MOAPA VALLEY TRAILS STUDY

FINAL REPORT - APPENDICES
DECEMBER, 2009

CLARK COUNTY NEVADA

alta PLANNING + DESIGN

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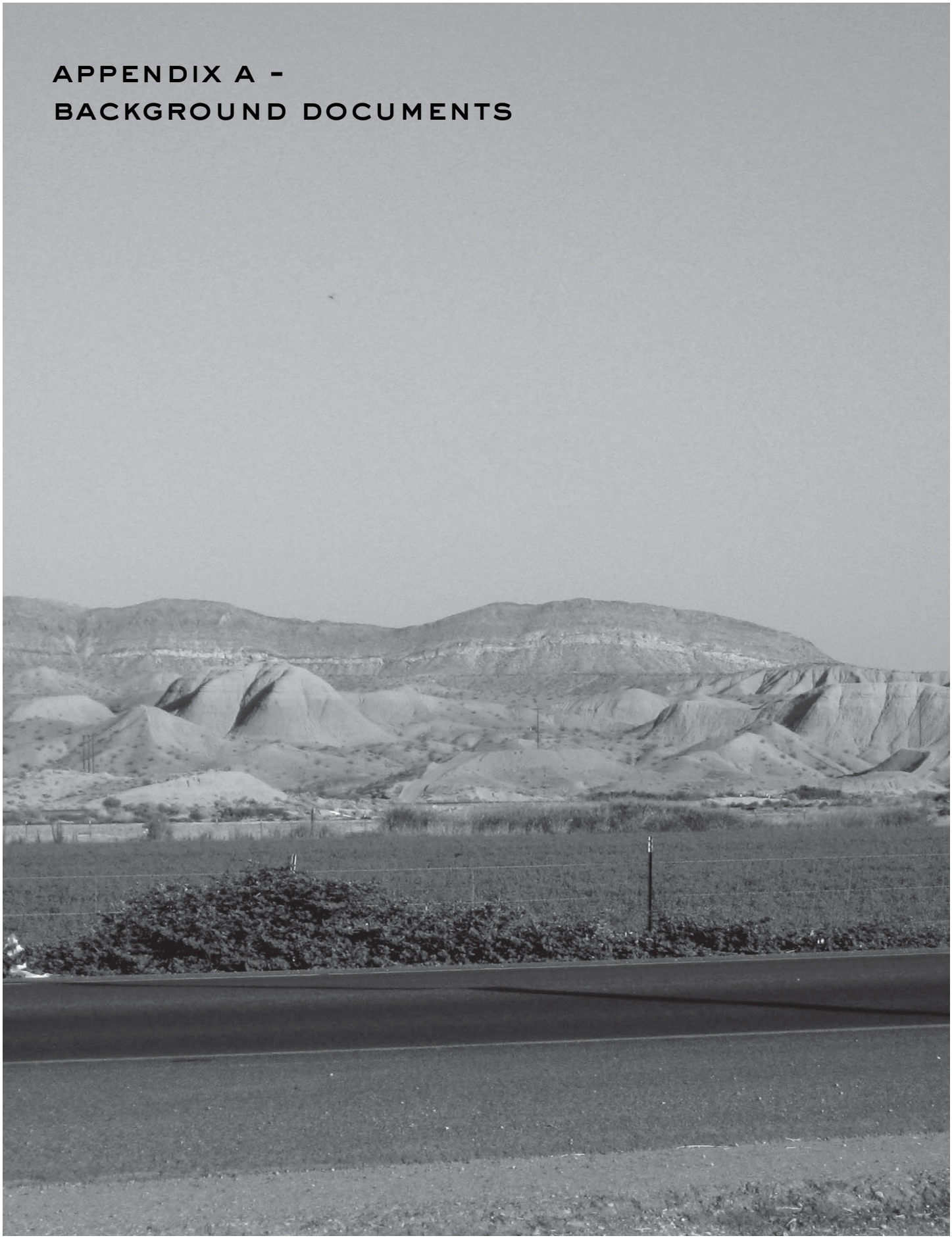
APPENDIX A -
BACKGROUND DOCUMENTS



Background Documents

Moapa Valley Strategic Planning Committee, Trails Sub-Committee Trail Survey, Spring 2005

- The Trails sub-committee has actively worked to put together a trail network since 2001. They have held public meetings and administered a survey to determine trail alignments within Moapa Valley. In addition to the Trail Survey recapped below, a special meeting for equestrian users was held on April 11, 2004 to discover where equestrians were riding and where they would like to see trails. The following routes and destinations were listed in the meeting minutes:
  Moapa Valley Rider property, south of Overton, to the new trail head site at Overton Wash.
- Tokyo Falls Wash area, behind old Skaggs farm off Cottonwood
- From the cement plant road, north
- Bryner Road west, up wash to the Buffington Pockets (part of the Logandale Trail system) and Grey Ridge areas. Buffington Pockets marks the southern portion of the Logandale Trail system and is about 17 miles southwest of Overton. Grey Ridge rises above Magnasite in south Overton.
- West on Old Huntsman Trail, then south along mesa back to Power Line Rd.

A trail survey was conducted in spring 2005 to assess support for trails planning efforts by the Trails sub-committee. 134 total surveys were returned to the committee. Trail alignments, trail types and access points were addressed in the survey with five response choices for each question, along with a comment section. The choices were: Strongly Agree, Agree, No Opinion, Disagree, and Strongly Disagree.

The “Agree” and “Strongly Agree” responses resulted in the highest support for the questioned posed. Those response results are summarized in the **Table 1**.

Table 1. Moapa Valley Strategic Planning Committee Trail Survey, Spring 2005

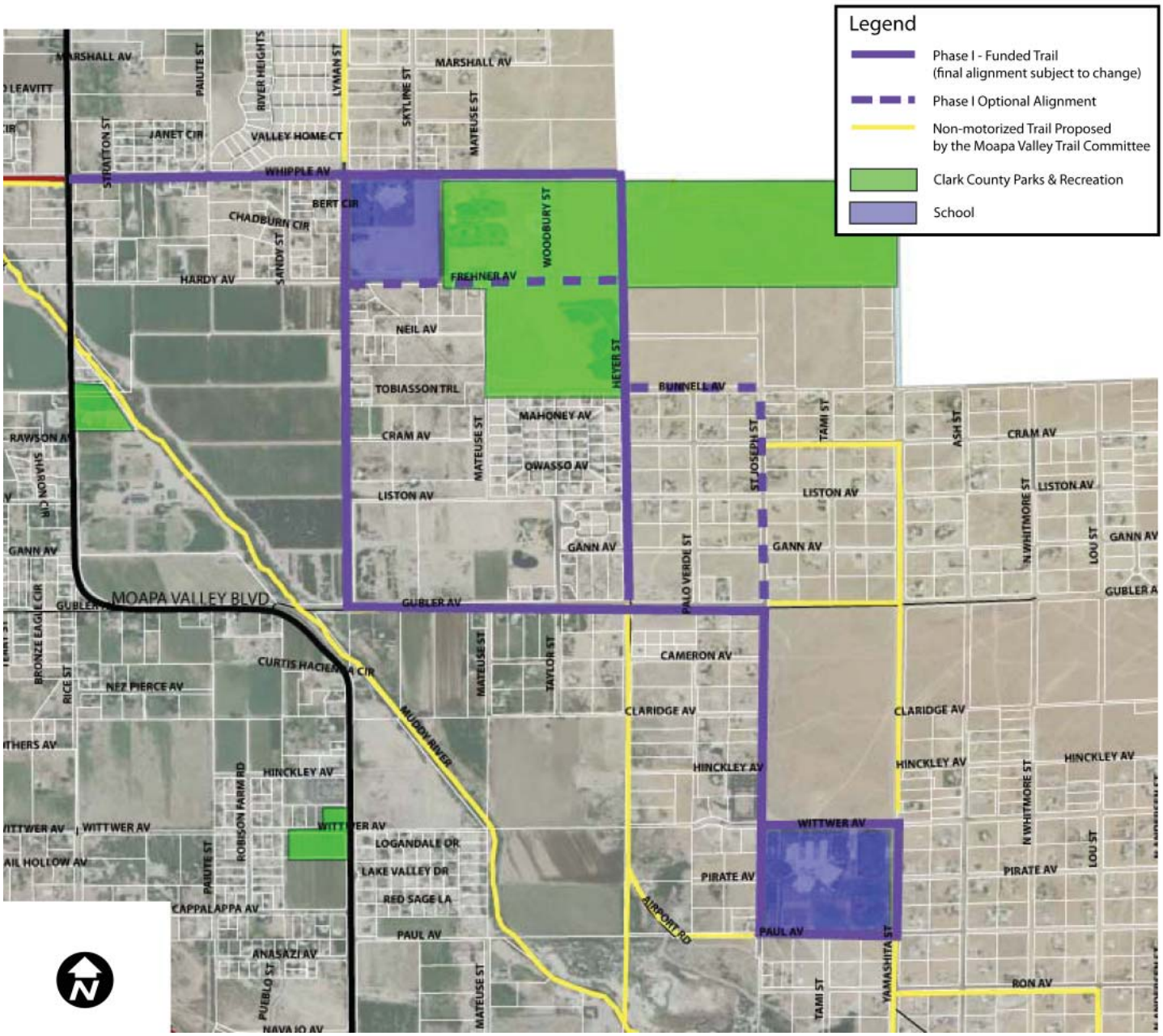
Trail alignments/areas	Agree and Strongly Agree combined %
Non-motorized trail along the Muddy river (extending to Lake Mead)	73%
Perimeter trail around the valley	69%
Trail along the railroad track	55%
Multi-use recreation area, north of Bowman reservoir	65%
Trail types	
Horse riders need separate/designated equestrian trails rather than use a multi-purpose trail	54%
Access	**Agree and Strongly Agree combined %**
Access to BLM on the east and west sides of the valley, where existing trails are located and to historical access areas/ destinations.	88%
Future developments should be required to tie into the Valley's non-motorized trail system	66%
Two OHV (ATV) cross-valley access points, one in Overton and one in Logandale, to access services and reach the outer north and south bound trails	74%
Trails within residential areas (1 acre or less zoning) should be limited to non-motorized use (except for designated, motorized access streets)	68%

Moapa Valley Community Profile and Vision Plan, 2004-5

This strategic plan was developed to guide future development in the Moapa Valley. The goals and strategies, particularly the ones pertaining to trail development, are relevant to the Moapa Valley trail study project.

