionable material shall be promptly removed from the County road right-of-way.

10. MISCELLANEOUS CONDITIONS

A. Detours

All requests for detours shall be submitted well in advance with a detour plan showing traffic signing proposed. No detour will be permitted until approval of the plan by the County Roadmaster. When the plan is approved the permittee shall notify all emergency agencies, school districts and postal carriers concerning the location and duration of the detour.

B. Backfill Compaction by Water Settlement Method

The use of the water settlement method of compaction for certain granular materials, as noted on the typical section, may be allowed under the following conditions:

1. Permittee shall, prior to backfilling any significant portion of trench, demonstrate by approved testing methods that the specified compaction is obtainable. Excessive groundwater infiltration or retainage of water in the backfill material will not serve as sufficient reason for not achieving specified compaction.

2. Water settling (jetting or ponding) shall proceed within a short distance behind the backfilling operation. Lateral trenches, other new excavation or re-excavation which may occur at a later time shall be compacted separately and, if necessary, by mechanical means in order to achieve the specified compaction.

3. Compaction testing shall proceed within a short distance behind the compaction phase. Permittee shall perform the testing at such locations and at such elevations as shall be representative of the entire backfill. Final decision as to the adequacy and frequency of testing shall reside entirely with the County Roadmaster or his authorized representative.

4. Areas showing failing compaction tests shall receive further attention without undue delay. Further attention may involve additional water settlement, dewatering, other compactive methods or removal of the backfill material. In no case shall the main excavation phase proceed until the failing section has been corrected unless otherwise approved by the County Roadmaster.

C. Pavement Replacement

Immediately prior to patching the trench with asphaltic concrete, the existing pavement shall be neatly cut with a pavement saw or other approved breaker. All cracked or ravelled pavement shall be removed without creating abrupt jogs in the cut line. Pavement trimming, finishing of the gravel surface, tacking the edges and pavement replacement shall be performed only under the immediate supervision of the Roadmaster or his authorized representative. Unless otherwise approved by the Roadmaster, all trenches within a paved travelled way shall be resurfaced with asphaltic concrete within 10 calendar days after testing and approval of the backfill. The finished surface of the new pavement, when tested with a 10-foot straightedge, shall not vary from the testing edge by more than 1/4 inch at any point. The top course of asphalt shall be constructed only by workmen thoroughly familiar with asphalt finishing work.

An emulsified asphalt fog coat of the entire paved surface may be required after the asphaltic concrete patching has been completed on projects having numerous cross trenches or where there has been extensive damage to the surface. The fog coat shall be CQS-1h emulsified asphalt mixed at a 1 to 1 ratio with water according to the manufactures directions. Apply the fog coat at a rate of 0.11 gallons per square yard.

On longitudinal trenches, unless otherwise approved by the Roadmaster, the existing pavement shall be removed and replaced to full paving machine width (normally 10 feet). Drag boxes or other pull-type asphalt spreaders will not be permitted for longitudinal trench pavement replacement.

D. Manhole and Valve Box Adjustment

Manholes, valve boxes and similar structures shall be raised to finish grade after paving is completed. The structure surface shall be no greater than 1/4 inch higher or lower than the surrounding surface when tested with a 10-foot straightedge. Level 3, 1/2" dense HMAC asphaltic concrete may be used to fill in the void around the structure unless otherwise directed by the Roadmaster. If the Roadmaster so requires, concrete collars shall be constructed in accordance with the department's standard drawings "CONCRETE COLLARS FOR MANHOLES" and/or, "CONCRETE COLLARS FOR MONUMENT/VALVE BOXES". Usually, concrete will only be required (a) when it is impractical to maintain adequate working temperature for asphaltic concrete and (b) where the

structure configuration fails to provide adequate support to prevent being displaced by traffic.

11. SPECIAL CONDITIONS FOR UNDERGROUND ELECTRIC POWER LINE INSTALLATION WITHIN COUNTY ROAD RIGHTS-OF-WAY

Longitudinal power line installations shall not be allowed within the roadbed section, including ditches, unless the conditions are such that installation outside the ditch line would present an extreme difficulty. The burden of proving "extreme difficulty" shall lie with the applicant.

When located outside the roadbed section, the cable shall be placed as near the right-of-way line as possible while maintaining a generally uniform distance from the road centerline.

Warning signs shall be placed at frequent intervals over the cable, including both sides of road crossings.

The minimum depth for power cables shall be not less than 36 inches below the flow line of the roadside ditch. Where no ditch is present or where the proposed utility will be located a minimum of 5 feet from the ditch, the 36 inch bury depth shall be measured from the existing ground surface. **Under no circumstances shall the depth of power cable be less than 36 inches unless contained in steel conduit pipe.**

12. NORMAL WORKING HOURS

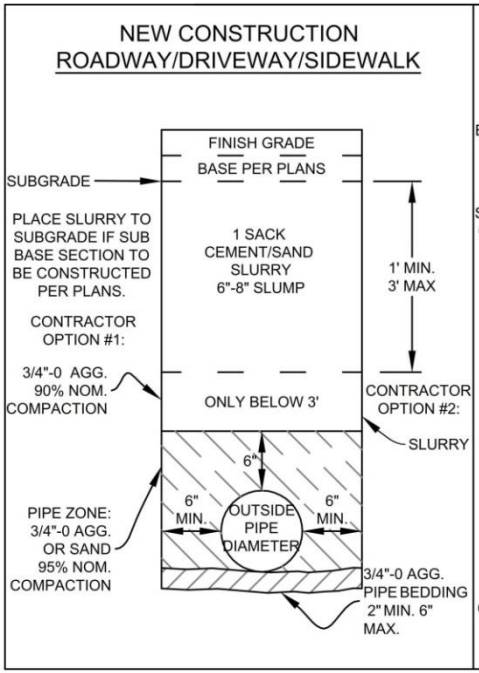
Working hours for the permitted work shall be between 6:00 a.m. to l0:00 p.m. on weekdays. Work on weekends or holidays must be approved by the Roadmaster. The permittee may be required to reimburse the County for inspection costs for any work that is permitted outside of normal departmental working hours.

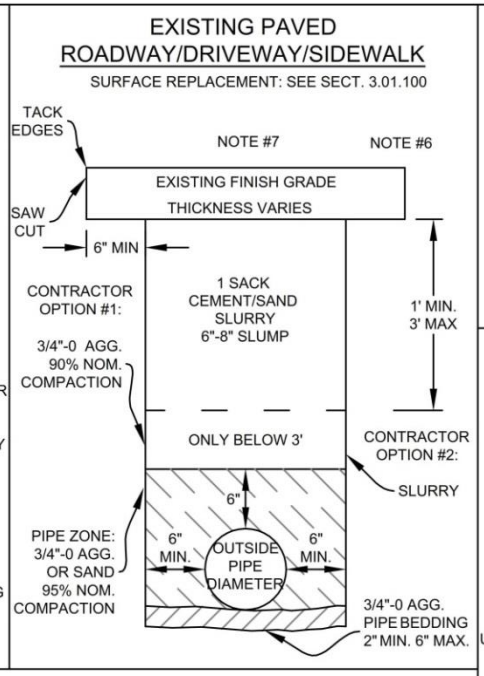
REVOCATION OF PERMIT

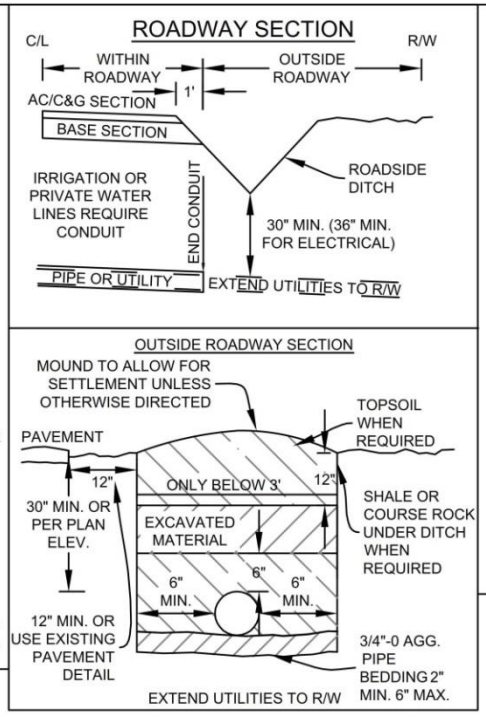
Failure of the permit holder to ensure strict conformance with all permit conditions shall be considered good and sufficient cause for revocation of the permit allowing work within the County road rights-of-way.

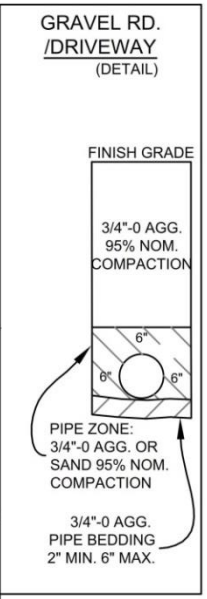
Revocation of the permit will result in a "STOP WORK ORDER" on all or portions of the project.

Work performed within the County road right-of-way without a valid permit is a violation of Curry County Code and is enforceable pursuant to Article 10 of the Curry County Code. For any person who causes or maintains a condition in violation of Curry County Code, Article Three, every day during which such unlawful condition is thus maintained or continued after citation or notice of violation has been given may be charged as a separate offense.









NOTES:

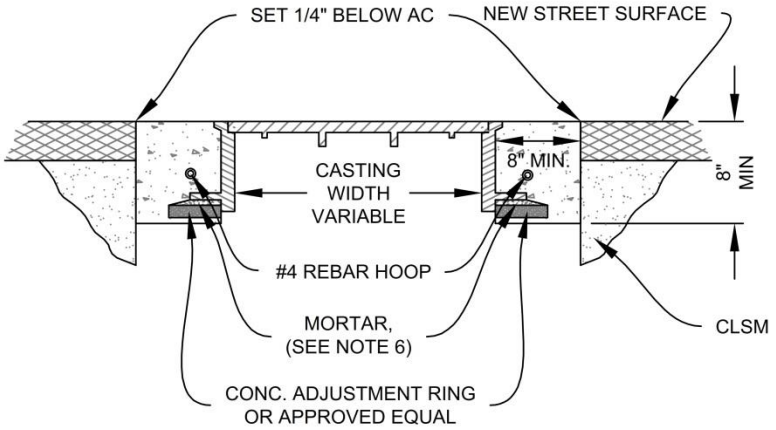
1. ADD 4" TO PIPE BEDDING/PIPE ZONE THICKNESS FOR PIPES W/ BELLS.
2. ALL UTILITIES SHALL HAVE A MINIMUM DEPTH OF 30"(36" FOR ELECTRICAL).
3. ALL UTILITIES REQUIRING 1-SACK SLURRY SHALL BE AT A DEPTH THAT ALLOWS 1' MIN. THICKNESS OF SLURRY, THIS MAY REQUIRE THE UTILITY TO BE PLACED BELOW THE MINIMUM 30" DEPTH (36" FOR ELECTRICAL) REQUIREMENT.
4. STORM DRAINS OR CULVERTS REQUIRING SLURRY SHALL HAVE A MIN. 1' THICKNESS OF SLURRY, THIS MAY REQUIRE 1-SACK SLURRY IN THE PIPE ZONE.
5. 3/4"-0 AGG. MAY BE SUBSTITUTED FOR SLURRY IN EXISTING PAVED DRIVEWAYS WITH CONCRETE OR CMP CULVERT INSTALLATIONS. THIS SUBSTITUTION NOT ALLOWED FOR ANY OTHER UTILITY WITHOUT THE ROADMASTER'S APPROVAL.
6. SAND SEAL ALL AC JOINTS.
7. REPLACE GRAVEL SURFACE W/ SAME. REPLACE OIL MAT SURFACE W/ 2" AC PATCH. REPLACE AC SURFACE WITH 4" AC PATCH, PLACED IN 2" MAX. LIFTS. REPLACE P.C.C. PAVING TO EXISTING THICKNESS W/ 3300 PSI CONC., PLACE SLURRY TO BOTTOM OF CONCRETE.
8. MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH CURRY COUNTY'S ROAD STANDARDS, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS.
9. PIPES THROUGH 6" DIAMETER MUST BE BORED OR PUSHED AT TRANSVERSE PAVED ROAD CROSSINGS. OPEN CUT TRENCH CROSSINGS ARE PERMITTED ONLY BY APPROVAL OF COUNTY ROADMASTER.
10. WATER SETTLEMENT METHOD OF COMPACTION MAY BE USED ONLY WITH PRIOR APPROVAL OF THE ROADMASTER.
11. PROVIDE STEEL PLATES, SIGNAGE AND OTHER PROTECTIVE MEASURES AS DIRECTED.

FAILURE TO OBTAIN A PERMIT OR NON-COMPLIANCE WITH THE PERMIT CONDITIONS IS A MISDEMEANOR, ORS 374.305-374.310

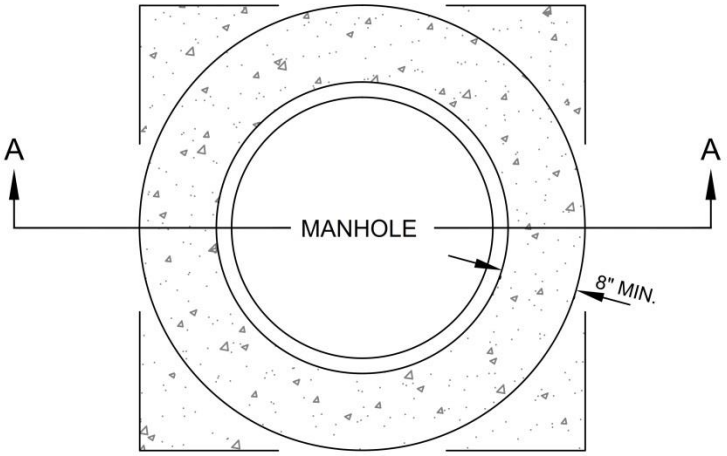
SPECIAL CONDITIONS FOR UNDERGROUND UTILITIES WITHIN COUNTY ROAD RIGHTS-OF-WAY

TYPICAL TRENCH SECTION - PIPE BACKFILL

811 Know what's below. Call before you dig.



SECTION A-A

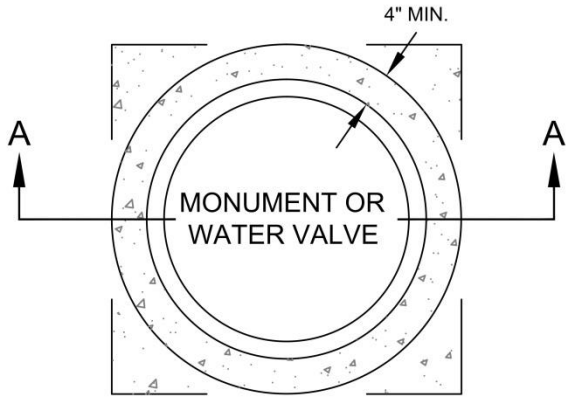


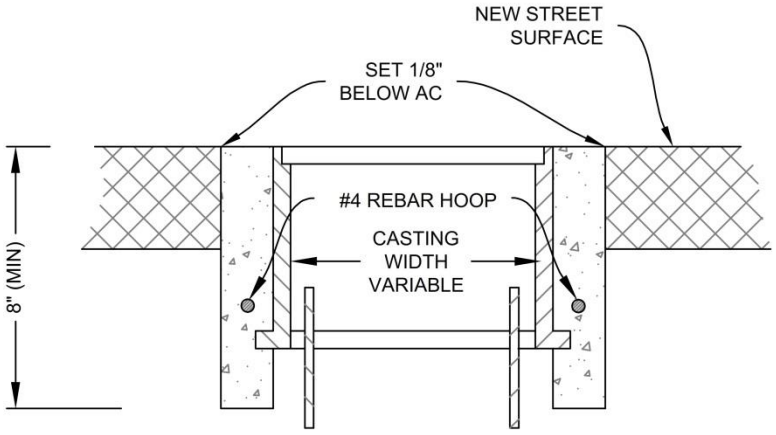
PLAN

NOTES:

1. SEE MISCELLANEOUS CONDITIONS, SECTION 10D, TO DETERMINE WHEN CONCRETE COLLARS ARE REQUIRED.
2. MAY BE CIRCULAR OR SQUARE. JOINT TO BE SMOOTH AND UNIFORM CLASS 3300-3/4" CONCRETE, 4-6% ENTRAINED AIR.
3. ALL REINFORCING STEEL SHALL BE ASTM A615.
4. SET CONCRETE 1/4" LOW FROM A.C. FINISH GRADE.
5. PLACE CLSM BACKFILL IN EXCAVATION AREAS AS DIRECTED.
6. MORTAR TO BE 2" THICK MAX. USE EPOXY FOR SYNTHETIC GRADE RINGS.
7. NO MORE THAN ONE STEEL RISER MAY BE PLACED ON TOP OF FRAME IF REQUIRED.
8. RAISE MANHOLES TO GRADE AFTER PAVING UNLESS OTHERWISE APPROVED BY THE ROADMASTER.

CONCRETE COLLARS FOR MANHOLES



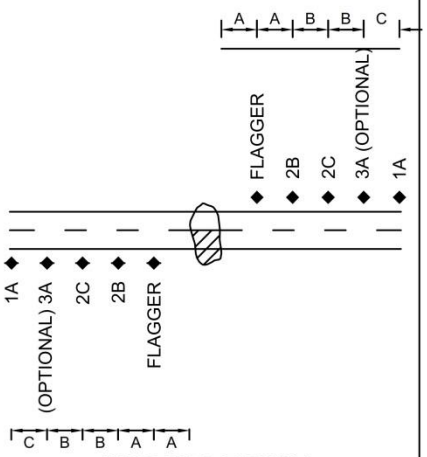


SECTION A – A

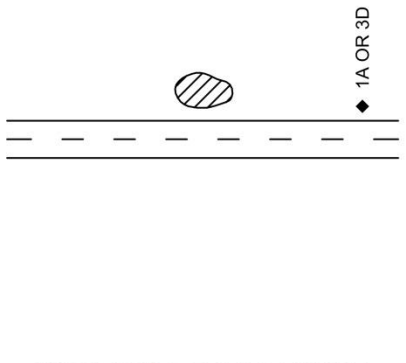
NOTES:

1. SEE MISCELLANEOUS CONDITIONS, SECTION 10D, TO DETERMINE WHEN CONCRETE COLLARS ARE REQUIRED.
2. MAY BE CIRCULAR OR SQUARE. JOINT TO BE SMOOTH AND UNIFORM CLASS 3300-3/4" CONCRETE, 4-6% ENTRAINED AIR.
3. ALL REINFORCING STEEL SHALL BE ASTM A615.
4. SET CONCRETE 1/8" LOW FROM A.C. FINISH GRADE.
5. PLACE CLSM BACKFILL IN EXCAVATION AREAS AS DIRECTED.

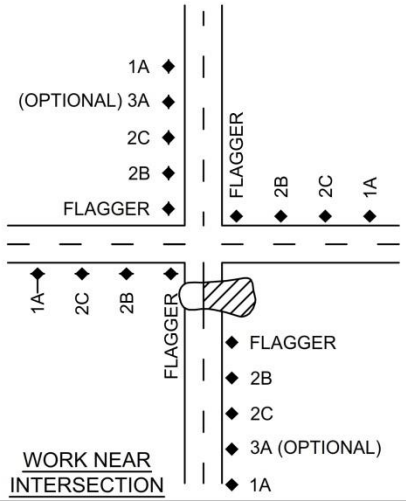
CONCRETE COLLARS FOR MONUMENT/ VALVE BOXES



WORK IN ROADWAY



WORK ADJACENT TO ROADWAY



WORK NEAR INTERSECTION

SIGN SPACING AND BUFFER LENGTHS (FT)

POSTED SPEED	SPACING BETWEEN SIGNS *			BUFFER SPACE
	A	B	C	
20	100	100	100	50
25				75
30				100
35	350	350	350	125
40				150
45	500	500	500	180
50				210
55				250

*LENGTHS AS PER OREGON TEMPORARY TRAFFIC CONTROL HANDBOOK, 2011 EDITION

SEE OTTCH FOR DISTANCES NOT SPECIFIED.

NOTES:

SINCE IT IS NOT PRACTICAL TO PRESCRIBE DETAILED STANDARDS OF APPLICATION FOR ALL SITUATIONS THAT MAY CONCEIVABLY ARISE, MINIMUM STANDARDS ARE PRESENTED HERE FOR THE MOST COMMON SITUATIONS. IT IS EMPHASIZED THAT ADDITIONAL PROTECTION MUST BE PROVIDED WHEN SPECIAL COMPLEXITIES AND HAZARDS PREVAIL. "BUMP" SIGNS MUST BE PLACED ON EITHER SIDE OF UTILITY TRENCHES WHEN JUMP PLATES ARE USED.

AS A *RULE OF THUMB* THE MINIMUM SIGNING REQUIRED SHOULD CONVEY *INFORMATIONAL*, *INSTRUCTIONAL*, AND *SPECIFIC WARNING* (SEE BELOW) MESSAGES TO MOTORISTS ON ALL APPROACHES TO A WORK SITE OR HAZARD AREA.

SIGNS ARE TO BE LOCATED NOT LESS THAN 250' IN ADVANCE OF HAZARDS AND STOP POINTS. MINIMUM SPACING BETWEEN SIGNS IS TO BE 100' UNLESS OTHERWISE DIRECTED.

SIGN STANDS ARE TO BE STABLE AND WEIGHTED TO PREVENT EASY TIPPING. SIGNS ARE TO BE SECURELY FASTENED TO STANDS.

SIGNS, STANDS, BARRICADES, ETC., AND THE PLACEMENT THEREOF, SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.). WARNING SIGNS FOR CONSTRUCTION AREAS SHALL HAVE A BLACK LEGEND ON AN ORANGE BACKGROUND. THE MINIMUM DIMENSION FOR APPROACH SIGNING TO A WORK AREA SHALL BE 36" X 36". SIGNS WITHIN THE WORK AREA LIMITS MAY BE SMALLER (24" X 24" MINIMUM) IF APPROVED BY THE ROADMASTER OR HIS AUTHORIZED REPRESENTATIVE.

WHEN NOT PROTECTED BY FLAGGERS, ALL HAZARDOUS AREAS WITHIN THE TRAVELED WAY AND ROAD SHOULDER SHALL BE BARRICADED WITH LIGHT/REFLECTIVE BARRICADES IN ADDITION TO THE PRESCRIBED SIGNING. NON-APPROPRIATE SIGNS, SUCH AS "FLAGGERS" SHALL BE COVERED OR REMOVED WHEN NOT NEEDED.

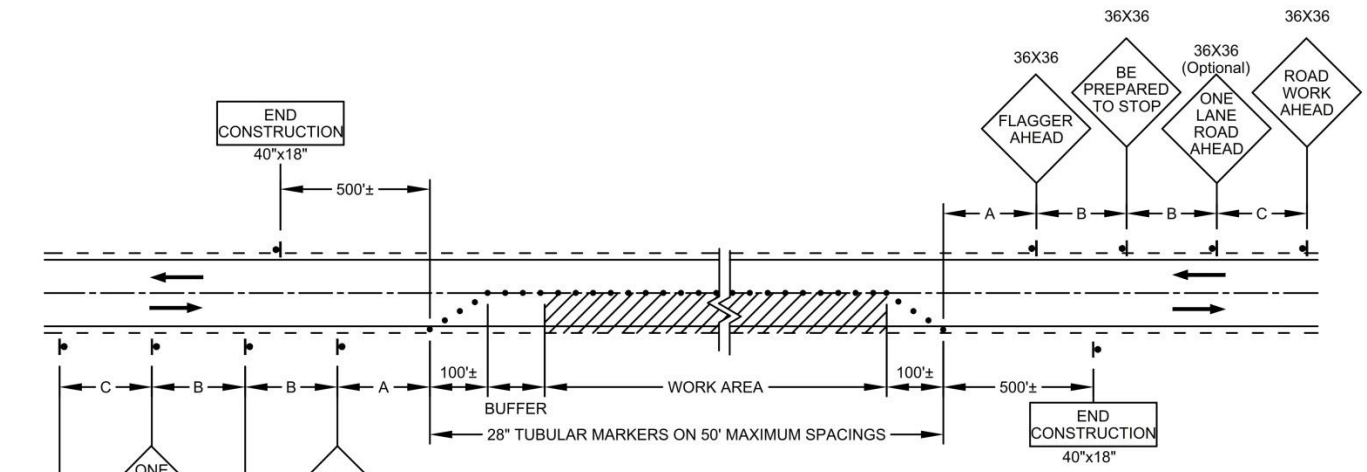
NOTHING HEREIN SHALL PREVENT THE PERMITTEE FROM INSTALLING SUCH ADDITIONAL SIGNING, BARRICADING, ETC. AS HE MAY JUDGE NECESSARY; PROVIDED HOWEVER THAT ALL SUCH INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D.

SIGN EXAMPLES

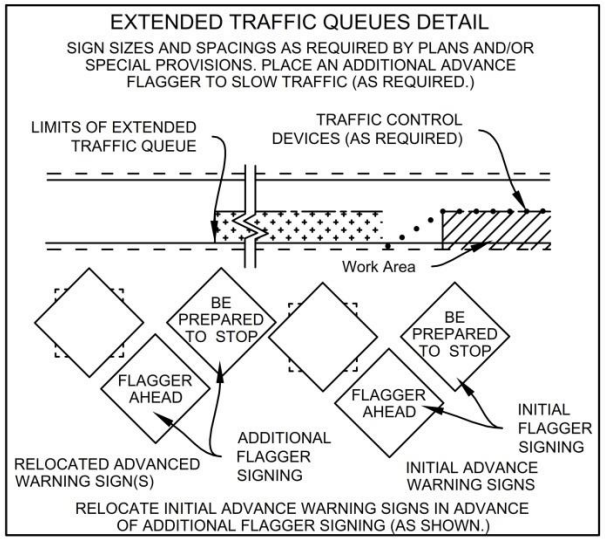
(USE SIGN(S) APPROPRIATE FOR CIRCUMSTANCES)

1. INFORMATIONAL
   - A. ROAD WORK/CONSTRUCTION AHEAD
   - B. WORKERS AHEAD
   - C. DETOUR AHEAD
   - D. OTHER - AS APPROPRIATE
2. INSTRUCTIONAL
   - A. SLOW
   - B. FLAGGER AHEAD
   - C. BE PREPARED TO STOP
   - D. OTHER - AS APPROPRIATE
3. SPECIFIC WARNING
   - A. ONE LANE ROAD AHEAD
   - B. DETOUR
   - C. ROUGH ROAD
   - D. SHOULDER WORK AHEAD
   - E. DIP
   - F. BUMP
   - G. OTHER - AS APPROPRIATE

MINIMUM SIGNING REQUIREMENTS
CONSTRUCTION AND MAINTENANCE AREAS



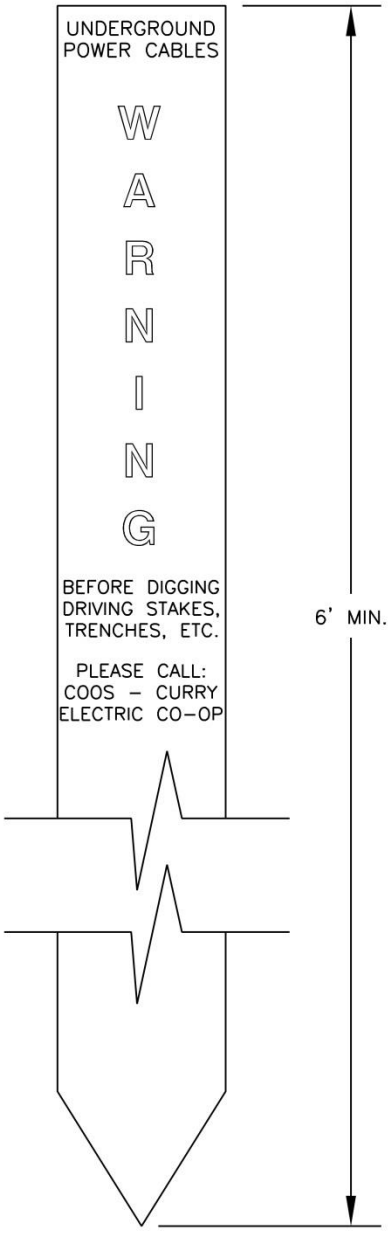
POSTED SPEED (MPH)	SIGN SPACING (FT)			BUFFER (FT)
	A	B	C	
≤30	100	100	100	50-100
35-40	350	350	350	250
45-55	500	500	500	350



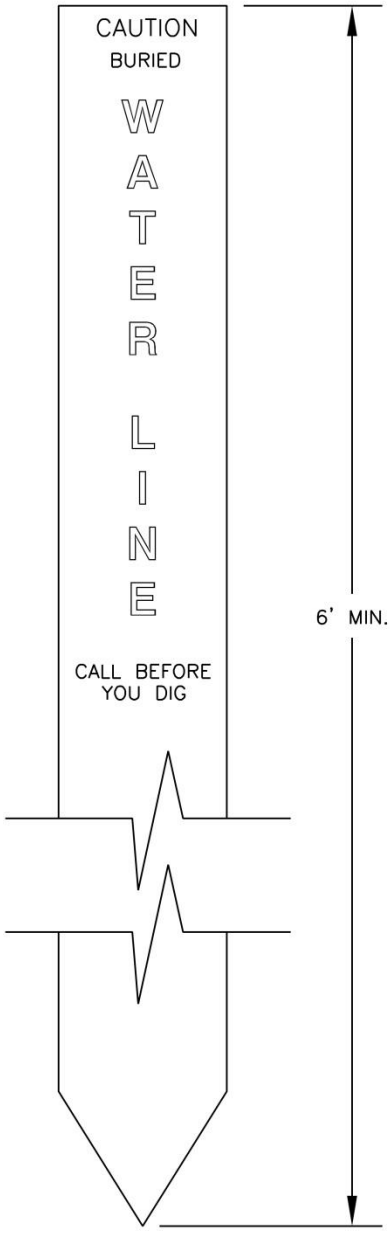
NOTES:

1. SIGNING AND OTHER TRAFFIC CONTROL DEVICES SHOWN TO BE INSTALLED IN CONJUNCTION WITH THE WORK AREA, SHALL MOVE WITH THE WORK AREA.
2. THE "BE PREPARED TO STOP" SIGN SHALL BE USED IN CONJUNCTION WITH THE "FLAGGER AHEAD" SIGN.
3. REMOVE EXISTING PAVEMENT MARKINGS AS DIRECTED.
4. TRAFFIC CONTROL UNDER CIRCUMSTANCES NOT COVERED BY THIS DRAWING SHALL BE PER THE MOST RECENTLY PUBLISHED VERSION OF "TRAFFIC CONTROL ON STATE HIGHWAYS FOR SHORT TERM WORK ZONES" AS PUBLISHED BY ODOT OR A JOB SPECIFIC TRAFFIC CONTROL PLAN APPROVED BY THE COUNTY.

TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC:
2-LANE, 2-WAY ROADWAYS
LANE CLOSURE W/ FLAGGING

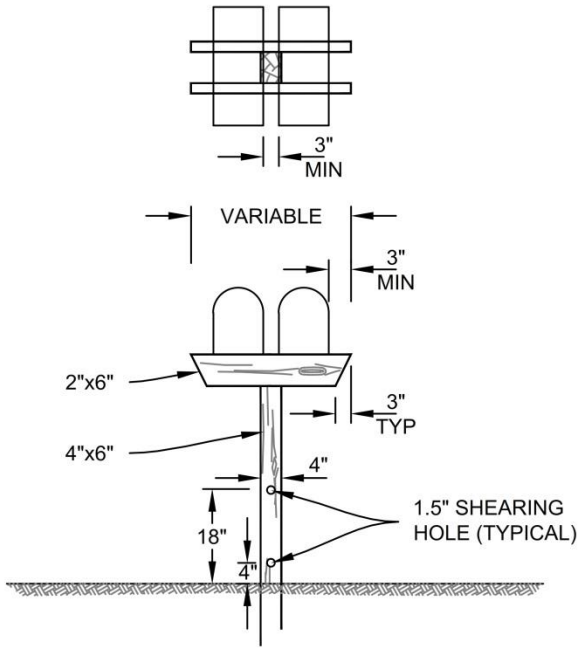


CALL YOUR LOCAL COOS–CURRY CO–OP OFFICE TO OBTAIN THIS POST AND INSTALLATION INSTRUCTIONS



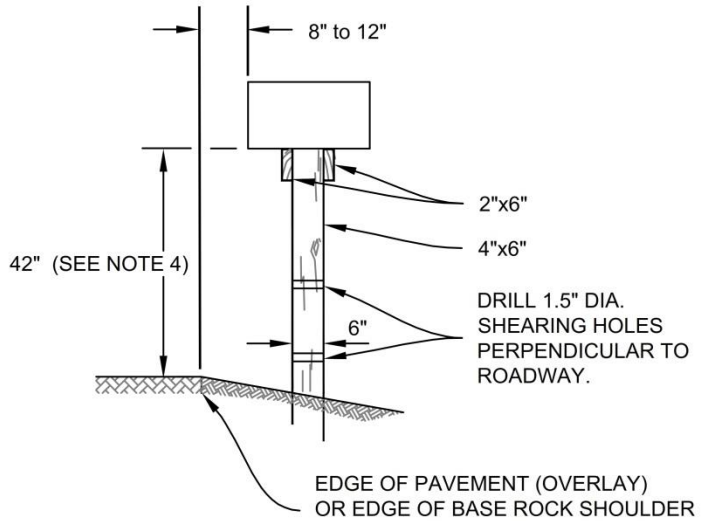
THIS IS A MINIMUM STANDARD FOR A BURIED WATER LINE MARKER. IT IS THE PERMITTEE'S RESPONSIBILITY TO TO PROVIDE THIS MARKER.

UNDERGROUND CABLE AND WATER WARNING SIGNS



SINGLE UNIT

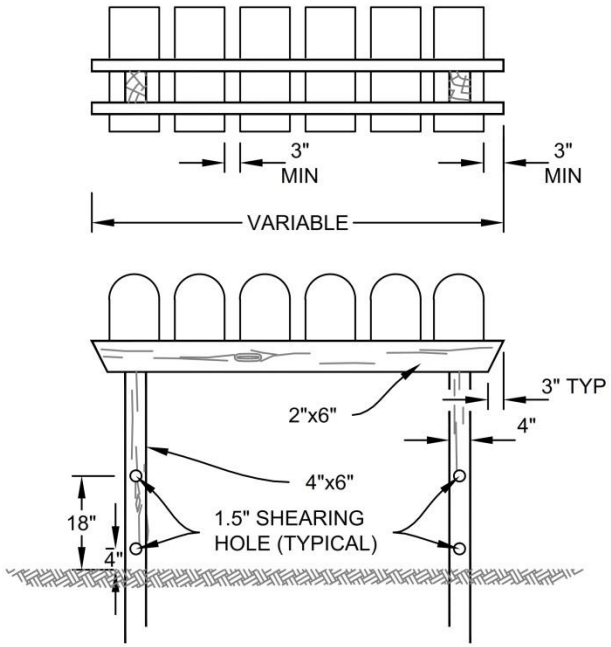
1 POST - 3 BOXES MAX



NOTES:

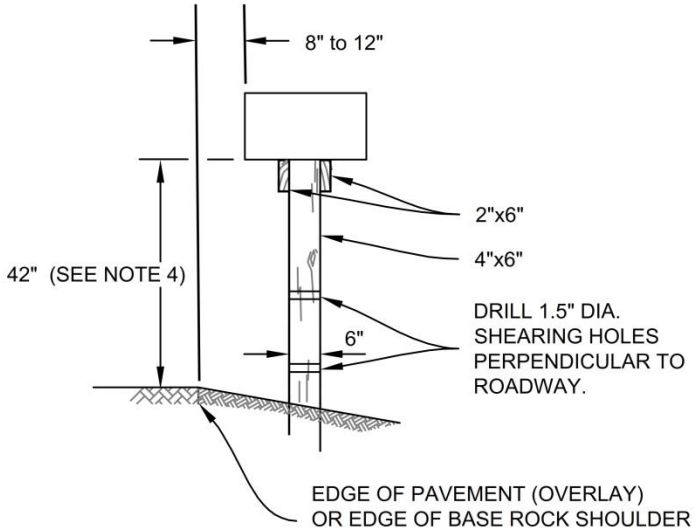
1. ALL LUMBER SHALL BE PRESSURE TREATED DOUGLAS FIR OR WESTERN HEMLOCK.
2. ALL POSTS TO BE SET AT A MINIMUM OF 24" BELOW SURFACE OF THE GROUND.
3. REINSTALL NEWSPAPER BOXES ON NEW MAILBOX POST OR AS DIRECTED.
4. VERIFY BOX HEIGHT ABOVE ROAD SURFACE WITH POSTMASTER.

MAILBOX STAND - SINGLE



MULTIPLE UNIT

2 POSTS



NOTES:

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2. ALL POSTS TO BE SET AT A MINIMUM OF 24" BELOW SURFACE OF THE GROUND.
3. REINSTALL NEWSPAPER BOXES ON NEW MAILBOX POST OR AS DIRECTED.
4. VERIFY BOX HEIGHT ABOVE ROAD SURFACE WITH POSTMASTER.