- Moapa Valley will only encourage new small-scale developments that are interspersed with plenty of open land and recreational areas, transitioning to open farmland and blending into the surrounding rural environment.
- Moapa Valley will capitalize on the economic assets of the area's natural beauty and historic resources, including trails.
- Moapa Valley will explore commercial development that incorporates trails and historical sites along the Muddy River Flood Control channel.
- Moapa Valley will develop a greenway plan identifying priority trails, connections, opportunities and constraints.

Moapa Valley Trail - Phase I



Moapa Valley Master Plan of Parks and Recreation, 20 Year Plan, May 2007

This plan was created to evaluate the current and long –term park and recreational needs of the community. Data from a formal telephone survey, and informal community surveys was collected to assist with plan preparation. Relevant trail policies, goals and objectives from this plan are outlined below:

Goals and Objectives

- To identify and recommend recreational facilities and programs that will meet the needs of the valley's residents' leisure time and activities
- To tie together the existing communities of Logandale and Overton, and new residential development with well planned and well located park sites, recreation amenities and a trail system
- To integrate planning for parks with planning for open space, conservation, multi-purpose trails and flood control

The Parks and Recreation Master Plan sets a standard of 2.25 acres of non-programmable park land (open space, trails, and picnic areas) per 1,000 residents. This standard translates into 8.0 miles of trails based on the 2005 population figures.

Development impacts

According to the Park and Recreation Master Plan, twelve proposed developments (20 acres or more) have submitted applications to Clark County. **See Figure 1** Of these twelve applications, six have been approved or under construction, and would add 545 residential units to Moapa Valley. The other six, totaling 2,239 residential units, are in various stages of the approval process, with four of the applications having the status of "unclear." See the "Approved and Proposed New Development" Map on the following page for locations of proposed or approved developments as of June 2006.

Opportunities

The plan indicates a major development project around the existing Grant M. Bowler Park in Logandale. This new development would require 12.4 acres of programmable park and 4.6 acres of non-programmable park land. The plan states "A new park of that size could be located away from Moapa Valley Boulevard and adjacent to the Muddy River for eventual connection to the trails system."

Additionally, the plan indicates that a Muddy River trail system "would enable residents to access park and recreation facilities without having to rely upon Moapa Valley Boulevard".

Potential, future parks sites identified are:

- The University of Nevada Cooperative Extension lands
- The Moapa Valley High School Ag Farm
- Three parcels at Moapa Valley Boulevard and Ramos Ranch Rd.

Community objectives identified by the Moapa Valley Strategic Planning Committee, Trails sub-committee are to:

- Link schools together
- Link schools and parks
- Connect Overton and Logandale
- Connect Moapa to Logandale

Moapa Valley Master Plan Advisory Subcommittee indicated that the goal for the Moapa Valley Trail Plan should be to:

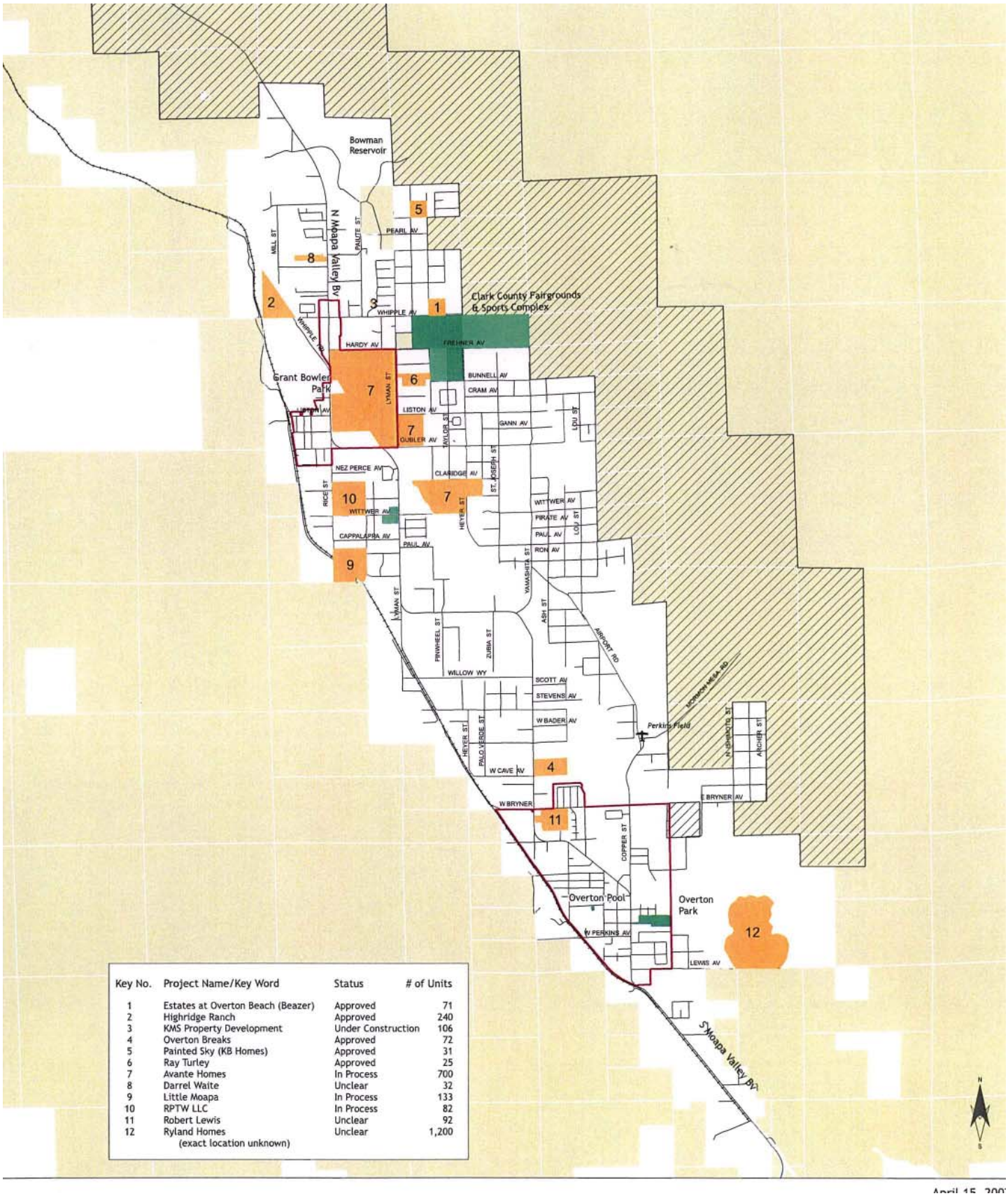
- Establish an alternative commute route between the Bowman Reservoir and the Overton Arm of Lake Mead
- A multi-use (but non-equestrian trail) and a separate equestrian trail is wanted to offer all residents a safe, bi-directional, 12-mile trail between the two locations mentioned above.
- A trail along the Muddy River is indicated as a possible alignment to accomplish the connection above. An opportunity to incorporate the trail into a Clark County Regional Flood Control project to improve drainage along a portion of the Muddy is an opportunity.
- Cross town (east/west) connections to public land is desired.
- A trail around the perimeter of the Bowman Reservoir is also desired. Bowman is seen as a highly-valued community asset.

The off-street trail linking Bowler Elementary School and Moapa Valley High School has already been funded through SNPLMA. This trail also has an OHV component and a trail head at the terminus of Whipple Avenue.

Survey

The telephone survey conducted indicated that 42.7% of respondents would use hiking and walking trails more often if Moapa Valley improved walking/ hiking facilities or had access to facilities. This was the highest response category of the fifteen options listed.

Figure 1



Key No.	Project Name/Key Word	Status	# of Units
1	Estates at Overton Beach (Beazer)	Approved	71
2	Highridge Ranch	Approved	240
3	KMS Property Development	Under Construction	106
4	Overton Breaks	Approved	72
5	Painted Sky (KB Homes)	Approved	31
6	Ray Turley	Approved	25
7	Avante Homes	In Process	700
8	Darrel Waite	Unclear	32
9	Little Moapa	In Process	133
10	RPTW LLC	In Process	82
11	Robert Lewis	Unclear	92
12	Ryland Homes (exact location unknown)	Unclear	1,200

Approved and Proposed New Development, April 2007
From the Moapa Valley Master Plan of Parks and Recreation

Northeast Clark County Land Use Plan, September 6, 2006

The Northeast Clark County Land Use Plan was adopted by the Clark County Board of County Commissioners on September 6, 2006 to guide the long-term development of the communities in Northeast Clark County. This document has specific goals and policies for trails in Moapa Valley.

Policy 28.1
Encourage the integration of funding and goals to build multi-purpose projects that fully use land set aside for public purpose; specific funds from flood control, transportation, recreation, and other agencies should be focused on multiple objective projects.

Policy 28.4
Encourage development to provide access to existing and planned trail facilities.

Policy 28.5
Discourage vacating streets that abut or connect with trail/open space.

Policy 29.5
Promote the use of alternative modes of transportation to the automobile including: walking, and bicycling through appropriate site and building design to improve air quality.

Policy 32.4
In the Logandale and Overton Town Centers, require mixed-use projects to have enhanced pedestrian realms along State Route 169 (Moapa Valley Boulevard).

Policy 32.6
In order to preserve open space, new developments along the Muddy River Flood Control Channel shall incorporate trails that meet the standards in the Department of Air Quality and Environmental Management Development Standards for Off Street Trails.
Policy 32.7
Encourage the development of a designated horse trail system.

Clark County Comprehensive Plan, Volume 1, Trails Element

Trail Standards
RC 2-1.0 Trail will be developed based on the following standards and guidelines:

- Regional trails typically connect different areas together and are best located in natural settings away from conflicting automotive traffic.
- Community and Neighborhood trails generally link to Regional trails and local points of interest.
- Trails should be located on public lands, in public rights-of-way, or within dedicated easements.
- Trails located on private land shall be built by the developer. Routine cleaning and maintenance is the responsibility of the developer, land owner or HOA. Clark County would typically be granted a public access easement for performing heavy maintenance and to assume liability for public users of the trail.
- Trail operation, maintenance and security are provided by Clark County Department of Parks and Community Services.
- Flood control maintenance roads used as trails will be maintained through a cost sharing partnership between Clark County Regional Flood Control District (CCRFCDD) and Clark County.

Policies

General
RC 2-01.1 Off-street trails should be located along natural washes, flood control facilities, highways, beltways, and public utility corridors. Also see policy CV 2-4.0

RC 2-01.2 Off-street trails should be separated, to the greatest extent possible, from streets and motor vehicle travel.

RC 2-01.3 On-Street Facilities are typically to be located within street rights-of-way, where additional dedication may be required.

RC 2-01.4 Construct off-street trails on land owned or dedicated to the County and on Federal lands, where possible.

Planning
RC 2-02.1 Work with local residents during project planning to provide public information/input.

RC 2-02.3 Develop Community Trail Plans for rural towns and areas within Clark County.

Implementation

RC 2-03.2 The Regional Transportation Commission of Southern Nevada is responsible for implementing the long-term development/improvement of alternative transportation facilities included in the Bicycle/Pedestrian Element of the Regional

Transportation Plan
RC 2-03.3 Clark County Development Services is responsible for implementing typical on-street pedestrian facilities (sidewalks/detached sidewalks) through project review and conditioning.

RC 2-03.4 Clark County Department of Comprehensive Planning, is responsible for implementing the off-street trail plans identified in this Comprehensive Plan Element.

Connectivity
RC 2-04.0 Provide inter connectivity to trails in other municipalities and federal lands where appropriate.

Security
RC 2-05.1 Design trails to optimize security features.

Equestrian
RC 2-07.1 Locate equestrian trails primarily in Rural Neighborhood Preservation areas.

RC 2-07.2 Develop appropriate linkages between equestrian trails in RNP Areas.

RC 2-07.3 Develop linkages between equestrian trails and appropriate federal lands where trails have been designated for equestrian use and the equestrian trails are located within reasonable travel distance from federal lands.

RC 2-07.4 Encourage development of equestrian trails on streets built to rural standards and discourage development of equestrian trails on section or half-section line streets. County trails which would connect to trails in adjacent jurisdictions that are substantially complete or identified as priority trails, should be completed as practicable.

RC 2-07.6 When necessary, install stabilizing materials within equestrian trails to provide dust control and stabilize the surfaces adjacent to improved roadways.

Off Highway Vehicles (OHV)
RC 2-08.1: Do not construct OHV trails in air quality non-attainment areas (except within the Nellis Dunes Recreation Area.)

RC 2-08.2: Encourage OHV use on roads and trails located on federal lands outside the Las Vegas Valley.

RC 208.3: Work with communities to plan and construct OHV trails where appropriate.

Trailheads
RC 209.1: Locate trailheads within or adjacent to parks or other recreation facilities to allow shared use of these facilities, commercial developments, transportation nodes, or residential areas, and adjacent to federal lands.

RC 209.2: Where possible, install major trailheads every three to five miles along local trail systems.

Operations and Maintenance
RC 210.1: Work with the Board of County Commissioners, the RTC and other sources to obtain funding for the operation and maintenance of trails and trail systems in Clark County.

RC 210.2: Develop an Adopt-a-Trail segment program for Clark County trails.

Trail Development
RC 211.1: The Off Street Development Standards supplement the American Association of State Highway and Transportation Officials (AASHTO) standards, Americans with Disabilities Act (ADA), Clean Air Act (CAA) and other national standards applicable to trail development in Clark County.

Clark County Title 30, Unified Development Code, 30.52.035 Trail Requirements

Trail dedication per adopted trail plans may be required in conjunction with any land use application or tentative map. Any modification to trail width requirements will only be granted if an alternative design or site is acceptable and approved by the Department of Air Quality and Environmental Management. (Ord. 3524 § 3, 2007)

Clark County Development Standards for Off-Street Trails, October 18, 2005

Multi-Use Non-Equestrian (walking, bicycling, jogging, running, wheelchairs, skate boards, in line skates, skates)
- Regional – paved bi-directional
- 10 feet minimum (12 feet preferred asphalt or concrete)
- 12 feet min. if flood control access roads are utilized
- Where flood control access roads are utilized Regional Flood Control District standards must also be met

Community/Neighborhood
- 10 feet minimum (12 feet preferred asphalt or concrete)
- 12 feet min. if flood control access roads are utilized

- Some applications may permit adjacent pedestrian and equestrian trails
- Where flood control access roads are utilized Regional Flood Control District standards must also be met

Equestrian

- Regional, Community or Neighborhood – Improved/semi-improved bi-directional equestrian trails
- 5 feet min. (single tread) trail made of acceptable aggregate or gravel or suitable soil
- Where flood control roads are utilized Regional Flood Control District standards must also be met

OHV

- OHV use should be encouraged on existing designated roads and trails typically located on public lands that are administered by federal agencies
- OHV trails are primarily located in rural areas, but connections may pass near rural towns with appropriate separation from development and pedestrian and equestrian trails.

Minimum Road Design Standards for Non-Urban Roadways, January 2001

The Non-Urban Roadway Standards provide a regulatory framework for road improvements in the non-urban areas of Clark County that are to be dedicated for public use and acceptance for maintenance by the County. These standards apply to roads developed in Moapa Valley. With regards to trail development in the public right-of-way, the Non-Urban Roadway Standards offers two details: A typical bikeway (5 feet) and pedestrian walkway (4 feet) adjacent to the roadway (see **Figure 2**); An optional shoulder treatment that allows a 8 foot equestrian trail on one side of the road, with a 4 foot bike path and a 4 foot walkway on the other side. (see **Figure 3**).

Clark County Transportation Element, December 3, 2008

The Transportation Element provides descriptive maps and text identifying major roadways, rights-of-ways and locations and widths, along with overall the transportation goals and policies for the county. Within the Element, maps of the planned streets in the county are color-coded to portray general street categories and the range of right-of-way widths. The map showing planned streets in Moapa Valley is shown in **Figure 4**.

Figure 2

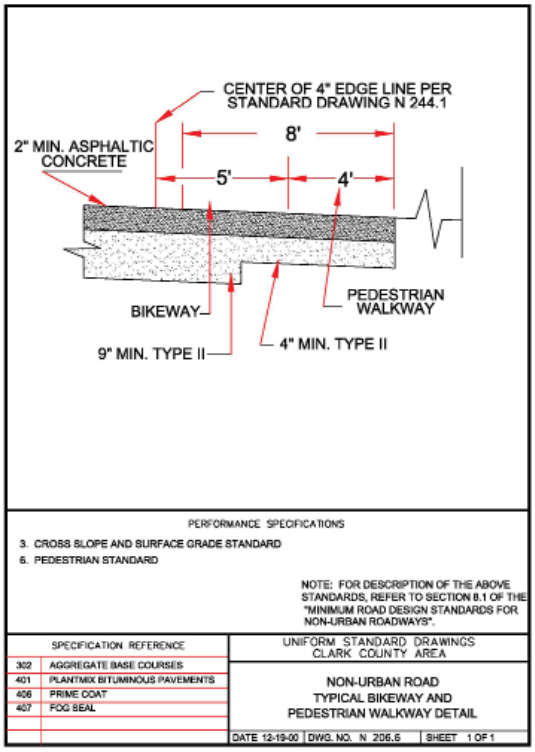
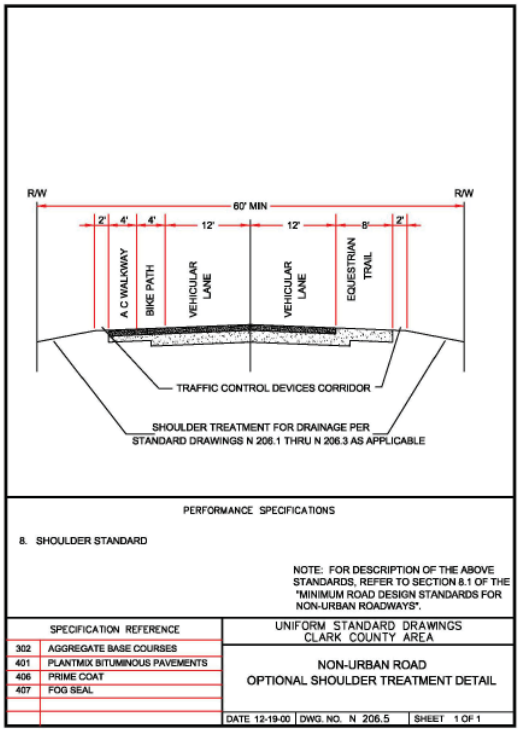