MAILBOX STAND-MULTIPLE

GFP Pavement Conditions Rating Manual

GFP Pavement Condition Rating Manual

Updated July 2010

Pavement Management Unit

Pavement Services
800 Airport Road SE
Salem, OR 97301

Oregon Department of Transportation

All GFP pavement condition surveys will be conducted by two-person teams trained in pavement surface distress identification and rating procedures. The survey teams will be comprised of Pavement Services Unit personnel trained by Pavement Management staff. Training will include proper distress identification and the associated Good-Fair-Poor (GFP) condition rating using actual sections of the State Highway System. These sections will include representative samples of the distress types that affect the GFP condition ratings.

The Pavements Unit will provide each rating team with a list of sections to be rated, bundled by geographic area and sorted by *State Highway Number*. Condition ratings will be accomplished via a "windshield" survey from a moving vehicle. Raters may slow or stop the vehicle as often as necessary to correctly identify and quantify distress and properly rate each section of pavement. **The operator of the motor vehicle should always ensure that he or she operates the vehicle in a manner that does not endanger the rating team or the public. Safety shall always take precedence over the requirement to collect accurate data.**

Standard practice is to drive the section, at or under highway speeds, and note the general condition of the entire section. A GFP rating is then assigned based on the overall average condition of the section and recorded on the appropriate rating forms provided by the Pavement Management Unit. If conditions vary significantly between lanes, the rating shall be based upon the condition of the worst lane. The condition survey teams will only rate pavements that are dry. Ratings shall not be done while it is raining or while the pavement is still wet following a rain event.

The two people in a rating team have different roles. Both people conduct visual surveys of the section being rated. The Driver does so while operating the vehicle in a safe and responsible manner. In addition to the visual survey, the Navigator also provides the Driver with relevant section information (BMP, EMP, age, surface type, etc.), records both people's section ratings, documents any comments the raters have on the section, and determines the location of the next section to be rated.

Sections are identified from ODOT's Pavement Management System by the Pavement Management Unit and are based on Region and District boundaries, highway classifications, historical construction, and planned construction. In most cases, the pavement conditions should be relatively uniform along the entire segment. In some cases, conditions may vary within the sections. When appropriate, the rater should suggest new section boundaries by splitting, combining, or adjusting limits. Record the milepoints which define the suggested new boundaries and rate each subsections individually in addition to providing a rating for the original section. The Pavement Management Engineer will review each suggestion on a case-by-case basis to determine if the section boundaries should be adjusted.

Changes for 2008

The 1.0 through 5.0 scoring system is no longer to be used. Scores will be assigned on the 0 to 100 point scale estimating to the nearest 5 points except from 96-100 will be estimated by 1 point increments. The first step in scoring is to determine the most appropriate condition category for the section (very good through very poor), then the next step is to assign the 0 to 100 point score which best represents the overall condition of the section in accordance with the GFP Rating Reference Sheet.

Changes for 2010

FHWA (Federal Highway Administration) has required that additional distress data be collected in sample sections to use in the HPMS (Highway Performance Monitoring System). The FHWA is responsible for assuring that adequate highway transportation data and systems performance information is available to support its functions and responsibilities and uses the HPMS to obtain this goal. Due to the sporadic location and nature of the samples it has been decided to collect the same data for non-sample sections.

The additional data needed for AC pavements includes: cracking by percent area (fatigue), cracking by length (transverse) and rut measurements to the nearest 0.1". Note: to simplify rating of transverse cracking, counting the number of transverse cracks will be used rather than measuring length.

The additional data needed for PCC pavements includes: percent of cracked slabs and faulting to the nearest 0.1.

Furthermore, to provide assistance to internal design staff, changes were made to the current data collection process and additional data will also be collected. This includes: patching severity, patching percent by area, frequency of potholes, block cracking, ride severity, and bleeding.

Additional information (where available) has been provided on the rating form to help assist raters. This information includes: IRI values from previous years, rut measurements from previous years, most recent percent cracking by length (fatigue) value, most recent count per tenth of a mile of transverse cracking.

For definitions of distress type and severity refer to the attached GFP Reference Sheet for a description of severity levels.

Also there is a new field that will appear on some of the pavement section. The rater will see "Mandatory HPMS" written vertically on the right side of the section. This means that the section is an HPMS sample sections. The rater should take special care rating these sections since the data will be sent to HPMS.

GFP CONDITION RATING DEFINITIONS

Asphalt Concrete Pavement (AC)

Condition	Definition
Very Good	Stable, no cracking, no patching, and no deformation. Excellent riding qualities. Nothing would improve the roadway at this time.
Good	Stable, minor cracking, generally hairline and hard to detect. Minor patching and possibly some minor deformation evident. May have dry or light colored appearance. Very good riding qualities. Rutting may be present but is less than ½".
Fair	Generally stable, minor areas of structural weakness evident. Cracking is easier to detect, patched but not excessively. Deformation more pronounced and easily noticed. Ride qualities are good to acceptable. Rutting may be present but is less than ¾".
Poor	Areas of instability, marked evidence of structural deficiency, large crack patterns (alligatoring), heavy and numerous patches, deformation very noticeable. Riding qualities range from acceptable to poor. When rutting is present, rut depth is greater than ¾".
Very Poor	Pavement in extremely deteriorated condition. Numerous areas of instability. Majority of section showing structural deficiency. Ride quality is unacceptable (probably should slow down).

Special Circumstances:

Score	**Used When:**
"ST"	Section is on a structure (bridge, tunnel)
"UC"	Section is under construction
"NR"	Pavement was not rated

GFP CONDITION RATING DEFINITIONS

Portland Cement Concrete Pavement (JCP and CRCP)

Condition	Definition
Very Good	Ride qualities are good. Original surface texture evident. Jointed reinforced--have no mid-slab cracks. Continuously reinforced--may have tight transverse cracks with no evidence of spalling. No faulting is evident.
Good	Ride qualities are good. Original surface texture is worn in wheel tracks exposing coarse aggregate. Jointed reinforced--may have tight mid-slab transverse crack. Continuously reinforced--transverse cracks may show evidence of minor spalling. Pavement may have an occasional short longitudinal crack. No faulting is evident. Rutting may be present but is less than ½".
Fair	Ride qualities are good. Jointed reinforced--may have some spalling at cracks and joint edges with longitudinal cracks appearing at less than 20% of the joints. A few areas may require minor level of repair by maintenance forces. Continuously reinforced--may show evidence of spalling with longitudinal cracks occurring in the wheel paths on less than 20% of the section. Shoulder joints may show evidence of deterioration and loss of slab support; faulting may be evident. Rutting may be present but is less than ¾".
Poor	Ride may continue to be acceptable. On both jointed and continuously reinforced, cracking patterns are evident with longitudinal cracks connecting joints and transverse cracks occurring more frequently. Occasional punchout repair evident. Some joints and cracks show loss of base support. When rutting is present, rut depth is greater than ¾".
Very Poor	Rate of deterioration rapidly accelerating.

Special Circumstances:

Score	**Used When:**
"ST"	Section is on a structure (bridge, tunnel)
"UC"	Section is under construction
"NR"	Pavement was not rated

GFP RATING REFERENCE SHEET (AC PAVEMENT)

	GFP Rating	Stability	Structural Weakness	Fatigue	Transverse/Block	Patching	Ride Qualities	Deformation and Rutting	Comment
Very Good	100 99 98 97 96	Stable	None	None	None	None	Excellent	Rut depth less than 1/4"	Nothing would improve this road
Good	95 90 85 80	Stable	None evident	Generally hairline and hard to detect	Minor amounts may be present	Minor amounts may be present	Very good	Deformation minor, rut less than 1/2"	May have dry or light colored appearance
Fair	75 70 65 60 55 50	Generally stable	Minor areas evident	Easier to detect but low severity	May have widespread low and/or intermittent moderate severity	May be patched, but not excessively (i.e. less than 100%)	Good to acceptable	Deformation more easily noticed, rut less then 3/4"	Typ. treatment need: Low vol.: chip seal High vol.: 2" resurface
Poor	45 40 35 30 25	Areas of instability	Marked evidence of structural deficiency	Large crack patterns (alligatoring) present	May have widespread moderate and/or intermittent high severity	Heavy and numerous	Acceptable to poor	Deformation very noticeable, rut 3/4" or greater if present	Typ. treatment need: Low vol.: 2" resurface High vol.: >2" resurface
Very Poor	20 15 10 5	Numerous areas of instability	Majority showing structural deficiency	Intermittent to extensive high severity	Extensive high severity	Intermittent to extensive high severity	Unacceptable, should slow down		Typ. treatment need: Low vol.: >2" resurface High vol.: heavy rehab or reconstruction

Fatigue Crack Severity	
Low	An area of cracks with no or only a few connecting cracks. Cracks are not spalled or sealed. No pumping is evident.
Moderate	An area of interconnected cracks forming a complete pattern. Cracks may be slightly spalled. Cracks may be sealed. No pumping is evident.
High	An area of moderately or severely spalled interconnected cracks forming a complete pattern. Pieces may move when subjected to traffic. Cracks may be sealed. Pumping may be evident.
0 1 (5) ..	Estimate percent of fatigue cracking by selecting the best option of 0, 1, 5, 10, 25, 50, 75 or 100%

Patching Severity	
Low	A good quality patch with a smooth ride. The patch has, at most, low severity distress of any type including rutting or deformation < 0.25"; pumping is not evident.
Moderate	The patch has moderate severity distress of any type or rutting or deformation from 0.25" to 0.5"; pumping may be evident. Ride quality is good to fair.
High	The patch has high severity distress of any type or rutting or deformation > 0.5"; pumping may be evident. All hand patches or patched potholes are rated as high severity patches.
0 1 (5) ..	Estimate percent of patching by selecting the best option of 0, 1, 5, 10, 25, 50, 75 or 100%

Pothole Severity	
Low	< 1" deep (Delamination of patch or seal coat)
Moderate	≥ 1" & < 2" deep (Remains within top lift of wearing course.)
High	≥ 2" deep (Extends beyond top lift of wearing course.)
S (I) E	Circle the best option Sporadic, Intermittent or Extensive.

Transverse and Block Crack	
Low	An unsealed crack with a mean width of ≤ 0.25; or a sealed crack with sealant material in good condition and the width cannot be determined.
Moderate	Any crack with a mean width > 0.25" and ≤ 0.75"; or any crack with a mean width < 0.75 in and adjacent low severity random cracking.
High	Any crack with a mean width > 0.75"; or any crack with a mean width ≤ 0.75" and adjacent moderate to high severity random cracking.
__ # / 0.1 mi	Estimate average number of transverse cracks (≥ 6' in Length) per tenth of a mile.

Raveling Severity	
Low	The aggregate has worn away resulting in ≥ 25% to < 50% aggregate loss in a 1' wide longitudinal strip of pavement surface. Loss of chip seal rock should be rated as raveling, but this is the maximum severity for chip sealed surfaces.
Moderate	Surface texture is noticeably rough and/or pitted with ≥ 50% to < 75 % aggregate loss in a 1' wide longitudinal strip of pavement surface. A nearly continuous strip of aggregate loss 3" - 6" wide may be present. Loose particles may be present outside the traffic area.
High	Surface texture is very rough and/or pitted with ≥ 75% aggregate loss in a 1' wide longitudinal strip of pavement surface. Flat bottom potholes may be present where complete loss of aggregate has occurred.

Bleeding	
Y or N	Bleeding is present if multiple (2 or more) areas of 25 ft² or larger patches are noted.

Rutting	
___in.	Estimate average rut of both wheel paths to the nearest 0.1"

GFP RATING REFERENCE SHEET (JCP PAVEMENT)

	GFP Rating	Cracking	Patching	Joints	Ride Qualities	Deformation and Rutting	Comment
Very Good	100 99 98 97 96	No mid-slab cracks	None	No faulting is evident	Good	Rut depth less than 1/4"	
Good	95 90 85 80	May have tight mid-slab or short longit. cracks	Minor amounts may be present	No faulting is evident	Good	Rut less than 1/2"	
Fair	75 70 65 60 55 50	May have low to moderate cracks	May be patched, but patches are in good condition	May have some spalling at cracks and joint edges, faulting may be evident	Good	Rut less then 3/4"	A few areas may require minor level of repair by maintenance forces
Poor	45 40 35 30 25	Cracking patterns are evident with cracks occurring frequently	May have numerous patches which exhibit distress	Some joints and cracks show loss of base support	May continue to be acceptable	Rut 3/4" or greater if present	
Very Poor	20 15 10 5						Rate of deterioration rapidly accelerating

Corner Crack / Longit. And Transv. Cracks	
Low	Crack widths < 1/8", no spalling, and no measurable faulting; or well sealed and with a width that cannot be determined
Moderate	Crack widths > 1/8" and < 1/2"; or with spalling < 3"; or faulting up to 1/2"
High	Crack widths > 1/2"; or with spalling ≥ 3"; or faulting > 1/2"

Count number of cracks for corner cracks and transverse cracks.
Estimate length of longitudinal cracks

Corner Break - rate spalling and faulting not width	
Low	Crack is not spalled or is spalled for <10 % of the length of the crack; no measurable faulting; and corner piece is not broken into two or more pieces
Moderate	Crack is spalled at low severity (< 3") for >10% of its total length; or faulting of crack or joint is <1/2"; and the corner piece is not broken
High	Crack is spalled at moderate (≥ 3" and < 6") to high severity ≥ 6" for >10 % of its total length; or faulting is ≥ 1/2"; or corner is broken in two or more pieces

Count number of corner breaks

Shattered Slab	
Low	Slab is broken into 3 pieces. The cracks describing the broken sections are not spalled or are spalled for <10 % of the length of the crack; no measurable faulting
Moderate	Slab is broken into 4 pieces; or the cracks describing the broken sections are spalled at low severity (< 3") for >10% of its total length; or faulting is < 1/2"
High	Slab is broken into 5 or more pieces; or the cracks describing the broken sections are spalled ≥ 3" for >10 % of its total length; or faulting is ≥ 1/2"

Percent Cracked Slabs	
0 1⑤...	Estimate percent of cracked slabs by selecting the best option of 0, 1, 5, 10, 25, 50, 75 or 100%

Faulting	
____in.	Report the average joint faulting in the right wheel track for the section to the nearest tenth on an inch (0.1").

2010 GFP PAVEMENT CONDITION FORMS - GROUP 2-N

ROUTE	DIR	HWY	RW	MT	OV	BEG MP	END MP	SECTION	LENGTH	AGE	PAVEMENT TYPE	BOUNDARY ADJUSTED
US 101	S	009	1			0.00	3.67	ASTORIA MEGLER BRIDGE	3.67		STRUCTURE STRUCTURE	

DISTRESS

FATIGUE (L M H): 0 1 5 10 25 50 75 100 % length — 08: [ ]
T-CRK (L M H): ____ # / 0.1 mi — 08: [ ]
PATCH (L M H): 0 1 5 10 25 50 75 100 % area
RAVEL (L M H) | BLOCK CRK (L M H) | BLEEDING > 50sqft Y or N | POTHOLES <1" / 1" - 2" / >2" S I E

RATING

	04	06	08	09	2010
OVERALL					ST
IRI					GD FR PR
RUT					____ in.

ROUTE	DIR	HWY	RW	MT	OV	BEG MP	END MP	SECTION	LENGTH	AGE	PAVEMENT TYPE	BOUNDARY ADJUSTED
US 101	S	009	1			3.67	3.80	ASTORIA BR APPROACH	0.13	27	C-MIX DGAC THIN OVLY A	

DISTRESS

FATIGUE (L M H): 0 1 5 10 25 50 75 100 % length — 08: 15%
T-CRK (L M H): 3 # / 0.1 mi — 08: 1
PATCH (L M H): 0 1 5 10 25 50 75 100 % area
RAVEL (L M H) | BLOCK CRK (L M H) | BLEEDING > 50sqft Y or N | POTHOLES <1" / 1" - 2" / >2" S I E

RATING

	04	06	08	09	2010
OVERALL	50	50	70	65	60
IRI	288	275		276	GD FR PR
RUT	0.2	0.2		0.3	0.4 in.

ROUTE	DIR	HWY	RW	MT	OV	BEG MP	END MP	SECTION	LENGTH	AGE	PAVEMENT TYPE	BOUNDARY ADJUSTED
US 101	S	009	1			3.80	4.51	ASTORIA BR - NEW YOUNGS BAY BR	0.71	7	C-MIX DGAC THIN OVLY A	

DISTRESS

FATIGUE (L M H): 0 1 5 10 25 50 75 100 % length — 08: 0%
T-CRK (L M H): 0 # / 0.1 mi — 08: 0
PATCH (L M H): 0 1 5 10 25 50 75 100 % area
RAVEL (L M H) | BLOCK CRK (L M H) | BLEEDING > 50sqft Y or N | POTHOLES <1" / 1" - 2" / >2" S I E

RATING

	04	06	08	09	2010
OVERALL	100	100	89	90	85
IRI	131	132	155	133	GD FR PR
RUT	0.1	0.2	0.2	0.3	0.3 in.

ROUTE	DIR	HWY	RW	MT	OV	BEG MP	END MP	SECTION	LENGTH	AGE	PAVEMENT TYPE	BOUNDARY ADJUSTED
US 101	S	009	1			4.51	5.31	NEW YOUNGS BAY BRIDGE	0.80		STRUCTURE STRUCTURE	

DISTRESS

FATIGUE (L M H): 0 1 5 10 25 50 75 100 % length — 08: [ ]
T-CRK (L M H): ____ # / 0.1 mi — 08: [ ]
PATCH (L M H): 0 1 5 10 25 50 75 100 % area
RAVEL (L M H) | BLOCK CRK (L M H) | BLEEDING > 50sqft Y or N | POTHOLES <1" / 1" - 2" / >2" S I E

RATING

	04	06	08	09	2010
OVERALL					ST
IRI					GD FR PR
RUT					____ in.

ROUTE	DIR	HWY	RW	MT	OV	BEG MP	END MP	SECTION	LENGTH	AGE	PAVEMENT TYPE	BOUNDARY ADJUSTED
US 101	S	009	1			5.31	6.83	YOUNGS BAY BR - NEPTUNE DR	1.52	18	F-MIX OGAC THIN OVLY A	

DISTRESS

FATIGUE (L M H): 0 1 5 10 25 50 75 100 % length — 08: 0%
T-CRK (L M H): 1 # / 0.1 mi — 08: 0
PATCH (L M H): 0 1 5 10 25 50 75 100 % area
RAVEL (L M H) | BLOCK CRK (L M H) | BLEEDING > 50sqft Y or N | POTHOLES <1" / 1" - 2" / >2" S I E

RATING

	04	06	08	09	2010
OVERALL	98	88	84	80	80
IRI	116	122	144	125	GD FR PR
RUT	0.3	0.4	0.4	0.5	0.5 in.

RW (Roadway ID): 1 = Add Roadbed, 2 = Non-Add Roadbed

MT (Mileage Type): T=Temporary Mileage, Y=Spur Mileage, Z=Overlap Mileage

For JCP Enter faulting in the rut data box for Fatigue circle % of cracked slabs rater than % area

S = Sporadic I = Intermittent E = Extensive

Photo Illustrations

of

GFP Pavement Condition Categories

for

Asphalt Concrete

Condition – Very Good

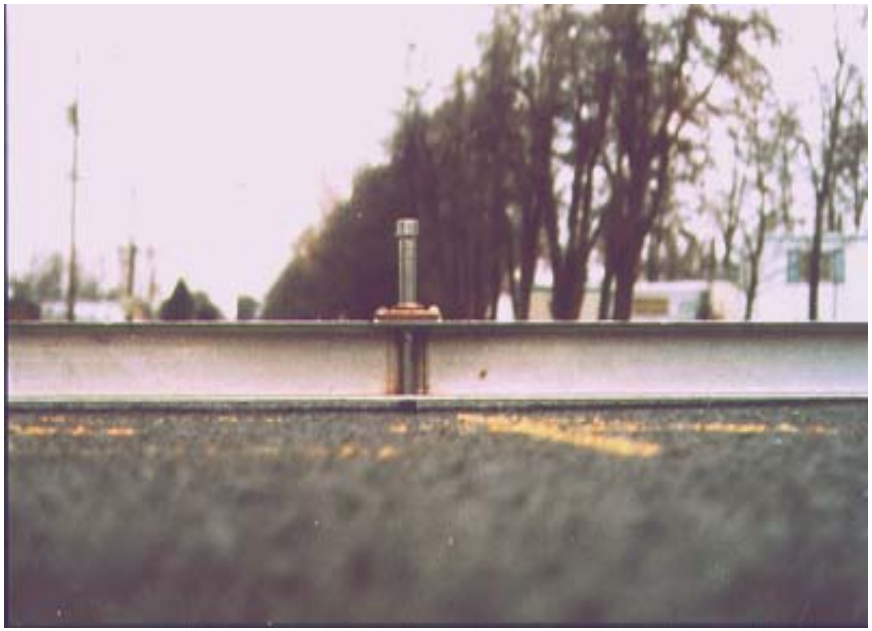
Pavement structure is stable. No cracking, patching, or deformation evident. Riding qualities are excellent. Nothing would improve this pavement at this time. Roadways in this category are usually fairly new.


OCT 10 2002


MAR 21 2004

Condition – Good

Pavement is stable. Minor cracking may be present, but cracks are generally hairline and hard to detect. Minor amounts of patching and deformation may be present. May have a dry or light-colored appearance. Very good riding qualities. Rutting is less than ½".




24 4 2001


278

Condition – Fair

Pavement structure is generally stable with minor areas of structural weakness evident. Cracking is easier to detect. May be patched, but not excessively. Deformation more pronounced and easily noticed. Ride qualities are good to acceptable. Rutting is less than ¾".


SLOWER
TRAFFIC
KEEP
RIGHT
JUN 24 2004


75

Condition – Poor

Pavement has areas of instability, marked evidence of structural deficiency, large crack patterns (alligatoring), heavy and numerous patches. Deformation is very noticeable. Riding qualities range from acceptable to poor. When rutting is present, rut depth is greater than ¾".


FEB 24 2005


514


MAY 17 2004

Condition – Very Poor

Pavement is in extremely deteriorated condition. Numerous areas of instability. Majority of section showing structural deficiency. Ride quality is unacceptable (probably should slow down).


23 4 2001

Chip Seal Application

Pavement Preservation
Checklist Series

2 Chip Seal Application

FP2

U.S. Department of Transportation
Federal Highway Administration

Chip Seal Application Checklist

This checklist is one of a series created to guide State and local highway maintenance and inspection staff in the use of innovative pavement preventive maintenance processes. The series is provided through the joint efforts of the Pavement Preservation Program of the Federal Highway Administration (FHWA), and the Foundation for Pavement Preservation (FP^2).

FHWA uses its partnerships with FP^2, the American Association of State Highway and Transportation Officials, and State and local transportation agencies to promote pavement preservation.

To obtain other checklists or to find out more about pavement preservation, contact your local FHWA division office or FP^2 (at www.fp2.org), and check into these FHWA Web pages:

www.fhwa.dot.gov/preservation

www.fhwa.dot.gov/infrastructure/asstmgmt/resource.htm

Chip Seal Application Checklist

Preliminary Responsibilities

Project Review

- ❑ Is the project a good candidate for a chip seal?
- ❑ How much rutting is present?
- ❑ How much and what type of cracking exists?
- ❑ Is crack sealing needed?
- ❑ How much bleeding or flushing exists?
- ❑ Review project for bid/plan quantities.

Document Review

- ❑ Bid specifications
- ❑ Special provisions
- ❑ Construction manual
- ❑ Traffic control plan
- ❑ Agency requirements
- ❑ Manufacturer s instructions
- ❑ Material safety data sheets

Materials Checks

- ❑ The type of asphalt emulsions to be used is compatible with the aggregate.
- ❑ The asphalt is from an approved source (if required).
- ❑ The asphalt is sampled and submitted for testing (if required).
- ❑ All aggregate chips are close to the same size.
- ❑ The aggregate is clean and free of excess fines.
- ❑ The asphalt application temperature range is specified.

Preapplication Inspection Responsibilities

Surface Preparation

- ❑ The surface is clean and dry.
- ❑ All pavement distresses have been repaired.
- ❑ The existing surface has been inspected for drainage problems.

Equipment Inspections

Distributor

- ❑ The spray bar is at the proper height.
- ❑ All nozzles are uniformly angled 15° to 30° from the spray bar.
- ❑ All nozzles are free of clogs.
- ❑ The spray pattern has been checked for uniformity and proper overlap (double or triple).
- ❑ The application pressure has been checked.
- ❑ The distributor s application calibration has been checked.

Chip Spreader

- ❑ Each gate control and setting has been checked.
- ❑ The scalping screen is in good condition.
- ❑ The chip spreader s calibration across the entire chipper head has been checked.
- ❑ The truck hookup hitches have been checked.

Haul Trucks

- ❑ The truck box is clean and free of debris and other materials.
- ❑ The truck hookup hitch is in working order.
- ❑ If required, a truck box apron or extension for loading the chip spreader is in place.

Rollers

- ❑ The type of roller to be used has been selected (pneumatic-tired roller recommended).
- ❑ The roller tire size, rating, and pressure comply with the manufacturer s recommendations.
- ❑ The tire pressure is the same on all tires.
- ❑ All tires have a smooth surface.

Broom

- ❑ The bristles are the proper length.
- ❑ The broom can be adjusted vertically to avoid excess pressure.

All Equipment

- ❑ All equipment is free of leaks.
- ❑ All equipment is calibrated and clean.

Weather Requirements

- ❑ The agency has a range of dates when chip sealing can be done.
- ❑ Air and surface temperatures have been checked at the coolest location on the project.
- ❑ Air and surface temperatures meet agency requirements.
- ❑ Application of asphalt does not begin if rain is likely.
- ❑ High winds can create problems with asphalt application.
- ❑ High temperatures, humidity, and wind will affect how long the asphalt/emulsion takes to break.

Determining Application Rates

- ❑ Agency guidelines and requirements are followed.
- ❑ A chip seal design has been done.
- ❑ More asphalt is applied to dried-out and porous surfaces.
- ❑ More asphalt is applied on roads with low traffic volumes.
- ❑ Less asphalt is applied to smooth, nonporous, and asphalt-rich surfaces.
- ❑ Less asphalt is applied on roads with high traffic volumes.
- ❑ There is a salt and pepper appearance after the aggregate has been applied.

Checking Application Rates

Asphalt - Method A

(RECOMMENDED FOR CALIBRATION)

- ❑ Record the weight of a .84 m^2 (1 yd^2) pan or nonwoven geotextile material.
- ❑ Place the pan or geotextile on the road surface.
- ❑ Have the distributor apply asphalt over the pan or geotextile.
- ❑ Record the weight of the pan and asphalt or the geotextile and asphalt.
- ❑ Subtract the two weights to obtain the weight of the applied asphalt.

Asphalt – Method B

(RECOMMENDED FOR RANDOM CHECKS)

- ❑ Park the distributor on level ground, measure the asphalt, and recover the number of L (gal) area of asphalt (note: not a conversion).
- ❑ Measure off a known area for a test section.
- ❑ Have the distributor apply asphalt to the test section.
- ❑ Park the distributor on level ground and remeasure and record the L (gal) of asphalt.
- ❑ Subtract the two numbers to obtain the L (gal) of asphalt applied.
- ❑ Divide the L (gal) applied by the area covered by asphalt. The result equals the application rate: L/m^2 (gal/yd^2). (If using feet, length x width/9 = yd^2.)

Aggregate – Method A
(RECOMMENDED FOR CALIBRATION)

- ❑ Weigh a .84 m^2 (1 yd^2) tarp or geotextile material.
- ❑ Place the tarp or geotextile on the roadway.
- ❑ Have the chip spreader apply the aggregate over the tarp or geotextile.
- ❑ Weigh the tarp or the geotextile material with the aggregate.
- ❑ Subtract the two weights to obtain the weight of the aggregate.
- ❑ Divide the weight of the aggregate by .84 m^2 (1 yd^2) to determine the application rate.

Aggregate – Method B
(RECOMMENDED FOR RANDOM CHECKS)

- ❑ Weigh a haul truck empty.
- ❑ Load the haul truck with aggregate and reweigh the truck.
- ❑ Subtract the two weights to obtain the weight of the aggregate.
- ❑ Empty all the aggregate into the chip spreader.
- ❑ Have the chip spreader apply all the aggregate from the weighed truck.
- ❑ Measure the length and width of the aggregate spread and calculate the area (if using feet, length x width/9 = yd^2).
- ❑ Divide the weight of the chips by the area of spread to determine the actual application rate (kg/m^2 or lb/yd^2).

Traffic Control

- ❑ The signs and devices used match the traffic control plan.
- ❑ The setup complies with local agency regulations or the *Federal Manual on Uniform Traffic Control Devices* (MUTCD).
- ❑ Flaggers do not hold the traffic for extended periods of time.
- ❑ The pilot car leads traffic slowly 40 kph (24 mph) or less over fresh seals.
- ❑ Signs are removed or covered when they no longer apply.
- ❑ *Any unsafe conditions are reported to a supervisor.*

Project Inspection Responsibilities

Asphalt Application

- ❑ Building paper is used to start and stop asphalt application for straight edges.
- ❑ The asphalt temperature is within the required application range.
- ❑ The application looks uniform.
- ❑ A check is made for plugged nozzles.
- ❑ A check is made for drilling or streaking.
- ❑ Random checks of application rates are performed.
- ❑ The distributor speed is adjusted to match the chip spreader speed to prevent stop-start operations.
- ❑ The distributor is stopped if any problems are observed.

Aggregate Application

- ❑ Enough trucks are on hand to keep a steady supply of aggregate for the spreader.
- ❑ The application starts and stops with neat, straight edges.
- ❑ The application starts and stops on building paper.
- ❑ The chip spreader follows closely 30 m (33 yd) or less behind the distributor when an emulsion is used.
- ❑ The spreader travels slowly enough to prevent chips from rolling when they hit the surface.
- ❑ The aggregate is in a surface-damp condition.
- ❑ No asphalt is on top of the chips.
- ❑ The application is stopped as soon as any problems are detected.
- ❑ The application appears uniform.
- ❑ The aggregate has a salt and pepper appearance.
- ❑ The percentage of aggregate embedment in the asphalt is checked and the asphalt or aggregate application rate adjusted if required.
- ❑ A check is made for streaks and plug-ups.

Truck Operation

- ❑ Trucks are staggered across the fresh seal coat to avoid driving over the same area.
- ❑ Trucks travel slowly on the fresh seal coat.
- ❑ Stops and turns are made gradually.
- ❑ Truck operators avoid driving over exposed asphalt.
- ❑ Trucks stagger their wheel paths when backing into the chip spreader to help eliminate aggregate rollover and to aid in rolling.

Rolling

- ❑ The rollers follow closely behind the chip spreader.
- ❑ The rollers first pass is on the meetline.
- ❑ The rollers travel slowly speeds are kept at 8 kph (5 mph) maximum.
- ❑ Rollers must avoid driving on exposed asphalt.
- ❑ All stops, starts, and turns are made gradually.
- ❑ The entire surface is rolled twice.

Longitudinal Joints

- ❑ The meetline is only as wide as the spray from the end nozzle about 20 cm (8 in).
- ❑ The distributor lines up so that the end nozzle sprays the meetline.
- ❑ The meetlines are not made in the wheel paths.
- ❑ The meetlines are made at the center of the road, center of a lane, or edge of a lane.
- ❑ The meetlines are not left uncovered overnight.

Method A

- ❑ Leave a 15 20 cm (6 8 in) strip of asphalt exposed when applying the aggregate.
- ❑ Apply asphalt to the strip on the next distributor s pass.
- ❑ Apply aggregate to the asphalt.

Method B

- ❑ Turn the end nozzle 90°.
- ❑ Apply asphalt and aggregate the full width of the binder.
- ❑ Repeat the process on subsequent passes.

Transverse Joints

- ❑ All asphalt applications begin and end on building paper.
- ❑ All aggregate applications begin and end on building paper.
- ❑ The building paper is disposed of properly.

Brooming

- ❑ Brooming begins as soon as possible.
- ❑ Brooming does not dislodge the aggregate.
- ❑ Brooming does not begin until a sufficient bond is formed between the aggregate and the asphalt. Check the asphalt manufacturer s recommendation or refer to agency requirements.
- ❑ Consider using a flush truck to place water on the surface before brooming to reduce dust problems.

Opening the Chip Seal to Traffic

- ❑ The traffic travels slowly 40 kph (25 mph) or less over the fresh seal coat until it is broomed and opened for normal traffic.
- ❑ Reduced speed limit signs are used when pilot cars are not used.
- ❑ After brooming, pavement markings are placed before opening pavement to normal traffic.
- ❑ All construction-related signs are removed when opening pavement to normal traffic.

Cleanup Responsibilities

- ❑ All loose aggregate from brooming is removed from the travelway.
- ❑ Excessive asphalt application and spills are removed.

Common Problems and Solutions

(Problem: Solution)

- ❑ **Aggregate embedment over 80 percent:** Consider lowering the asphalt application rate.
- ❑ **Aggregate embedment less than 50 percent:** Consider raising the asphalt application rate.
- ❑ **Lots of chips with small amounts of asphalt on them:** Consider lowering the aggregate application rate.
- ❑ **Excessive asphalt splattering:** The spray pressure is too high.
- ❑ **Streaking or drill marks in asphalt:**
  1. Asphalt is too cold.
  2. Viscosity of the asphalt is too high.
  3. All the nozzles are not at the same angle.
  4. Spray bar is too high.
  5. Spray bar is too low.
  6. Spray bar pressure is too high.
  7. Nozzle is plugged.
- ❑ **Exposed aggregate remains after aggregate application:** Chip spreader gate may be clogged or malfunctioning.
- ❑ **Excessive aggregate:** Spreader gate may be malfunctioning or chipper head may be overloaded.

- ❑ **Uneven aggregate application:** Recalibrate the chip spreader; gates may not all be set the same.
- ❑ **Asphalt on top of the aggregate:**
  1. Chip spreader may be operating too fast.
  2. Truck, roller, or pilot car may be operating incorrectly.
- ❑ **Chips being dislodged:**
  1. Asphalt application rate is too low.
  2. Aggregate is dirty or dusty.
  3. Traffic or equipment speeds are too high.
  4. Brooming has been started before the asphalt is properly set.
- ❑ **Asphalt bleeding or flushing:** Asphalt application rate is too high.
- ❑ **Loss of aggregate at meetlines after brooming:** Check meetline procedures.

Sources

Information in this checklist is based on or refers to the following sources:

Manual on Uniform Traffic Control Devices, Millennium Edition. 2000. Washington, DC: Federal Highway Administration.

An Overview of Surface Rehabilitation Techniques for Asphalt Pavements. Pub. No. FHWA-PD-92-008. 1992. Washington, DC: Federal Highway Administration.

Thin-Surfaced Pavements, Synthesis of User Practices, NCHRP Synthesis 260. 1998. Washington, DC: Transportation Research Board, National Cooperative Highway Research Program.

For more information about pavement preservation, visit these Web sites:

www.fhwa.dot.gov/preservation

www.fhwa.dot.gov/infrastructure/asstmgmt/resource.htm

www.fp2.org

For more information on the Pavement Preservation Checklist Series, contact:

Construction and System Preservation Team
Office of Asset Management
Federal Highway Administration, HIAM-20
U.S. Department of Transportation
400 Seventh Street, SW, Room 3211
Washington, DC 20590
E-mail: preservation@fhwa.dot.gov
Telephone: 202-366-1557

National Center for Pavement Preservation
Michigan State University
2857 Jolly Road
Okemos, MI 48864
E-mail: galehou3@msu.edu
Telephone: 517-432-8220
www.pavementpreservation.org

Foundation for Pavement Preservation
8613 Cross Park Drive
Austin, TX 78754
E-mail: fppexdir@aol.com
Telephone: 866-862-4587 (toll free)
www.fp2.org

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U.S. Department
of Transportation
**Federal Highway
Administration**

How Speeds are Set in Oregon

How Speeds are set in Oregon

As one of the Oregon Department of Transportation's speed zone investigators, I often field questions about how speed zones are established. I thought this might be a good time to offer some further clarification.

The Basic Rule Law (ORS 811.100) applies to all roadways in Oregon and is the umbrella under which all other speed laws are subordinate. It requires that, regardless of any posted speed signs, a driver must give due regard to existing conditions and not drive faster than what is reasonable and prudent. Aside from Basic Rule, the law provides two ways for speeds to be set. To distinguish between them, we refer to them generally as "statutory speeds" and "designated speeds".

A **statutory speed** is one that is specifically described in the law (Oregon Revised Statutes), such as 15 mph in an alley, 20 mph in a business district, 20 mph in a school zone, 25 mph in a residence district, and 65 mph on most freeway sections. (Incidentally, business and residence districts have to meet very specific criteria to be legally considered as such.)[1] Certain residence districts can be posted 15 mph rather than 25 mph, but only if no part of the roadway is wider than eighteen feet.