Figure 3



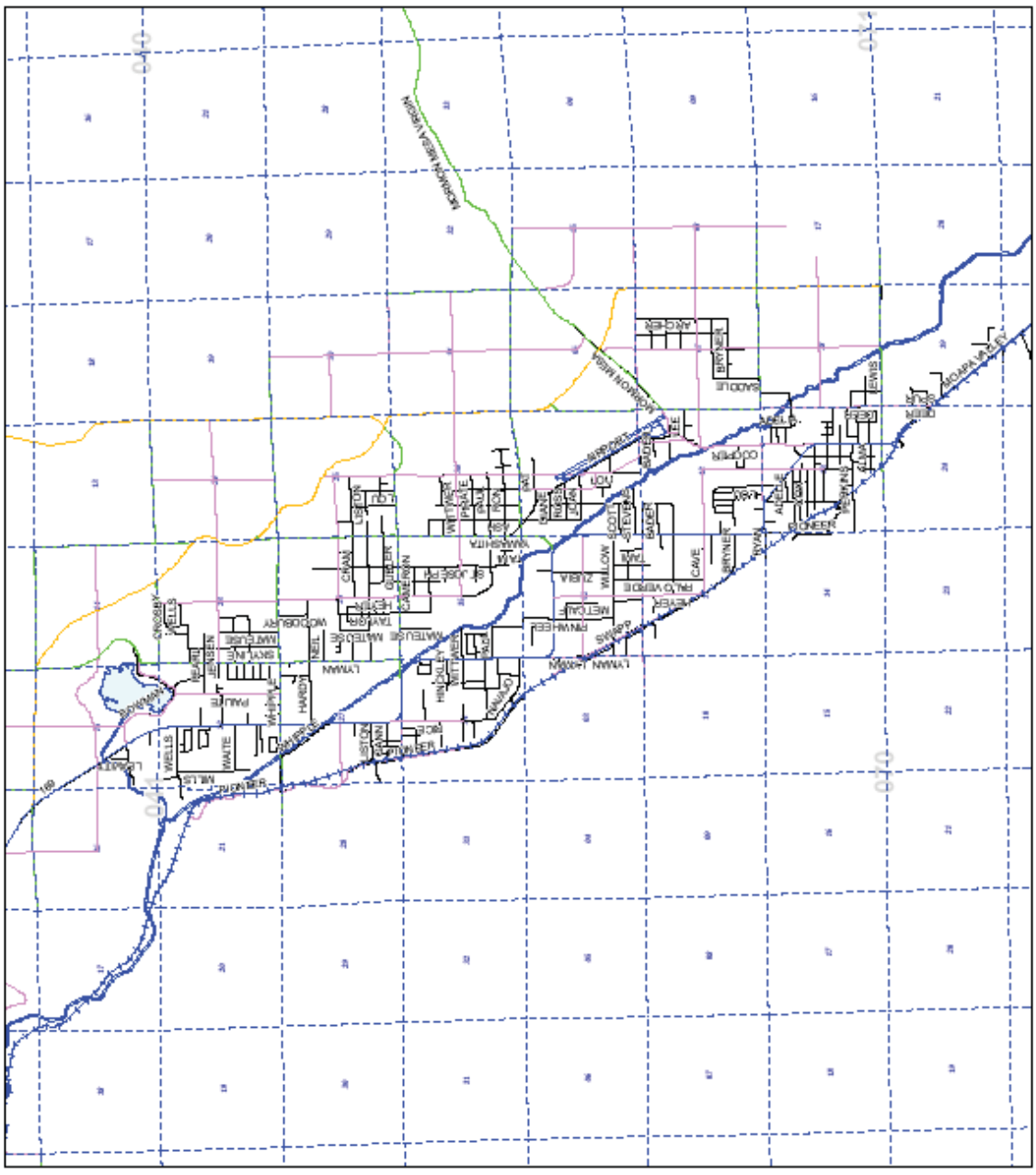

Transportation Element
Map 9
Logandale/Overton
Clark County, Nevada
Las Vegas Blvd (300+ ft R-O-W)
Las Vegas Blvd (200+ ft R-O-W)
Interstate/State Hwys (200+ ft R-O-W)
Arterials (120+ ft R-O-W)
Arterials (100+ ft R-O-W)
Collectors (80+ ft R-O-W)
Collectors (60+ ft R-O-W)
Local Streets (R-O-W Varies)
Railroads
Section Lines
NOTES:
1. For detailed right-of-way information see:
"Uniform Standard Drawings for Public Works Construction of Offsite Improvements, Clark County Area, Nevada."
2. The following minimum right-of-way widths shall be required on all grid line streets:
Township and Range Lines 120 foot right-of-way width
Quarter Sections 100 foot right-of-way width
Other Section Lines 80 foot right-of-way width
In addition to these requirements, a minimum right-of-way requirements for new development shall be required as shown on the Standard Drawings for the various functionally classified streets shown on this map and shall apply to non-grid line streets and highways, curvilinear alignments, tangential alignments, special design configurations and offgrid jogs and segments of grid line streets and highways.
3. Right-of-way widths may be wider at intersections than as shown on map.
4. Classification of proposed streets as collector or arterial roadways shall be determined by the County Engineer and any have greater or less right-of-way widths than shown.
0 2,000 4,000 6,000 8,000
SCALE IN FEET
Map Created On: February 23, 2009
This information is for display purposes only.
No liability is assumed as to the accuracy of the data delineated hereon.
MOAPA VALLEY
LOGANDALE
OVERTON

Figure 4

Clark County Multiple Species Habitat Conservation Plan, September 2000

Most of Moapa Valley falls within the Clark County Multi-Species Habitat Conservation Program's Unmanaged Area. The MSHCP divides areas in Clark County into four primary conservation management categories:

- Unmanaged Areas (UMAs)
- Multiple Use Managed Areas (MUMAs)
- Less Intensively Managed Areas (LIMAs)
- Intensively Managed Areas (IMAs)

The BLM land immediately surrounding Moapa Valley on the north, south and east are Multiple Use Managed Areas. While a section of the southern portion of Overton abuts an Intensively Managed Area.

Southern Nevada Regional Transportation Plan 2009-2030, Bicycle and Pedestrian Element (BPE), October 2008

The Southern Nevada Regional Transportation Commission is the Metropolitan Planning Organization for all of Clark County, Nevada. The purpose of the BPE of the Regional Transportation Plan is succinctly defined in their Vision statement as follows:
The RTC has developed street standards for all street classes to help pedestrians and cyclists access transit. The RTC continues to work with local jurisdictions to create access points in existing sub division walls that allow pedestrians and cyclists to reach transit and other regional destinations more directly and easily. In addition, the RTC is focusing on design elements to improve safety and access. Some of these design areas are:

- lateral separation and adequate sidewalk widths
- Improve intersection and corner crossings to reduce vehicle conflicts
- Commence a study on how to improve access across or through driveways and medians
- Encourage walking and biking while improving safety, access and accommodation
- Addressing wide travel lanes as they relate to pedestrian and cycling safety and perception of safety.

The RTC monitors and approves the spending of Question 10 funds. Question-10 Transportation Funding Initiative was a 2002 ballot measure and provided $62 million for maintenance of Shared Use Facilities in Clark County.

The Clark County Regional Flood Control District, Muddy River and Tributaries Master Plan 2005 Update, Volume I & II

Clark County Regional Flood Control District is the responsible entity for creating and implementing the countywide flood control master plan. Clark County Public Works is charged with the enforcement of the plan.

Volume I of the Master Plan update states:

> The Southern Nevada Regional Policy Plan developed by the Southern Nevada Regional Planning Coalition promotes the use of flood control facilities as corridors for trail systems and other recreational amenities. With the exception of the Muddy River Riverine Enhancement project, recommended storm flow conveyance facilities in the Moapa Valley consist of either underground or concrete-lined facilities. These types of facilities do not lend themselves well to dual-use (i.e., flood control and public recreational use) facilities. However, use of the Muddy River Riverine Enhancement facility as a trail or recreational amenity is possible. Additionally, it may be possible to design detention basin sites to serve as trail heads. Coordination with Clark county Parks and Community Services will be required (p 1-4).

Clark County Regional Flood Control District has produced guidelines for drainage studies and standards for drainage facilities in its Hydrologic Criteria and Drainage Design Manual. In general, upstream or downstream natural drainage pathways cannot be adversely modified by a project. Further, all proposed projects will be reviewed for compliance with the Clark County Regional Flood Control District Master Plan.

Planned facilities for Moapa Valley are shown in **Figure 5** titled "2005 Muddy River and Tributary Washes Flood Control Master Plan Update."

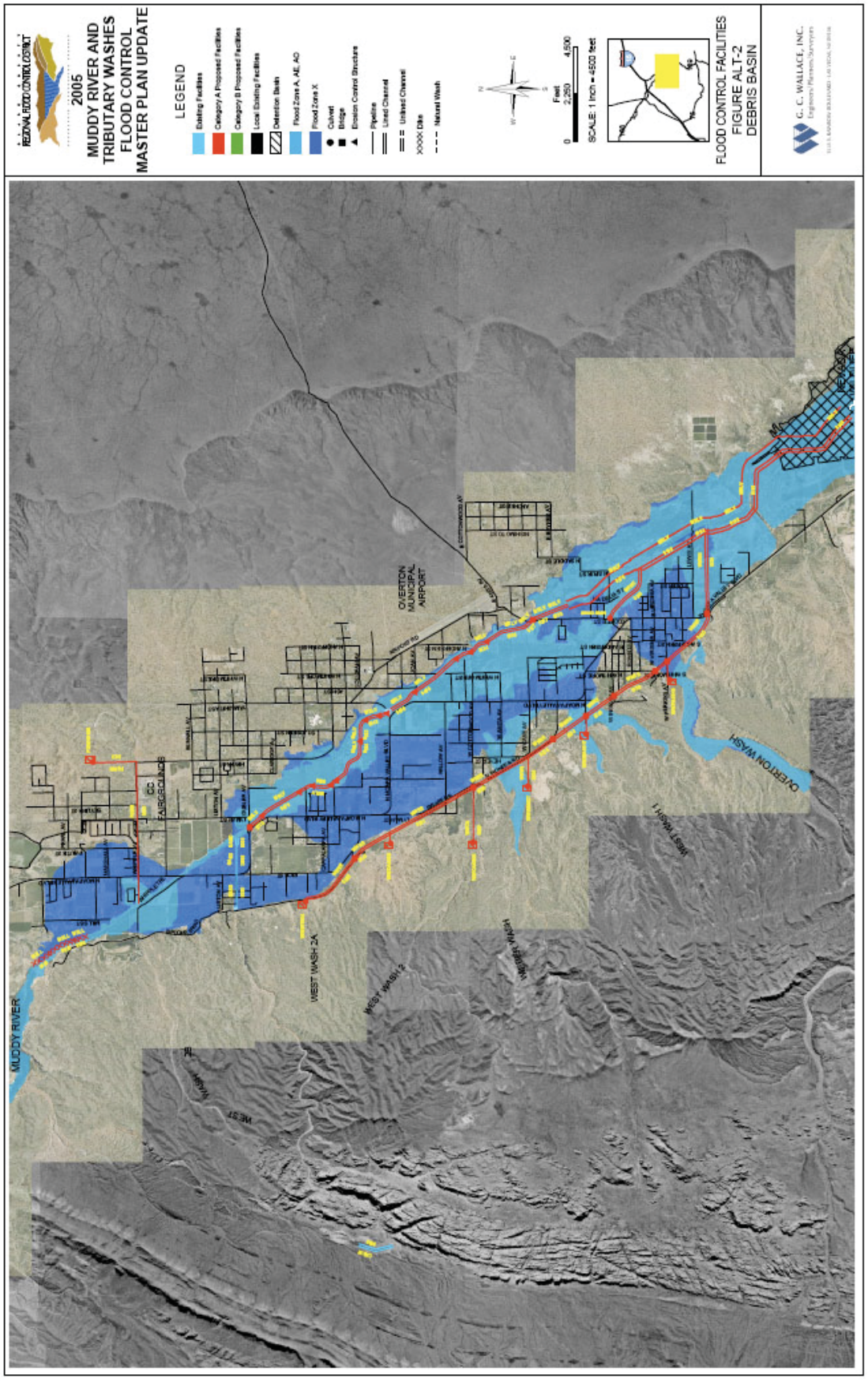
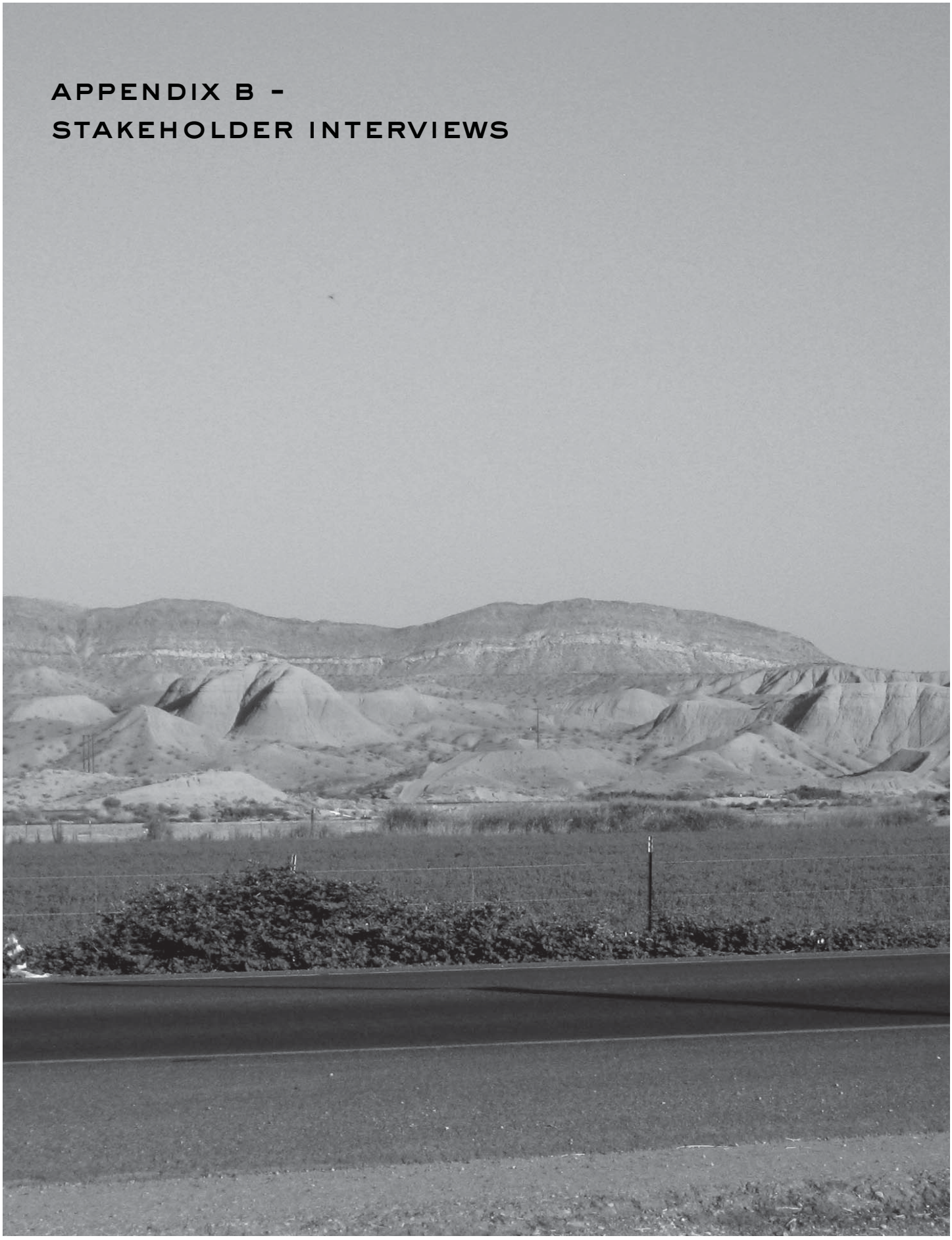


Figure 5

2005 Muddy River and Tributary Washes Flood Control Master Plan Update

APPENDIX B –
STAKEHOLDER INTERVIEWS



Stakeholder meetings – Wednesday, 03-11-09

Bureau of Land Management

Attendees:
Mark Chatterton, Assistant Field Manager, BLM Las Vegas Field Office
Carrie Roning, MSHCP Coordinator, BLM Las Vegas Field Office
Kim Liebhauser, Assistant Field Manager, Lands, BLM Las Vegas Field Office
Jeremy Call, EDAW
Dave Carlson, Clark County
Alan O'Neill, Outside Las Vegas Foundation
Mike Rose, Alta Planning + Design
Sherie Moore, Alta Planning + Design
Kari Bergh, RPA

This meeting was a combined effort between EDAW who is the consultant for the Moapa Open Space Plan project and Alta Planning + Design for the Moapa Trail Study project. Some of the following notes from the BLM meeting pertain more to the Open Space project.

What is the process for a modification or amendment to the current land use plan?

BLM Land Use Process

The Recreation Area Management Plan (RAMP) that included the Moapa Valley area was completed in 1998, with the process taking 10 years. RMPs are intended to last from 10-20 years. RAMPs set the framework for long-term management of public lands and define what activities are appropriate on those lands.

A change in disposal area boundaries would constitute a major modification. To date no major modifications have been initiated. Some minor modifications have been completed for power line corridors. To request the RMP to be updated, a letter describing the issue and why it justifies a change to the plan should be sent to Mary Jo Rugwell, BLM Las Vegas District Manager.

What are some changes that would warrant a major modification?

- Visual Resource Management Issues (VRM)
- Altering disposal boundaries

The BLM deal with many stakeholders, such as: the development community, natural resource users, environmental advocates, and the local community. The BLM representatives stated that often times, the local community finds it hard to understand that they are not the only stakeholders.

If a land use plan amendment is initiated, to gather information, the BLM will have to conduct their own public process independent of a process initiated by a Clark County or their consultants.

The BLM suggested that the Resource Advisory Committee (RAC) may be a good resource for consultants to find additional stakeholders.

What is the BLM's role on committees?

The BLM will receive direction that results from these consultant efforts. The BLM is not in a position to give direction. The current BLM land use plan is the director. BLM is concerned that their presence on committees and at meetings gives the perception that they endorse a certain effort and/or plan when in reality they may not. BLM would be willing to participate from an informational standpoint but will not provide advice or direction.

Bob Ross is the new Las Vegas BLM field supervisor (first day 03-17-09). A letter should be drafted and sent to Mr. Ross requesting a BLM employee to be involved without sanctioning the process. The BLM will act only as a 'subject matter expert'.

Acronym Guide:

CTA: Conservation Transfer Agreement

BCCA: Boulder City Conservation Agreement

HSBR: Historic Sage Brush Rebellion Group

What is the local community's perception of the goal of the open space plan?

- Feel a sense of helplessness that the BLM will not ignore the community's desires
- They want to plan for the future privatization of the disposal area
- They would like to maintain their quality of life

How will the BLM receive documents/plans generated from consultant's efforts?

The BLM will receive Clark County's consultant outcomes as advisory documents. They will see it as an informational tool, not as an amending document to the current BLM land use plan.

The LR-2000 is a master title report that documents the location of easements and right of ways. Consultants may call the BLM office for help finding and using this document.

Greg Helseth is the renewable energy coordinator (515-5173) and can be of help with any questions regarding potential solar farms like the one proposed on Mormon Mesa. Currently there are seventy applications in for solar farms in the district.

What are the BLM's concerns with trailheads connecting 'in-town' trails with BLM land?

- Identification of trailhead in an area adjacent to BLM land that does not have recognized trails located.

A new transportation handbook is due to be released this year. A Revised Statue(RS)-2477 rights-of-way "white" map is held by Kathy Hale in Clark County Public Works. Lou Brownfield (GIS Specialist) is also a good contact for current trail alignments.