All other speeds are **designated speeds**, set under the authority of the State Traffic Engineer in Salem, after an engineering (speed zone) investigation has been conducted. This authority of the State Traffic Engineer applies not only to state highways, but also to county roads and city streets.[2] While designated speeds are provided for in the statutes as well, their details (procedures and conditions) are described in Oregon Administrative Rules (OAR), which have the force of law.

In the course of a speed zone investigation to establish a designated speed, many factors are taken into account, some of them objective and some subjective in nature. Those factors include roadway and roadside characteristics, horizontal and vertical alignment (curves, hills, etc.), crash history, volume of traffic, types of vehicles that use the road, pedestrian and bicycle usage, and the 85th percentile speed.

The 85th percentile speed, one of those objective factors, is used the world over for setting speeds, is the most important factor of all, and must be the first thing taken into account before any other factors are considered. It is determined by collecting a large enough sample of free-flowing traffic speeds to make the calculation. Normally, a hand held device such as a laser or radar gun is used, but rubber tube counters or in-road Automatic Traffic Recorders can also be used, if they are set up to collect speeds.

As already stated, the 85th percentile speed is used by roadway authorities in most of the world to set speeds. The engineering principle for it is as follows:

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[1] ORS 801.170 and ORS 801.430
[2] ORS 810.180 (5)

On any given roadway under normal free-flowing traffic and not during adverse weather conditions (regardless of whether or not it has speed signs posted), 85 percent of all motorists will drive at ***or below*** the speed that is safe, prudent and reasonable for that road. Fifteen percent will drive above that speed. The idea is to set the speed to the 5 mph increment nearest the 85th percentile, with the goal of obtaining maximum compliance by the prudent drivers, and then the imprudent ones can be ticketed. If the speed is set too far below the 85th percentile, you don't change driver behavior, you merely increase the number of violators and breed disrespect for speed postings. The only way to get compliance in that situation is to have 24-hour-per-day enforcement, in which case you have an undesirable speed trap.

In fact, the State Traffic Engineer's authority to designate speeds is limited to 10 mph below the 85th percentile on city streets, county roads, and state highways within city limits. On state highways outside of city limits, that authority is limited to 5 mph below the 85th percentile.

Let's say, for example, that you have a section of roadway that is a state highway inside the city limits, or maybe it's a city street or a county road. Let's also assume that an investigation showed the 85th percentile speed to be 46 mph. The investigator can recommend a speed to the State Traffic Engineer of either 45 mph or 40 mph, since both of those speeds are within that 10 mph range that he has the authority to establish. Which one of those two speeds the investigator ultimately recommends will depend on those other "subjective" factors mentioned earlier. Plainly, if a city or county has requested a posted speed of 35 mph, then we are out of luck, since that speed is outside the allowable 10 mph range.

Now let's assume that same 85th percentile of 46 mph was on a state highway ***outside*** the city limits. In that case, the only option available is a 45 mph recommendation, since the State Traffic Engineer's authority is now limited to 5 mph below the 85th percentile.

As a cautionary note, if the 85th percentile speed is high enough, a posted speed may actually need to be raised rather than lowered (but never above 55 mph).

What actually slows the prudent driver down more than a sign with a speed on it (except in the case of rigorous enforcement), is what we call "roadside culture". In other words, do the surroundings make it appear to the driver that he/she should be going slower? Does the road look narrow (even if it's not)? Is there a lot of development that makes the area look more urban? (buildings, driveways, cross streets, bulbouts, sidewalks, etc.) Does the road have a lot of curves or hills? Is there a high volume of traffic, or maybe parked cars? Are there trees and shrubs that encroach on the roadway and limit visibility?

Conversely, if a road is wide, straight and flat, drivers have a tendency to speed up.

Extensive research has shown that speeds that are set artificially low are actually ***less*** safe than speeds that are properly set. This is probably because some otherwise prudent drivers become less so when they get frustrated and make unwise choices that put them in conflict with slower drivers who are only afraid of getting a ticket.

The 55 mph signs one sees on rural roads (non-freeway) don't really fall under either the "statutory" or "designated" speed categories as described above. Those postings are in place because the Basic Rule Laws (ORS 811.100 and ORS 811.105) provide that exceeding 55 mph on those roadway sections is "prima facie evidence" of having violated the Basic Rule. That prima facie evidence applies even if no 55 mph signs have been posted.

As for unpaved roads, OAR 734-020-0017 discourages establishing speed zones on them, mostly because the surface conditions change so drastically and so often. Risks of vehicle conflict are very low on these roads, and most are used by travelers who are familiar with the roads and their condition. Gravel roads are best governed only by Basic Rule, rather than an established speed zone.

Process for Establishing Speed Zones

Process for Establishing Speed Zones

Rural State Highways

Local Resident Makes Written Request for Speed Zone Change

↓

Request received by District Manager, Region Manager or State Traffic Engineer

↓

Request is forwarded to Region Traffic Manager

↓

Region Traffic conducts speed zone investigation, makes recommendation

↓

Region Traffic Recommendation Is Sent to Traffic Engineering & Operations Section

↓

TEOS Staff Reviews Investigation, edits, forwards to State Traffic Engineer for review and approval

↓

State Traffic Engineer Makes Decision

↓

Requestor is notified of ODOT's decision
Speed Zone Order is (or is not) issued

State Highway Within City Limits, County Roads, City Streets

Road Authority Makes Written Request for Speed Zone Change

↓

Request received by District Manager, Region Manager or State Traffic Engineer

↓

Request is forwarded to Region Traffic Manager

↓

Region Traffic conducts speed zone investigation, makes recommendation

↓

Region Traffic Recommendation Is Sent to Traffic Engineering & Operations Section

↓

TEOS Staff Reviews Investigation, edits, forwards to State Traffic Engineer for review and approval

↓

State Traffic Engineer Approves Investigation

↓

Requesting road authority is notified of ODOT's decision, asked if they concur

↓

Road Authority Concurs
Speed Zone Order is (or is not) issued

Road Authority Does Not Concur — ODOT will try to resolve issue with Road Authority

↓

ODOT & Road Authority cannot reach mutual agreement — case is sent to Speed Zone Review Panel

↓

Speed Zone Review Panel reviews investigation, hears any objections

↓

Speed Zone Review Panel makes final decision

↓

Speed Zone Order is (or is not) issued by ODOT per SZRP decision

OREGON DEPARTMENT OF TRANSPORTATION

Speed Zone Request

Oregon Department of Transportation

Speed Zone Request

To request a Speed Zone Investigation by ODOT personnel, City or County Engineering Department staff should complete this form and email it to:

ODOTSpeedZoning@odot.state.or.us

1. AGENCY NAME	2. DATE
3. CONTACT NAME AND TITLE	4. TELEPHONE NUMBER
5. E-MAIL ADDRESS	6. FAX NUMBER
7. ADDRESS (POSTAL)	
8. NAME OF ROADWAY	
9. **FROM**	10. **TO**
11. REQUESTED SPEED - MPH / 12. EXISTING POSTED SPEED - MPH	13. EXISTING SPEEDS OF ROADWAY ABUTTING THIS SECTION — 14a. ENTERING - MPH: / 14b. EXITING - MPH:
15. AVERAGE DAILY TRAFFIC VOLUME	16. ROADWAY CLASSIFICATION: ☐ LOCAL ☐ COLLECTOR ☐ ARTERIAL

17. Speed recommendation from City or County Engineering Department (*required per ORS 810.180*): _____ MPH

18. Reasons for this recommendation:

19. Are curves in this section of roadway signed appropriately? ☐ YES ☐ NO

20. Is the recommended speed consistent with the speeds of similar roadways in the surrounding area? ☐ YES ☐ NO

21. Speed Recommendation from enforcement: _____ MPH

22. Reasons for this recommendation:

23. Are there special plans to enforce the proposed speed zoning? (explain):

24. Speed Recommendation from local residents: _____ MPH

25. Reasons for this recommendation:

26. If more than one jurisdiction is involved, describe below (or furnish a map showing) where the city limits lines cross the roadway and where maintenance jurisdictional boundaries change. If there is more than one jurisdiction involved, this information must be furnished before the speed zone investigation can be done.

If you have questions on speed zones, contact the ODOT Traffic-Roadway Section in Salem at 986-3609, FAX 986-3749, or your local ODOT Region Traffic Office (see reverse for addresses).

When should speed zone investigations be requested? When traffic patterns have changed, development has occurred, crashes have increased, or requests have been received from a number of area residents or businesses.

Oregon law gives the State Department of Transportation the authority to establish speed zones on all roadways in Oregon. It also states that an engineering investigation will be done to determine what the appropriate speed should be (ORS 810.180).

The local roadway authority (the city or county) should perform a field review to determine the most reasonable beginning and ending points for the proposed speed zoning. Then the local roadway authority needs to complete this form and submit it to ODOT to request an investigation. If more than one jurisdiction is involved in the request, ODOT needs documentation from each that they both concur. This form facilitates the request by providing ODOT with the pertinent local information needed to complete the investigation.

Further speed zoning information may be obtained from your local ODOT Region Traffic Office at the address below:

Region 1
123 NW Flanders
Portland, OR 97209-4012
Tele: (503) 731-8200
FAX: (503) 731-8259

Region 2
Region 2 Tech Center
455 Airport Rd SE, Bldg A
Salem, OR 97301-4989
Tele: (503) 986-2990
FAX: (503) 986-2839

Region 3
3500 NW Stewart Parkway
Roseburg, OR 97470-1687
Tele: (541) 774-6335
FAX: (541) 957-3547

Region 4
63055 N. Hwy 97
PO Box 5309
Bend, OR 97708-5309
Tele: (541) 388-6189
FAX: (541) 388-6231

Region 5
3012 Island Avenue
La Grande, OR 97850-9497
Tele: (541) 963-3177
FAX (541) 963-9079

APPENDIX C: Environmental

Curry County Water Quality Implementation Plan

Clean Fill Determinations

Curry County Water Quality Implementation Plan

Curry County
Water Quality Implementation Plan

FINAL

June 30, 2006

CURRY COUNTY COMPREHENSIVE WATER QUALITY IMPLEMENTATION PLAN

FINAL

JUNE 30, 2006

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Curry County Water Quality Implementation Plan
DEQ Project Number W 04555-00; Agreement # 001-05
June 30, 2006

INTRODUCTION:

This Water Quality Implementation Plan (WQIP) is a compilation and synthesis of existing documents describing Curry County's efforts to maintain and improve water quality in areas where the county has jurisdiction. This document does not repeat or exhaustively describe every word of the county's efforts. Rather, it pulls together in one place the essential information on the county's water quality efforts, ordinances and laws. These statutes and regulations are designed to meet state water quality standards.

The Bibliography at the end of the WQIP will refer the reader to the complete documents, with their attendant information.

SETTING & BACKGROUND:

The county's approach to maintaining and improving water quality is based on the unique geography of the county. Curry County is the heart of America's Wild Rivers Coast, and is part of the Klamath Mountains Province, an area of the West Coast marked by rocky terrain, botanical diversity, and steep, short, clean, clear rivers.

10 major rivers and watersheds can be found in the county. From north to south they are:

- Floras Creek/New River
- Sixes River
- Elk River
- Hubbard Creek & Port Orford watersheds
- Euchre Creek
- Rogue River
- Hunter Creek
- Pistol River
- Chetco River
- Winchuck River

Part of the rationale for a robust WQIP is the recognition that nowhere else in the lower 48 states is there such an assemblage of rivers in one place, in one county, which all support healthy runs of native salmon and steelhead.

The water quality in Curry County rivers is, overall, good, and this plan outlines efforts to keep water quality healthy, recognizing the cost efficiency of preserving the benefits of working ecosystems - rather than letting them degrade and then employing expensive attempts to " fix" them.

The economic benefits of healthy salmon and steelhead runs are well-documented. For example, a single three-day "Slammin Salmon Derby" in Brookings (Labor Day, 2005) brought in over $1 million to the economy of south Curry County.

In the central county area, the opportunity to catch a fish in the Rogue River is available 365 days a year. In the north county, the Elk and Sixes Rivers can see upwards of 150 boats per day during the fall salmon migration. All these activities translate into substantial economic benefits for fishing guides, motels, restaurants, and associated services. A great deal of the county's tourism industry is built on the recreational opportunities (fishing, boating, sight-seeing, etc) that the county's rivers and the Pacific Ocean provide.

MAJOR DOCUMENTS & SOURCES:

Curry County Comprehensive Plan (CCCP)
Curry County Zoning Ordinances (CCZO)
Curry County Road Department Standards and Guidelines (Roads)
Curry County Stormwater Ordinance (Stormwater)
Curry County Agricultural Water Quality Management Plan (AgPlan)

Oregon Division of State Lands -- Wetlands Protection Inventory & Statutes (DSL)
Oregon DEQ Stormwater Requirements (DEQ)
Oregon DEQ – On-Site Wastewater Treatment Rules (Septic)
Oregon Department of Forestry -- Forest Practices Act (ODF)
Oregon Revised Statutes (ORS)
Oregon Administrative Rules (OAR)

HIGHLIGHTS OF WATER QUALITY STATUTES:

A collection of different state agencies partner with Curry County to enforce water quality regulations and statutes. What follows is a brief summary of the statutes in place to protect water quality.

General: ORS Chapter 468 B states: "No person shall cause pollution of any waters of the state or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means." (ORS 468)

Riparian Ordinance: In addition to the blanket protection provided above in state statutes, the backbone of Curry County's legislation to maintain good water quality is the county's riparian ordinance. (Article III; Section 3.280 – CCCP).

The riparian corridor for a river basin that has an annual stream flow of greater than 1,000 cubic feet per second (cfs) shall be 75 feet from the top of each bank. The riparian corridor for a river basin that has an annual stream flow of less than 1,000 cubic feet per second shall be 50 feet from the top of each bank. In practice this means that for the Chetco and Rogue Rivers (the biggest rivers in the county) the "setback" is 75 feet, and for all other rivers and streams it is 50 feet.

Removal of vegetation in these riparian corridors is forbidden (with a few minor exceptions). Also prohibited is the building of dwellings or other structures, or the creation of any impervious surface. The result of this ordinance is to provide a valuable "buffer" between anthropogenic (human-caused) activities – and the stream or river. Riparian corridors can filter out nutrients, fertilizers, pollutants, pesticides, chemicals, and other products that can impair water quality. Healthy riparian corridors are the first line of defense to protect the county's water resources.

Riparian vegetation is also vital for long-term shade for our rivers and streams. Many of the county's waterways are listed for temperature under the DEQ's 303D list of water quality impaired streams. Shading, especially of smaller streams, reduces the amount of solar radiation and heating in streams. Over time, shade can substantially cool water temperatures. Thus the county riparian ordinance is an effective, long-term strategy for keeping our rivers and streams cool and clean.

Estuaries: The county has 10 estuaries, most of which are in good condition, and for the most part, unimpaired. The Rogue River and Chetco River have jetties in the estuary to improve navigability and reduce "sanding in" of the estuaries and mudflats at the mouths of these rivers. Goal 16 of the State's Land Use Code "recognizes the unique environmental, economic and social values of estuaries and seeks to protect, maintain and develop their long term values and benefits." (Exhibit E; Chap 17; Goal 16 – CCCP).

Specifically, Curry County pledges to protect estuaries, including their:

- Biological productivity
- Habitat & diversity
- Unique features
- Water quality

Curry County also recognizes that some restoration of estuaries is needed. The county identifies appropriate sites for restoration as areas of :

- Heavy erosion or sedimentation
- Degraded fish and wildlife habitat
- Anadromous fish spawning or rearing areas
- Diked or abandoned estuarine marshes
- Water quality degraded reaches

Estuaries, cont : Recent work to improve estuaries has been done by the South Coast and Lower Rogue Watershed Councils, and the Curry Soil and Water Conservation District. This work has included the following activities:

- Baseline water quality testing (all estuaries)
- Placement of large wood (Winchuck; Pistol, Euchre; Floras / New River)
- Removal of invasive beach grass (Elk River)
- Removal of old fill (Winchuck)

Since all of Curry County's estuaries are (relatively) short and small, their value for salmonids increases, and potential impacts (fill, pollution) are magnified because of their small area. The watershed councils, SWCD, and ODFW are looking at ways to enhance estuaries, including removing old fill, or actually expanding estuary size. In addition, the councils are looking at all estuaries to reduce immediate impacts (especially from small streams flowing directly into estuaries through rural residential land).

Wetlands: The county coordinates with the Oregon Division of State Lands (DSL) for the protection of wetlands. Wetlands filter run-off and improve water quality. They have been called the "kidneys" of the planet for their ability to filter and purify water. County wetlands are identified in the Statewide Wetlands Inventory. These wetlands receive special protection. Normally they cannot be filled or altered; however, there are exceptions, if appropriate mitigation (creating new wetlands) occurs in conjunction with the project. Permits are required through the DSL for any activities in a wetland. (DSL Chapter 196 – all sections, especially 196.672 and 196.681) & (OAR 629-655-000).

Stormwater management: On March 6, 2006, Curry County passed a Stormwater ordinance, in response to increasing concerns about development and impervious surfaces, especially in the fast-growing areas surrounding Brookings. In some areas of Curry County (especially the Brookings-Harbor area), previous development and construction of impervious surfaces (roads, driveways, roofs, etc) has resulted in excess run-off and sedimentation. The complete text of the Stormwater Ordinance is included here in ***Appendix A.***

In addition to the county ordinance, the DEQ also restricts the amount of stormwater run-off anyone can pass on to downstream neighbors, and requires that there be no damage, or increase in stormwater from any upstream development. In effect, the law says if there were 10,000 gallons per minute running off before development, there can *be no more than* 10,000 gallons running off ***after*** development.

To mitigate the effects of driveways, roads, roofs, and other impervious surfaces, techniques such as detention basins, pipes, vegetation, and armoring are often used. The county is currently working on site-specific language to require developers to meet these standards to protect both themselves and downstream neighbors.

County roads and culverts: The County Road Department employs Best Management Practices (BMPs) in all their road maintenance activities. The Road Dept is responsible for maintaining approximately 230 miles of road, 30 bridges, and hundreds of culverts. Over the past ten years the department has been aggressively replacing and upgrading its entire drainage system. As of 2006, they have completed replacement on one-half to three-quarters of the system. This commitment to drainage management has significantly reduced both turbidity and winter maintenance needs.

The Road Dept. has worked closely with the Oregon Department of Fish and Wildlife, the US Forest Service, and the South Coast / Lower Rogue Watershed Councils to replace culverts that are barriers to fish passage. In 2005 they replaced six fish barriers with pipes ranging in size from 72 inches to 96 inches and costs ranging from $23,000 to $82,000. They design their culverts to accommodate a 50-year flood event, but because the size of a fish pipe needs to match the existing channel width, most of their fish pipes will pass a 100-year event. Additionally, the department replaces about 2,000 feet of culvert per year. Their biggest project to date was replacing a fish barrier culvert with a bridge on Deep Creek, a tributary to Pistol River. Prior to replacement, this crossing was the source of constant maintenance. Now, there are virtually no maintenance issues.

The Road Department is dedicated to implementing erosion control during all activities. They try to do the work during the dry season and keep the duration short to minimize impacts to streams. The entire crew has been to Best Management Practices (BMPs) training with the Oregon Department of Transportation.

The biggest barrier to getting projects accomplished is the National Marine Fisheries Service's (NMFS) review of the permit application. Part of the problem, as seen by the Road Department, is that NMFS gives the same amount of scrutiny to "standard" culvert replacement as they do to more unconventional projects that may need a higher level of review. Therefore, NMFS often does not complete their review within the timeframe set by their own guidelines.

The Road Dept has an on-going plan to repair and upgrade all of the county's culverts. As this is done, virtually all of the county's infrastructure will ensure fish passage.

Septic tanks: Curry County maintains an environmental sanitation program for the regulation of on-site sewage disposal in order to protect water quality in the county. The program is run by a supervisory sanitarian, Sara Hunter, who is an agent of the Oregon Department of Environmental Quality (DEQ) and is a Registered Sanitarian. The Sanitarian makes decisions on existing septic systems and permits for new systems following guidelines set forth in a manual put out by the DEQ, *Onsite Wastewater Treatment Systems Rules*. This manual sets out the rules for acceptable systems based on factors such as groundwater levels, soil type, slope and proximity to streams and wells.

Depending on the existing conditions of the site (soil, slope, drainage, etc), a property owner has several options when it comes to installing a septic system that will treat their wastewater so that it meets current water quality standards. All systems require setbacks of 100 feet from a perennial stream or well, and 50 feet from an intermittent stream. The Sanitarian performs site inspections to help the landowner understand the minimum requirements necessary to have a system in compliance. Septic systems can be grouped into three basic categories based on the complexity of the system: standard, mid-level, and advanced. The cost of installing a system depends greatly on how complex it is. Costs can be substantial when installing an advanced system.

If there is a good soil column with no groundwater, the soils are not rapidly draining, and proper setbacks are met, a ***standard system*** of tank and leach field can be installed. Standard systems are the least expensive system but work well when installed properly and maintained regularly.

The next most sophisticated system is called a ***mid-level*** or sometimes a "pressurized" system . Under some conditions, wastewater and effluent need some pre-treatment before being released into the ground, and these mid-level types of systems can do that. They typically cost $10,000-$15,000 more than a standard system.

The most ***advanced type*** of septic system is a sand, textile, and/or recirculating filter system, which also pre-treats effluent. Systems of this caliber are installed by a qualified contractor and come with a contract for yearly maintenance. The Sanitarian keeps copies of the maintenance contracts, evidence of the contractor's qualifications and copies of the yearly report provided by the maintenance contractor. These pretreatment filters can treat 95-98% of pathogens and fecal coliforms, and also a percentage of nitrates. This advanced pretreatment allows for smaller leach fields and in some cases, the system can be placed closer to a perennial stream than the standard 100-foot setback.

For all types of new systems the Sanitarian requires a DEQ-tested and approved tank which can be made of plastic, concrete, or fiberglass. This insures that no water quality problems arise from faulty tanks and that the Sanitarian does not need to inspect the tank, which saves the landowner time and money

There are several problem areas in the county, where old septic systems are now suspected of leaking, allowing pathogens, turbidity, and bacteria into our waters. Many of these older systems were installed prior to 1974, when permitting was first required. Problems areas include:

- In the Brookings area: Ocean View Lane, Park View Drive, and Pedro Gulch.
- In the central Curry area: Hunter Creek, including Mateer Rd and Brooks Lane.
- In the north county: Garrison Lake; and some areas around Floras Lake.

All these areas have out-dated systems that need to be replaced. One opportunity is to secure grants to help landowners replace these systems with new, updated systems to improve water quality. The cost of a new septic system can range from $10,000 to $30,000 or more. The county and the watershed councils are seeking funds to help defray to costs of upgrading the systems that are failing. Possible funding sources include the DEQ 319 (Clean Water) program; the Oregon Watershed Enhancement Board; EPA; private foundations; and others.

Fish resources: Curry County has four main species of salmonids in its 10 major river systems. These iconic fish are symbols of the wildness, promise and freedom of the Great Northwest. This collection of rivers in Curry County offers one of the last, best holdouts of wild salmon populations in the lower 48 states. Principal anadromous species in the county's rivers are : chinook, coho, steelhead, and cutthroat trout. (CCCP)

The county recognizes that adequate water supply (quantity), along with good water conditions (quality) – are the key components to sustaining these wild fish for the next 100 years.

The Oregon Water Resources Department regulates instream water flows, irrigation, and municipal water rights (for drinking water, etc). Problem areas appear to be in the north and south of the county, with Floras Creek overallocated (due to past allocation decisions made 100 years ago) and the Brookings area facing rapid population growth, with attendant pressure on water resources. Brookings has adopted a city water management plan that outlines measures it will take to maintain flows of at least 80 cfs (cubic feet per second) during the months of low flows (usually August, Sept and October). In June, 2006, the City of Brookings allocated $20,000 to water conservation education for its citizens.

Gravel Removal: Gravel extraction in Curry County is regulated by the Oregon Division of State Lands (DSL). There are large gravel removal operations on the county's two largest rivers (Rogue and Chetco), and several smaller operations (Hunter Creek; Elk River). State regulations function to reduce turbidity from these operations; ensure that fish habitat is not damaged during instream gravel removal; and that gravel "recruitment" replenishes the gravel removed each year. As part of the Klamath Mountains Province, our rivers are rich in gravel, appearing to have a good and reliable supply. (CCCP)

A gravel workshop sponsored by OSU Extension Service in spring 2006 outlined many of the issues associated with gravel removal, and offered the benefits of what science knows (and doesn't know) about the impacts of gravel removal. The National Marine Fisheries Service in spring 2006, issued a draft biological opinion that said gravel removal (specifically on the Chetco) could impact coho salmon production, and recommended changes, including reductions, in the existing gravel removal permits.

Agriculture and Forest Lands: Agricultural lands and their associated water quality issues are regulated by the Curry County Agricultural Water Quality Management Plan -- produced by the direction of Senate Bill 1010. The Plan is housed at the Curry County Soil and Water Conservation District. This approach to agricultural run-off focuses on riparian areas as buffers between agricultural lands and streams& rivers. Although it does not prescribe a specific "buffer width" the Plan does talk about maintaining the function of riparian areas to filter agricultural run-off, which can include fertilizers, pesticides and herbicides, and soil erosion from high flow events. Complaints about possible violations are referred first to the Curry County Soil and Water Conservation District for resolution. (AgPlan)

Private forest lands are regulated by the State Department of Forestry. The Forest Practices Act stipulates a 20 foot "no touch" buffer on fish-bearing streams, and a "Riparian Management Area" of 20 feet to 100 feet from the stream where a certain percentage of the basal area of trees must be left standing (for shade and soil retention). Private industrial forest lands make up about 30 % of the county's land base. (ODF and ORS 527.610 & ORS 527.765)

Recreational Opportunities: Good water quality can directly influence recreational opportunities for both county residents and visitors. Good fishing opportunities are directly tied to healthy water quality. In addition, our area is marketed world-wide as the "Heart of America's Wild Rivers Coast." People from all over the world come to recreate on our rivers or pursue fishing adventures in the nearshore ocean. They usually come from more urban areas and carry with them an expectation of "good scenery and clean rivers."

In addition to fishing on the county's 10 major rivers, recreational jetboats (MailBoats and Jerrys Jet Boats) take over 50,000 passengers each year up the Rogue River to Agness and beyond. The Rogue River was one of the eight original Wild and Scenic Rivers included in the National Wild and Scenic Rivers System established in 1968.

Landfills / Recycling: Curry County has developed an active solid waste recovery and recycling program which promotes the recycling and proper disposal of solid waste in order to protect the quality of the air, WATER and land resources of the county. (CCCP)

Coastal Shorelands: Curry County recognizes the importance of coastal shorelands, and has defined the coastal shoreland area by a boundary that is related to the physical processes that affect the shoreland. The county also states: "Curry County will not permit residential developments and commercial and industrial buildings on beaches, active foredunes, or other foredunes which are conditionally stable, or interdune areas that are subject to ocean flooding." Ocean resources are part of the whole "water quality gestalt" of Curry County, and protection of shorelands will prevent impairment of water quality in these areas. (CCCP)

EDUCATIONAL OPPORTUNITIES

Contractor's Workshop:
A workshop for building contractors would be a valuable thing. The training could include best management practices (BMPs) for contractors; erosion control techniques; review of current regulations; stormwater management; "green" building options, and other topics.

Real Estate Brokers' Workshop:
A workshop for real estate brokers could focus on the "liveability" of our county; the ethic of "America's Wild Rivers Coast," information on the existing riparian ordinance; homesite selection for rural properties; and other topics. Real estate brokers are often the first point of contact for newcomers moving in to Curry County.

Neighborhood Septic Upgrades and Vouchers:
There are some areas of the county where failing septic tanks pose a problem to water quality. Failing septics can overload streams and rivers with nitrates, *E. coli*, other bacteria, and water-borne pathogens. A program that could provide vouchers --- financial help from $2,000 to $10,000 @ --- to help landowners replace failing or out-dated septic systems could go a long ways towards alleviating this problem.

Key areas:
Mateer Road and Brooks Road (Hunter Creek)
Parkview Drive and Ocean View Drive (Brookings)
Garrison Lake & environs
Floras Lake

GIS Displays and Maps: The county now has a very professional GIS (Geographic Information System) coordinator (Toni Fisher). GIS is a powerful tool that can be used to display information and coordinate comprehensive efforts. For example, the county's road network can now be displayed on an up-to-date map. This could include all the county's culverts and road crossings. That information can be linked with a GIS "layer" that shows fish distribution. This kind of information can then determine priorities for a coming years funding allocations.

Another example: The county could create a GIS map showing all rural residential properties that are adjacent to streams and rivers. This could produce a targeted list for outreach and education for riparian projects and protection.

A third example: The county GIS shop could partner with the watershed council to identify areas of potential shade along rivers, and use existing analyses to target the best areas to plant riparian trees --- for long-term shading and water cooling. (This is being implemented now).

TIMELINE FOR PLAN IMPLEMENTATION:

First Draft of WQMP: Water Quality Implement Plan (WQIP)	December 2005
Review & Suggestions by all parties	Jan – Feb 2006
Incorporate suggestions into Final WQMP	Mar-April 2006
Publish Final WQMP	June 2006
Begin Educational workshops	2006 – 2007
First "Check-In" meeting (see below)	Dec 2006
Secure grants for educational elements	on-going

PLAN FOR PERFORMANCE MONITORING:

At the end of each calendar year, in December, it is recommended that The County Board of Commissioners meet with the County Planning Director and a representative of the Oregon DEQ and ODFW to review the elements listed above for the county WQIP (wetlands, estuaries, roads, septics, etc).

This periodic review would serve as a coordinated "check point" to evaluate how the county is doing on maintaining or improving water quality. **This WQIP, if implemented, can result in *improvements* in water quality over time.** This would mean not just slowing the rate of water quality degradation, or maintaining the status quo, but actual improvements in water quality, with attendant benefits (recreation, tourism, fish populations, etc). See ***Appendix B*** for a more complete discussion of "Performance Measures for Water Quality."

Currently, the county commissioners meet monthly to review any violations of county ordinances or regulations (these meetings include the Planning Director, County Counsel, Environmental Health Officer, and sometimes the Sanitarian). These meetings also offer an excellent opportunity to do regular "check-ins" on water quality issues.

BARRIERS TO IMPLEMENTATION

Complacency: Only vigilance will continue to protect and improve the water quality in our rivers and streams, especially in the face of accelerating development pressures. If we become complacent, we will lose the excellent water quality we now enjoy. In the long, 200-year history of urbanization and salmon populations, salmon always lose. Citizens should hold their elected officials responsible for obeying and improving existing laws and regulations.

BARRIERS TO IMPLEMENTATION cont

Institutional turn-over: County commissioners are elected every four years. The Planning Director serves at the will of the county commissioners. These positions "set the tone" for how the existing water quality regulations will be interpreted and enforced. New people coming in to these positions may not understand or appreciate the importance of water quality to our county's economic health. They may not understand the existing network of laws that protects our resources.

Non-enforcement: The county has a robust & effective riparian ordinance, and good statutes in place for roads, culverts, septic tanks, and other engineered structures. However, these regulations are only as good as the enforcement behind them. If citizens or developers think they can "get away with things" by non-compliance, water quality will suffer. The regular enforcement meetings mentioned above are an excellent check-point.

Development pressures: The history of urbanization and water quality / salmon numbers is not good. In general, throughout the last century, urbanization has caused hardening of surfaces (pavements, driveways, roads, asphalt, concrete, roofs, etc). When an area reaches a certain per cent impervious surface (usually around 10%), then water quality declines precipitously and salmon populations suffer. Curry County is not near that 10% number yet, but in our more urbanized areas (Brookings; Harbor), we are approaching that threshold. Impervious surfaces collect pollutants and toxins, increase run-off and erosion, and reduce the infiltration and filtering capacity of the soil. These factors generally degrade water quality. It is much easier to *prevent* a water quality problem, than it is to go back in and try to "fix" it.

COSTS – AND SOURCES OF FUNDING:

There are no additional county costs for implementing this water quality plan (WQIP). County employees in place (Road Dept., Sanitarian, Planning Director, etc) have the responsibility for enforcing the existing regulations as part of their regular job requirements.

To improve water quality, some of the workshops recommended would have slight organizational costs. In addition, in Appendix B, several existing programs are identified that, if continued, would bring improved water quality throughout our area.

Sources of funding:

Oregon Watershed Enhancement Board (OWEB)
Oregon Dept of Environmental Quality (DEQ)
Environmental Protection Agency (EPA)
Private foundations.

Curry County Water Quality Implementation Plan
DEQ Project Number W 04555-00
DEQ Agreement Number 001-05

BIBLIOGRAPHY

Curry County Comprehensive Plan (CCCP). Available from the Curry County Planning Department.
Curry County Zoning Ordinances (CCZO) Available from the Curry County Planning Department.

Curry County Road Department Standards and Guidelines (Roads). Available from the Curry County Road Department; 28425 Hunter Creek Road; Gold Beach

Curry County Stormwater Management Plan (Adopted March 6, 2006) (Stormwater) Available from the Curry County Planning Department and on-line at www.co.curry.or.us

Oregon Division of State Lands -- Wetlands Protection Inventory & Statutes (DSL) www.statelandsonline.com

Oregon DEQ Stormwater Requirements (DEQ) www.deq.state.or.us

Oregon Forest Practices Act www.odf.state.or.us

Is GIS on webpage??

Comp plan on LCDC website?

Appendix A

Curry County Stormwater Ordinance

Storm and Surface Water Management Standards

The following text is hereby added to the Curry County Zoning Ordinance as Section 3.400

Section 3.400. Storm and Surface Water Management Standards

Purpose: Detention of stormwater collected from impervious surfaces on a given property, or within public rights-of-way, is essential to the management of stormwater in Curry County. This ordinance includes standards for conveyance of surface water to streams, creeks, and channels. It also addresses pollution reduction and flow control for stormwater generated from new and redevelopment. For the purpose of this ordinance, "new" and "redevelopment" refers to any man-made change to improved or unimproved real estate including, but not limited to the placement of buildings or other structures, dredging, filling, grading, or paving. The ordinance provides standards for addressing infiltration, treatment, and detention of stormwater separately as well as an option for a combined approach to mitigating the water quality impacts of developments that fall below a certain size threshold.

Section 3.401 - Applicability: No permit for construction of new development or tenant improvements that results in impervious cover greater than 500 square feet for development activity on any land within Curry County that is not within the limits of an incorporated city, or under federal ownership, at the date of an application shall be issued until effects on stormwater management are evaluated. The level of review varies according to the affected area:

1. 500-1,999 square feet. No stormwater management measures beyond any mitigation measures for pollution reduction or flow control are required.

2. 2,000-4,999 square feet. Conceptual plans shall be submitted for approval.

3. 5,000+ square feet. A comprehensive stormwater **management plan** shall be submitted for approval.

4. Areas smaller than 500 square feet may require review, and a greater level of review for properties between 500 and 4,999 square feet may be necessary when the site is identified as having especially sensitive conditions, including but not limited to wetlands, steep slopes, and fish bearing streams.

Separate applicability thresholds for Pollution Reduction and Flow Control Standards are listed in Section 3.440 Pollution Reduction and Flow Control Standards. Development projects shall not be phased or segmented in such a manner to avoid the requirement of these Rules and Regulations.

The Oregon Department of Transportation (ODOT) shall require stormwater and water quality management plan coordination, design approval to state standards, and applicable permits for all development impacting state transportation drainage facilities.

Section 3.410. Stormwater Management Plan Submittal

1. Site plans shall included the following analyses and descriptions:

   a. A description of stormwater mitigation strategies to increase infiltration, promote evapotranspiration (use of water by plants), and reduce the amount of stormwater runoff generated from the site.

   b. Calculations of the amount of impervious surface before development and the amount of impervious surface after development. Impervious surface refers only to strictly impervious surfaces including roofs of buildings, impervious asphalt and concrete pavements, and other specifically impervious pavement materials such as mortared masonry and gravel.

   c. An analysis of vegetative and other treatment methods used to reduce pollutants.

   d. An analysis of flow reduction methods including infiltration, detention, and retention techniques.

   e. Statement of consistency with County stormwater management and, if applicable, the watershed management plan for the basin and/or requirements of a pollutant load reduction plan for a water quality limited stream which may be affected by ground disturbance or increased or altered flow regime.

2. Post-construction plans shall include the following information:

   a. As-built plans, stamped an engineer or geologist indicating all stormwater mitigation and management strategies are installed per approved plans and approved changes.

   b. Maintenance plans for all stormwater treatment facilities installed to comply with this ordinance. The maintenance program shall be subject to a recorded agreement with the County that outlines the stormwater treatment facility responsibilities of property owners and the County.

Section 3.420. General Requirements

1. Intent and Purpose. All development shall be planned, designed, constructed and maintained to provide a system by which storm/surface water within the development will be managed without causing damage or harm to the natural environment, or to property or persons and to protect property from flood hazards.