Rivers, Trails and Conservation Assistance (RTCA) Program, Community Assistance Arm of the National Park Service

Attendees:
Deb Reardon, RTCA
Jeremy Call, EDAW
Mike Rose, Alta Planning +Design
Sherie Moore, Alta Planning +Design
Kari Bergh, RPA

The Valley of Fire State Park is currently updating their master plan. State Parks applied for RTCA assistance with the master planning project. Ms. Reardon is helping coordinate the stakeholders for the planning effort. Jennifer Scanland is a State Parks planner and the lead on the master plan update. Deb will forward Jennifer's stakeholder list for the project.

The Valley of Fire visitor center sells the "Valley of Fire Map & Trail Guide." This guide shows existing trails within the park. Some of the trails listed are unauthorized. ATV use in Valley of Fire is not allowed unless authorized by the Director (currently it is not).

In a separate project, Deb is working on a GIS documentation project identifying all OHV trails on BLM lands in Nye and Clark County. The purpose of this project is to create a brochure to direct OHV riders to trails. She will send Alta the Logandale trail plan GIS shape file. Ms. Reardon has a digital copy of the BLM Study and PowerPoint.

The best contact for the Logandale trail plan is Marilyn Peterson at the BLM. Doug Coomer of Baltimore, Maryland did a study for the BLM and created "stories" about several trails and destination. Deb has Mr. Coomer's contact information and will forward.

Deb feels that Moapa Valley residents may be overwhelmed with all of the planning efforts taking place within and around their community. A dialog has been taking place to consolidate efforts. The next potential joint meeting is a public meeting scheduled for April 16, 2009.

Ms. Reardon will share a stakeholder list with EDAW and Alta to ensure that no important stakeholders fall through the cracks.

Christina Adams, President of the Logandale Trails, is a good resource. Sherie Moore will send her contact information to Jeremy Call.

Clark County – Parks Planning

Attendees:
Kathleen Blakely, Senior Management Analyst CC Parks Planning
Mike Rose, Alta Planning + Design
Kari Bergh, RPA

Ms. Blakely would like to be carbon copied on meeting notifications and minutes.

Maintenance of Trails
Parks and Public Works will handle maintenance along roads within rights of way. Nothing is in writing though regarding maintenance responsibility. Parks and Recreation will take responsibility for maintenance of trailheads.

Ms. Blakely thinks that the Fairgrounds make sense for a potential trailhead location. She suggested that the Moapa Valley Recreation Plan addresses the Valley needs. The Moapa Valley community is very family oriented.

The nearest designated ATV Park are the Nellis Dunes. Ms. Blakely would like to see trails specifically designated for ATV use.

Equestrian trail heads are a compatible use with parks.

Bureau of Reclamation (BOR) and National Park Service (NPS)

Attendees:
Bill Martin, Outdoor Recreation Planner, BOR
David Curtis, Realty Specialist, BOR
Jason L. Kirby, Realty Specialist, BOR
Jim Holland, Management Assistant, NPS

Jeremy Call, EDAW
Dave Carlson, Clark County Comprehensive Planning
Alan O'Neill, Outside Las Vegas Foundation
Mike Rose, Alta Planning + Design
Sherie Moore, Alta Planning + Design
Kari Bergh, RPA

BOR

What is the process to get an easement through Bureau of Reclamation land?

A Memorandum of Understanding (M.O.U.) must be entered into with the BOR. Bill was not sure if an M.O.U. can be negotiated between the BOR and Clark County, the last one was negotiated with the BLM.

There are a lot of Anasazi cultural sites within the BOR lands adjacent to Logandale.

If a consultant would like to do archeological studies on federal lands they must get a permit.

Bill can get BOR archeologist contact information for Alta.

Clark County Regional Flood Control District and Matt LaCroix (Clark County's Northeast Liaison) have been talking with the BOR about a long term lease for BOR's land on the west side of Moapa Valley, which includes Overton Wash. The purpose for this lease would be to construct a flood control debris basin and flood control channel. If there was an interest to construct trails and/or trail heads in conjunction with the flood control project, that would have to be specified in the lease request. If recreation includes OHV use, a formal process will need to be initiated. This process is covered in the Code of Federal Regulations (CFR). This would be very similar to a R&PP lease.

No formal request has been filed by the County with BOR for this land. Right now, the BOR is waiting to hear back from Matt Lacroix. Mr. Lacroix indicated he need to meet with Clark County Commissioner Tom Collins and 'others' and then get back to BOR.

NPS

The NPS will be presenting an inventory of existing trails in the Moapa Valley to BLM in the next couple months. It will have to be released the BLM to the consultants. This inventory will designate trails by use and things that are nearby, cultural sites etc. This inventory covers approximately 9000 miles.

The Overton Wildlife Management Area (OWMA) has a long-term lease with the NPS. OWMA lands are managed by Nevada Department of Wildlife (NDOW). Water fowl hunting occurs seasonally at OWMA. Keith Browse is the contact at OWMA. The dropping water levels in Lake Mead are causing the Overton Wildlife Management area to lose water and therefore habitat. Clark County Water Reclamation District is currently pursing a discharge permit for the ponds above the OWMA. The Mgmt. Area is considering a partnership with the waste water discharge with the thought that the waste water could maintain the habitat.

Jim Holland from NPS stated that he thought that the NPS may be agreeable to a non-motorized trail along the Muddy River connecting to the Lake Mead Recreation Area. However, ATVs are not allowed in the Lake Mead Recreation area.

SNWA will be installing a water pipeline through Moapa Valley . This may be a good trail partnership/ opportunity. The trail corridor could possibly be located on top of the pipe alignment. Possible contacts at the SNWA are: Zane Marshall, Leanne Miller, Kay Brothers, or Janet Marco.

Stakeholder meeting – Wednesday, 03-12-09

Clark County Regional Flood Control District (CCRFCD)
Attendees:
Kevin Eubanks, CCRFCD
Tim Sutko, CCRFCD
Dave Carlson, Clark County Comprehensive Planning
Drew Stoll, EDAW
Sherie Moore, Alta Planning + Design
Kari Bergh, RPA

Currently the flood control master plan from Gubler to Overton Wash shows detention and debris basins planned along the east side of the railroad tracks. These basins are not slated for construction for 20 to 30 years. These future basin areas may be opportunities for trailheads. However, if trailheads are constructed before the detention basin, landscaping may be altered to accommodate these basins.

An open flood control channel is planned along the railroad tracks to connecting the debris basins, directing flow into the Overton Wash and on to the Muddy River. A typical open flood control channel in this area will be 12 feet wide and 4 feet deep and will have 12 feet wide roads on either side. The roads are typically constructed of compacted Type II gravel.

Trails can be included along flood maintenance roads. CCRFCD encourages a rail along the channel itself for fall protection. Slopes that are 3:1 or shallower may not require hand rails. Utilities can be run along the corridor as long as they do not impede emergency or maintenance access. Mr. Eubanks stated that the proposed 100 year flood 'bench' along the Muddy River and tributary washes may be a very appropriate place to locate trails.

All Muddy River crossings must be approved through the CCRFCD. Mr. Eubanks stated that crossings are a touchy topic but the CCRFCD will try to work with the County on this. CCRFCD is concerned with pedestrian and equestrian crossings in the case of a 100 yr flood event. One option that may be worth considering is a floating ped bridge that can break loose on one side and will swing out of the way of the waters and not end up downstream or contribute to a blockage. Some existing bridges that may be good examples can be found within the Las Vegas Wash.

CCRFCD is the funding source for flood control facilities. Clark County Public Works oversees the design and construction of flood control facilities. However, CCRFCD will not pay for maintenance of recreation facilities (trails included). They will pay to remove post-flood debris from detention basins.

The facility on Whipple Rd. (Fairgrounds detention basin) is on the 10 year construction plan. This is within the Open Space Scope area.

Flood design requirements for public safety mainly emphasize flat areas (bottoms of basins). Currently there are no design requirements for channel facilities. The CCRFCD does not want people in the channels.

All CCRFCD mapping is available on GISMO. The Muddy River and Tributary Washes document is available on the CCRFCD website.

Areas within the Open Space Study

Dave Carlson stated that the community would like to preserve natural drainages ways for recreation and trail systems.

Clark County will obtain a R-O-W grant from the BLM for a proposed drainage corridor on BLM land. If this easement is not within a disposal boundary an EIS or applicable environmental process will need to be followed. Use of natural drainage corridors would not have to be run through an approval process with the CCRFCD. Kevin Eubanks suggested that the County would encourage the BLM to preserve natural drainage corridors on behalf of the Open Space planning effort, as it reduces the need for flood control facilities.

If there is an active use the R&PP process can be used to preserve these channels.

There is no erosion set back established in these areas to protect space on either side of washes.

Clark County has a flood plain ordinance and follows the CCRFCD flood design guidelines.

Communities in pre-developed areas must provide FEMA with flood hazard mapping. This process may be a way to preserve natural corridors within disposal and other areas.

Good Contacts:

Jerry Hester – SNWA – Chief engineer on the LV Wash Erosion Control Project
Al Jankoviak- Flood Control for the City of Henderson

Muddy Valley Irrigation Company - 3/18/09

Todd Robison, Board of Directors Chair
379-4130 (cell) 402-1421 (wk)

Access to the reservoir was limited (via a gate) in response to the mandate of the Dam Inspector to minimize traffic on the top of the dam. The dam inspector (Todd was not sure if it was a State or Federal inspector) wanted motorized traffic reduced due to the impact on the structure of the dam. By not complying, the MV Irrigation Company would not be able to get liability insurance. The MV Irrigation Company does not have a problem with non-motorized traffic on the dam. The reservoir and dam are located on Muddy Valley Irrigation Co. property. Access to the reservoir from the north side would be via BLM land

The MV Irrigation Company has no concerns about water quality or erosion issues that might arise from locating an ATV play area at "Jumpbacks" (as the locals call it) north to north east of the reservoir.