2. Criteria. Plans shall be submitted to the Curry County Public Services Department for review. All plans and calculations for areas 5,000 square feet or larger must be stamped and signed by a hydrologist, civil engineer, or other qualified person recognized by the County. Plan approval will be based on the following criteria:

   a. Design, construction and maintenance of proposed stormwater management plan will result in limiting as much as possible the increase in post-development off-site stormwater flow over pre-development off-site stormwater flow.

b. All in-stream culvert installations must allow fish passage in accordance with Division of State Lands (DSL) and the US Army Corps of Engineering (COE) and any other authorized federal, state, or local agency.

c. Installation of culverts, spans, or stormwater outfalls along natural water features shall be designed to emphasize preservation of natural flow conditions and pursue stream enhancement opportunities.

d. Stormwater mitigation strategies, such as retention of existing trees, and use of porous paving surfaces, as well as stormwater treatment and flow control facilities used to meet the requirements of this code must be included in the plans.

e. Stormwater management plan shall be consistent with the County's most current Stormwater engineering practice.

f. In areas of high pollutant load, stormwater infiltration shall incorporate, or be preceded by treatment as necessary to prevent siltation of the infiltration facility, protect ground water, and prevent toxic accumulations of pollutants in the soil.

g. All storm conveyance pipes, vaults and stormwater infiltration, treatment and detention facilities shall be built to specifications of the County.

h. The plan shall demonstrate compliance with the standards of CCZO Section 3.430 - Surface Water Conveyance Standards.

i. The plan shall demonstrate compliance standards of CCZO Section 3.440 - Pollution Reduction and Flow Control Standards.

3. Infiltration Facilities. The County reserves the right to restrict the use of infiltration facilities in high risk areas including those in Natural Hazard Areas with steep slopes, unstable soils, high water tables, or sites known to be contaminated by hazardous substances.

a. Infiltration facilities which fall under the jurisdiction of DEQ's Underground Injection Control (UIC) Program must be registered with the state and meet the requirements of the UIC Program.

b. Security. Applicants shall provide cash or a letter of credit acceptable to the County to assure successful installation and initial maintenance of surface pollution reduction and flow control facilities.

c. Contingency for system failure. If the storm drainage system fails due to lack of maintenance or breakage, and there are impacts to downstream water quality or quantity as a result of the failure, the County may perform the maintenance or repair and has the authority to charge the owner of the facility.

Section 3.430. Surface Water Conveyance Standards

1. The following measures are designed to efficiently convey stormwater.

a. Culverts in and spans of streams, creeks, gulches, and other natural drainage channels shall maintain a single channel conveyance system.

b. Culverts and/or spans are to be sized for the 24-hour post-developed tributary conditions of the 10-year storm on streams with an average flow less than 200 cfs.

c. Conveyance calculations shall use the following methods for analysis:

i. Projects smaller than 20 acres: The Rational Method, Santa Barbara Urban Hydrograph, SCS TR-55, HEC-1, or SWMM.

ii. Projects 20 acres or larger: Any of the methods except the Rational Method. Exceptions must be documented and approved by the County.

d. Credit will not be given for in-stream and in-line detention.

e. It shall be the responsibility of the owner that the new drainage system shall not negatively impact any natural water conditions. The owner is responsible for providing a drainage system for all surface water, springs, and groundwater on site and for water entering the property as well as management of springs and groundwater that surface during construction.

Section 3.440. Pollution Reduction and Flow Control Standards

1. Applicability. These standards shall apply to all subdivisions or site plan applications creating greater than 500 square feet of impervious surface or redevelopment footprint area, unless eligible for an exemption or granted a waiver by the County. Additionally, these standards apply to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development that meets the applicability criteria, even though multiple separate and distinct land development activities may take place at different times and at different schedules.

2. Waivers. The County at its discretion can waive in whole or in part minimum requirements for stormwater management, provided the applicant can prove with submitted findings that at least one of the following conditions applies:

a. It can be demonstrated that the proposed development is not likely to impair attainment of the objectives or standards of this section, the County's Stormwater Plan, or the County's Stormwater Management Program.

b. Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the County.

c. Provisions are made to manage stormwater by an off-site facility. The off-site facility is required to be in place, to be designed and adequately sized to provide a level of stormwater control that is equal to or greater than that which would be afforded by onsite practices and there is a legally obligated entity responsible for long-term operation and maintenance of the stormwater practice.

d. The County finds that meeting the minimum on-site management requirements is not feasible due to the nature or existing physical characteristics of a site.

e. Non-structural practices will be used on the site that reduce: a) the generation of stormwater from the site, b) the size and cost of stormwater storage and c) the pollutants generated at the site. These non-structural practices are explained in detail in the current design manual and the amount of credit available for using such practices shall be determined by the County.

Section 3.443. Infiltration, Treatment, and Detention.

Proper management of stormwater includes a combination of infiltration, treatment, and detention. This Section establishes the review standards for each method.

1. Infiltration

a. Infiltration systems are to infiltrate a minimum of one-half inch of rainfall in 24 hours.

b. Stormwater treatment, in accordance with Section 3.443(2), shall occur prior to or concurrent with infiltration.

c. Infiltration systems shall be designed to overflow to conveyance systems.

d. Infiltration may be waived, or reduced, if it can be demonstrated by an engineer or geologist that infiltration will destabilize the soil, cause structural problems, or provide negative impacts to the environment, or because of site constraints such as high groundwater or soil contamination. In such cases, findings shall demonstrate that stormwater runoff will not adversely affect adjacent properties or substantially change the flow characteristics of receiving water ways, or if runoff is determined to occur, the developer shall be respsonsible for in-lieu-of fees for regional treatment or off-site mitigation.

2. Treatment

a. Water quality treatment facilities shall be designed to capture and treat runoff for all flows up to the 80th percentile storm event.

b. The water quality system shall use vegetation for treatment. Alternative systems may be used with approval of the of the Director after consulting an engineer and shall be designed to provide equivalent treatment as is provided with a vegetated system.

c. Systems treating stormwater from over 5,000 square feet of impervious area and all systems must be designed by a registered engineer and be approved by the County.

3. Detention. On-site storm quantity detention facilities shall be designed to capture and detain runoff as follows:

a. 2-year, 24-hour, post-developed runoff rate to a 2-year, 24-hour pre-developed discharge rate;

b. Sites with infiltration systems designed to handle storms in excess of that specified by Section 3.443(3)(a) (above) of this Section will be permitted to reduce on-site detention requirements by a volume equal to 100% of the infiltration capacity.

4. Conveyance. Infiltration, treatment, and detention facilities shall be constructed to convey excess stormwater. Conveyance systems shall be sized to meet the following conditions:

a. Stormwater drainpipes draining less than 640 acres, 25-year 24-hour design storm.

b. Stormwater drain pipes draining greater than 640 acres, 50-year 24-hour design storm.

Section 3.450. Review Process

The requirements of this Chapter must be approved by the Public Services Director.

Appendix B

Performance Measures for Water Quality

Pollutant: Temperature

Source: Inadequate riparian shade – 10 major rivers

Strategy: Watershed council, SWCD, and private landowners should commit to planting 10,000 trees per year in riparian areas for the next 10 years. Use existing shade assessments for priority planting areas.
Cost: Approx $40,000 per year (trees, labor, coordination, supplies and mileage).

Strategy: Continue to monitor and enforce existing county riparian ordinance to maintain vegetative buffers now in place
Cost: None -- existing personnel.
Timeline: Focus on the next five years, 2006 – 2011.

Pollutant: Excess Sediment

Source: Poorly constructed upland roads

Strategy: Continue watershed councils' sediment abatement program, which identifies priority areas through road surveys, and then seeks funds to fix and "storm-proof" roads. Partner with county roads to fix any public chronic sediment sources. Work with landowners on private lands through existing programs
Cost: $75,000 per year for watershed council program.
Timeline: Focus on the next five years, 2006 – 2011

Pollutant: Nitrogen, phosphorus, other agricultural chemicals, including pesticides, herbicides.

Source: fertilizers, spraying for bugs & weeds done by agricultural operators and rural residents (lawn fertilizers, weed killers).

Strategy: Outreach and education to rural residential and urbanites to limit chemical use. Agricultural use falls under the Curry Agricultural Management Plan. Several workshops have been held. Ranchers are currently conducting experiments to reduce fertilizers (nitrogen, ammonia) plus measure how much of their application ends up in waterways.
Timeline: The next meeting to review the Curry Agricultural Management Plan is spring, 2008. This would be a good time to schedule a workshop on reducing pollution -- as well as hearing reports on progress and projects implemented from 2006 – 2008.

Pollutant: *E.coli*; coliform bacteria

Source: Failing septic tanks; livestock having access to streams and rivers. Some natural sources (beaver, elk, deer).

Strategy: Pinpoint sources through continued water quality monitoring. When sources of bacteria are identified, offer incentives to landowners or alternatives -- or guidelines for implementing BMP's

Cost: $20,000 - $30,000 per year for water quality testing program

Timeline: DEQ, Oregon State University, and the watershed councils are doing a comprehensive "Beach bacteria source search" in 2006 and 2007. This study will help narrow the focus of where high bacteria counts occur in the Brookings area (Mill Beach and Harris Beach).

Additionally, the "Storm Chasers" program funded by Curry County will continue in 2006 -7. This program can identify sites in other areas of the county, areas that have high bacteria county during winter storms.

Clean Fill Determinations

Clean Fill Determinations

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DEQ
State of Oregon
Department of Environmental Quality

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.

Disclaimer

This directive is intended solely as guidance for DEQ employees. It does not constitute rulemaking by the Environmental Quality Commission and may not be relied upon to create an enforceable right or benefit, substantive or procedural, enforceable at law or in equity, by any person. With written managerial approval, DEQ employees may deviate from this directive. DEQ anticipates revising this directive from time to time as conditions warrant.

Document Development

Prepared By: Heather Kuoppamaki

Reviewed By: Audrey O'Brien

Approved By: [signature] Date: February 21, 2019

Table of Contents

1. Intent/Purpose/Statement of Need

DEQ often receives requests to determine or confirm whether solid waste qualifies as clean fill. Oregon Administrative Rules define clean fill and allow DEQ to exempt clean fill from regulation as solid waste in many instances. It is important to note that clean fill that is mixed with solid waste is considered to be solid waste. This directive describes the screening criteria DEQ Materials Management staff uses to evaluate whether material meets DEQ's definition of clean fill for purposes of reuse or disposal.

2. Applicability

DEQ Materials Management staff are to use this Internal Management Directive to determine whether a waste material is clean fill or needs to be regulated as a solid waste.

3. Summary

This directive lays out a process and provides screening values that DEQ Materials Management staff should use to prepare and review clean fill determinations.

Section 7 of this directive describes the process that DEQ Materials Management staff will use to make clean fill determinations. Section 8 provides information on how the clean fill screening levels were determined, and information on how and when the screening levels can be updated. Tables 1 and 2 provide clean fill screening levels.

4. Background and Definitions

Clean fill – As defined in DEQ regulations, clean fill means "material consisting of soil, rock, concrete, brick, building block, tile or asphalt paving, which do not contain contaminants that could adversely impact the waters of the state or public health." Clean fill does not include "putrescible wastes, construction and demolition wastes and industrial solid wastes." [OAR 340-093-0030(18)]. This definition is clarified in the following subsections of the regulations:

> Asphalt paving means "asphalt which has been applied to the land to form a street, road, path, parking lot, highway, or similar paved surface and that is weathered, consolidated, and does not contain visual evidence of fresh oil." [OAR 340-093-0030(9)].
>
> Clean fill that has been separated from construction and demolition waste is considered clean fill [OAR 340-093-0030(26)].

Clean fill land disposal sites – DEQ's Materials Management Program does not regulate clean fill land disposal sites that are managed correctly. If solid waste is accepted at such a clean fill land disposal site, the facility is then subject to permit requirements and possible enforcement action by DEQ. This is stated in the following regulations:

> A disposal site does not include a site that is used by the owner or person in control of the premises to dispose of soil, rock, concrete or other similar non-decomposable clean fill material, unless the site is used by the public either directly or through a collection service [OAR 340-093-0030(38)].
>
> A person owning or controlling a land disposal site used exclusively for the disposal of clean fill may be exempt from DEQ solid waste permitting requirements. Clean fill still must be managed so that, when placed or disposed, it will not create an adverse impact on groundwater, surface water, or public health or safety. [OAR 340-093-0050(3)(c)].

Permit exemptions - Persons owning or controlling a land disposal site used exclusively for the disposal of clean fill, are specifically exempted from the requirements to obtain a DEQ solid waste permit. Such persons must comply with all other provisions of OAR chapter 340, divisions 93 through 97 and other applicable laws, rules, and regulations regarding solid waste disposal. The exemption does not apply if the materials have been contaminated such that the Department determines that their nature, amount or location may create an adverse impact on groundwater, surface water or public health or safety [based on OAR 340-093-0050(3)(c)]. Additional information on receiving DEQ approval at an exempt site is provided in OAR 340-093-0080:

> A person wishing to obtain an exemption from the requirement to obtain a solid waste permit for disposal of an inert waste in specified locations may submit a request to the Department. The applicant must demonstrate that the waste is substantially the same as "clean fill." The request shall include but not be limited to the following information:
>
> > (a) The exact location (including a map) at which the waste is to be disposed of and a description of the surrounding area;
> >
> > (b) The monthly rate of disposal;
> >
> > (c) A copy of the Safety Data Sheet (or equivalent, if a Safety Data Sheet is not available) for all applicable raw materials used at the facility generating the waste;
> >
> > (d) A description of the process generating the waste and how that process fits into the overall operation of the facility;
> >
> > (e) Documentation that the waste is not hazardous as defined in OAR 340, division 101. The procedure for making a hazardous waste determination is in OAR 340-102-0011;
> >
> > (f) A demonstration that the waste is inert, stable, non-putrescible, and physically similar to soil, rock, concrete, brick, building block, tile, or asphalt paving;
> >
> > (g) A demonstration that the waste will not discharge constituents which would adversely impact the waters of the state or public health.

5. Abbreviations Used in This Directive

DEQ – Oregon Department of Environmental Quality

ECO SSL – EPA Ecological Soil Screening Level

EPA – United States Environmental Protection Agency

IMD – Internal Management Directive

OAR – Oregon Administration Rule

RBC – Oregon DEQ Risk Based Concentration

RSL – EPA Regional Screening Level

USGS – United States Geological Survey

VOC – Volatile Organic Compound

6. Updates to 2014 Directive

This 2018 update makes the following changes to the clean fill IMD-

- The format is modified to meet DEQ's IMD format guidelines.
- Modifies language to reflect rule requirements.
- Clarifies and expands some of the guidance language.
- Updates the clean fill tables to:
  - include EPA groundwater protection SSLs (adjusted to reflect Oregon DEQ dilution attenuation factor),
  - remove the DEQ chemical-specific calculation for leaching to groundwater [since these are now provided by the EPA soil screening levels (SSL)],
  - incorporate updated DEQ risk based concentrations (RBCs) and EPA regional screening levels (RSLs), and
  - include screening ecological benchmarks developed by Oak Ridge National Laboratory.
- Updates links to Oregon DEQ's new web pages.

- Removes lanthanum, niobium, technetium, tellurium, titanium, and tungsten from Table 1 as they are not commonly detected in soils in Oregon, and are generally not contaminants of interest at sites investigated in Oregon.

7. Directive

7.1. Who can make clean fill determinations

7.1.a. Generator

When generators of excavated materials (or their consultants) ask how they can make their own clean fill determinations, DEQ Materials Management staff should explain that, when presented with a permit-exemption application, DEQ evaluates whether a material is clean fill according to the process outlined in this IMD.

A generator always has the option to do their own statistical analysis and make site-specific clean fill decisions based on the material generated.

7.1.b. DEQ Materials Management

DEQ Materials Management staff should encourage the generators of material (or their consultants) to make their own clean fill determination based on this IMD, including the clean fill screening levels provided in Table 1 and Table 2. If generators want to use different risk assumptions or would like DEQ to review clean fill determinations and provide approval, direct them to apply for a permit exemption (OAR 340-093-0080) and pay any associated fees.

7.1.c. DEQ Cleanup

If a generator is remediating a site under our Cleanup Program, DEQ Materials Management staff should involve DEQ's project manager for the site. Under cleanup statutes, DEQ may exempt the onsite reuse of materials from regulation under solid waste statutes, provided that substantive requirements are met. [See ORS 465.315 (3) and (4)]

7.2. Placement Locations

7.2.a. Physiographic Provinces

The clean fill values shown in Table 1 take into account naturally occurring concentrations of metals and metalloids in the various physiographic provinces within Oregon (Figure 1). These concentrations are compiled from DEQ Cleanup Program's background metals technical report[1]. Clean fill generated in one physiographic province may not qualify as clean fill in another physiographic province with lower background metals concentrations. The material must be below the clean fill screening levels in both the province in which it is generated and the province in which it is disposed.

[1] DEQ. 2013. Development of Oregon Background Metals Concentrations in Soil, Technical Report. March. https://www.oregon.gov/deq/FilterDocs/DebORbackgroundMetal.pdf

7.2.b. In-Water Locations

The clean fill determination process applies only to terrestrial (upland) reuse or disposal. The Clean Water Act and associated state water quality rules, rather than the solid waste rules, govern the filling of wetlands or waters of the state.

If generators of clean fill plan to place the material in wetlands or other waters of the state, DEQ Materials Management staff should direct them to the Army Corps of Engineers and the Oregon Department of State Lands.

7.2.c. Clean Fill Land Disposal Sites

If any solid wastes are be disposed of at a site that accepts clean fill, the site is no longer exempt from DEQ solid waste permitting requirements.

7.3. Clean Fill Evaluation

The clean fill definition in OAR 340-093-0030 refers to material type as well as the presence of contaminants that could adversely impact waters of the state and human health. Both parts of the definition must be satisfied for the material to be considered clean fill.

(1) The material type is limited to soil, rock, concrete, brick, building block, tile or asphalt paving and does not consist of putrescible wastes, construction and demolition wastes and industrial solid wastes.

(2) The contaminants may **not** adversely impact waters of the state or public health. The clean fill screening level tables are based on background concentrations (for metals) and risk screening levels published by Oregon DEQ and EPA.

The steps to conduct a clean fill determination are described below. These steps are also shown in Figure 2.

7.3.a. Material description

The first step in performing a clean fill determination is to check that the material meets the general material definition. To do this, determine whether the material:

- Consists of soil, rock, concrete, brick, building block, tile or asphalt paving; and,
- Does not include putrescible wastes, construction and demolition wastes, or industrial solid wastes

In addition, specific material attributes should be considered. Some examples:

- Asphalt paving must be used, be weathered material (not fresh asphalt) and consist of large, intact chunks. Ground up asphalt is not clean fill.
- Concrete, brick, blocks or tile must be unpainted, unless the materials have been evaluated for hazardous constituents, and concentrations of those constituents are below clean fill screening levels.

- If filler material used in the production of concrete, brick, building block, or tile has the potential to impact waters of the state or public health, the material is not clean fill.

Material that is determined to not be clean fill is solid waste. It may be disposed under a location-specific permit exemption, a solid waste letter authorization, or in a permitted landfill. The material also potentially may be reused under the authority of a Beneficial Use Determination.

7.3.b. Contaminants Evaluation

The second step in conducting a clean fill determination is to evaluate the risk from contaminants in the material. This is based on the presence of staining or odor, known hazardous substances, and laboratory analysis of the material for contaminants of potential concern.

Staining or odor

If the material appears chemically stained or has a chemical smell it is not clean fill. Chemicals that stain or produce odors indicate the material contains contaminants that could impact waters of the state or public health.

Hazardous waste

If the material contains a listed or characteristic hazardous waste it is not clean fill, even if the chemical concentrations are below clean fill table values. The generator may use alternative management methods such as "contained-in" determinations[2] to decide the ultimate disposal of the material.

Characterize the fill for chemical characterization

DEQ Materials Management staff should determine whether applicants adequately characterized the chemical quality of fill materials.

DEQ review must ensure that the applicant proposes and conducts an adequate sampling program to characterize the material. Sampling programs should be based on an understanding of the historical site use, processes that were used at the site, spatial variability of site soils, and potential chemicals that were handled, used, or stored at the site. Sampling programs should include: how samples are collected (in-situ or ex-situ), where samples are collected to obtain representative results, types of samples collected (discrete or composite), the number of samples collected, and the constituents the samples are being analyzed for. The sampling program should depend on the size, condition, spatial variability of the soils, and history of the area the generator will excavate (or has excavated).

Because designing a sampling program to collect representative data for heterogeneous materials is potentially complex, DEQ staff should refer generators to sampling guidance such as EPA

[2] DEQ, 2015. Conducting Contained-In Determinations for Environmental Media, Internal Management Directive. https://www.oregon.gov/deq/Filtered%20Library/IMDEnvMediaContainedinDet.pdf

(1986)[3], EPA (2002)[4], ITRC (2012)[5] or to an experienced consultant when asked "how many samples should I collect?" during the pre-application period.

Examples of site considerations:

An applicant would need to collect fewer samples along a long stretch of highway through a single land use (such as agricultural fields with similar crops) than in areas where land use changes frequently.

Materials from agricultural lands should be tested for metals and pesticides/herbicides at a minimum. Materials from a facility whose history is uncertain may require testing for a larger list of analytes. Historical site information may be available in an environmental site assessment conducted in accordance with standard practices (for instance, ASTM E1903)[6].

If the material is sediment that is being dredged and will be placed upland, DEQ Materials Management staff should work with DEQ Water Quality staff to determine if sampling done for the 401 water quality certification or dredging permits is sufficient to adequately characterize the sediment that will be placed upland.

7.3.c. Compare chemical concentrations to clean fill screening levels

Once an appropriate sampling and analysis program has been completed, the results should be compared to clean fill screening levels. These levels are provided in Tables 1 and 2. When reviewing the results, make sure the laboratory method detection limit (MDL) is lower than the screening table value.

If the contaminant concentrations in the material do not exceed clean fill screening levels defined in the tables, the material is clean fill, provided the other criteria described in this IMD are also met, such as absence of staining or odor.

Note that the material may be clean fill even if there are some exceedances of these screening levels. For instance, if an appropriate statistical analysis[7] demonstrates that the concentration of the contaminants are very close to clean fill screening values, DEQ may determine that the material can be considered to be clean fill in certain cases.

If a clean fill determination cannot be made, the party may contact DEQ to discuss other options, such as a permit exemption, disposal under a solid waste letter authorization, and disposal at a permitted landfill.

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[3] EPA, 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Chapter 9, https://www.epa.gov/sites/production/files/2015-10/documents/chap9_0.pdf

[4] EPA, 2002. Guidance on Choosing a Sampling Design for Environmental Data Collection, EPA QA/G-5S. https://www.epa.gov/sites/production/files/2015-06/documents/g5s-final.pdf

[5] ITRC, 2012. Incremental Sampling Methodology, Technical and Regulatory Guidance. February. https://www.itrcweb.org/ism-1/pdfs/ISM-1_021512_Final.pdf

[6] ASTM, 2011. Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, E1903-11. http://www.astm.org/Standards/E1903.htm

[7] Calculating a 90% Upper Confidence Limit is usually an appropriate statistical method. https://www.epa.gov/land-research/proucl-software

8. Derivation of clean fill screening levels

8.1. Table 1

The values in Table 1 are based on the following:

- DEQ's technical report on background metals concentrations in soil[8]
- DEQ and EPA ecological screening levels[9],[10]
- Ecological screening benchmarks developed by Oak Ridge National Laboratory[11]
- DEQ RBCs for residential soils[12]
- EPA RSLs for residential soils[13]
- Calculations based on USGS data[14]

In the case of background metals concentrations exceeding human health or ecological screening values, the background metal values are shown. Otherwise, the lowest of human or ecological screening values are used.

In the case of metals for which background concentration levels are not available, DEQ used data compiled by USGS to calculate an estimated background value. DEQ used ProUCL to calculate a nonparametric 95% Upper Prediction Limit.

The background concentration of lead for the Portland Basin appears to include anthropogenic influences (it is 79 mg/kg compared to no more than about 36 mg/kg in the rest of the state). Therefore, DEQ used the background lead concentration from the South Willamette Basin province as a background concentration for lead (28 mg/kg) for the Portland Basin.

8.2. Table 2

Values in Table 2 are based on the lowest of the following:

- Residential soil concentrations from DEQ's Risk-Based Decision Making table
- EPA's residential soil Regional Screening Level

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[8] DEQ. 2013. Development of Oregon Background Metals Concentrations in Soil, Technical Report. March. https://www.oregon.gov/deq/FilterDocs/DebORbackgroundMetal.pdf

[9] DEQ, 1998. Guidance for Ecological Risk Assessment: Levels I, II, III, IV. April. https://www.oregon.gov/deq/FilterDocs/GuidanceEcologicalRisk.pdf

[10] EPA, Interim Ecological Soil Screening Level Documents. Website accessed September 6, 2018: https://www.epa.gov/chemical-research/interim-ecological-soil-screening-level-documents

[11] Oak Ridge National Laboratory, https://www.lanl.gov/environment/protection/eco-risk-assessment.php

[12] DEQ, 2018. Risk-Based Concentrations for Individual Chemicals. May. https://www.oregon.gov/deq/FilterDocs/RBDMTable.pdf

[13] EPA, 2018. Regional Screening Levels (RSLs) – Generic Tables. May. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

[14] USGS, 2013. Geochemical and Mineralogical Data for Soils of the Conterminous United States. https://pubs.usgs.gov/ds/801/pdf/ds801.pdf

- EPA's risk-based soil screening levels (SSL) for protection of groundwater, multiplied by 60. EPA uses a dilution attenuation factor (DAF) of 1 in the calculation of their SSLs; DEQ uses a default DAF of 60. Therefore the EPA SSL is multiplied by 60 to be consistent with DEQ methodology.
- For chemicals where DEQ and EPA have both calculated a screening level for groundwater protection, the DEQ level is used.
- DEQ's Ecological Screening Level Values
- EPA's Ecological Soil Screening Levels
- Ecological screening benchmarks developed by Oak Ridge National Laboratory[15]

8.3. Modifications

If any of the references screening levels are updated and the clean fill guidance has not been updated to reflect the new screening levels, generators can calculate their own, updated, clean fill screening levels based on the methods discussed above.

9. Review Schedule

This Directive and its referenced clean fill screening tables should be reviewed and updated when DEQ or EPA risk-based screening levels change.

[15] Oak Ridge National Laboratory, https://www.lanl.gov/environment/protection/eco-risk-assessment.php

10. Record of Revisions to IMD

Revision	Date	Changes	Editor
0	07/15/2014	New document	Bill Mason
1	07/23/2014	a. Corrected URL in footnote 1 b. Corrected OAR reference on page 3	Bill Mason
2	07/12/2018	a. Incorporated new RBCs, RSLs and SSLs b. Updated formatting c. See Section 6 for all changes	Heather Kuoppamaki
3	11/7/2018	Grammatical/typographical review	Julie Miller
4	4/3/2019	Minor edits in Tables 1 and 2. Fix footnotes in Table 1, remove Chromium III from Table 2	Heather Kuoppamaki
5	6/17/2019	Minor edits in Tables 1 and 2. Add CAS numbers and BaP equivalents to Table 2.	Heather Kuoppamakirecordof

Table 1 - Clean fill screening levels for province specific and background metals. All concentrations in mg/kg

	Statewide	Province* Background / Clean Fill Value										
Elements	**Clean Fill Value**	**Basin and Range**	**Blue Mountains**	**Cascade Range**	**Coast Range**	**Deschutes-Columbia Plateau**	**High Lava Plains**	**Klamath Mountains**	**Owyhee Uplands**	**South Willamette Valley**	**Portland Basin**	**Note**
Antimony		0.86	1.3d d	0.67	0.55	1.3	0.35	0.59	1.3 d	0.39	0.56	a
Arsenic		12	14	19	12	6.8	7.2	12	17	18	8.8	a
Barium		790	950	630	840	700	790	630	970	730	790	a
Beryllium		2.4	2.6	2.1	2.8	2.6	2.6	1.4	2	2.6	2	a
Bismuth	20											c
Cadmium		0.81	0.69	0.54	0.54	0.4	0.78	0.52	N/A	1.6	0.63	a
Chromium (total)		100	190	200	240	170	140	890	120	100	76	a
Cobalt	43											b
Copper		110	120	73	100	29	62	110	50	140	34	a
Lead		29	21	34	34	18	21	36	30	28	28 **	a
Lithium	35											b
Manganese		1,600	1,800	2,100	2,100	1,300	1,500	3,000	1,200	2,900	1,800	a
Mercury		0.28	1.4	0.24	0.11	0.04	0.06	0.17	0.75	0.07	0.23	a
Molybdenum	2.1											b
Nickel		66	92	110	160	78	75	630	53	50	47	a
Selenium		0.41	0.93	0.52	1.5	0.46	0.54	0.8	0.49	0.68	0.71	a
Silver		0.42	0.51	0.17	0.41	0.82	0.68	0.16	2.2	0.33	0.82	a
Strontium (stable)	4,700											b
Thallium		0.22	N/A	2.8	5.4	4.6	0.21	0.31	N/A	5.7	5.2	a
Tin (inorganic)	50											c
Uranium	5											c
Vanadium		270	400	280	260	300	220	290	190	370	180	a
Zinc		130	160	170	140	130	140	140	120	200	180	a

Notes:

a - Table 4, Development of Oregon Background Metals Concentrations in Soil, Technical Report, DEQ (2013), https://www.oregon.gov/deq/FilterDocs/DebORbackgroundMetal.pdf. Background concentrations (a or d), when available, are used for the clean fill value. When background concentrations are not available, risk screening values are used.

b - 95% Upper Prediction Limit calculated using USGS data for Oregon, Smith, D.B., Cannon, W.F., Woodruff, L.G., Solano, Federico, Kilburn, J.E., and Fey, D.L., 2013, Geochemical and mineralogical data for soils of the conterminous United States: U.S. Geological Survey Data Series 801, 19 p., http://pubs.usgs.gov/ds/801/

c - Table 1, Guidance for Ecological Risk Assessment, Level II Screening Level Values, DEQ (2001), https://www.oregon.gov/deq/FilterDocs/GuidanceEcologicalRisk.pdf. Only used if ecotoxicological benchmarks from Oak Ridge National Laboratory are not available.

d - Ecotoxicological screening benchmarks developed by Oak Ridge National Laboratory: https://www.lanl.gov/environment/protection/eco-risk-assessment.php

e - Regional Screening Levels, EPA (May 2018), Residential soil. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

* - Province boundaries are presented in Figure 1

** - The background concentration of lead for the Portland Basin appears to include anthropogenic influences (it is 79 mg/kg compared to no more than about 36 mg/kg in the rest of the state). Therefore, DEQ used the background lead concentration from the South Willamette Basin province as a background concentration for lead for the Portland Basin.

Last updated by Heather Kuoppamaki, DEQ-NWR, on June 17, 2019

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Acenaphthene	83-32-9	0.25	g
Acenaphthylene	208-96-8	120	g
Acephate	30560-19-1	0.32	b
Acetaldehyde	75-07-0	0.031	b
Acetochlor	34256-82-1	17	b
Acetone	67-64-1	1.2	g
Acetone Cyanohydrin	75-86-5	2,800,000	a
Acetonitrile	75-05-8	1.6	b
Acetophenone	98-86-2	35	b
Acetylaminofluorene, 2-	53-96-3	0.0043	b
Acrolein (Propenal)	107-02-8	0.0005	b
Acrylamide	79-06-1	0.00066	b
Acrylic Acid	79-10-7	0.025	b
Acrylonitrile	107-13-1	0.00036	d
Adiponitrile	111-69-3	8,500,000	a
Alachlor	15972-60-8	0.052	b
Aldicarb	116-06-3	0.29	b
Aldicarb Sulfone	1646-88-4	0.26	b
Aldrin	309-00-2	0.023	d
Allyl Alcohol	107-18-6	0.0025	b
Allyl Chloride	107-05-1	0.014	b
Aluminum Phosphide	20859-73-8	31	a
Ametryn	834-12-8	9.6	b
Aminobiphenyl, 4-	92-67-1	0.0009	b
Aminophenol, m-	591-27-5	37	b
Aminophenol, o-	95-55-6	1.8	b
Aminophenol, p-	123-30-8	9	b
Amitraz	33089-61-1	160	a
Ammonium Perchlorate	7790-98-9	55	a
Ammonium polyphosphate	68333-79-9	3,800,000	a
Ammonium Sulfamate	7773-06-0	16,000	a
Amyl Alcohol, tert-	75-85-4	0.078	b
Aniline	62-53-3	0.28	b
Anthracene	120-12-7	6.8	g
Anthraquinone, 9,10-	84-65-1	0.84	b
Antimony Pentoxide	1314-60-9	39	a
Antimony Tetroxide	1332-81-6	31	a
Antimony Trioxide	1309-64-4	280,000	a
Aroclor 1016	12674-11-2	1.1	g
Aroclor 1221	11104-28-2	0.0048	b
Aroclor 1232	11141-16-5	0.0048	b
Aroclor 1242	53469-21-9	0.041	g
Aroclor 1248	12672-29-6	0.0073	g
Aroclor 1254	11097-69-1	0.041	g
Aroclor 1260	11096-82-5	0.24	a
Aroclor 5460	11126-42-4	35	a
Arsenic III	7440-38-2	10	e
Arsine	7784-42-1	0.27	a
Asulam	3337-71-1	11	b
Atrazine	1912-24-9	0.012	b
Auramine	492-80-8	0.037	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Avermectin B1	65195-55-3	25	a
Azinphos-methyl	86-50-0	1	b
Azobenzene	103-33-3	0.056	b
Azodicarbonamide	123-77-3	410	b
Benfluralin	1861-40-1	56	b
Benomyl	17804-35-2	51	b
Bensulfuron-methyl	83055-99-6	60	b
Bentazon	25057-89-0	7.2	b
Benzaldehyde	100-52-7	0.25	b
Benzene	71-43-2	0.023	d
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	0.013	b
Benzenethiol (thiophenol)	108-98-5	0.66	b
Benzidine	92-87-5	0.000038	d
Benzo(a)anthracene	56-55-3	0.73	g
Benzo(a)pyrene (BaP equivalents)	50-32-8	0.11	a
Benzo(b)fluoranthene	205-99-2	1.1	a
Benzo(g,h,i)perylene	191-24-2	25	g
Benzo(j)fluoranthene	205-82-3	0.42	a
Benzo(k)fluoranthene	207-08-9	11	a
Benzoic Acid	65-85-0	1	g
Benzotrichloride	98-07-7	0.0004	b
Benzyl Alcohol	100-51-6	29	b
Benzyl Chloride	100-44-7	0.0059	b
Bidrin (Dicrotophos)	141-66-2	0.0084	b
Bifenox	42576-02-3	46	b
Biphenthrin	82657-04-3	950	a
Biphenyl, 1,1'-	92-52-4	0.52	b
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether)	108-60-1	16	b
Bis(2-chloroethoxy)methane	111-91-1	0.78	b
Bis(2-chloroethyl)ether (dichloroethyl ether)	111-44-4	0.00019	d
Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	0.02	g
Bis(chloromethyl)ether	542-88-1	0.000001	b
Bisphenol A	80-05-7	3,200	a
Boron And Borates Only	7440-42-8	0.5	e
Boron Trichloride	10294-34-5	160,000	a
Boron Trifluoride	7637-07-2	3,100	a
Bromate	15541-45-4	0.051	b
Bromine	7726-95-6	10	e
Bromo-2-chloroethane, 1-	107-04-0	0.00013	b
Bromo-3-fluorobenzene, 1-	1073-06-9	0.28	b
Bromo-4-fluorobenzene, 1-	460-00-4	0.26	b
Bromoaniline, 4-	106-40-1	100	e
Bromobenzene	108-86-1	2.5	b
Bromochloromethane	74-97-5	1.3	b
Bromodichloromethane	75-27-4	0.002	d
Bromoform (tribromomethane)	75-25-2	0.046	d
Bromomethane	74-83-9	0.083	d
Bromophos	2104-96-3	9	b
Bromopropane, 1-	106-94-5	3.8	b
Bromoxynil	1689-84-5	0.031	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Bromoxynil Octanoate	1689-99-2	0.13	b
Butadiene, 1,3-	106-99-0	0.00059	b
Butanoic acid, 4-(2,4-dichlorophenoxy)-	94-82-6	25	b
Butanol, N-	71-36-3	25	b
Butyl alcohol, sec-	78-92-2	300	b
Butyl benzyl phthlate	85-68-7	14	b
Butylate	2008-41-5	27	b
Butylated hydroxyanisole	25013-16-5	17	b
Butylated hydroxytoluene	128-37-0	6	b
Butylbenzene, n-	104-51-8	190	b
Butylbenzene, sec-	135-98-8	350	b
Butylbenzene, tert-	98-06-6	96	b
Butylphthalyl Butylglycolate	85-70-1	19,000	b
Cacodylic Acid	75-60-5	6.6	b
Calcium Cyanide	592-01-8	78	a
Calcium pyrophosphate	7790-76-3	3,800,000	a
Caprolactam	105-60-2	150	b
Captafol	2425-06-1	0.043	b
Captan	133-06-2	1.3	b
Carbaryl	63-25-2	100	b
Carbazole	86-74-8	79	g
Carbofuran	1563-66-2	2.2	b
Carbon Disulfide	75-15-0	0.81	g
Carbon Tetrachloride	56-23-5	0.013	d
Carbonyl Sulfide	463-58-1	31	b
Carbosulfan	55285-14-8	72	b
Carboxin	5234-68-4	60	b
Ceric oxide	1306-38-3	1,300,000	a
Chloral Hydrate	302-17-0	24	b
Chloramben	133-90-4	4.2	b
Chloranil	118-75-2	0.009	b
Chloraniline, 3-	108-42-9	20	e
Chlordane, alpha-	5103-71-9	0.27	g
Chlordane, gamma-	5103-74-2	2.2	g
Chlordane, technical	57-74-9	0.91	d
Chlordecone (Kepone)	143-50-0	0.0072	b
Chlorfenvinphos	470-90-6	1.9	b
Chlorimuron, Ethyl-	90982-32-4	36	b
Chlorine	7782-50-5	0.0084	b
Chlorine Dioxide	10049-04-4	2,300	a
Chlorite (Sodium Salt)	7758-19-2	2,300	a
Chloro-1,1-difluoroethane, 1-	75-68-3	3,100	b
Chloro-1,3-butadiene, 2- (Chloroprene)	126-99-8	0.00059	b
Chloro-2-methylaniline HCl, 4-	3165-93-3	0.009	b
Chloro-2-methylaniline, 4-	95-69-2	0.024	b
Chloroacetaldehyde, 2-	107-20-0	0.0035	b
Chloroacetamide	79-07-2	2	e
Chloroacetophenone, 2-	532-27-4	43,000	a
Chloroaniline, p- (4-Chloroaniline)	106-47-8	0.0096	b
Chlorobenzene	108-90-7	2.4	g
Chlorobenzene sulfonic acid, p-	98-66-8	28	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Chlorobenzilate	510-15-6	0.06	b
Chlorobenzoic Acid, p-	74-11-3	7.8	b
Chlorobenzotrifluoride, 4-	98-56-6	7.2	b
Chlorobutane, 1-	109-69-3	16	b
Chlorodibromomethane (dibromochloromethane)	124-48-1	0.0024	d
Chlorodifluoromethane	75-45-6	2,600	b
Chloroethanol, 2-	107-07-3	4.9	b
Chloroform	67-66-3	0.0034	d
Chloromethane	74-87-3	2.2	d
Chloromethyl Methyl Ether	107-30-2	0.000084	b
Chloronaphthalene, Beta-	91-58-7	230	b
Chloronitrobenzene, o-	88-73-3	0.013	b
Chloronitrobenzene, p-	100-00-5	0.066	b
Chlorophenol, 2-	95-57-8	0.39	g
Chlorophenol, 3-	108-43-0	7	e
Chlorophenol, 4-	106-48-9	50	e
Chloropicrin	76-06-2	0.015	b
Chlorothalonil	1897-45-6	3	b
Chlorotoluene, o-	95-49-8	14	b
Chlorotoluene, p-	106-43-4	14	b
Chlorozotocin	54749-90-5	0.0000043	b
Chlorpropham	101-21-3	38	b
Chlorpyrifos	2921-88-2	7.2	b
Chlorpyrifos Methyl	5598-13-0	32	b
Chlorsulfuron	64902-72-3	50	b
Chlorthal-dimethyl	1861-32-1	9	b
Chlorthiophos	60238-56-4	4.4	b
Chromium (VI)	18540-29-9	0.04	b
Chrysene	218-01-9	3.1	g
Clofentezine	74115-24-5	820	a
Copper Cyanide	544-92-3	390	a
Cresol, m- (3-Methylphenol)	108-39-4	0.69	g
Cresol, o- (2-Methylphenol)	95-48-7	0.67	g
Cresol, p-	106-44-5	90	b
Cresol, p-chloro-m-	59-50-7	100	b
Cresols	1319-77-3	78	b
Crotonaldehyde, trans-	123-73-9	0.00049	b
Cumene	98-82-8	96	d
Cupferron	135-20-6	0.037	b
Cyanazine	21725-46-2	0.0025	b
Cyanogen	460-19-5	78	a
Cyanogen Bromide	506-68-3	7,000	a
Cyanogen Chloride	506-77-4	3,900	a
Cyclohexane	110-82-7	780	b
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	0.96	b
Cyclohexanone	108-94-1	20	b
Cyclohexene	110-83-8	2.8	b
Cyclohexylamine	108-91-8	60	b
Cyfluthrin	68359-37-5	1,600	a
Cyhalothrin/karate	68085-85-8	63	a