The MV Irrigation Company owns the underlying easement on the Muddy River from Wells Siding to Overton Wildlife Management Area. The easement is 157 feet wide, with the center point at the center of the Muddy River channel. They also own 120 acres of land that begins at the mouth of the Narrows on the Moapa Valley side. 80 acres is owned outright, with 40 acres under a very long term lease agreement with the BLM.

With regards to the maintenance easements along the ditch network, the easements are for maintenance only, with no provisions for recreational use. If trails are desired along irrigation ditches, negotiations with

the individual property owners, in addition to the MV Irrigation Co. would be required. Trails within the easement would be subject to access by maintenance equipment.

Clark County Public Works

Jeannie Wondra, PW R-O-W agent, Community Development 455-4635

Dedication of r-o-w on road alignments is required when property's initiated a land use application with Community Development. For condemnation/ acquisition prior to development contact Pam Wyatt, R-O-W manager in Public Works - 455-6098. Jeannie suggested that contact with Joe Glick, in PW Design, be made, as Joe is designing, managing a trail project for the County to determine what trail types can be located in the r-o-w.

Joe Glick, Associate Engineer, PW Design 455-6339
The county uses RTC standard drawings for trail construction within the r-o-w. However, situations may require alternate designs; for example, equestrian trails are not in the RTC standard drawing set. PW Design works closely with the PW Maintenance Supervisor, Cameron Harper on any proposed trail design within R-O-W, as PW maintains trails in R-O-W. However they only maintain trails, not trail amenities like benches. Parks and Rec is responsible to maintain amenities. Careful coordination with Parks and Rec and PW Maintenance is needed to determine which department will provide maintenance of trail elements.

John Cantanese, PW Design/Construction 455-6616

Phase I of the Muddy River Enhancement Project consists of improvements between Lewis Street to Ramos Ranch Rd. Phase I includes three parts:

- Part A – Improvements between Ingram and Cooper.
- Part B – Cooper crossing bridge
- Part C – Improvements between Cooper and Ramos Ranch Rd.

Part A&B will be done as the same time.

R-O-W has been acquired along the Muddy River between Lewis and Cooper streets. Acquisition between Cooper and Ramos Ranch road is almost complete.

Cooper Bridge
The design of the bridge replacing the low water crossing at Cooper is almost complete. G.C Wallace is the engineering firm contracted to do that design. The maintenance road for the improved flood control channel will cross at-grade on Cooper.

River Design
The current channel will be deepened, with a 100-year water flow "benches" on both sides of the channel. The bank between the "bench" and the maintenance road will be rip-rapped with integrated gabion baskets. It is envisioned that the gabion baskets will be backfilled and native plants materials will eventually cover the rip-rap.

Nevada Department of Transportation (NDOT)

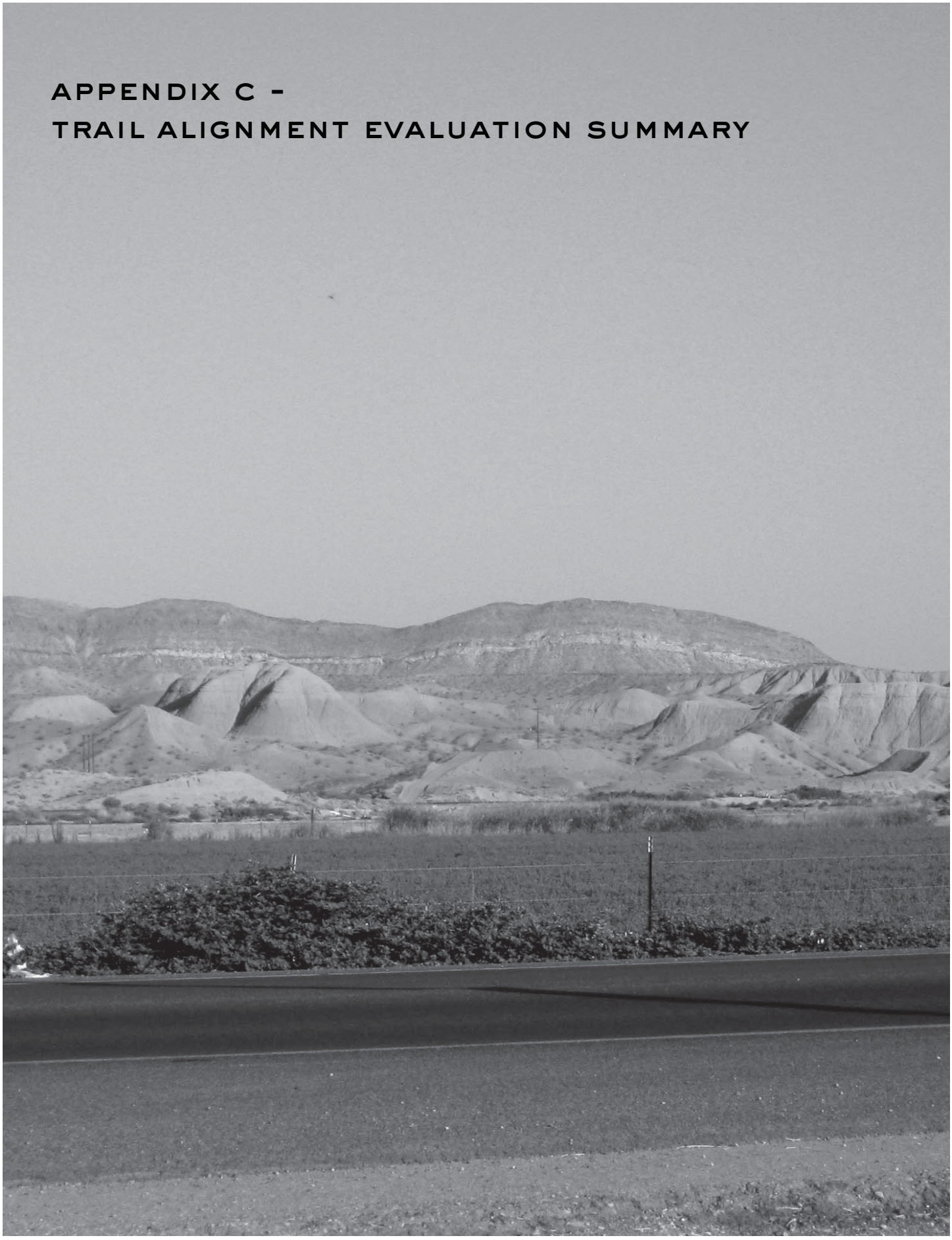
Kent Sears

What are the crossing requirements along Moapa Valley Blvd. (Hwy. 169)?
If funding is available, a grade separated crossing of Moapa Valley Blvd. would be preferred. If funding is not available for this option, the more safety precautions that can be implemented the better. NDOT requires MUTCD standards to be followed.

What are the requirements for any trail segments along Moapa Valley Blvd.?

If trails are implemented within the NDOT r.o.w., an encroachment permit will be required. Outside of an encroachment permit, NDOT does not have set standards for a trail within its r.o.w. NDOT will coordinate with Clark County on the responsibility of maintenance of a trail segment within an NDOT r.o.w. If minimal maintenance is required, signage etc., then NDOT usually doesn't have a problem maintaining the trail. When the required maintenance includes trail surfacing etc., NDOT will require Clark County to assume responsibility for maintenance.

APPENDIX C –
TRAIL ALIGNMENT EVALUATION SUMMARY



SECTION A

A-01 Loop around Bowman Reservoir

Key Issues
- Culturally and historically significant
- Two owners: BLM and Muddy Valley Irrigation Co.
- Non-motorized access only
- Isolation

Character
- Undulating topography on north side
- Reservoir holds irrigation water

Connection: Jump Backs OHV area, Open space, neighborhoods to the south.

Crossings: None

Bowman Reservoir, looking southeast

A-02 Bowman Road between Moapa Valley (MV) Blvd. and Bowman Reservoir

Key issues
- Historic access to Bowman Reservoir
- Speed at MV Blvd. is 55 mph.

Character
- Road slopes up from MV Blvd. to Reservoir
- 60' R-O-W, 25 mph speed limit
- Pavement in poor condition

Connection: Bowman Reservoir and MV Blvd.

Crossings: 6 residential driveways and MV Blvd.

Bowman Road, looking west

A-03 MV Blvd. between Bowman Road and A & W Farm Rd.; A & W Farm Rd. from MV Blvd. to Muddy River

Key Issues
- Crossing of major irrigation ditch
- Moderate to steep slope at interface between valley floor and Wells Siding

Character
- 100' NDOT R-O-W on MV Blvd & 55 mph
- 50' R-O-W on A & W Farm Rd.
- Undeveloped land with dedicated R-O-W
- Some agricultural land in production

Connections: Bowman Reservoir, Wells Siding, Muddy River

Crossings: Future unnamed street, major irrigation ditch

A & W Farm Rd. alignment, looking west

SECTION A

A-04 MV Blvd. from A & W Farm Rd. to Wells Ave; Wells Ave. to Mills St.; Mills St. to Waite Ave; Waite Ave. to Muddy River

Key Issues
- Portions of the paved R-O-W are not dedicated on Mills St. and Wells Ave.
- Key neighborhood connection to river
- Irrigation ditch on east side of Mills St.

Character
- Agricultural fields in production
- Large residential lots
- 30' to 60' R-O-W and 25 mph

Connection: Muddy River, MV Blvd.
Crossings: Waite Ave., 17 residential driveways, with potentially more at build out

Wells Ave. at MV Blvd., looking west

A-05 Muddy River from Wells Siding to Whipple Ave.