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Cyromazine	66215-27-8	150	b
Dalapon	75-99-0	7.2	b
Daminozide (Alar)	1596-84-5	0.057	b
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'-(BDE-209)	1163-19-5	440	a
Demeton	8065-48-3	2.5	a
Di(2-ethylhexyl)adipate	103-23-1	280	b
Diallate	2303-16-4	0.048	b
Diammonium phosphate	7783-28-0	3,800,000	a
Diazinon	333-41-5	3.9	b
Dibenz(a,h)anthracene	53-70-3	0.11	a
Dibenzo(a,e)pyrene	192-65-4	0.042	a
Dibenzofuran	132-64-9	0.002	e
Dibenzothiophene	132-65-0	72	b
Dibromo-3-chloropropane, 1,2-	96-12-8	0.0000084	b
Dibromobenzene, 1,3-	108-36-1	0.31	b
Dibromobenzene, 1,4-	106-37-6	7.2	b
dibromoethane, 1,2- (EDB)	106-93-4	0.00012	d
Dibromomethane (Methylene Bromide)	74-95-3	0.13	b
Dibutyl phthalate (Di-n-butyl phthalate)	84-74-2	0.011	g
Dibutyltin Compounds	E1790660	19	a
Dicalcium phosphate	7757-93-9	3,800,000	a
Dicamba	1918-00-9	9	b
Dichloro-2-butene, 1,4-	764-41-0	0.00004	b
Dichloro-2-butene, cis-1,4-	1476-11-5	0.000037	b
Dichloro-2-butene, trans-1,4-	110-57-6	0.000037	b
Dichloroacetic Acid	79-43-6	0.019	b
Dichloroaniline, 2,4-	554-00-7	100	e
Dichloroaniline, 3,4-	95-76-1	10	e
Dichlorobenzene, 1,2-	95-50-1	0.92	g
Dichlorobenzene, 1,3-	541-76-1	0.74	g
Dichlorobenzene, 1,4-	106-46-7	0.057	d
Dichlorobenzidine, 3,3'-	91-94-1	0.17	d
Dichlorobenzophenone, 4,4'-	90-98-2	28	b
Dichlorodifluoromethane (Freon-12)	75-71-8	18	b
Dichlorodiphenyldichloroethane, 4,4- (DDD)	72-54-8	0.0063	g
Dichlorodiphenyldichloroethene, 4,4- (DDE)	72-55-9	0.01	e
Dichlorodiphenyltrichloroethane, 4,4- (DDT)	50-29-3	0.01	e
Dichloroethane, 1,1-	75-34-3	0.044	d
Dichloroethane, 1,2- (EDC)	107-06-2	0.0028	d
Dichloroethylene, 1,1-	75-35-4	6.7	d
Dichloroethylene, 1,2- (mixture)		2,500	e
Dichloroethylene, 1,2-cis-	156-59-2	0.63	d
Dichloroethylene, 1,2-trans-	156-60-5	7	d
Dichloromethane	75-09-2	0.14	d
Dichlorophenol, 2,4-	120-83-2	1.4	b
Dichlorophenol, 3,4-	95-77-2	20	e
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	2.3	d
Dichloropropane, 1,2-	78-87-5	0.017	b
Dichloropropane, 1,3-	142-28-9	7.8	b
Dichloropropanol, 2,3-	616-23-9	0.78	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Dichloropropene, 1,3-	542-75-6	0.01	b
Dichlorvos	62-73-7	0.0049	b
Dicyclopentadiene	77-73-6	0.13	b
Dieldrin	60-57-1	0.0045	g
Diethanolamine	111-42-2	0.49	b
Diethyl phthalate	84-66-2	100	e
Diethylene Glycol Monobutyl Ether	112-34-5	7.8	b
Diethylene glycol monoethyl ether	111-90-0	14	b
Diethylformamide	617-84-5	0.25	b
Diethylstilbestrol	56-53-1	0.0016	a
Difenzoquat	43222-48-6	5,200	a
Diflubenzuron	35367-38-5	20	b
Difluoroethane, 1,1- (DFE)	75-37-6	1,700	b
Difluoropropane, 2,2-	420-45-1	8,400	b
Dihydrosafrole	94-58-6	0.011	b
Diisopropyl ether (DIPE)	108-20-3	22	b
Diisopropyl Methylphosphonate	1445-75-6	27	b
Dimagnesium phosphate	7782-75-4	3,800,000	a
Dimethipin	55290-64-7	5.8	b
Dimethoate	60-51-5	0.59	b
Dimethoxybenzidine, 3,3'-	119-90-4	0.0035	b
Dimethyl methylphosphonate	756-79-6	0.58	b
Dimethyl phthalate	131-11-3	10	g
Dimethylamino azobenzene [p-]	60-11-7	0.0013	b
Dimethylaniline HCl, 2,4-	21436-96-4	0.0072	b
Dimethylaniline, 2,4-	95-68-1	0.013	b
Dimethylaniline, N,N-	121-69-7	0.054	b
Dimethylbenz(a)anthracene, 7,12-	57-97-6	0.00046	a
Dimethylbenzidine, 3,3'-	119-93-7	0.0026	b
Dimethylformamide	68-12-2	0.72	b
Dimethylhydrazine, 1,1-	57-14-7	0.000056	b
Dimethylhydrazine, 1,2-	540-73-8	0.00000039	b
Dimethylphenol, 2,4-	105-67-9	20	e
Dimethylphenol, 2,6-	576-26-1	0.78	b
Dimethylphenol, 3,4-	95-65-8	1.3	b
Dimethylterephthalate	120-61-6	29	b
Dimethylvinylchloride	513-37-1	0.0066	b
Di-n-hexylphthalate	84-75-3	3,100	e
Dinitrobenzene, 1,2-	528-29-0	0.11	b
Dinitrobenzene, 1,3-	99-65-0	0.072	g
Dinitrobenzene, 1,4-	100-25-4	0.11	b
Dinitro-o-cresol, 4,6-	534-52-1	0.16	b
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	46	b
Dinitrophenol, 2,4-	51-28-5	2.6	b
Dinitrotoluene Mixture, 2,4/2,6-	E1615210	0.009	b
Dinitrotoluene, 2,4-	121-14-2	0.019	b
Dinitrotoluene, 2,6-	606-20-2	0.0089	d
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	1.8	b
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	1.8	b
Dinitrotoluene, Technical grade	25321-14-6	0.0084	b
Dinoseb	88-85-7	7.8	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Di-N-propylnitrosamine (N-nitrosodi-N-propylamine)	621-64-7	0.00094	d
Dioxane, 1,4-	123-91-1	0.0023	d
Diphenamid	957-51-7	310	b
Diphenyl Ether	101-84-8	0.2	b
Diphenyl Sulfone	127-63-9	2.2	b
Diphenylamine	122-39-4	10	g
Diphenylhydrazine, 1,2-	122-66-7	0.015	b
Dipotassium phosphate	7758-11-4	3,800,000	a
Diquat	85-00-7	50	b
Direct Black 38	1937-37-7	0.076	a
Direct Blue 6	2602-46-2	0.073	a
Direct Brown 95	16071-86-6	0.081	a
Disodium phosphate	7558-79-4	3,800,000	a
Disulfoton	298-04-4	0.056	b
Dithiane, 1,4-	505-29-3	5.8	b
Diuron	330-54-1	0.9	b
Dodine	2439-10-3	130	b
Endosulfan, (alpha-beta)		0.64	g
Endothall	145-73-3	5.5	b
Endrin	72-20-8	0.0014	g
Epichlorohydrin	106-89-8	0.027	b
Epoxybutane, 1,2-	106-88-7	0.55	b
EPTC	759-94-4	24	b
Ethanol	64-17-5	4,000	e
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	9.6	b
Ethephon	16672-87-0	1.3	b
Ethion	563-12-2	0.51	b
Ethoxyethanol Acetate, 2-	111-15-9	1.5	b
Ethoxyethanol, 2-	110-80-5	4.1	b
Ethyl Acetate	141-78-6	1.9	b
Ethyl Acrylate	140-88-5	0.19	b
Ethyl Chloride (Chloroethane)	75-00-3	310	d
Ethyl Ether (Diethyl ether)	60-29-7	53	b
Ethyl Methacrylate	97-63-2	9	b
Ethylbenzene	100-41-4	0.22	d
Ethylene Cyanohydrin	109-78-4	17	b
Ethylene Diamine	107-15-3	25	b
Ethylene Glycol	107-21-1	490	b
Ethylene Glycol Monobutyl Ether	111-76-2	25	b
Ethylene Oxide	75-21-8	0.0000084	b
Ethylene Thiourea	96-45-7	0.022	b
Ethyleneimine	151-56-4	0.0000031	b
Ethylphthalyl Ethyl Glycolate	84-72-0	7,800	b
Ethyl-p-nitrophenyl phosphonate (EPN)	2104-64-5	0.17	b
Fenamiphos	22224-92-6	0.0002	e
Fenpropathrin	39515-41-8	170	b
Fenvalerate	51630-58-1	1,600	a
Fluometuron	2164-17-2	11	b
Fluoranthene	206-44-0	10	g
Fluorene	86-73-7	3.7	g

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Fluoride	16984-48-8	3,100	a
Fluorine (Soluble Fluoride)	7782-41-4	30	e
Fluridone	59756-60-4	5,100	a
Flurprimidol	56425-91-3	190	b
Flusilazole	85509-19-9	130	a
Flutolanil	66332-96-5	2,500	b
Fluvalinate	69409-94-5	630	a
Folpet	133-07-3	23	b
Fomesafen	72178-02-0	9.6	b
Fonofos	944-22-9	2.8	b
Formaldehyde	50-00-0	0.002	d
Formic Acid	64-18-6	0.0078	b
Fosetyl-AL	39148-24-8	40,000	b
Furan	110-00-9	0.44	b
Furazolidone	67-45-8	0.0023	b
Furfural	98-01-1	0.49	b
Furium	531-82-8	0.0041	b
Furmecyclox	60568-05-0	0.072	b
Generic Diesel/Heating Oil		1,100	c
Generic Gasoline		31	d
Generic Mineral/Insulating Oil		2,800	c
Glufosinate, Ammonium	77182-82-2	1.6	b
Glutaraldehyde	111-30-8	24	b
Glycidyl	765-34-4	0.02	b
Glyphosate	1071-83-6	530	b
Guanidine	113-00-8	2.7	b
Guanidine Chloride	50-01-1	1,300	a
Guanidine Nitrate	506-93-4	9	b
Haloxyfop, Methyl	69806-40-2	0.5	b
Heptachlor	76-44-8	0.017	d
Heptachlor Epoxide	1024-57-3	0.0042	d
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	0.13	a
Heptanal, n-	111-71-7	0.084	b
Heptane, N-	142-82-5	1	e
Hexabromobenzene	87-82-1	14	b
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	13	a
Hexachlorobenzene	118-74-1	0.018	d
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	0.1	b
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	0.1	b
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	0.1	b
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	0.0001	b
Hexachlorobutadiene	87-68-3	0.016	b
Hexachlorocyclohexane, (technical-BHC)	608-73-1	0.009	b
Hexachlorocyclohexane, alpha- (alpha-HCH or alpha-BHC)	319-84-6	0.0063	d
Hexachlorocyclohexane, Beta- (beta-BHC)	319-85-7	0.009	b
Hexachlorocyclohexane, gamma- (gamma-BHC or Lindane)	58-89-9	0.0095	g
Hexachlorocyclopentadiene	77-47-4	0.078	b
Hexachlorodibenzo-p-dioxin, Mixture	0	0.0001	a

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Hexachloroethane	67-72-1	0.022	d
Hexachlorophene	70-30-4	19	a
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	0.016	b
Hexamethylene Diisocyanate, 1,6-	822-06-0	0.013	b
Hexamethylphosphoramide	680-31-9	0.11	b
Hexane, N-	110-54-3	600	b
Hexanedioic Acid	124-04-9	590	b
Hexanone, 2-	591-78-6	0.36	g
Hexazinone	51235-04-2	18	b
Hexythiazox	78587-05-0	30	b
Hydramethylnon	67485-29-4	1,100	a
Hydrazine	302-01-2	0.000013	b
Hydrazine Sulfate	10034-93-2	0.23	a
Hydrogen Chloride	7647-01-0	28,000,000	a
Hydrogen Cyanide	74-90-8	0.88	d
Hydrogen Fluoride	7664-39-3	3,100	a
Hydrogen Sulfide	7783-06-4	2,800,000	a
Hydroquinone	123-31-9	0.052	b
Imazalil	35554-44-0	0.9	b
Imazaquin	81335-37-7	1,400	b
Imazethapyr	81335-77-5	2,500	b
Indeno[1,2,3-cd]pyrene	193-39-5	1.1	a
Iodine	7553-56-2	4	e
Iprodione	36734-19-7	13	b
Isobutyl Alcohol	78-83-1	72	b
Isophorone	78-59-1	1.6	b
Isopropalin	33820-53-0	55	b
Isopropanol	67-63-0	5	b
Isopropyl Methyl Phosphonic Acid	1832-54-8	26	b
Isoxaben	82558-50-7	120	b
JP-7	E1737665	430,000,000	a
Lactofen	77501-63-4	280	b
Lactonitrile	78-97-7	0.049	b
Lead acetate	301-04-2	0.11	b
Lead Phosphate	7446-27-7	82	a
Lead subacetate	1335-32-6	0.12	b
Lewisite	541-25-3	0.0023	b
Linuron	330-55-2	6.6	b
Lithium Perchlorate	7791-03-9	55	a
Malathion	121-75-5	6	b
Maleic Anhydride	108-31-6	23	b
Maleic Hydrazide	123-33-1	130	b
Malononitrile	109-77-3	0.025	b
Mancozeb	8018-01-7	46	b
Maneb	12427-38-2	8.4	b
MCPA ((4-chloro-2-methylphenoxy)acetic acid)	94-74-6	0.097	d
MCPB	94-81-5	1.6	b
MCPP	93-65-2	0.28	b
Mephosfolan	950-10-7	0.16	b
Mepiquat Chloride	24307-26-4	12	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Mercaptobenzothiazole, 2-	149-30-4	1.1	b
Mercuric Chloride (and other Mercury salts)	7487-94-7	23	a
Mercury (methyl)	22967-92-6	0.0002	e
Merphos	150-50-5	2.3	a
Merphos Oxide	78-48-8	0.084	b
Metalaxyl	57837-19-1	20	b
Methacrylonitrile	126-98-7	0.026	b
Methamidophos	10265-92-6	0.013	b
Methanol	67-56-1	250	b
Methidathion	950-37-8	0.43	b
Methomyl	16752-77-5	6.6	b
Methoxy-5-nitroaniline, 2-	99-59-2	0.032	b
Methoxychlor	72-43-5	5.1	g
Methoxyethanol Acetate, 2-	110-49-6	0.025	b
Methoxyethanol, 2-	109-86-4	0.35	b
Methyl Acetate	79-20-9	250	b
Methyl Acrylate	96-33-3	0.53	b
Methyl Ethyl Ketone (2-Butanone)	78-93-3	72	b
Methyl Hydrazine	60-34-4	0.000078	b
Methyl Iodide	74-88-4	0.038	g
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	9.7	g
Methyl Isocyanate	624-83-9	0.035	b
Methyl Methacrylate	80-62-6	18	b
Methyl Methanesulfonate	66-27-3	0.0096	b
Methyl Parathion	298-00-0	0.44	b
Methyl Phosphonic Acid	993-13-5	14	b
Methyl Styrene (Mixed Isomers)	25013-15-4	2.3	b
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.11	d
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	0.22	b
Methyl-2-Pentanol, 4-	108-11-2	84	b
Methyl-5-nitroaniline, 2- (5-Nitro-o-toluidine)	99-55-8	0.28	b
Methylaniline Hydrochloride, 2-	636-21-5	0.016	b
Methylarsonic acid	124-58-3	3.5	b
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	13	a
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	5.4	a
Methylcholanthrene, 3-	56-49-5	0.0055	a
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	0.11	b
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	0.16	b
Methylenebisbenzenamine, 4,4'-	101-77-9	0.013	b
Methylenediphenyl Diisocyanate	101-68-8	850,000	a
Methylnaphthalene, 1-	90-12-0	0.36	b
Methylnaphthalene, 2-	91-57-6	11	b
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	0.00019	b
Methylstyrene, Alpha-	98-83-9	72	b
Metolachlor	51218-45-2	190	b
Metribuzin	21087-64-9	9	b
Metsulfuron-methyl	74223-64-6	110	b
Mineral oils	8012-95-1	140,000	b
Mirex	2385-85-5	0.036	a

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Molinate	2212-67-1	1	b
Monoaluminum phosphate	13530-50-2	3,800,000	a
Monoammonium phosphate	7722-76-1	3,800,000	a
Monocalcium phosphate	7758-23-8	3,800,000	a
Monochloramine	10599-90-3	7,800	a
Monomagnesium phosphate	7757-86-0	3,800,000	a
Monomethylaniline	100-61-8	0.84	b
Monopotassium phosphate	7778-77-0	3,800,000	a
Monosodium phosphate	7558-80-7	3,800,000	a
Myclobutanil	88671-89-0	340	b
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	19	a
Naled	300-76-5	1.1	b
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	2,300	a
Naphthalene	91-20-3	0.077	d
Naphthylamine, 2-	91-59-8	0.012	b
Napropamide	15299-99-7	780	b
Nickel Acetate	373-02-4	2.7	b
Nickel Carbonate	3333-67-3	670	a
Nickel Carbonyl	13463-39-3	820	a
Nickel Hydroxide	12054-48-7	820	a
Nickel Oxide	1313-99-1	840	a
Nickel Refinery Dust	E715532	820	a
Nickel Subsulfide	12035-72-2	0.41	a
Nickelocene	1271-28-9	670	a
Nitrate	14797-55-8	130,000	a
Nitrite	14797-65-0	7,800	a
Nitroaniline, 2-	88-74-4	4.8	b
Nitroaniline, 3-	99-09-2	70	e
Nitroaniline, 4-	100-01-6	0.096	b
Nitrobenzene	98-95-3	0.0055	b
Nitrocellulose	9004-70-0	780,000	b
Nitrofurantoin	67-20-9	37	b
Nitrofurazone	59-87-0	0.0032	b
Nitroglycerin	55-63-0	0.051	b
Nitroguanidine	556-88-7	29	b
Nitromethane	75-52-5	0.0084	b
Nitrophenol, 4-	100-02-7	7	e
Nitropropane, 2-	79-46-9	0.000032	b
Nitropyrene, 4-	57835-92-4	0.2	b
Nitrosodiethanolamine, N-	1116-54-7	0.00034	b
Nitrosodiethylamine, N-	55-18-5	0.0000037	b
Nitrosodimethylamine, N-	62-75-9	0.0000016	b
Nitroso-di-N-butylamine, N-	924-16-3	0.00033	b
Nitrosodiphenylamine, N- (Diphenylnitrosamine)	86-30-6	10	d
Nitrosomethylethylamine, N-	10595-95-6	0.000012	b
Nitrosomorpholine [N-]	59-89-2	0.00017	b
Nitroso-N-ethylurea, N-	759-73-9	0.000013	b
Nitroso-N-methylurea, N-	684-93-5	0.0000028	b
Nitrosopiperidine [N-]	100-75-4	0.00026	b
Nitrosopyrrolidine, N-	930-55-2	0.00084	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Nitrotoluene, m-	99-08-1	0.096	b
Nitrotoluene, o-	88-72-2	0.018	b
Nitrotoluene, p-	99-99-0	0.24	b
Nonane, n-	111-84-2	4.5	b
Norflurazon	27314-13-2	110	b
Octabromodiphenyl Ether	32536-52-0	190	a
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	16	g
Octamethylpyrophosphoramide	152-16-9	0.58	b
Octyl Phthalate, di-N-	117-84-0	0.91	g
Oryzalin	19044-88-3	0.9	b
Oxadiazon	19666-30-9	29	b
Oxamyl	23135-22-0	6.6	b
Oxyfluorfen	42874-03-3	2.6	b
Paclobutrazol	76738-62-0	28	b
PAHs - High Molecular Weight	0	1.1	f
PAHs - Low Molecular Weight	0	29	f
Paraquat Dichloride	1910-42-5	72	b
Parathion	56-38-2	26	b
Pebulate	1114-71-2	27	b
Pendimethalin	40487-42-1	960	b
Pentabromodiphenyl Ether	32534-81-9	100	b
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	5.2	b
Pentachlorobenzene	608-93-5	1.4	b
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	0.06	b
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	0.06	b
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	0.06	b
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	0.06	b
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	0.000018	b
Pentachloroethane	76-01-7	0.019	b
Pentachloronitrobenzene	82-68-8	0.09	b
Pentachlorophenol	87-86-5	0.066	d
Pentaerythritol tetranitrate (PETN)	78-11-5	1.7	b
Pentane, n-	109-66-0	600	b
Perchlorate and perchlorate salts	14797-73-0	55	a
Perfluorobutane sulfonic acid (PFBS)	375-73-5	7.8	b
Perfluorobutanesulfonate	45187-15-3	7.8	b
Permethrin	52645-53-1	3,200	a
Phenacetin	62-44-2	0.58	b
Phenanthrene	85-01-8	5.5	g
Phenmedipham	13684-63-4	1,300	b
Phenol	108-95-2	0.79	g
Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1	1.5	b
Phenothiazine	92-84-2	0.84	b
Phenyl Isothiocyanate	103-72-0	0.1	b
Phenylenediamine, m-	108-45-2	1.9	b
Phenylenediamine, o-	95-54-5	0.01	b
Phenylenediamine, p-	106-50-3	0.32	b
Phenylmercuric Acetate	62-38-4	0.03	b
Phenylphenol, 2-	90-43-7	25	b
Phorate	298-02-2	0.2	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Phosgene	75-44-5	0.31	a
Phosmet	732-11-6	4.9	b
Phosphine	7803-51-2	23	a
Phosphoric Acid	7664-38-2	3,000,000	a
Phosphorus, White	7723-14-0	0.09	b
Phthalic Acid, P-	100-21-0	410	b
Phthalic Anhydride	85-44-9	510	b
Picloram	1918-02-1	23	b
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	0.078	b
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	5	b
Pirimiphos, Methyl	29232-93-7	0.049	b
Polybrominated biphenyls	59536-65-1	0.018	a
Polychlorinated biphenyls (Total PCBs)		0.23	c
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	850,000	a
Polyphosphoric acid	8017-16-1	3,800,000	a
Potassium Cyanide	151-50-8	160	a
Potassium Perchlorate	7778-74-7	55	a
Potassium Perfluorobutane Sulfonate	29420-49-3	1,300	a
Potassium Silver Cyanide	506-61-6	390	a
Potassium tripolyphosphate	13845-36-8	3,800,000	a
Prochloraz	67747-09-5	0.11	b
Profluralin	26399-36-0	96	b
Prometon	1610-18-0	7.2	b
Prometryn	7287-19-6	54	b
Propachlor	1918-16-7	9	b
Propanil	709-98-8	2.7	b
Propargite	2312-35-8	0.66	b
Propargyl Alcohol	107-19-7	0.49	b
Propazine	139-40-2	18	b
Propham	122-42-9	13	b
Propiconazole	60207-90-1	320	b
Propionaldehyde	123-38-6	0.2	b
Propyl benzene	103-65-1	72	b
Propylene	115-07-1	360	b
Propylene Glycol	57-55-6	4,900	b
Propylene Glycol Dinitrate	6423-43-4	390,000	a
Propylene Glycol Monomethyl Ether	107-98-2	39	b
Propylene Oxide	75-56-9	0.0034	b
Propyzamide	23950-58-5	72	b
Pyrene	129-00-0	10	g
Pyridine	110-86-1	0.41	b
Quinalphos	13593-03-8	2.6	b
Quinoline	91-22-5	0.0047	b
Quizalofop-ethyl	76578-14-8	110	b
Refractory Ceramic Fibers	E715557	43,000,000	a
Resmethrin	10453-86-8	1,900	a
Ronnel	299-84-3	220	b
Rotenone	83-79-4	250	a
Safrole	94-59-7	0.0035	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Selenious Acid	7783-00-8	390	a
Selenium Sulfide	7446-34-6	390	a
Sethoxydim	74051-80-2	840	b
Silica (crystalline, respirable)	7631-86-9	4,300,000	a
Silver Cyanide	506-64-9	7,800	a
Simazine	122-34-9	0.018	b
Sodium acid pyrophosphate	7758-16-9	3,800,000	a
Sodium Acifluorfen	62476-59-9	130	b
Sodium aluminum phosphate (acidic)	7785-88-8	3,800,000	a
Sodium aluminum phosphate (anhydrous)	10279-59-1	3,800,000	a
Sodium aluminum phosphate (tetrahydrate)	10305-76-7	3,800,000	a
Sodium Azide	26628-22-8	310	a
Sodium Cyanide	143-33-9	78	a
Sodium Diethyldithiocarbamate	148-18-5	0.011	b
Sodium Fluoride	7681-49-4	3,900	a
Sodium Fluoroacetate	62-74-8	0.0049	b
Sodium hexametaphosphate	10124-56-8	3,800,000	a
Sodium Metavanadate	13718-26-8	78	a
Sodium Perchlorate	7601-89-0	55	a
Sodium polyphosphate	68915-31-1	3,800,000	a
Sodium trimetaphosphate	7785-84-4	3,800,000	a
Sodium tripolyphosphate	7758-29-4	3,800,000	a
Sodium Tungstate	13472-45-2	63	a
Sodium Tungstate Dihydrate	10213-10-2	63	a
Stirofos (Tetrachlorovinphos)	961-11-5	0.49	b
Strychnine	57-24-9	3.9	b
Styrene	100-42-5	1.2	g
Styrene-Acrylonitrile (SAN) Trimer		190	a
Sulfolane	126-33-0	0.26	b
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	3.9	b
Sulfur Trioxide	7446-11-9	1,400,000	a
Sulfuric Acid	7664-93-9	1,400,000	a
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	0.9	b
Tebuthiuron	34014-18-1	23	b
Temephos	3383-96-8	1,300	a
Terbacil	5902-51-2	4.5	b
Terbufos	13071-79-9	0.031	b
Terbutryn	886-50-0	1.1	b
Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1	3.2	b
Tetrachloroaniline, 2,3,5,6-	3481-20-7	20	e
Tetrachlorobenzene, 1,2,3,4-	634-66-2	10	e
Tetrachlorobenzene, 1,2,4,5-	95-94-3	0.47	b
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	0.038	a
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	0.0037	b
Tetrachlorodibenzodioxin (TCDD), 2,3,7,8- (dioxin)	1746-01-6	0.00000029	g
Tetrachloroethane, 1,1,1,2-	630-20-6	0.013	b
Tetrachloroethane, 1,1,2,2-	79-34-5	0.0018	b
Tetrachloroethylene (PCE)	127-18-4	0.18	g
Tetrachlorophenol, 2,3,4,6-	58-90-2	11	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	0.00027	b
Tetraethyl Dithiopyrophosphate	3689-24-5	0.31	b
Tetraethyl lead	78-00-2	0.00028	b
Tetrafluoroethane, 1,1,1,2-	811-97-2	5,600	b
Tetrahydrofuran	109-99-9	45	b
Tetrapotassium phosphate	7320-34-5	3,800,000	a
Tetrasodium pyrophosphate	7722-88-5	3,800,000	a
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	1.5	g
Thallic Oxide	1314-32-5	1.6	a
Thallium (I) Nitrate	10102-45-1	0.78	a
Thallium (Soluble Salts)	7440-28-0	0.78	a
Thallium Acetate	563-68-8	0.0025	b
Thallium Carbonate	6533-73-9	0.005	b
Thallium Chloride	7791-12-0	0.78	a
Thallium Selenite	12039-52-0	0.78	a
Thallium Sulfate	7446-18-6	1.6	a
Thifensulfuron-methyl	79277-27-3	16	b
Thiobencarb	28249-77-6	33	b
Thiocyanates	E1790664	16	a
Thiocyanic Acid	463-56-9	16	a
Thiocyanomethylthio benzothiazole, 2- (TCMTB)	21564-17-0	200	b
Thiodiglycol	111-48-8	17	b
Thiofanox	39196-18-4	0.11	b
Thiophanate, Methyl	23564-05-8	0.34	b
Thiram	137-26-8	25	b
Titanium Tetrachloride	7550-45-0	140,000	a
Toluene	108-88-3	23	g
Toluene-2,4-diisocyanate	584-84-9	0.015	b
Toluene-2,5-diamine	95-70-5	0.0078	b
Toluene-2,6-diisocyanate	91-08-7	0.016	b
Toluic Acid, p-	99-94-5	1.4	b
Toluidine, o- (Methylaniline, 2-)	95-53-4	0.12	b
Toluidine, p-	106-49-0	0.066	b
Total Petroleum Hydrocarbons (Aliphatic High)	E1790670	140,000	b
Total Petroleum Hydrocarbons (Aliphatic Low)	E1790666	520	a
Total Petroleum Hydrocarbons (Aliphatic Medium)	E1790668	90	b
Total Petroleum Hydrocarbons (Aromatic High)	E1790676	2,500	a
Total Petroleum Hydrocarbons (Aromatic Low)	E1790672	1	b
Total Petroleum Hydrocarbons (Aromatic Medium)	E1790674	1.4	b
Toxaphene	8001-35-2	0.36	d
Tralomethrin	66841-25-6	470	a
Triacetin	102-76-1	27,000	b
Triadimefon	43121-43-3	30	b
Triallate	2303-17-5	0.06	b
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	3,800,000	a
Triasulfuron	82097-50-5	13	b
Tribenuron-methyl	101200-48-0	3.7	b

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Tribromobenzene, 1,2,4-	615-54-3	3.8	b
Tribromophenol, 2,4,6-	118-79-6	13	b
Tributyl Phosphate	126-73-8	1.5	b
Tributyltin Compounds	E1790678	19	a
Tributyltin oxide (TBTO)	56-35-9	19	a
Tricalcium phosphate	7758-87-4	3,800,000	a
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	76-13-1	1,600	b
Trichloroacetic Acid	76-03-9	0.013	b
Trichloroaniline HCl, 2,4,6-	33663-50-2	0.44	b
Trichloroaniline, 2,4,5-	636-30-6	20	e
Trichloroaniline, 2,4,6-	634-93-5	0.22	b
Trichlorobenzene, 1,2,3-	87-61-6	1.3	b
Trichlorobenzene, 1,2,4-	120-82-1	0.2	b
Trichloroethane, 1,1,1-	71-55-6	190	d
Trichloroethane, 1,1,2-	79-00-5	0.0063	d
Trichloroethylene (TCE)	79-01-6	0.013	d
Trichlorofluoromethane (Freon 11)	75-69-4	52	g
Trichlorophenol, 2,4,5-	95-95-4	4	e
Trichlorophenol, 2,4,6-	88-06-2	2.4	d
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	4.1	b
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	3.7	b
Trichloropropane, 1,1,2-	598-77-6	2.1	b
Trichloropropane, 1,2,3-	96-18-4	0.000019	b
Trichloropropene, 1,2,3-	96-19-5	0.019	b
Tricresyl Phosphate (TCP)	1330-78-5	900	b
Tridiphane	58138-08-2	7.8	b
Triethylamine	121-44-8	0.26	b
Triethylene Glycol	112-27-6	530	b
Trifluoroethane, 1,1,1-	420-46-2	7,800	b
Trifluralin	1582-09-8	5	b
Trimagnesium phosphate	7757-87-1	3,800,000	a
Trimethyl Phosphate	512-56-1	0.052	b
Trimethylbenzene, 1,2,3-	526-73-8	4.9	b
Trimethylbenzene, 1,2,4-	95-63-6	10	d
Trimethylbenzene, 1,3,5-	108-67-8	11	d
Trimethylpentene, 2,4,4-	25167-70-8	13	b
Tri-n-butyltin	688-73-3	4.9	b
Trinitrobenzene, 1,3,5-	99-35-4	10	g
Trinitrotoluene, 2,4,6- (TNT)	118-96-7	0.9	b
Triphenylphosphine Oxide	791-28-6	90	b
Tripotassium phosphate	7778-53-2	3,800,000	a
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	480	b
Tris(1-chloro-2-propyl)phosphate	13674-84-5	39	b
Tris(2,3-dibromopropyl)phosphate	126-72-7	0.0078	b
Tris(2-chloroethyl)phosphate	115-96-8	0.23	b
Tris(2-ethylhexyl)phosphate	78-42-2	170	a
Trisodium phosphate	7601-54-9	3,800,000	a
Uranium (Soluble Salts)	E715565	5	e
Urethane (Ethyl carbamate)	51-79-6	0.00034	b
Vanadium Pentoxide	1314-62-1	460	a

Table 2 - Clean fill screening levels for organics and other selected constituents. All concentrations in mg/kg

Chemical Name	CAS	Clean Fill Value	Note
Vernolate	1929-77-7	0.53	b
Vinclozolin	50471-44-8	0.96	b
Vinyl Acetate	108-05-4	5.2	b
Vinyl Bromide	593-60-2	0.0031	b
Vinyl Chloride	75-01-4	0.00057	d
Warfarin	81-81-2	0.35	b
Xylene, m-	108-38-3	11	b
Xylene, o-	95-47-6	1	e
Xylene, P-	106-42-3	11	b
Xylenes	1330-20-7	1.4	g
Zinc Cyanide	557-21-1	3,900	a
Zinc Phosphide	1314-84-7	23	a
Zineb	12122-67-7	170	b
Zirconium	7440-67-7	6.3	a

Notes:

a - Regional Screening Levels, EPA (May 2018), Residential soil. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

b - Regional Screening Levels, EPA (May 2018), groundwater protection (x60 to convert to Oregon dilution attenuation factor).

c - Risk Based Concentrations, DEQ (May 2018), Residential soil. https://www.oregon.gov/deq/FilterDocs/RBDMTable.pdf

d - Risk Based Concentrations, DEQ (May 2018), Leaching to groundwater.

e - Table 1, Guidance for Ecological Risk Assessment, Level II Screening Level Values, DEQ (2001), https://www.oregon.gov/deq/FilterDocs/GuidanceEcologicalRisk.pdf

f - Ecological Soil Screening Levels, EPA (2005, 2007), http://www.epa.gov/ecotox/ecossl/

g - Ecotoxicological screening benchmarks developed by Oak Ridge National Laboratory: https://www.lanl.gov/environment/protection/eco-risk-assessment.php

Last updated by Heather Kuoppamaki, DEQ-NWR, on June 17, 2019

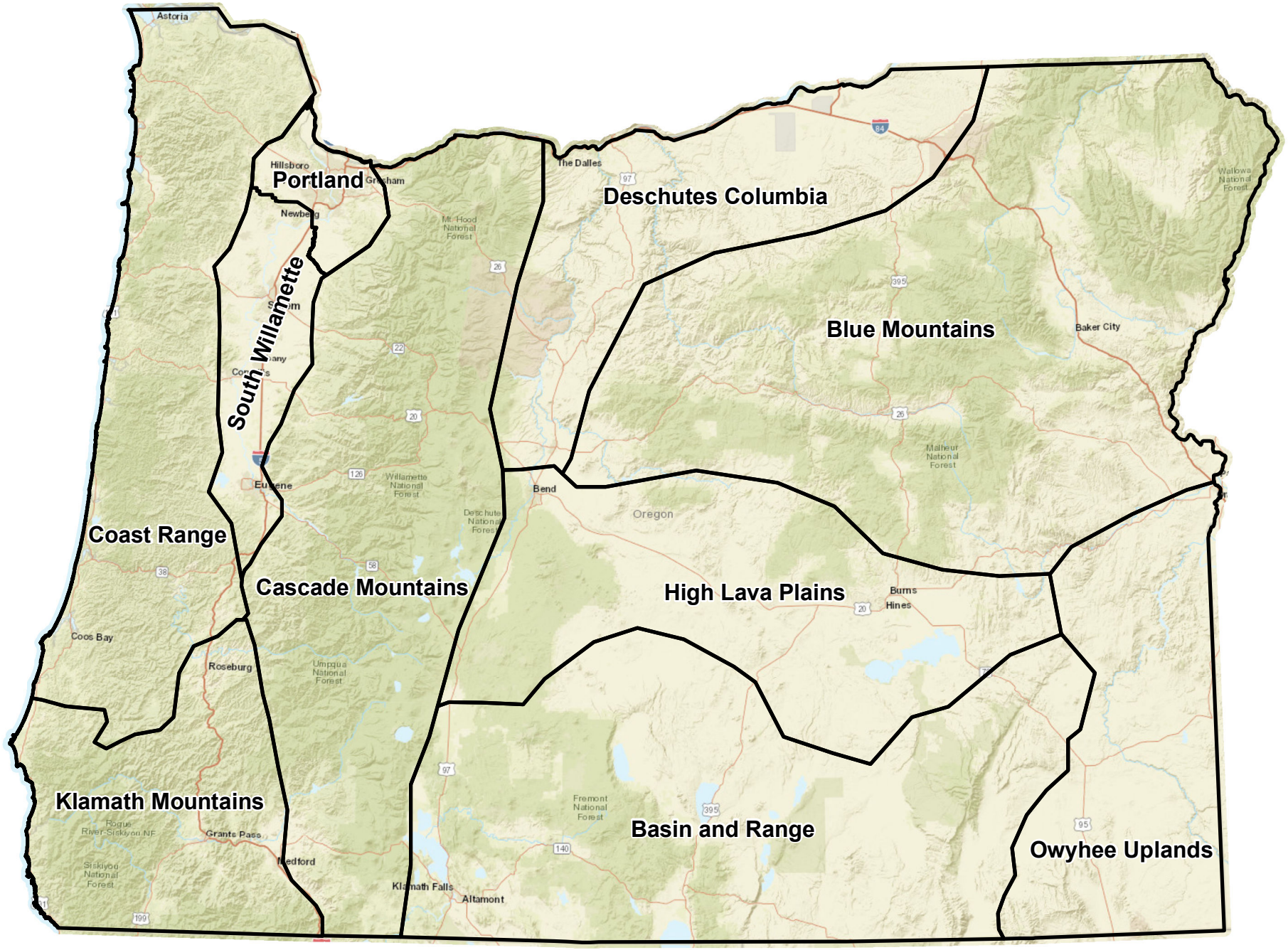
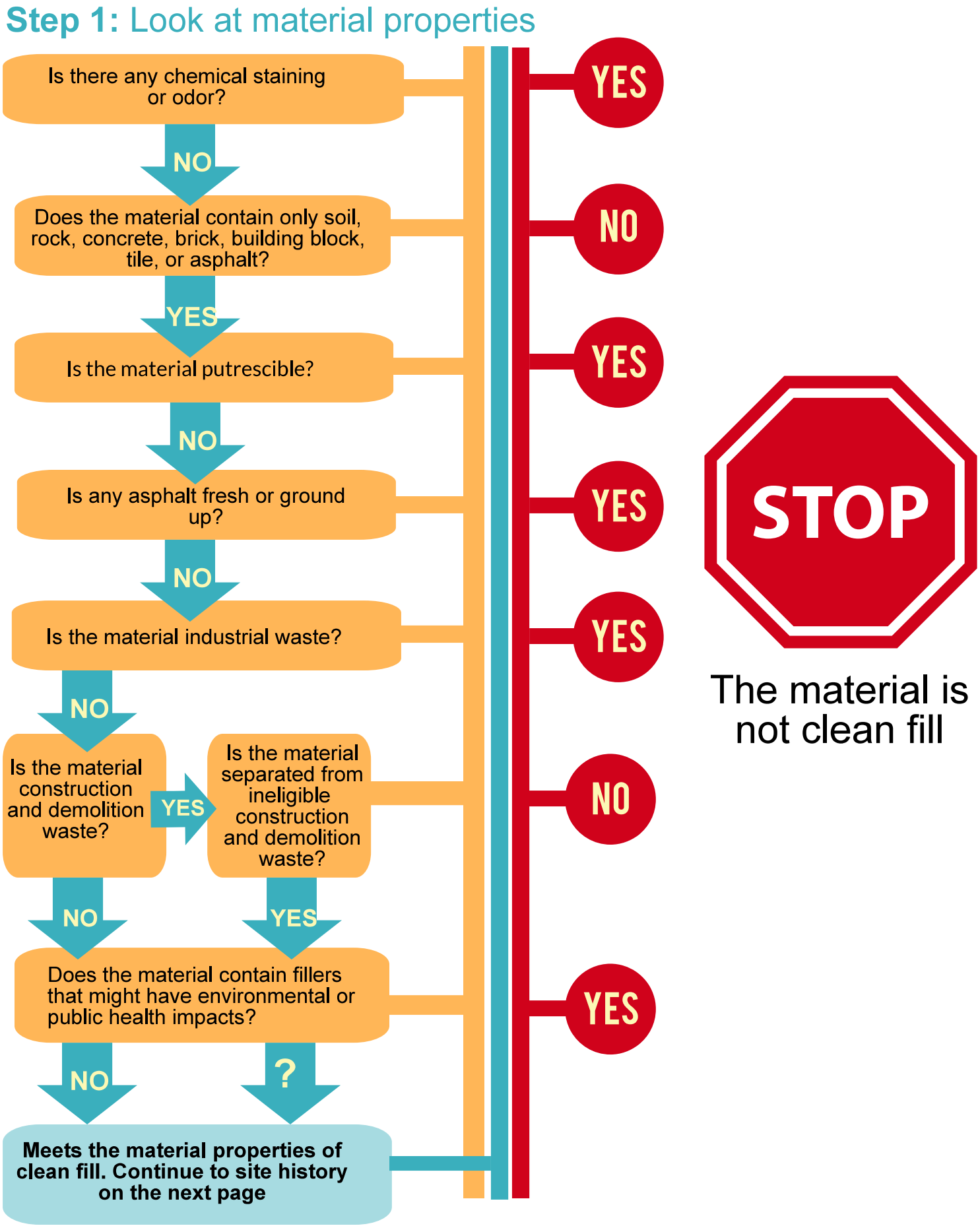


Figure 1. Physiographic Provinces of Oregon

Figure 2 - Clean Fill Evaluation Flow Chart



Step 2: Review site history

Does the material contain a listed or characteristic hazardous wastes?

YES

STOP

The material is not clean fill

NO

?

Does the material contain contaminants that could adversely impact waters of the state?

YES

? to at least one of the above

NO

Step 3: Conduct Sampling
See Section 7 for details

Does the material contain a chemical that exceeds clean fill screening levels?

YES

Do a statistical analysis. See Section 7 for details. Does the statistical analysis show concentrations above clean fill screening levels?

NO

The material is clean fill

YES

STOP

The material is not clean fill

APPENDIX D: Cost Estimates & Funding

Cost Estimates

AOC County Road Brief Local Access Roads

ODOT Surface Transportation Program Fund Exchange

Cost Estimates

Curry County
Capital Improvement Plan

Project No. 1	Gardner Ridge Road	Slide Repair			2020
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Construction Facilities And Temporary Controls	1	LS	$ 176,500.00	$ 176,500
2	Miscellaneous Demolition and Site Preparation	1	LS	$ 10,000.00	$ 10,000
3	Retaining Wall System	1	LS	$ 375,000.00	$ 375,000
4	Foundation Stabilization	50	CY	$ 50.00	$ 2,500
5	AC Pavement Removal	670	SY	$ 12.00	$ 8,040
6	Roadway Excavation	1	LS	$ 6,030.00	$ 6,030
7	Aggregate Base	320	TONS	$ 30.00	$ 9,600
8	Subgrade Geotextile Fabric	640	SY	$ 3.00	$ 1,920
9	Asphalt Concrete Pavement	210	TONS	$ 125.00	$ 26,250
10	Water Service Line Removal and Replacement	240	LF	$ 10.00	$ 2,400
11	Guardrail Downstream Anchor Terminal	1	EA	$ 3,700.00	$ 3,700
12	Guardrail Flared Energy Absorbing Terminal	1	EA	$ 5,500.00	$ 5,500
13	Guardrail	100	LF	$ 85.00	$ 8,500
14	Painted Striping - 4"	960	LF	$ 1.00	$ 960
			Construction Total		$ 636,900
			Engineering		$ 64,460
			Geotechnical		$ 25,620
			Contingency		$ 63,690
			Legal & Administration		$ 10,000
			Total Project Cost		$ 800,670

Curry County
Capital Improvement Plan

Project No. 2	Langlois Mountain Road	Slide and Drain			2020
		Pre-Disaster Conditions			
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Construction Facilities, Temporary Controls, & Mobilization	1	LS	$ 31,000.00	$ 31,000
2	Temporary Protection and Direction of Traffic	1	LS	$ 1,300.00	$ 1,300
3	Flaggers	120	HR	$ 75.00	$ 9,000
4	Miscellaneous Demolition and Site Preparation	1	LS	$ 3,000.00	$ 3,000
5	Foundation Stabilization	10	CY	$ 185.00	$ 1,850
6	Cold-Plane Pavement Removal	1050	SY	$ 10.00	$ 10,500
7	AC Pavement Trench - 2" Depth	5	TONS	$ 280.00	$ 1,400
8	AC Pavement Inlay - 2" Depth	135	TONS	$ 170.00	$ 22,950
9	18" Storm Drain Line	40	LF	$ 185.00	$ 7,400
10	3/4"-0 Rock Backfill - Trench	55	TONS	$ 108.00	$ 5,940
11	Painted Stripe	850	LF	$ 10.00	$ 8,500
12	Slope Protection	15	CY	$ 103.00	$ 1,545
13	Erosion Control	1	LS	$ 655.00	$ 655
		Mitigation Conditions			
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Construction Facilities, Temporary Controls, & Mobilization	1	LS	$ 10,800.00	$ 10,800
2	Temporary Protection and Direction of Traffic	1	LS	$ 1,300.00	$ 1,300
3	Flaggers	180	HR	$ 75.00	$ 13,500
4	Foundation Stabilization	40	CY	$ 180.00	$ 7,200
5	Rock Excavation	100	CY	$ 51.00	$ 5,100
6	AC Pavement Trench - 2" Depth	45	TONS	$ 280.00	$ 12,600
7	AC Pavement Shoulder & Ditch - 2.5" Depth	70	TONS	$ 202.00	$ 14,140
8	3/4"-0 Aggregate Base - Shoulder & Ditch	350	TONS	$ 55.00	$ 19,250
9	6" Subsurface Drain Line	245	LF	$ 49.00	$ 12,005
10	12" Storm Drain Line	75	LF	$ 65.00	$ 4,875
11	3/4"-0 Rock Backfill - Trench	390	TONS	$ 42.00	$ 16,380
12	3"-0 Rock Backfill - Trench	500	TONS	$ 45.00	$ 22,500
13	Drain Rock & Geotextile Fabric	380	TONS	$ 40.00	$ 15,200
14	Catch Basin - Type 2M	1	EA	$ 2,500.00	$ 2,500
15	Ditch Inlet	2	EA	$ 1,800.00	$ 3,600
16	Slope Protection	30	CY	$ 120.00	$ 3,600
17	Relocate Phone Line	430	LF	$ 10.00	$ 4,300
18	Erosion Control	1	LS	$ 655.00	$ 655
			Construction Total		$ 274,545
			Engineering		$ 42,000
			Legal & Administration		$ 8,000
			Total Project Cost		$ 324,550

Curry County
Capital Improvement Plan

Project No. 3	Langlois Mountain Road	MP 1.80 to 4.19			2023
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 8,200
2	Demolition & Site Preparation	ALL	LS	-	$ 3,300
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 4,900
4	Foundation Stabilization	30	CY	$ 75.00	$ 2,250
5	AC Pavement R & R- 4" Depth (Trench)	240	LF	$ 30.00	$ 7,200
6	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	3,000	SF	$ 8.00	$ 24,000
7	Reconstruction Type II - (4" AC R & R)	3,500	SF	$ 5.00	$ 17,500
8	8" Storm Drain R & R - Rock Backfill	125	LF	$ 50.00	$ 6,250
9	12" Storm Drain R & R - Rock Backfill	115	LF	$ 75.00	$ 8,625
			Construction Total		$ 82,225
			Engineering		$ 16,445
			Contingency		$ 19,734
			Legal & Administration		$ 2,467
			Total Project Cost		$ 120,870

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan

Project No. 4	Nicholson Drive	MP 0 to 0.19			2020
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 7,500
2	Demolition & Site Preparation	ALL	LS	-	$ 3,000
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 4,500
4	Cold Plane Pavement Removal	30	SY	$ 15.00	$ 450
5	Foundation Stabilization	20	CY	$ 75.00	$ 1,500
6	Aggregate Base (Shoulder Rock)	30	TONS	$ 40.00	$ 1,200
7	AC Pavement Overlay - 2" Depth	230	TONS	$ 100.00	$ 23,000
8	AC Pavement R & R- 2" Depth (Trench)	50	LF	$ 15.00	$ 750
9	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	3,000	SF	$ 6.00	$ 18,000
10	Driveway Approach	3	EA	$ 1,200.00	$ 3,600
11	18" Storm Drain R & R - Rock Backfill	50	LF	$ 150.00	$ 7,500
12	Ditching	1,000	LF	$ 3.00	$ 3,000
13	Landscaping	1	LS	$ 1,000.00	$ 1,000
			Construction Total		$ 75,000
			Engineering		$ 15,000
			Contingency		$ 18,000
			Legal & Administration		$ 2,250
			Total Project Cost		$ 110,250

Curry County
Capital Improvement Plan

Project No. 5	Chapman Lane	MP 0 to 0.17			2023
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 10,500
2	Demolition & Site Preparation	ALL	LS	-	$ 4,200
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 6,300
4	Cold Plane Pavement Removal	40	SY	$ 15.00	$ 600
5	Foundation Stabilization	10	CY	$ 75.00	$ 750
6	Aggregate Base (Shoulder Rock)	20	TONS	$ 40.00	$ 800
7	AC Pavement Overlay - 2" Depth	250	TONS	$ 100.00	$ 25,000
8	AC Pavement R & R- 2" Depth (Trench)	320	LF	$ 15.00	$ 4,800
9	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	1,500	SF	$ 6.00	$ 9,000
10	Driveway Approach	17	EA	$ 1,200.00	$ 20,400
11	8" Storm Drain R & R - Rock Backfill	100	LF	$ 50.00	$ 5,000
12	12" Storm Drain R & R - Rock Backfill	220	LF	$ 75.00	$ 16,500
13	Signs	2	EA	$ 300.00	$ 600
14	Striping	260	LF	$ 1.00	$ 260
15	Thermoplastic Stop Bars/Cross Walks	30	LF	$ 15.00	$ 450
			Construction Total		$ 105,160
			Engineering		$ 21,032
			Contingency		$ 25,238
			Legal & Administration		$ 3,155
			Total Project Cost		$ 154,590

Curry County
Capital Improvement Plan

Project No. 6	Cedar Valley & Mckinnon	Culvert Replacement			2020
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Construction Facilities and Temporary Controls	1	LS	$51,000.00	$ 51,000
2	Flaggers	240	HR	$ 75.00	$ 18,000
3	Demolition and Site Preparation	1	LS	$ 6,000.00	$ 6,000
4	Bypass System	1	LS	$ 34,500.00	$ 34,500
5	Foundation Stabilization	40	CY	$ 184.00	$ 7,360
6	Roadway Excavation and Embankment	1	LS	$ 23,000.00	$ 23,000
7	Temporary Shoring System	1	LS	$ 16,000.00	$ 16,000
8	Riprap	60	CY	$ 91.00	$ 5,460
9	Granular Media in Arch	80	CY	$ 109.00	$ 8,720
10	Bottomless Arch – Assembly	80	LF	$ 260.00	$ 20,800
11	Bottomless Arch - Reinforced Concrete Footings	55	CY	$ 715.00	$ 39,325
12	Bottomless Arch - Excavation and Backfill	1	LS	$ 60,000.00	$ 60,000
13	Pre-Treatment Drainage Swale	1	LS	$ 7,500.00	$ 7,500
14	Asphalt Concrete Pavement	70	Ton	$ 220.00	$ 15,400
15	Aggregate Base	500	Ton	$ 42.00	$ 21,000
16	Type C Curb	230	LF	$ 28.00	$ 6,440
17	Catch Basin – Curb Inlet Type	2	Each	$ 2,200.00	$ 4,400
18	Storm Drain Line	50	LF	$ 69.00	$ 3,450
19	Gabion Wall	126	SF	$ 51.00	$ 6,426
20	Erosion Control / Stream Restoration	1	LS	$ 1,700.00	$ 1,700
21	Structural Fill	500	Ton	$ 32.00	$ 16,000
			Construction Total		$ 372,481
			Engineering		$ 71,600
			Permitting		$ 18,000
			Legal & Administration		$ 9,000
			Total Project Cost		$ 471,080

Curry County
Capital Improvement Plan

Project No. 7	Old County Road	MP 0.88 to 2.11			2021
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 5,800
2	Demolition & Site Preparation	ALL	LS	-	$ 2,300
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 3,500
4	Foundation Stabilization	30	CY	$ 75.00	$ 2,250
5	AC Pavement R & R- 4" Depth (Trench)	80	LF	$ 30.00	$ 2,400
6	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	1,500	SF	$ 8.00	$ 12,000
7	Reconstruction Type II - (4" AC R & R)	3,500	SF	$ 5.00	$ 17,500
8	18" Storm Drain R & R - Rock Backfill	80	LF	$ 150.00	$ 12,000
			Construction Total		$ 57,750
			Engineering		$ 11,550
			Contingency		$ 13,860
			Legal & Administration		$ 1,733
			Total Project Cost		$ 84,890

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan
Project No. 8 Wollam Road **MP 0 to 0.11** **2021**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 1,200
2	Demolition & Site Preparation	ALL	LS	-	$ 500
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 700
4	Foundation Stabilization	5	CY	$ 75.00	$ 375
6	AC Pavement R & R- 2" Depth (Trench)	66	LF	$ 15.00	$ 990
7	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	500	SF	$ 6.00	$ 3,000
8	12" Storm Drain R & R - Rock Backfill	66	LF	$ 75.00	$ 4,950
			Construction Total		$ 11,715
			Engineering		$ 2,343
			Contingency		$ 2,812
			Legal & Administration		$ 351
			Total Project Cost		$ 17,220

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan
Project No. 9 Hensley Hill Road **MP 0.24 to 1.12** **2024**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 35,900
2	Demolition & Site Preparation	ALL	LS	-	$ 14,400
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 21,500
4	Cold Plane Pavement Removal	70	SY	$ 15.00	$ 1,050
5	Foundation Stabilization	100	CY	$ 75.00	$ 7,500
6	Aggregate Base (Shoulder Rock)	130	TONS	$ 40.00	$ 5,200
7	Aggregate Base (Base Rock)	10	TONS	$ 40.00	$ 400
8	AC Pavement Overlay - 2" Depth	1,430	TONS	$ 100.00	$ 143,000
9	AC Pavement R & R- 2" Depth (Trench)	125	LF	$ 15.00	$ 1,875
10	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	7,500	SF	$ 6.00	$ 45,000
11	Driveway Approach	16	EA	$ 1,200.00	$ 19,200
12	Curb & Gutter	350	LF	$ 50.00	$ 17,500
13	6" Subdrain	120	LF	$ 35.00	$ 4,200
14	12" Storm Drain - Rock Backfill	30	LF	$ 60.00	$ 1,800
15	12" Storm Drain R & R - Rock Backfill	83	LF	$ 75.00	$ 6,225
16	18" Storm Drain R & R - Rock Backfill	41	LF	$ 150.00	$ 6,150
17	Curb Inlet	1	EA	$ 3,500.00	$ 3,500
18	Ditching	1,500	LF	$ 3.00	$ 4,500
19	Pavement Markers	286	EA	$ 1.50	$ 429
20	Striping	14,318	LF	$ 1.00	$ 14,318
21	Thermoplastic Stop Bars/Cross Walks	15	LF	$ 15.00	$ 225
22	Landscaping	1	LS	$ 5,000.00	$ 5,000
			Construction Total		$ 358,872
			Engineering		$ 71,774
			Contingency		$ 86,129
			Legal & Administration		$ 10,766
			Total Project Cost		$ 527,540

Curry County
Capital Improvement Plan
Project No. 10 Bayview Drive **MP 0 to 0.11** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 19,800
2	Demolition & Site Preparation	ALL	LS	-	$ 7,900
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 9,900
4	Cold Plane Pavement Removal	1,720	SY	$ 15.00	$ 25,800
5	Foundation Stabilization	10	CY	$ 75.00	$ 750
6	Aggregate Base (Base Rock)	40	TONS	$ 40.00	$ 1,600
7	AC Pavement Inlay - 2" Depth	220	TONS	$ 100.00	$ 22,000
8	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	3,000	SF	$ 6.00	$ 18,000
9	Driveway Approach	7	EA	$ 1,200.00	$ 8,400
10	Curb & Gutter	1,200	LF	$ 50.00	$ 60,000
11	12" Storm Drain - Rock Backfill	200	LF	$ 60.00	$ 12,000
12	Curb Inlet	2	EA	$ 3,500.00	$ 7,000
13	Landscaping	1	LS	$ 2,500.00	$ 2,500
			Construction Total		$ 195,650
			Engineering		$ 39,130
			Contingency		$ 46,956
			Legal & Administration		$ 5,870
			Total Project Cost		$ 287,610

Curry County
Capital Improvement Plan
Project No. 11 Hillside Terrace **MP 0.10 to 0.22** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 39,100
2	Demolition & Site Preparation	ALL	LS	-	$ 15,600
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 23,400
4	Roadway Excavation	560	CY	$ 25.00	$ 14,000
5	Foundation Stabilization	150	CY	$ 75.00	$ 11,250
6	Aggregate Base (Base Rock)	60	TONS	$ 40.00	$ 2,400
7	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	17,000	SF	$ 6.00	$ 102,000
8	Driveway Approach	10	EA	$ 1,200.00	$ 12,000
9	Curb & Gutter	1,700	LF	$ 50.00	$ 85,000
10	Retaining Wall - Concrete	300	SF	$ 80.00	$ 24,000
11	12" Storm Drain - Rock Backfill	600	LF	$ 60.00	$ 36,000
12	18" Storm Drain - Rock Backfill	30	EA	$ 120.00	$ 3,600
13	Curb Inlet	4	EA	$ 3,500.00	$ 14,000
14	Ditching	100	LF	$ 3.00	$ 300
15	Landscaping	1	LS	$ 8,000.00	$ 8,000
			Construction Total		$ 390,650
			Engineering		$ 78,130
			Contingency		$ 93,756
			Legal & Administration		$ 11,720
			Total Project Cost		$ 574,260

Curry County
Capital Improvement Plan
Project No. 12 Crestline Loop **MP 0 to 0.25** **2023**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 10,700
2	Demolition & Site Preparation	ALL	LS	-	$ 4,300
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 6,400
4	Cold Plane Pavement Removal	20	SY	$ 15.00	$ 300
5	Foundation Stabilization	10	CY	$ 75.00	$ 750
6	Aggregate Base (Shoulder Rock)	40	TONS	$ 40.00	$ 1,600
7	AC Pavement Overlay - 2" Depth	300	TONS	$ 100.00	$ 30,000
8	AC Pavement R & R- 2" Depth (Trench)	105	LF	$ 15.00	$ 1,575
9	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	1,000	SF	$ 6.00	$ 6,000
10	Driveway Approach	28	EA	$ 1,200.00	$ 33,600
11	12" Storm Drain R & R - Rock Backfill	105	LF	$ 75.00	$ 7,875
12	Manhole Frame Adjustment	1	EA	$ 500.00	$ 500
13	Signs	3	EA	$ 300.00	$ 900
14	Striping	1,200	LF	$ 1.00	$ 1,200
15	Thermoplastic Stop Bars/Cross Walks	100	LF	$ 15.00	$ 1,500
			Construction Total		$ 107,200
			Engineering		$ 21,440
			Contingency		$ 25,728
			Legal & Administration		$ 3,216
			Total Project Cost		$ 157,580

Curry County
Capital Improvement Plan
Project No. 13 Titus Lane **MP 0 to 0.13** **2023**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 5,900
2	Demolition & Site Preparation	ALL	LS	-	$ 2,400
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 3,500
4	Cold Plane Pavement Removal	40	SY	$ 15.00	$ 600
5	Aggregate Base (Shoulder Rock)	20	TONS	$ 40.00	$ 800
6	AC Pavement Overlay - 2" Depth	200	TONS	$ 100.00	$ 20,000
7	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	500	SF	$ 6.00	$ 3,000
8	Driveway Approach	17	EA	$ 1,200.00	$ 20,400
9	Manhole Frame Adjustment	2	EA	$ 500.00	$ 1,000
10	Striping	1,350	LF	$ 1.00	$ 1,350
			Construction Total		$ 58,950
			Engineering		$ 11,790
			Contingency		$ 14,148
			Legal & Administration		$ 1,769
			Total Project Cost		$ 86,660

Curry County
Capital Improvement Plan
Project No. 14 Knapp Road **MP 0 to 0.36** **2024**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 17,100
2	Demolition & Site Preparation	ALL	LS	-	$ 6,800
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 10,300
4	Cold Plane Pavement Removal	50	SY	$ 15.00	$ 750
5	Foundation Stabilization	30	CY	$ 75.00	$ 2,250
6	Aggregate Base (Shoulder Rock)	50	TONS	$ 40.00	$ 2,000
7	AC Pavement Overlay - 2" Depth	610	TONS	$ 100.00	$ 61,000
8	AC Pavement R & R- 2" Depth (Trench)	322	LF	$ 15.00	$ 4,830
9	Driveway Approach	18	EA	$ 1,200.00	$ 21,600
10	12" Storm Drain - Rock Backfill	60	LF	$ 60.00	$ 3,600
11	12" Storm Drain R & R - Rock Backfill	238	LF	$ 75.00	$ 17,850
12	24" Storm Drain R & R - Rock Backfill	84	LF	$ 200.00	$ 16,800
13	Ditching	1,000	LF	$ 3.00	$ 3,000
14	Striping	1,050	LF	$ 1.00	$ 1,050
15	Thermoplastic Stop Bars/Cross Walks	34	LF	$ 15.00	$ 510
16	Landscaping	1	LS	$ 1,500.00	$ 1,500
			Construction Total		$ 170,940
			Engineering		$ 34,188
			Contingency		$ 41,026
			Legal & Administration		$ 5,128
			Total Project Cost		$ 251,280

Curry County
Capital Improvement Plan
Project No. 15 Pacific Crest Drive **MP 0 to 0.27** **2024**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 10,600
2	Demolition & Site Preparation	ALL	LS	-	$ 4,200
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 6,300
4	Foundation Stabilization	100	CY	$ 75.00	$ 7,500
5	Aggregate Base (Base Rock)	10	TONS	$ 40.00	$ 400
6	AC Pavement R & R- 2" Depth (Trench)	450	LF	$ 15.00	$ 6,750
7	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	3,000	SF	$ 6.00	$ 18,000
8	12" Storm Drain R & R - Rock Backfill	270	LF	$ 75.00	$ 20,250
9	18" Storm Drain R & R - Rock Backfill	180	LF	$ 150.00	$ 27,000
10	Signs	1	EA	$ 300.00	$ 300
11	Thermoplastic Stop Bars/Cross Walks	15	LF	$ 15.00	$ 225
12	Utility Relocation	1	LS	$ 3,000.00	$ 3,000
13	Landscaping	1	LS	$ 1,000.00	$ 1,000
			Construction Total		$ 105,525
			Engineering		$ 21,105
			Contingency		$ 25,326
			Legal & Administration		$ 3,166
			Total Project Cost		$ 155,120

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan

Project No. 16	Mckenzie Road	MP 0 to 0.48			2023
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 16,100
2	Demolition & Site Preparation	ALL	LS	-	$ 6,400
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 9,600
4	Foundation Stabilization	80	CY	$ 75.00	$ 6,000
5	AC Pavement R & R- 4" Depth (Trench)	156	LF	$ 30.00	$ 4,680
6	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	9,500	SF	$ 8.00	$ 76,000
7	6" Subdrain	200	LF	$ 35.00	$ 7,000
8	18" Storm Drain R & R - Rock Backfill	156	LF	$ 150.00	$ 23,400
9	Ditch Inlet Manhole	1	EA	$ 8,000.00	$ 8,000
10	Ditching	1,000	LF	$ 3.00	$ 3,000
11	Thermoplastic Stop Bars/Cross Walks	30	LF	$ 15.00	$ 450
			Construction Total		$ 160,630
			Engineering		$ 32,126
			Contingency		$ 38,551
			Legal & Administration		$ 4,819
			Total Project Cost		$ 236,130

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan

Project No. 17	Stonecypher Rd	MP 0 to 0.30			2024
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 7,500
2	Demolition & Site Preparation	ALL	LS	-	$ 3,000
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 4,500
4	Cold Plane Pavement Removal	70	SY	$ 15.00	$ 1,050
5	Foundation Stabilization	5	CY	$ 75.00	$ 375
6	Aggregate Base (Shoulder Rock)	40	TONS	$ 40.00	$ 1,600
7	AC Pavement Overlay - 2" Depth	440	TONS	$ 100.00	$ 44,000
8	AC Pavement R & R- 2" Depth (Trench)	50	LF	$ 15.00	$ 750
9	Driveway Approach	7	EA	$ 1,200.00	$ 8,400
10	12" Storm Drain R & R - Rock Backfill	50	LF	$ 75.00	$ 3,750
11	Thermoplastic Stop Bars/Cross Walks	15	LF	$ 15.00	$ 225
			Construction Total		$ 75,150
			Engineering		$ 15,030
			Contingency		$ 18,036
			Legal & Administration		$ 2,255
			Total Project Cost		$ 110,470

Curry County
Capital Improvement Plan

Project No. 18	Old Coast Road	MP 0.74 to 2.55			2024
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 14,200
2	Demolition & Site Preparation	ALL	LS	-	$ 5,700
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 8,500
4	Foundation Stabilization	50	CY	$ 75.00	$ 3,750
5	AC Pavement R & R- 4" Depth (Trench)	272	LF	$ 30.00	$ 8,160
6	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	3,500	SF	$ 8.00	$ 28,000
7	Reconstruction Type II - (4" AC R & R)	4,000	SF	$ 5.00	$ 20,000
8	18" Storm Drain R & R - Rock Backfill	72	LF	$ 150.00	$ 10,800
9	24" Storm Drain R & R - Rock Backfill	185	LF	$ 200.00	$ 37,000
10	36" Storm Drain R & R- Rock Backfill	15	LF	$ 300.00	$ 4,500
11	Ditching	500	LF	$ 3.00	$ 1,500
			Construction Total		$ 142,110
			Engineering		$ 28,422
			Contingency		$ 34,106
			Legal & Administration		$ 4,263
			Total Project Cost		$ 208,900

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan

Project No. 19	Old Coast Road	MP 4.35 to 4.59			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 3,700
2	Demolition & Site Preparation	ALL	LS	-	$ 1,500
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 2,200
4	Foundation Stabilization	5	CY	$ 75.00	$ 375
5	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	3,000	SF	$ 8.00	$ 24,000
6	12" Storm Drain - Rock Backfill	30	LF	$ 60.00	$ 1,800
7	Ditching	1,200	LF	$ 3.00	$ 3,600
			Construction Total		$ 37,175
			Engineering		$ 7,435
			Contingency		$ 8,922
			Legal & Administration		$ 1,115
			Total Project Cost		$ 54,650

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan

Project No. 20	Floras Creek Road	MP 2.90			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 41,200
2	Demolition & Site Preparation	ALL	LS	-	$ 16,100
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 24,700
4	Flaggers	400	HR	$ 60.00	$ 24,000
5	Rock Excavation	50	CY	$ 85.00	$ 4,250
6	Roadway Excavation	290	CY	$ 25.00	$ 7,250
7	Foundation Stabilization	20	CY	$ 75.00	$ 1,500
8	Aggregate Base (Shoulder Rock)	10	TONS	$ 40.00	$ 400
9	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	2,000	SF	$ 8.00	$ 16,000
10	Retaining Wall - Gabion Style	1,200	SF	$ 100.00	$ 120,000
11	Granular Backfill	290	CY	$ 25.00	$ 7,250
12	12" Storm Drain - Rock Backfill	100	LF	$ 60.00	$ 6,000
13	72" Storm Drain R & R- Rock Backfill	60	LF	$ 500.00	$ 30,000
14	Utility Relocation	1	LS	$ 25,000.00	$ 25,000
15	Culvert Outfall Structure	1	LS	$ 80,000.00	$ 80,000
16	Gaurdrail	120	LF	$ 65.00	$ 7,800
17	Striping	200	LF	$ 1.00	$ 200
			Construction Total		$ 411,650
			Engineering		$ 82,330
			Geotechnical		$ 25,000
			Permitting		$ 20,000
			Contingency		$ 98,796
			Legal & Administration		$ 12,350
			Total Project Cost		$ 650,130

Curry County
Capital Improvement Plan

Project No. 21	Floras Creek Road	MP 2.70			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 14,100
2	Demolition & Site Preparation	ALL	LS	-	$ 5,600
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 8,400
4	Flaggers	160	HR	$ 60.00	$ 9,600
5	Rock Excavation	10	CY	$ 85.00	$ 850
6	Roadway Excavation	120	CY	$ 25.00	$ 3,000
7	Foundation Stabilization	10	CY	$ 75.00	$ 750
8	Slope Protection	20	CY	$ 100.00	$ 2,000
9	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	400	SF	$ 8.00	$ 3,200
10	AC Pavement R & R- 4" Depth (Trench)	15	LF	$ 30.00	$ 450
11	Retaining Wall - Gabion Style	800	SF	$ 100.00	$ 80,000
12	Granular Backfill	130	CY	$ 25.00	$ 3,250
13	18" Storm Drain R & R - Rock Backfill	60	LF	$ 150.00	$ 9,000
14	Ditching	80	LF	$ 3.00	$ 240
15	Striping	160	LF	$ 1.00	$ 160
			Construction Total		$ 140,600
			Engineering		$ 28,120
			Geotechnical		$ 15,000
			Permitting		$ 10,000
			Contingency		$ 33,744
			Legal & Administration		$ 4,218
			Total Project Cost		$ 231,680

Curry County
Capital Improvement Plan

Project No. 22	Floras Creek Road	MP 3.96			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 26,700
2	Demolition & Site Preparation	ALL	LS	-	$ 10,000
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 16,000
4	Flaggers	300	HR	$ 60.00	$ 18,000
5	Rock Excavation	10	CY	$ 85.00	$ 850
6	Roadway Excavation	180	CY	$ 25.00	$ 4,500
7	Foundation Stabilization	20	CY	$ 75.00	$ 1,500
8	Slope Protection	20	CY	$ 100.00	$ 2,000
9	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	3,000	SF	$ 8.00	$ 24,000
10	Retaining Wall - Gabion Style	1,200	SF	$ 100.00	$ 120,000
11	Granular Backfill	200	CY	$ 25.00	$ 5,000
12	48" Storm Drain R & R - Rock Backfill	70	LF	$ 350.00	$ 24,500
13	Gaurdrail	200	LF	$ 65.00	$ 13,000
14	Striping	240	LF	$ 1.00	$ 240
			Construction Total		$ 266,290
			Engineering		$ 53,258
			Geotechnical		$ 15,000
			Permitting		$ 15,000
			Contingency		$ 63,910
			Legal & Administration		$ 7,989
			Total Project Cost		$ 421,450

Curry County
Capital Improvement Plan

Project No. 23	Floras Creek Road	MP 3.31			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 11,200
2	Demolition & Site Preparation	ALL	LS	-	$ 4,500
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 6,700
4	Flaggers	240	HR	$ 60.00	$ 14,400
5	Rock Excavation	10	CY	$ 85.00	$ 850
6	Roadway Excavation	740	CY	$ 25.00	$ 18,500
7	Foundation Stabilization	50	CY	$ 75.00	$ 3,750
8	Aggregate Base (Shoulder Rock)	30	TONS	$ 40.00	$ 1,200
9	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	4,000	SF	$ 8.00	$ 32,000
10	Granular Backfill	590	CY	$ 25.00	$ 14,750
11	18" Storm Drain R & R - Rock Backfill	20	LF	$ 150.00	$ 3,000
12	Ditching	200	LF	$ 3.00	$ 600
13	Striping	400	LF	$ 1.00	$ 400
			Construction Total		$ 111,850
			Engineering		$ 22,370
			Geotechnical		$ 15,000
			Contingency		$ 26,844
			Legal & Administration		$ 3,356
			Total Project Cost		$ 179,420

Curry County
Capital Improvement Plan

Project No. 24	Floras Creek Road	MP 2.61 to 5.18			2023
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 15,000
2	Demolition & Site Preparation	ALL	LS	-	$ 6,000
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 9,000
4	Foundation Stabilization	10	CY	$ 75.00	$ 750
5	AC Pavement R & R- 4" Depth (Trench)	180	LF	$ 30.00	$ 5,400
6	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	6,500	SF	$ 8.00	$ 52,000
7	Reconstruction Type II - (4" AC R & R)	6,000	SF	$ 5.00	$ 30,000
8	18" Storm Drain R & R - Rock Backfill	90	LF	$ 150.00	$ 13,500
9	24" Storm Drain R & R - Rock Backfill	90	LF	$ 200.00	$ 18,000
			Construction Total		$ 149,650
			Engineering		$ 29,930
			Contingency		$ 35,916
			Legal & Administration		$ 4,490
			Total Project Cost		$ 219,990

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan

Project No. 25	Pacific View Drive	MP 0 to 0.36			2025
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 10,400
2	Demolition & Site Preparation	ALL	LS	-	$ 4,200
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 6,200
4	Foundation Stabilization	10	CY	$ 75.00	$ 750
5	AC Pavement Overlay - 2" Depth	580	TONS	$ 100.00	$ 58,000
6	AC Pavement R & R- 2" Depth (Trench)	48	LF	$ 15.00	$ 720
7	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	3,000	SF	$ 6.00	$ 18,000
8	12" Storm Drain R & R - Rock Backfill	18	LF	$ 75.00	$ 1,350
9	18" Storm Drain R & R - Rock Backfill	30	LF	$ 150.00	$ 4,500
			Construction Total		$ 104,120
			Engineering		$ 20,824
			Contingency		$ 24,989
			Legal & Administration		$ 3,124
			Total Project Cost		$ 153,060

Curry County
Capital Improvement Plan

Project No. 26	County Shop Road	MP 0 to 0.23			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 13,600
2	Demolition & Site Preparation	ALL	LS	-	$ 5,400
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 8,100
4	Cold Plane Pavement Removal	60	SY	$ 15.00	$ 900
5	Foundation Stabilization	25	CY	$ 75.00	$ 1,875
6	Slope Protection	30	CY	$ 100.00	$ 3,000
7	Aggregate Base (Shoulder Rock)	30	TONS	$ 40.00	$ 1,200
8	AC Pavement Overlay - 2" Depth	410	TONS	$ 100.00	$ 41,000
9	AC Pavement R & R- 4" Depth (Trench)	170	LF	$ 30.00	$ 5,100
10	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	1,500	SF	$ 8.00	$ 12,000
11	Driveway Approach	2	EA	$ 1,200.00	$ 2,400
12	12" Storm Drain R & R - Rock Backfill	40	LF	$ 75.00	$ 3,000
13	24" Storm Drain R & R - Rock Backfill	60	LF	$ 200.00	$ 12,000
14	36" Storm Drain R & R- Rock Backfill	70	LF	$ 300.00	$ 21,000
15	Pavement Markers	98	EA	$ 1.50	$ 147
16	Striping	4,540	LF	$ 1.00	$ 4,540
17	Thermoplastic Stop Bars/Cross Walks	18	LF	$ 15.00	$ 270
			Construction Total		$ 135,532
			Engineering		$ 27,106
			Permitting		$ 10,000
			Contingency		$ 32,528
			Legal & Administration		$ 4,066
			Total Project Cost		$ 209,230

Curry County
Capital Improvement Plan
Project No. 27 Azalea Ln **MP 0 to 0.08** **2020**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 6,000
2	Demolition & Site Preparation	ALL	LS	-	$ 2,400
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 3,600
4	Roadway Excavation	250	CY	$ 25.00	$ 6,250
5	Foundation Stabilization	40	CY	$ 75.00	$ 3,000
6	Aggregate Base (Shoulder Rock)	70	TONS	$ 40.00	$ 2,800
7	Aggregate Base (Base Rock)	530	TONS	$ 40.00	$ 21,200
8	AC Pavement Overlay - 2" Depth	100	TONS	$ 100.00	$ 10,000
9	Driveway Approach	1	EA	$ 1,200.00	$ 1,200
10	12" Storm Drain R & R - Rock Backfill	30	LF	$ 75.00	$ 2,250
11	Striping	855	LF	$ 1.00	$ 855
12	Thermoplastic Stop Bars/Cross Walks	15	LF	$ 15.00	$ 225
			Construction Total		$ 59,780
			Engineering		$ 11,956
			Contingency		$ 14,347
			Legal & Administration		$ 1,793
			Total Project Cost		$ 87,880

Curry County
Capital Improvement Plan
Project No. 28 Demoss Road **MP 0 to 0.16** **2023**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 7,900
2	Demolition & Site Preparation	ALL	LS	-	$ 3,200
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 4,700
4	Cold Plane Pavement Removal	20	SY	$ 15.00	$ 300
5	Foundation Stabilization	5	CY	$ 75.00	$ 375
6	Aggregate Base (Shoulder Rock)	20	TONS	$ 40.00	$ 800
7	AC Pavement Overlay - 2" Depth	240	TONS	$ 100.00	$ 24,000
8	AC Pavement R & R- 2" Depth (Trench)	180	LF	$ 15.00	$ 2,700
9	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	650	SF	$ 6.00	$ 3,900
10	Driveway Approach	15	EA	$ 1,200.00	$ 18,000
11	8" Storm Drain R & R - Rock Backfill	20	LF	$ 50.00	$ 1,000
12	12" Storm Drain R & R - Rock Backfill	160	LF	$ 75.00	$ 12,000
13	Thermoplastic Stop Bars/Cross Walks	15	LF	$ 15.00	$ 225
			Construction Total		$ 79,100
			Engineering		$ 15,820
			Contingency		$ 18,984
			Legal & Administration		$ 2,373
			Total Project Cost		$ 116,280

Curry County
Capital Improvement Plan
Project No. 29 Gowman Lane **MP 0 to 0.19** **2023**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 21,800
2	Demolition & Site Preparation	ALL	LS	-	$ 8,700
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 13,100
4	Foundation Stabilization	400	CY	$ 75.00	$ 30,000
5	Aggregate Base (Shoulder Rock)	30	TONS	$ 40.00	$ 1,200
6	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	19,750	SF	$ 6.00	$ 118,500
7	Driveway Approach	7	EA	$ 1,200.00	$ 8,400
8	8" Storm Drain R & R - Rock Backfill	20	LF	$ 50.00	$ 1,000
9	12" Storm Drain R & R - Rock Backfill	200	LF	$ 75.00	$ 15,000
10	Thermoplastic Stop Bars/Cross Walks	30	LF	$ 15.00	$ 450
			Construction Total		$ 218,150
			Engineering		$ 43,630
			Contingency		$ 52,356
			Legal & Administration		$ 6,545
			Total Project Cost		$ 320,680

Curry County
Capital Improvement Plan
Project No. 30 Grizzly Mountain Road **MP 0.39 to 1.34** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 21,500
2	Demolition & Site Preparation	ALL	LS	-	$ 8,600
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 12,900
4	Foundation Stabilization	20	CY	$ 75.00	$ 1,500
5	Slope Protection	30	CY	$ 100.00	$ 3,000
6	Aggregate Base (Shoulder Rock)	130	TONS	$ 40.00	$ 5,200
7	AC Pavement Overlay - 2" Depth	980	TONS	$ 100.00	$ 98,000
8	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	3,500	SF	$ 8.00	$ 28,000
9	Reconstruction Type II - (4" AC R & R)	5,000	SF	$ 5.00	$ 25,000
10	Driveway Approach	2	EA	$ 1,200.00	$ 2,400
11	12" Storm Drain - Rock Backfill	120	LF	$ 60.00	$ 7,200
12	Ditching	500	LF	$ 3.00	$ 1,500
			Construction Total		$ 214,800
			Engineering		$ 42,960
			Contingency		$ 51,552
			Legal & Administration		$ 6,444
			Total Project Cost		$ 315,760

Curry County
Capital Improvement Plan
Project No. 31 Emerald Drive **MP 0 to 0.09** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 13,600
2	Demolition & Site Preparation	ALL	LS	-	$ 5,400
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 8,200
4	Roadway Excavation	440	CY	$ 25.00	$ 11,000
5	Foundation Stabilization	30	CY	$ 75.00	$ 2,250
6	Aggregate Base (Shoulder Rock)	70	TONS	$ 40.00	$ 2,800
7	Aggregate Base (Base Rock)	810	TONS	$ 40.00	$ 32,400
8	AC Pavement Overlay - 2" Depth	110	TONS	$ 100.00	$ 11,000
9	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	6,400	SF	$ 6.00	$ 38,400
10	Driveway Approach	3	EA	$ 1,200.00	$ 3,600
11	Ditching	500	LF	$ 3.00	$ 1,500
12	Signs	1	EA	$ 300.00	$ 300
13	Traffic Symbols	1	EA	$ 300.00	$ 300
14	Striping	1,943	LF	$ 1.00	$ 1,943
15	Thermoplastic Stop Bars/Cross Walks	15	LF	$ 15.00	$ 225
16	Landscaping	1	LS	$ 3,000.00	$ 3,000
			Construction Total		$ 135,918
			Engineering		$ 27,184
			Contingency		$ 32,620
			Legal & Administration		$ 4,078
			Total Project Cost		$ 199,800

Curry County
Capital Improvement Plan
Project No. 32 Fairgrounds Road **MP 0.09 to 0.28** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 19,500
2	Demolition & Site Preparation	ALL	LS	-	$ 7,800
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 11,700
4	Cold Plane Pavement Removal	2,250	SY	$ 15.00	$ 33,750
5	Foundation Stabilization	15	CY	$ 75.00	$ 1,125
6	AC Pavement Inlay - 2" Depth	310	TONS	$ 100.00	$ 31,000
7	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	4,650	SF	$ 6.00	$ 27,902
8	12" Storm Drain - Rock Backfill	100	LF	$ 60.00	$ 6,000
9	Catch Basin - Type G2	2	EA	$ 2,500.00	$ 5,000
10	Valley Gutter	800	LF	$ 60.00	$ 48,000
11	Ditching	1,000	LF	$ 3.00	$ 3,000
			Construction Total		$ 194,777
			Engineering		$ 38,955
			Contingency		$ 46,747
			Legal & Administration		$ 5,843
			Total Project Cost		$ 286,320

Curry County
Capital Improvement Plan
Project No. 33 Lower Harbor Road **Sidewalk Improvement** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 69,000
2	Demolition & Site Preparation	ALL	LS	-	$ 27,600
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 41,400
4	Roadway Excavation	800	CY	$ 25.00	$ 20,000
5	Aggregate Base (Base Rock)	800	TONS	$ 40.00	$ 32,000
6	AC Pavement Overlay - 2" Depth	300	TONS	$ 100.00	$ 30,000
7	AC Pavement R & R- 4" Depth (Trench)	600	LF	$ 30.00	$ 18,000
8	Driveway Approach	10	EA	$ 1,200.00	$ 12,000
9	Curb - Type "C"	1,200	LF	$ 35.00	$ 42,000
10	Concrete Sidewalk	16,325	SF	$ 12.00	$ 195,900
11	Additional Work for Access Ramps	12	EA	$ 3,000.00	$ 36,000
12	Retaining Wall - Concrete	900	SF	$ 80.00	$ 72,000
13	12" Storm Drain - Rock Backfill	600	LF	$ 60.00	$ 36,000
14	Curb Inlet	8	EA	$ 3,500.00	$ 28,000
15	Striping	3,835	LF	$ 1.00	$ 3,835
16	Thermoplastic Stop Bars/Cross Walks	570	LF	$ 15.00	$ 8,550
17	Utility Relocation	1	LS	$ 15,000.00	$ 15,000
18	Landscaping	1	LS	$ 3,000.00	$ 3,000
			Construction Total		$ 690,285
			Engineering		$ 138,057
			Contingency		$ 165,668
			Archeological Investigation		$ 75,000
			Legal & Administration		$ 20,709
			Total Project Cost		$ 1,089,720

Curry County
Capital Improvement Plan
Project No. 34 Agness-Illahe road **MP 6.61 to 7.55** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 3,700
2	Demolition & Site Preparation	ALL	LS	-	$ 1,500
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 2,200
4	Foundation Stabilization	15	CY	$ 75.00	$ 1,125
5	AC Pavement R & R- 4" Depth (Trench)	45	LF	$ 30.00	$ 1,350
6	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	2,500	SF	$ 8.00	$ 20,000
7	18" Storm Drain R & R - Rock Backfill	45	LF	$ 150.00	$ 6,750
			Construction Total		$ 36,625
			Engineering		$ 7,325
			Contingency		$ 8,790
			Legal & Administration		$ 1,099
			Total Project Cost		$ 53,840

***Chipseal, striping, & markers cost is shown under County maintenance.**

Curry County
Capital Improvement Plan
Project No. 35 Noble Drive **MP 0.67 to 0.83** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 12,100
2	Demolition & Site Preparation	ALL	LS	-	$ 4,800
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 7,300
4	Foundation Stabilization	50	CY	$ 75.00	$ 3,750
5	Aggregate Base (Shoulder Rock)	150	TONS	$ 40.00	$ 6,000
6	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	13,520	SF	$ 6.00	$ 81,120
7	12" Storm Drain R & R - Rock Backfill	45	LF	$ 75.00	$ 3,375
8	Ditching	850	LF	$ 3.00	$ 2,550
			Construction Total		$ 120,995
			Engineering		$ 24,199
			Contingency		$ 29,039
			Legal & Administration		$ 3,630
			Total Project Cost		$ 177,860

Curry County
Capital Improvement Plan
Project No. 36 Driftwood Dr, Azalea Ln, & Iris St **Varies** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 96,300
2	Demolition & Site Preparation	ALL	LS	-	$ 38,500
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 57,800
4	Cold Plane Pavement Removal	8,630	SY	$ 15.00	$ 129,450
5	Foundation Stabilization	50	CY	$ 75.00	$ 3,750
6	Aggregate Base (Base Rock)	1,400	TONS	$ 40.00	$ 56,000
7	AC Pavement Overlay - 2" Depth	1,090	TONS	$ 100.00	$ 109,000
8	AC Pavement R & R- 4" Depth (Trench)	650	LF	$ 30.00	$ 19,500
9	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	12,000	SF	$ 6.00	$ 72,000
10	Driveway Approach	57	EA	$ 1,200.00	$ 68,400
11	Curb & Gutter	4,800	LF	$ 50.00	$ 240,000
12	12" Storm Drain - Rock Backfill	650	LF	$ 60.00	$ 39,000
13	Curb Inlet	8	EA	$ 3,500.00	$ 28,000
14	Landscaping	1	LS	$ 5,000.00	$ 5,000
			Construction Total		$ 962,700
			Engineering		$ 192,540
			Contingency		$ 231,048
			Legal & Administration		$ 28,881
			Total Project Cost		$ 1,415,170

Curry County
Capital Improvement Plan
Project No. 37 Lower Harbor and Shopping Center Intersection **Roundabout** **TBD**

Item	Description	Quantity	Unit	Unit Cost	Subtotal
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 63,100
2	Demolition & Site Preparation	ALL	LS	-	$ 25,200
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 37,900
4	Roadway Excavation	1,500	CY	$ 25.00	$ 37,500
5	Foundation Stabilization	100	CY	$ 75.00	$ 7,500
6	Aggregate Base (Base Rock)	800	TONS	$ 40.00	$ 32,000
7	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	20,000	SF	$ 8.00	$ 160,000
8	Curb - Type "C"	800	LF	$ 35.00	$ 28,000
9	Curb & Gutter	670	LF	$ 50.00	$ 33,500
10	Concrete Sidewalk	7,550	SF	$ 12.00	$ 90,600
11	Additional Work for Access Ramps	12	EA	$ 3,000.00	$ 36,000
12	12" Storm Drain - Rock Backfill	500	LF	$ 60.00	$ 30,000
13	Curb Inlet	5	EA	$ 3,500.00	$ 17,500
14	Signs	8	EA	$ 300.00	$ 2,400
15	Traffic Symbols	8	EA	$ 300.00	$ 2,400
16	Striping	850	LF	$ 1.00	$ 850
17	Thermoplastic Stop Bars/Cross Walks	440	LF	$ 15.00	$ 6,600
18	Utility Relocation	1	LS	$ 10,000.00	$ 10,000
19	Landscaping	1	LS	$ 10,000	$ 10,000
			Construction Total		$ 631,050
			Engineering		$ 126,210
			Contingency		$ 151,452
			Archeological Investigation		$ 50,000
			Legal & Administration		$ 18,932
			Total Project Cost		$ 977,640

Curry County
Capital Improvement Plan

Project No. 38	Lower Harbor and Commercial Intersection	Roundabout			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 66,500
2	Demolition & Site Preparation	ALL	LS	-	$ 26,600
3	Temporary Protection & Direction of Traffic	ALL	LS	-	$ 39,900
4	Roadway Excavation	1,000	CY	$ 25.00	$ 25,000
5	Foundation Stabilization	120	CY	$ 75.00	$ 9,000
6	Aggregate Base (Base Rock)	500	TONS	$ 40.00	$ 20,000
7	Reconstruction Type I - (4" AC & 12" Agg Base R & R)	22,000	SF	$ 8.00	$ 176,000
8	Curb - Type "C"	650	LF	$ 35.00	$ 22,750
9	Curb & Gutter	800	LF	$ 50.00	$ 40,000
10	Concrete Sidewalk	8,550	SF	$ 12.00	$ 102,600
11	Additional Work for Access Ramps	14	EA	$ 3,000.00	$ 42,000
12	12" Storm Drain - Rock Backfill	600	LF	$ 60.00	$ 36,000
13	Curb Inlet	7	EA	$ 3,500.00	$ 24,500
14	Signs	8	EA	$ 300.00	$ 2,400
15	Traffic Symbols	10	EA	$ 300.00	$ 3,000
16	Striping	950	LF	$ 1.00	$ 950
17	Thermoplastic Stop Bars/Cross Walks	350	LF	$ 15.00	$ 5,250
18	Utility Relocation	1	LS	$ 10,000.00	$ 10,000
19	Landscaping	1	LS	$ 12,500	$ 12,500
			Construction Total		$ 664,950
			Engineering		$ 132,990
			Contingency		$ 159,588
			Archeological Investigation		$ 50,000
			Legal & Administration		$ 19,949
			Total Project Cost		$ 1,027,480

Curry County
Capital Improvement Plan

Project No. 39	Lakeshore Drive Turnaround	Turnaround			TBD
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Subtotal**
1	Constr. Facilities & Temp. Controls	ALL	LS	-	$ 7,100
2	Demolition & Site Preparation	ALL	LS	-	$ 2,800
3	Foundation Stabilization	20	CY	$ 75.00	$ 1,500
4	Aggregate Base (Base Rock)	250	TONS	$ 40.00	$ 10,000
5	Reconstruction Type I - (2" AC & 12" Agg Base R & R)	3,500	SF	$ 8.00	$ 28,000
6	Retaining Wall - Gabion Style	90	SF	$ 100.00	$ 9,000
7	12" Storm Drain - Rock Backfill	60	LF	$ 60.00	$ 3,600
8	Signs	2	EA	$ 300.00	$ 600
9	Ditching	250	LF	$ 3.00	$ 750
10	Landscaping	1	LS	$ 3,500	$ 3,500
			Construction Total		$ 66,850
			Engineering		$ 13,370
			Contingency		$ 16,044
			Legal & Administration		$ 2,006
			Total Project Cost		$ 98,270

AOC County Road Brief Local Access Roads

AOC Association of Oregon Counties

County Road Brief

OACES Oregon Association of County Engineers and Surveyors

Local Access Roads

Not all public roads are maintained by the county

Introduction

A local access road (LAR) is any public road that is not maintained by the county or any other government entity. Under Oregon Revised Statute (ORS) 368.031, counties have authority over LARs but do not assume maintenance responsibility for them. LAR's are often unpaved and need repair because they precede land-use regulations and road design standards. Since using the State Highway Fund (SHF) on LARs is statutorily limited, maintenance becomes the responsibility of the adjacent landowners.

ORS 368.031 - County Jurisdiction over LARs

ORS 368.031 specifies that the county is not liable for "failure to improve the local access road or keep it in repair." A county may use State Highway Fund to improve a local access road if there is an emergency, or if,

- The county road official recommends the expenditure,
- The public use of the road justifies the expenditure, and
- The county governing body passes a resolution authorizing the work.

What Are Counties Doing?

Counties maintain the largest share of Oregon's statewide road system (39 percent) with very tight budgets and restrictions for using the State Highway Fund. Without additional funding sources, counties cannot afford to bring every local road into compliance with current road standards. However, many LARs are in disrepair and could result in restricted access for residents and emergency services. Some counties are making policy decisions to mitigate the potential effects LARs may have on the county road system.

Marion County placed a moratorium on new LARs, which more counties are considering, but this does not resolve disputes over already existing roads. Deschutes County requires maintenance agreements signed by the homeowners when a subdivision is built to set the requirements for future roadwork.

Alternative Funding Mechanisms

Many counties will accept a LAR into the county road system if it meets adopted road standards, but the homeowner is responsible for bringing it into compliance. The following are mechanisms available to county officials and landowners to help manage local access roads.

General County Road Districts

A General Road District under ORS 371.055 - 371.110 allows the governing body of a county to split the road network into contiguous sections and levy a tax to pay for road improvements. The improvements are chosen based on petitions from the public. Clatsop County is currently the only county with a general road district that covers the entire county.

Special Road Districts

Under ORS 371.305 - 371.385, property owners on contiguous county roads may petition to form a Special Road District where property taxes are collected to pay for road repair. Unlike a General Road District, a Special Road District has a three-member board appointed by the Board of County Commissioners or elected by the district to manage and approve road projects.

Road Assessment District

Unlike a General or Special Road District which covers any contiguous public road network, a Road Assessment District (ORS 371.405 - 371.535) must cover an area of more than 20,000 acres or over $1 million in taxable property. An elected three-member board governs the district and has authority over all public roads within the district boundary except primary and secondary highways. Malheur County is currently the only county that uses this system.

Local Improvement Districts

Under ORS 371.605 - 371.660, landowners can petition the county to create a Local Improvement District and agree to pay the cost of the road improvement in a lump sum or over time. The petition needs signatures from 60 percent of landowners representing at least 60 percent of the total land area abutting the road.

For more information, contact: **Jocelyn Blake** | County Road Program Policy Analyst | 541.216.0210 | jblake@oregoncounties.org

ODOT Surface Transportation Program Fund Exchange

Surface Transportation Program

Fund Exchange

Fund Exchange

- Exchange rate: 94 cents per 1 dollar
- Applies to cities over 5,000 residents, all counties, and non-TMA MPOs
- Does not apply to CMAQ, Local Bridge, TAP, or other federal funds

Federal Policy on Fund Exchange

- Allows for flexible local project funding
- Reserves federal funds for larger projects
- Reduces oversight costs
- More cost-effective for small projects

Source: Government Accountability Office. 2014. Federal Highway Administration could further mitigate locally administered project risks (GAO-14-113).

The Active Transportation Section strategically integrates program and funding sources to promote multimodal and sustainable transportation solutions.

Nicholas.grisham@odot.state.or.us
503.986.3531

Why does Oregon have Fund Exchange?
To provide local agencies a flexible funding option for delivering transportation improvements without being constrained by federal requirements.

What authorizes Fund Exchange?
The Oregon Department of Transportation has an agreement with the Association of Oregon Counties (AOC) and League of Oregon Cities (LOC) which provides Federal Surface Transportation Program (STP) funds to cities, counties, and non-Transportation Management Area (TMA) Metropolitan Planning Organizations. Fund Exchange provides an opportunity for local cities and counties to exchange their Federal STP dollars for State Highway Fund dollars.

How does Fund Exchange work?
Local agencies may exchange federal STP funds for state dollars at a rate of 94 cents in state funds for every 1 dollar of federal funds.

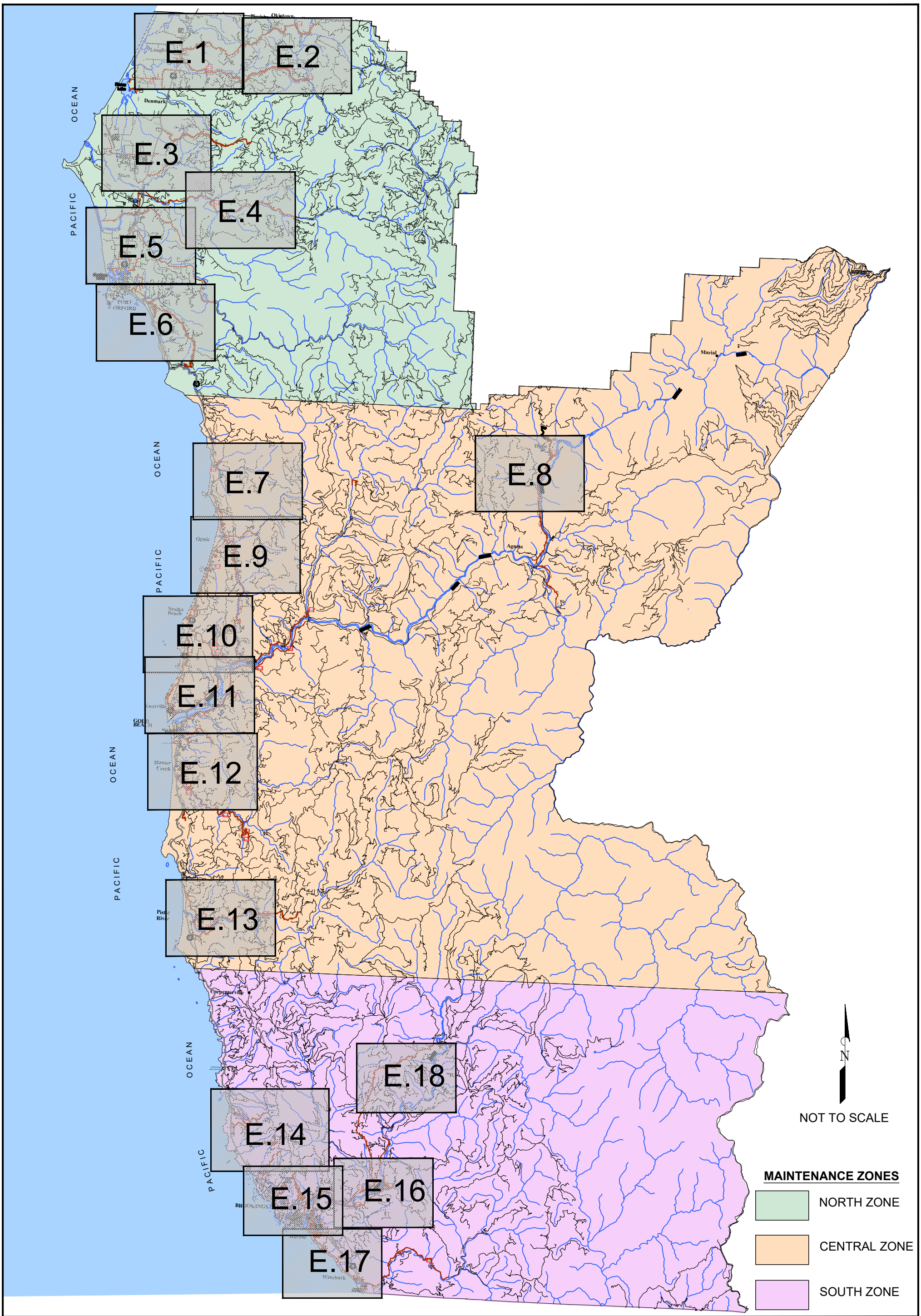
Who can and cannot use Fund Exchange?
All 36 counties receive funds and are eligible. All cities above a population of 5,000 except for those cities in an MPO with populations over 200,000 are eligible. MPOs other than Metro, Salem-Keizer, and Central Lane MPOs are eligible. Certain smaller cities that are part of an MPO may also be eligible (contact ODOT's Active Transportation Section below for more detail).

Are all federal funds exchangeable?
No. Local agencies can only exchange their federal STP funds allocated from the AOC-LOC Agreement. They are not eligible to exchange other federal funds they may have access to through other processes and programs (CMAQ, Local Bridge, or other programs).

Where do I go to learn more about Fund Exchange?
ODOT's Active Transportation Section manages the Fund Exchange program. For more information, contact Flower Shobe: Flower.E.Shobe@odot.state.or.us

The AOC-LOC Agreement provides more detail and is available on ODOT's local project delivery resources page: https://www.oregon.gov/ODOT/LocalGov/Pages/index.aspx

APPENDIX E: Maps



THE DYER PARTNERSHIP ENGINEERS & PLANNERS	***CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN***	FIGURE NO.
DATE: APRIL, 2020	***MAP INDEX***	***E.INDEX***
PROJECT NO.: 117.16		

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE
1000 0 1000 2000

NLEY LN
LANGLOIS
FIRST ST
ALDER ST
EAST MAIN ST.
KERBER ST.
ALLEN BOICE DR
ALLEN BOICE DR
FLORAS
CREEK
RD.
COPE LN
INDIAN LN
101
HWY 101
MOUNTAIN
RD.
3
24
RD.
21
20
23
22

LOOP RD.
COPE LN
INDIAN LN
LAKE
WILLOW CREEK
10
LAKE
FLORAS
LAKE RD.
FLORAS
FLORAS
HWY 101
WILLOW
CREEK
Floras Lake
LAKESHORE DR
39

FIGURE NO. E.1

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY. 2020

PROJECT NO.: 117.16

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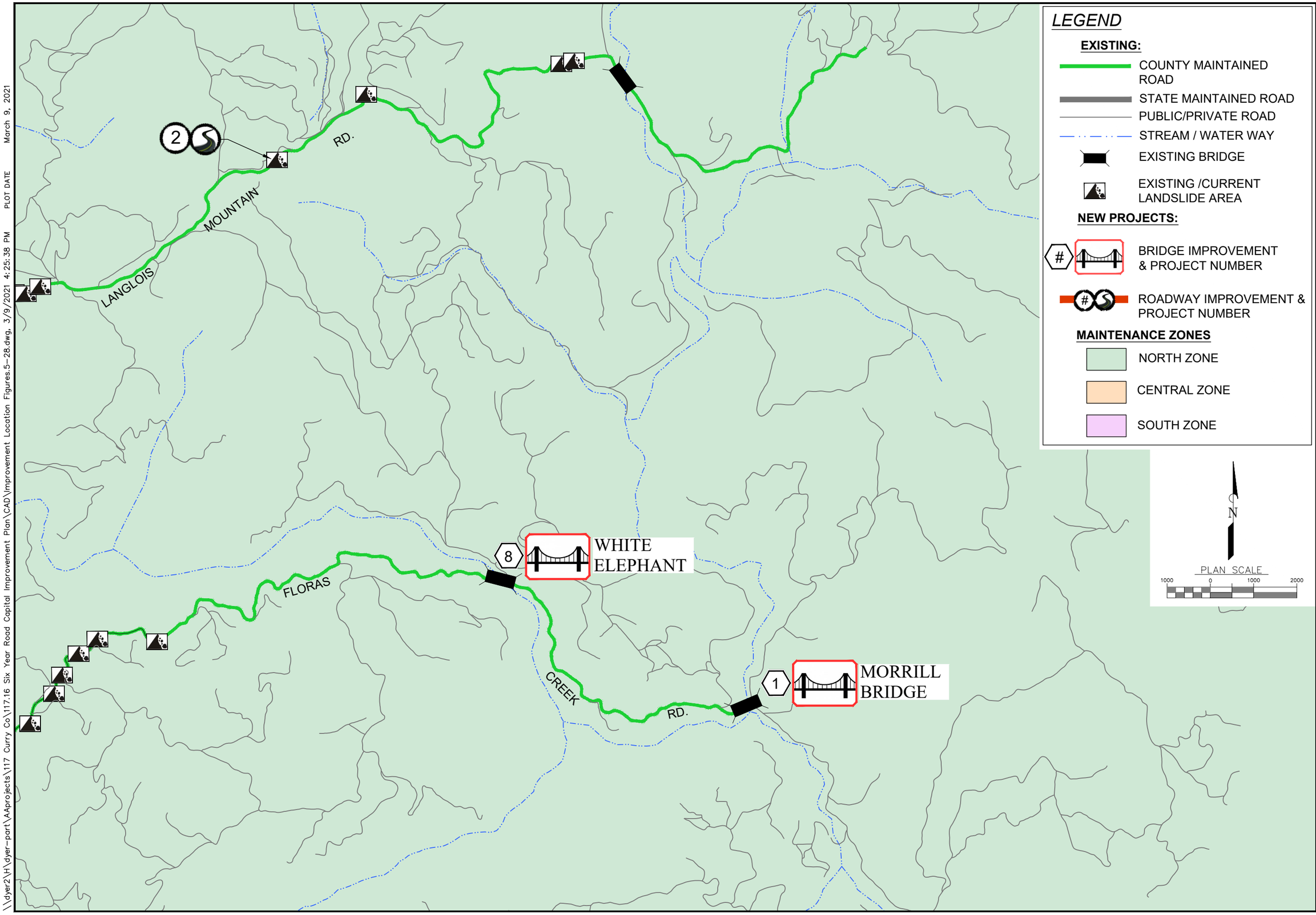

FIGURE NO. E.2

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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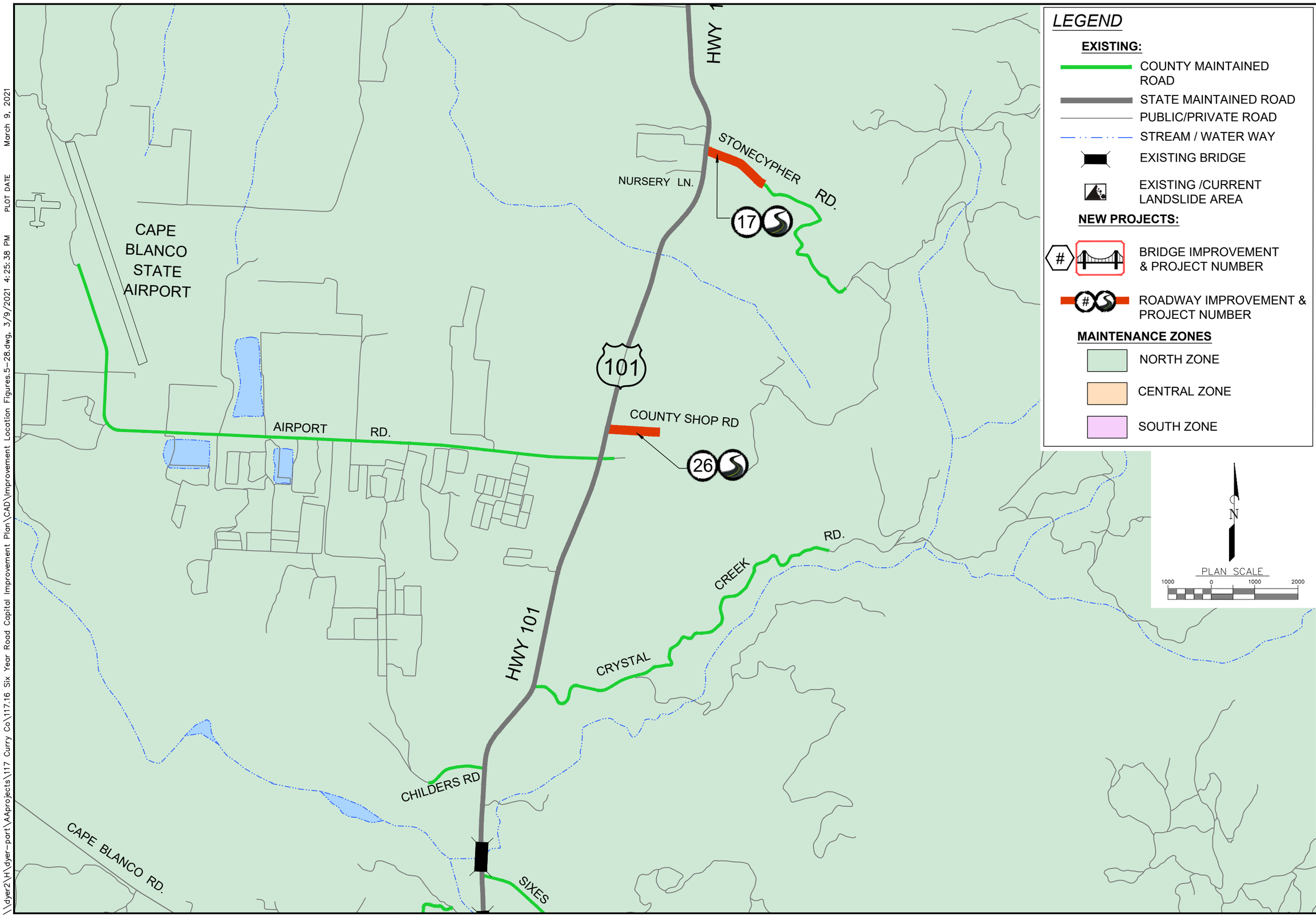

FIGURE NO. E.3

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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RIVER

RD.

EDSON CREEK PK RD

2

EDISON
CREEK "A"

RIVER

RD.

SIXES

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE

1000 0 1000 2000

FIGURE NO. E.4

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

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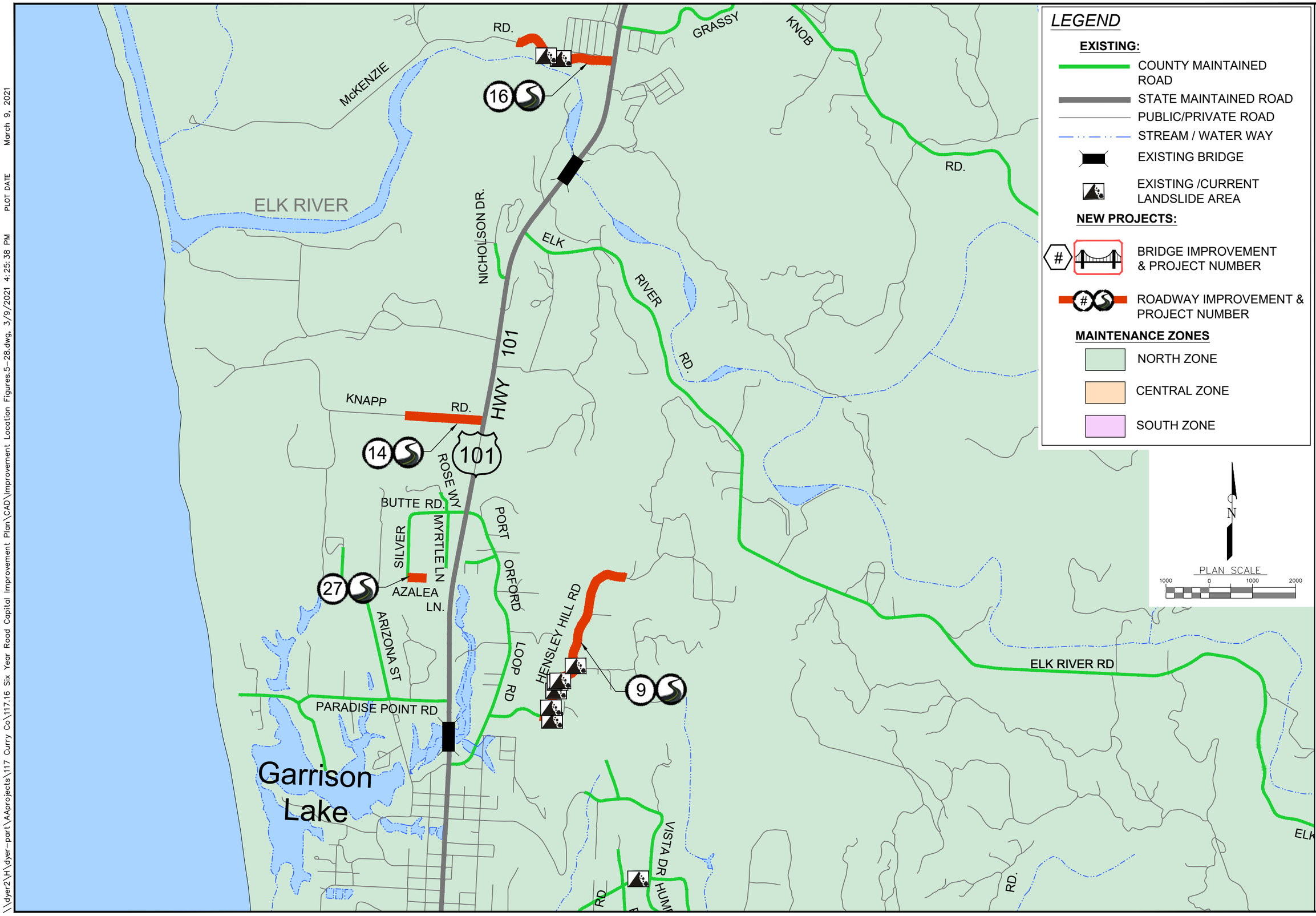

FIGURE NO. E.5

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

Lake

HWY.

PORT ORFORD

HWY 101

OLD MILL RD

CEMETERY LOOP RD

PARK RD

VISTA DR

HUMBUG WY

CREEK

RD.

ELK RIVER RD

HUBBARD

NOBLE DR

CHINA

35

101

NOBLE

DR

MOUNTAIN

RD.

HWY 101

HUMBUG

RD.

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE

1000 0 1000 2000

FIGURE NO. E.6

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

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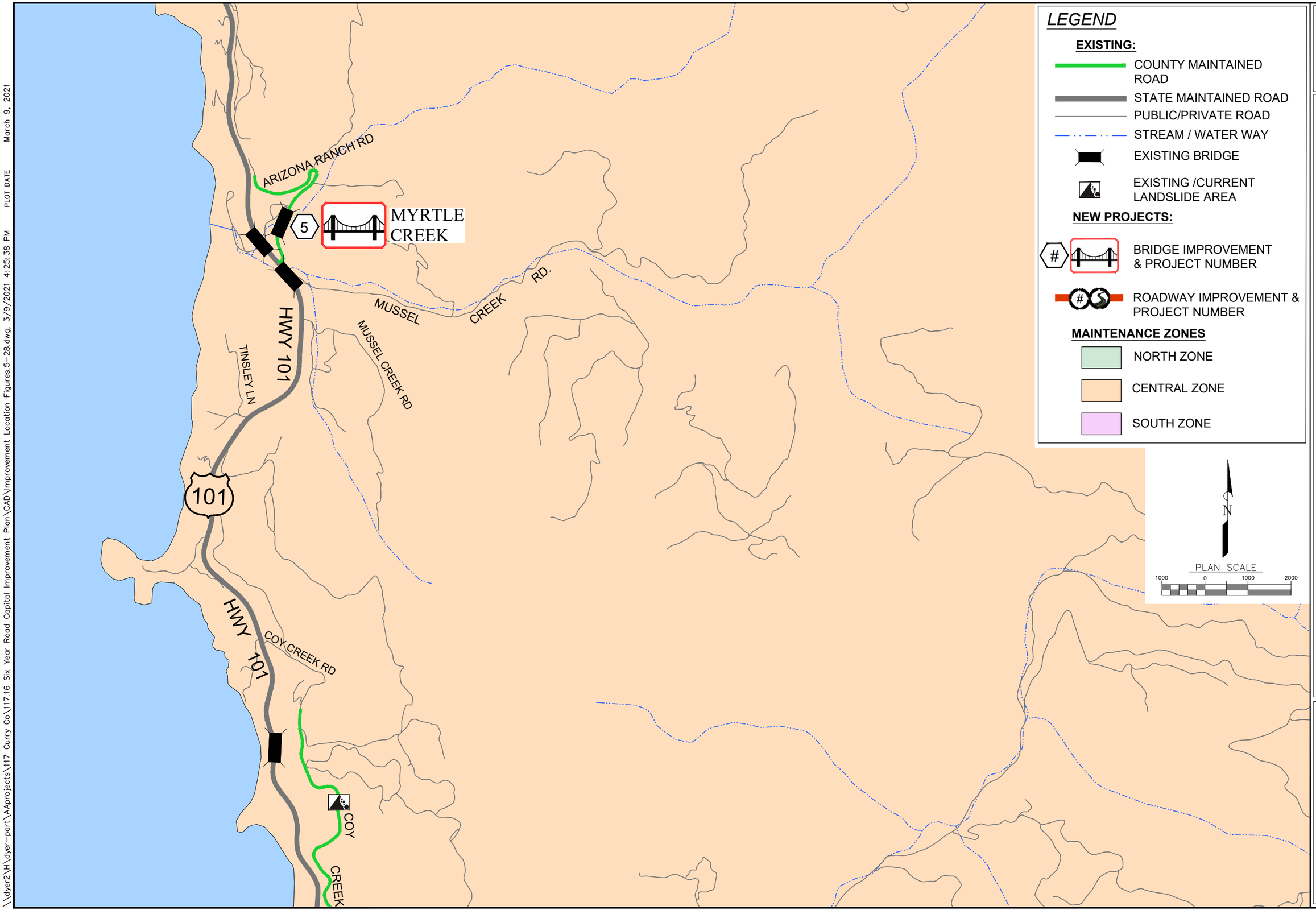

FIGURE NO. E.7

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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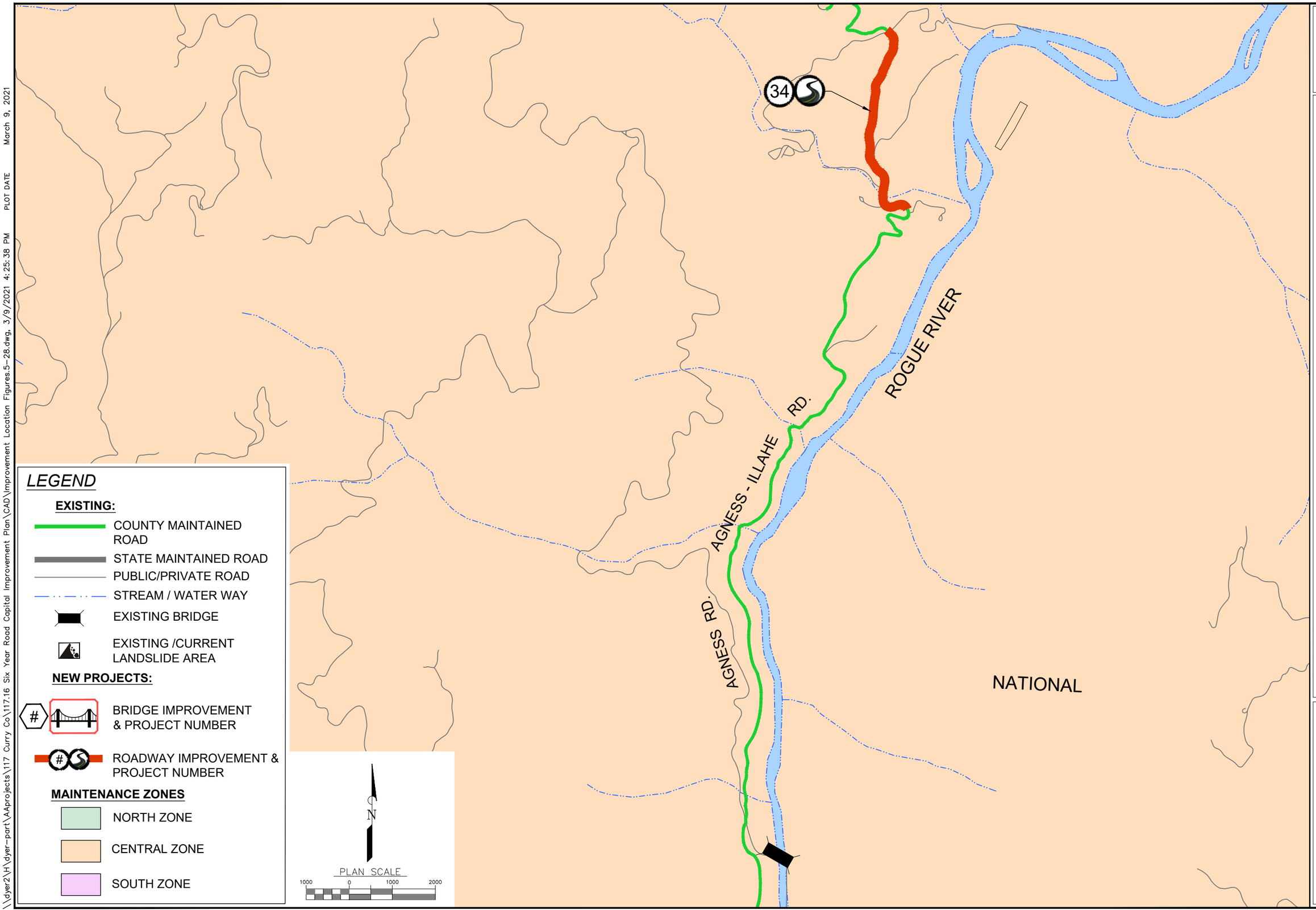

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

FIGURE NO. E.8

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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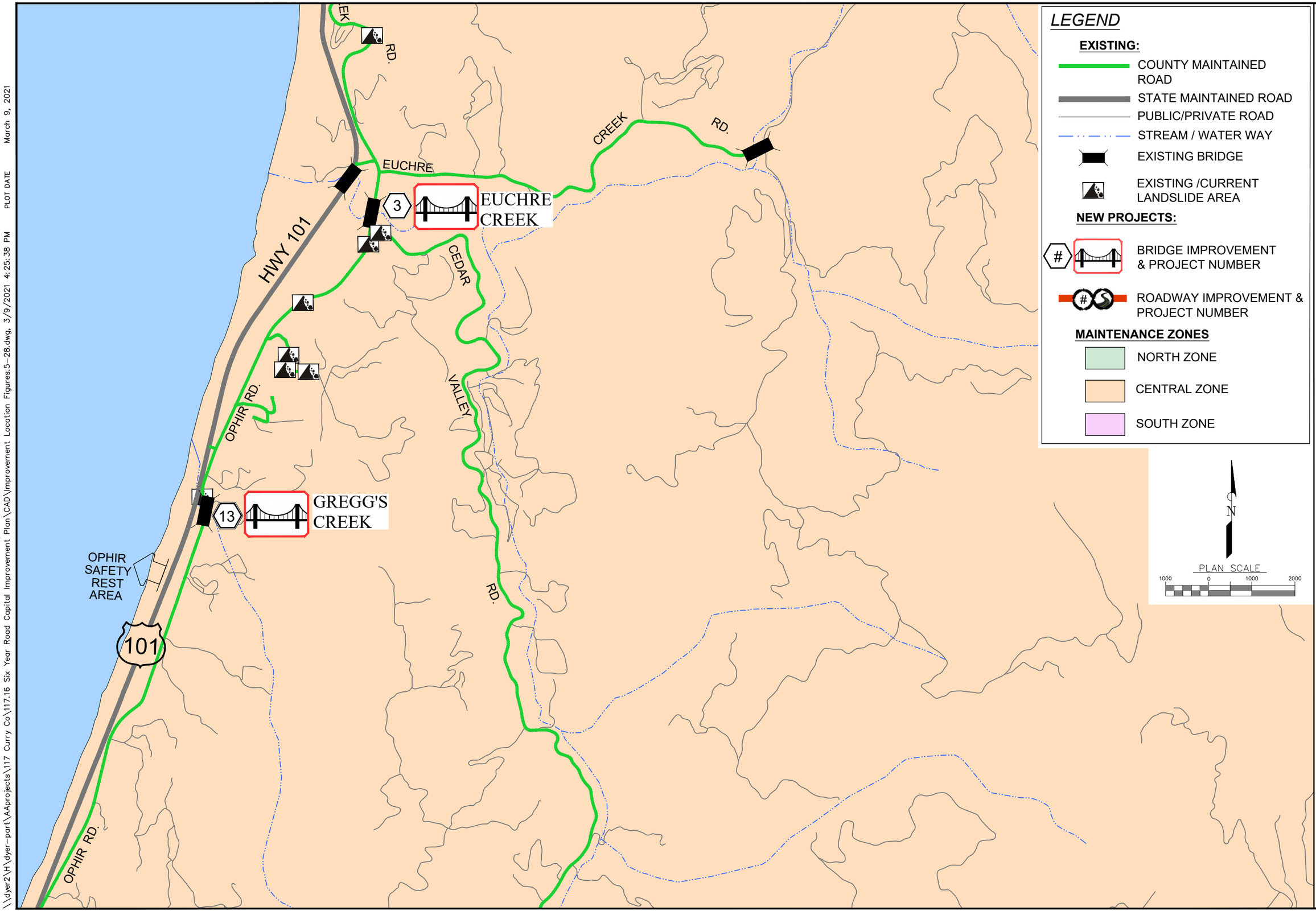

FIGURE NO. E.9

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE
1000 0 1000 2000

OPHIR
RD.
RACCOON LN
101
NESIKA
EDSON
CREEK
RD.
HWY 101
19
COAST
RD.
OLD
101
18
6
McKINNON DR.
VALLEY RD.
CEDAR
CEDAR
VALLEY RD.
N BANK ROGUE RIVER RD.
N BANK
ROGUE RIVER

FIGURE NO. E.10

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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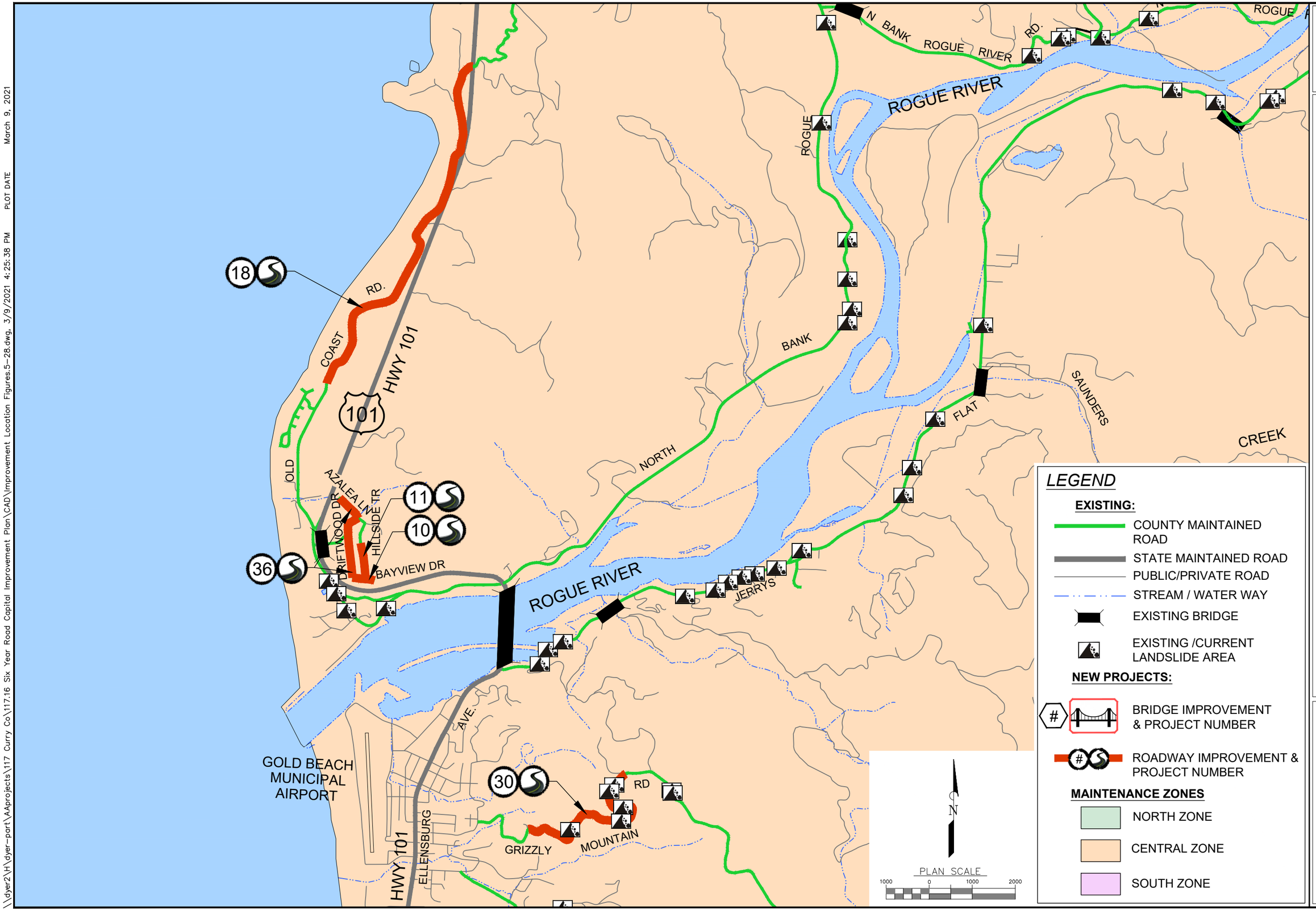

FIGURE NO. E.11

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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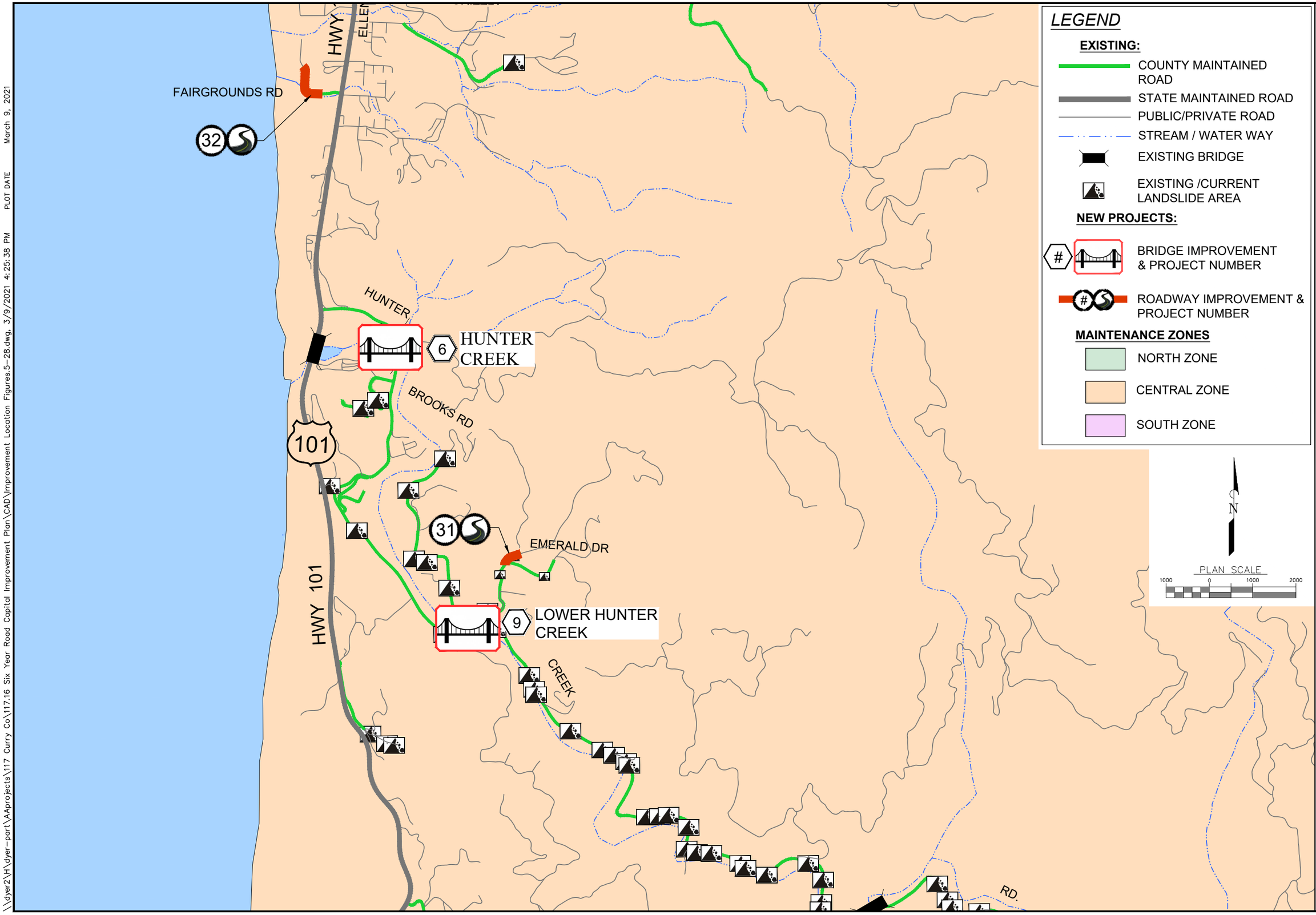

FIGURE NO. E.12

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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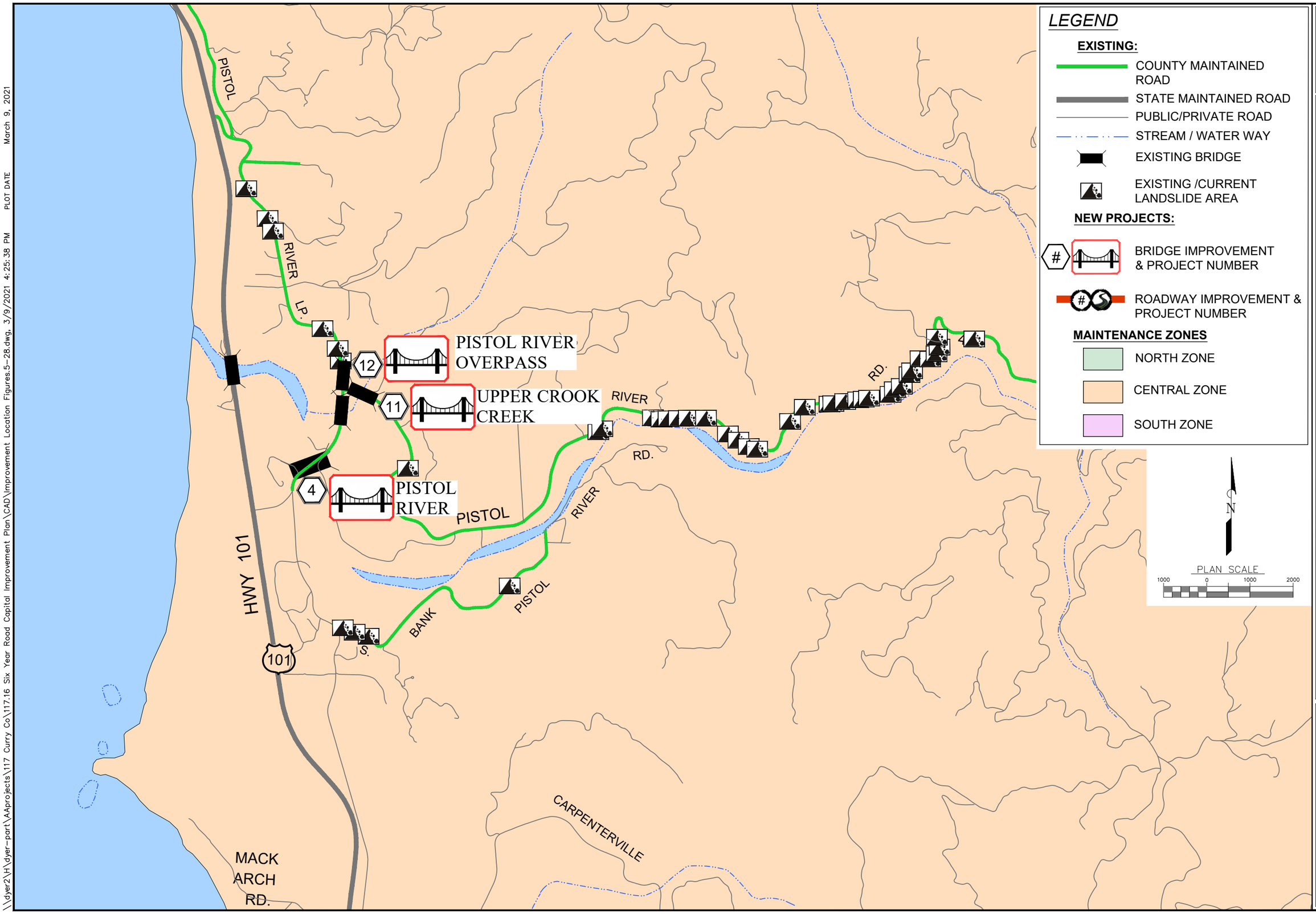

FIGURE NO. E.13

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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EGGERS RD.
CAPE FERRELO RD.
PACIFIC CREST DR
CARPENTERVILLE RD.
15
HWY 101
101
DULEY CREEK RD.
COVERDELL RD
RAINBOW ROCK RD.
CARPENTERVILLE RD.
DEMOSS RD
28

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE
1000 0 1000 2000

FIGURE NO. E.14

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

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COVERDELL RD
RAINBOW ROCK RD.
CARPENTERVILLE RD.
DEMOSS RD
28
BROOKINGS
STATE
AIRPORT
7
25
GOWMAN LN
29
HWY 101
101
HARRIS PK
OLD COUNTY RD
PACIFIC VIEW DR
LUNDEEN RD
NORTH
SOUTH
BANK
N BANK
S. BANK
CHETCO
CHET
EASY
ST.
PIONEER RD.
OLD COUNTY RD
OAK
ST.
PACIFIC
AVE.
RAILROAD ST.
MEMORY LN.
AZALEA
STATE PARK
37
33
38
LOWER
HARBOR
RD.
12
CHAPMAN LN
5
E HOFFELDT LN
CRESTLINE
LP
TITUS LN
13
W. BENHAM LN.
HARBOR HILLS HTS
PELICAN BAY DR
EDRIOLI RD

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE
1000 0 1000 2000

FIGURE NO. E.15

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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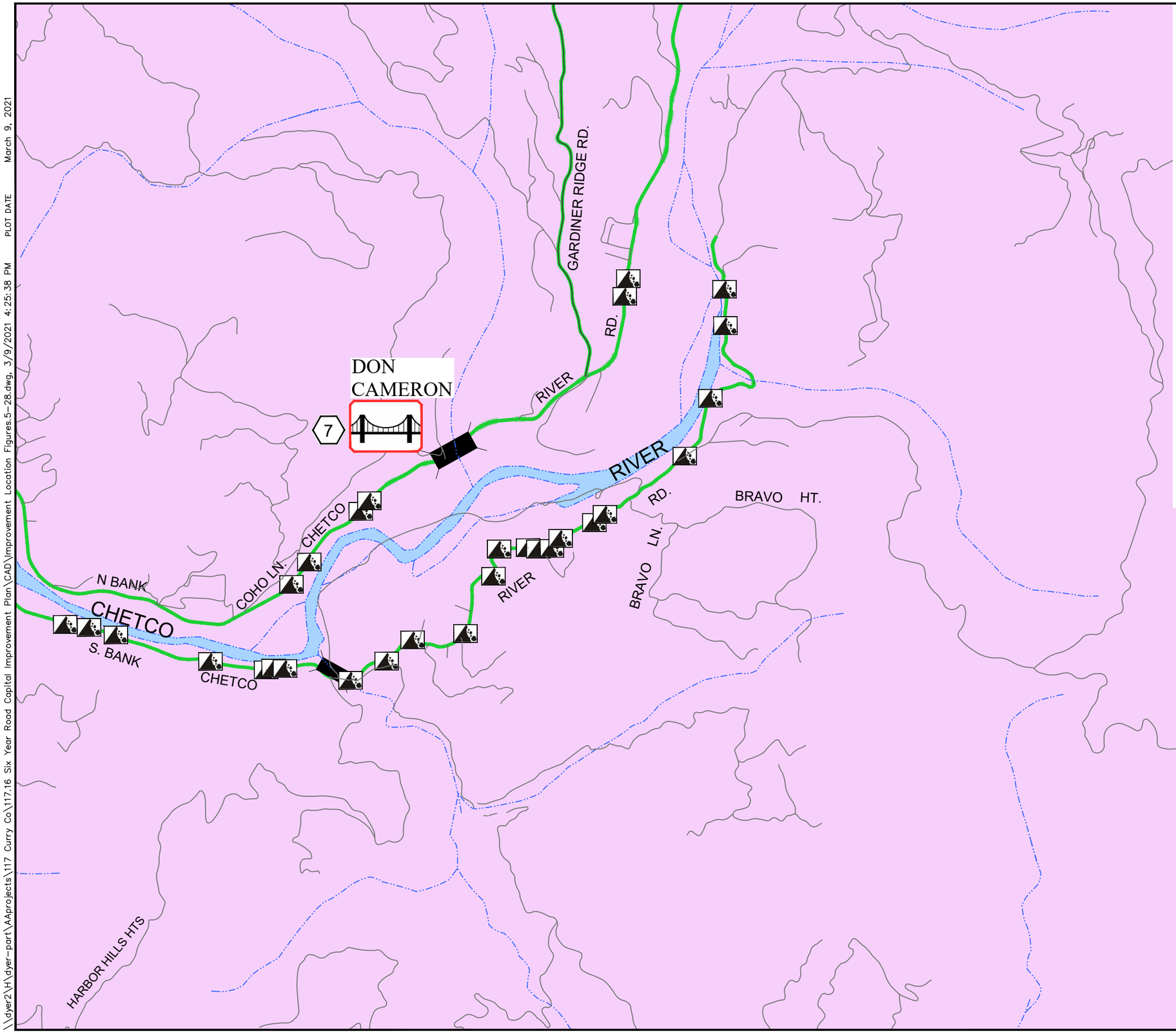

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE
1000 0 1000 2000

FIGURE NO. E.16

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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TITUS LN

RD

W. BENHAM LN.

HARBOR HILL

PELICAN BAY DR

PEDRIOLI RD

OCEANVIEW DR.

HWY 101

CAMELLIA DR

MCVAY CREEK RD

MCVAY LN

101

OCEANVIEW DR.

8

WOLLAM RD

WINCHUCK RIVER

RD.

CRISSEY AIRSTRIP

CALIFORNIA

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE

1000 0 1000 2000

FIGURE NO. E.17

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

LEGEND

EXISTING:

- COUNTY MAINTAINED ROAD
- STATE MAINTAINED ROAD
- PUBLIC/PRIVATE ROAD
- STREAM / WATER WAY
- EXISTING BRIDGE
- EXISTING /CURRENT LANDSLIDE AREA

NEW PROJECTS:

- # BRIDGE IMPROVEMENT & PROJECT NUMBER
- # ROADWAY IMPROVEMENT & PROJECT NUMBER

MAINTENANCE ZONES

- NORTH ZONE
- CENTRAL ZONE
- SOUTH ZONE

N

PLAN SCALE

1000 0 1000 2000

GARDNER RIDGE RD.

GARDNER RIDGE RD.

1

904

CHETCO RIVER

FIGURE NO. E.18

CURRY COUNTY - SIX YEAR CAPITAL IMPROVEMENT PLAN

BRIDGE & ROADWAY IMPROVEMENT PROJECTS

THE DYER PARTNERSHIP ENGINEERS & PLANNERS

DATE: MAY, 2020

PROJECT NO.: 117.16

PLOT DATE March 9, 2021

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