Key issues
- Three property owners on the west side of river, nine on the east side of river
- Route used by equestrians

Character
- Muddy River heavily rip-rapped from Waite to the Trophy Elk alignment
- Portion of alignment parallels railroad

Connection: Wells Siding, Whipple Ave.
Crossings: None

Rip-rap on west side of Muddy River

A-06 Sandy St. between Jensen Ave. and Bowman Reservoir

Key Issues
- BLM land, no R-O-W dedicated
- Sandy soil

Character
- Low density residential neighborhood
- Scenic views

Connections: Bowman Reservoir, residential neighborhood
Crossings: None

Sandy St. through BLM land, looking north towards the reservoir

SECTION A

A-07 Jensen Ave. from Lyman St. to Heyer St.

Key Issues
- Connection to future development
- Scenic views

Character
- Low density residential
- Unpaved road
- 40' to 80' R-O-W, 25 mph speed limit

Connection: Future development to the east, BLM land

Crossings: Skyline St., Mateuse St., Taylor St., residential driveways

Jensen Ave. at Lyman St., looking east

A-08 Lyman St. from Gubler Ave. to Jensen Ave.; Frehner Ave. between Lyman St. and Heyer St.; Heyer St. from Frehner Ave. to Whipple Ave.

Key issues
- Level topography
- Ends at BLM land at the north
- Largely undeveloped, with a large low density subdivision planned on the west

Character
- 100' R-O-W and 25 mph speed limit

Connection: Bowman Reservoir, Bowler Elementary School, BLM land

Crossings: Marshall Ave., Waite Ave., Heights Dr.

Lyman St. at Jensen Ave., looking south

A-09 Whipple Ave. from MV Blvd. to Pioneer Rd.

Key Issues
- Major transportation corridor planned
- River crossing required
- 120-acre development planned west of river

Character
- Transitions from commercial, residential to agricultural land
- 60' R-O-W; undedicated west of river

Connections: Moapa Valley Blvd., Wally's, Muddy River, UPRR tracks. Logandale Trails

Crossings: Mahalo Circle, Muddy River, two commercial and three residential driveways

Whipple Ave. at UPRR, looking east

SECTION A

A-10 Whipple Ave. from Heyer St., east to BLM land

Key Issues
- Connection to future development
- OHV and Equestrian route

Character
- Fairgrounds and Elementary School on south
- Residential on north
- BLM land, no dedicated R-O-W

Connection: Bowler Elementary, Fairgrounds, BLM land, Huntsman Wagonwheel Trail, Mormon Mesa

Crossings: Skyline St., Mateuse St., Woodbury St., Heyer St.

Intersection of Whipple Ave. and Heyer St., looking east

A-11 Pioneer Rd./UPRR R-O-W from Wells Siding to Gubler Ave.

Key issues
- Small segment of alignment encroaches on private property
- 120-acre development planned
- Route used by Equestrians
- Flood control facility pinch point at Gann

Character
- Ranch and agricultural land in production
- Historic access to Wells Siding
- 100' R-O-W

Connection: Wells Siding, Logandale Trails, Muddy River

Crossings: Whipple Ave., Two UPRR crossings at Liston Ave.

Access road in UPRR R-O-W, looking south

A-12 Muddy River from MV Blvd. to Gubler Ave.

Key Issues
- Three property owners, including one county owned parcel
- 300-acre development planned

Character
- Riparian
- Ranch
- Swimming pool and park

Connections: MV Blvd., Bowler Park, Gubler Ave.

Crossings: None

Access road between Bowler Park and the Muddy River, looking south

SECTION A

A-13 Rice St., Gubler Ave., Doty St., Gann Ave.; MV Blvd. between Gann Ave. and Rawson Ave.

Key Issues

- Segments of road on Rice St. not dedicated
- Irrigation ditches on east side of Rice St.
- Poor sidewalk conditions along MV Blvd.

Character

- Logandale town core, small blocks
- R-O-W varies (38' to 76'), 25 mph speed limit

Connection: Old Logandale School, Post Office, Bowler Park, Muddy River, Wittwer Ave.

Crossings: Brothers Ave., Nez Pierce Ave., Bronze Eagle Circle, Terry St., Gubler Ave., Gann Ave., MV Blvd., several residential driveways

Rice St. at Gubler Ave., looking south

A-14 Yamashita St. between Paul Ave. and Whipple Ave.

Key issues

- Full R-O-W not dedicated on segments
- Sandy soil
- Access route to High School

Character

- Paved and unpaved segments
- 100' R-O-W and no posted speed limit

Connection: Moapa Valley High School (MVHS), BLM, Fairgrounds

Crossings: Pirate Ave., Wittwer Ave., Hinckley Ave., Claridge Ave., Gubler Ave., Gann Ave., Liston Ave., Cram Ave. and Bunnell Ave., some residential driveways

Yamashita St. at Gubler Ave., looking north

SECTION A

A-15 Gubler Ave. from St. Joseph St. to Anderson St.

Key Issues

- Largely undeveloped
- Some of R-O-W is not fully dedicated
- Steep topography on east end of alignment

Character

- Unpaved road
- Scenic views
- 100' R-O-W and no posted speed limit

Connections: Muddy River, MVHS

Crossings: Two residential driveways, church entrance

Gubler Ave. at Whitmore St., looking east

SECTION B

B-01 Muddy River from Gubler Ave. to Wittwer Ave.

Key Issues
- Flood control facility R-O-W
- MV Blvd. would restrict alignment on west side near Gubler Ave.
- At grade crossing should be considered

Character
- Largely undeveloped, with development planned
- Riparian area

Connection: Gubler Ave., Wittwer Ave., Moapa Valley High School (MVHS)
Crossings: None

South side of Gubler Bridge, looking north

B-02 Wittwer Ave. from Rice St. to Muddy River

Key issues
- Punch through at irrigation ditch crossing to connect R-O-W
- Planned park
- 1/2 R-O-W dedication between MV Blvd. and Muddy River; and between Paiute St. and Rice St.

Character
- 30' to 80' R-O-W and no posted speed limit
- Paved and unpaved roads

Connection: UPRR, Planned park, Muddy River, MVHS
Crossings: Rice St., MV Blvd., Muddy River

Development in R-O-W on Wittwer Ave., looking east. Park planned on east and south of this portion of Wittwer Ave.

B-03 Wittwer Ave. from Muddy River to Moapa Valley High School (MVHS)

Key Issues
- East/west access to MVHS
- R-O-W to be dedicated upon development

Character
- Largely undeveloped, with development planned.
- Agricultural land not in production
- 40' to 80' R-O-W, no posted speed limit

Connections: Muddy River, MVHS, church
Crossings: Two residential driveways, church entrance

Wittwer Ave. at Heyer St., looking east

SECTION B

B-04 Pioneer Rd/UPRR R-O-W from Gubler Ave. to Ramos Ranch Rd.

Key Issues

- Two pinch points due to land forms and irrigation ditch
- Deviation from UPRR R-O-W onto private property near Navajo Ave.
- Heavily used by OHV's

Character

- Sandy soil
- Isolated
- 100' R-O-W

Connection: Liston Ave., Logandale Trails, local OHV play area, Cottonwood Ave.

Crossings: Navajo Ave., Cottonwood Ave.

Pinch Point along on east side of UPRR R-O-W near Navajo Ave.

B-05 Pinwheel St., Mateuse St. between MV Blvd. and Lou Jean Ave.; Lou Jean Ave. from Mateuse St. to Muddy River

Key issues

- Punch through at irrigation ditch to connect to Willow Ave. (crossing of irrigation ditch)
- 1/2 R-O-W dedication on part of Matuese Ave.

Character

- 48' to 60' R-O-W, with paved and unpaved roads
- Large lots and small ranch/farming operations

Connection: Willow Ave., Muddy River

Crossings: Moapa Valley Blvd., Muddy River, and at least 13 residential driveways

Pinwheel St. at Willow Ave., looking north

B-06 Yamashita St. from Muddy River to Paul Ave.

Key Issues

- Major route to MVHS from MV Blvd.
- Yamashita Bridge

Character

- Residential
- 100' R-O-W, 35 mph speed limit
- Vacated Quarry operation

Connections: Muddy River, MVHS, MVHS Ag Farm

Crossings: Pat Ave., Lou Jean Ave., Ron Ave.

Yamashita Bridge, looking east

SECTION B

B-07 Ron Ave. between Yamashita St. and Lou St.; Lou St. from Ron Ave. to Airport Road

Key Issues
- Ron Ave. slopes up toward the east
- Large drainage on the north side of Ron Ave.

Character
- Two acre residential lots and larger, typical
- Sand hills
- Paved roads
- 60' R-O-W with 25 to 35 mph speed limits

Connection: MVHS, Airport Rd.

Crossings: Ash St., Whitmore St., Lou Jean Ave., Pat Ave., Diane Ave.

Lou St. at Diane Ave., looking north

B-08 Diane Ave. from Airport Rd. to Muddy River

Key issues
- R-O-W ends in flood plain
- Transition from flood plain to sand bench

Character
- Two acre residential lots and larger, typical
- 0' to 60' R-O-W, 25 mph speed limit
- Partially paved

Connection: Lou St. and Muddy River

Crossings: Whitmore St., Ash St. and four residential driveways

Diane Ave. at Lou St., looking west

B-09 Ross Ave. from Airport Road to Muddy River

Key Issues
- R-O-W at west end in the flood plain
- Steep topography

Character
- Two acre residential lots and larger, typical
- Unpaved road
- 0' to 60' R-O-W and 25 mph speed limit

Connection: Airport Road and Muddy River

Crossings: Ash St., Whitmore St., Lou Jean Ave., Pat Ave.

Ross Ave., looking west

SECTION B

B-10 Willow Ave. from Pioneer Rd. to MV Blvd.

Key Issues

- No existing road on Willow Ave.
- Path planned around Ag Farm
- Half R-O-W dedication on most of alignment
- Two parcels are developed, but have not dedicated R-O-W

Character

- Farming and agricultural operations
- 0' to 28' R-O-W

Connection: UPRR, Swapp Dr., UNR experimental farm, MHVS Ag Farm, MV Blvd., Muddy River

Crossings: None

MV Blvd. near Willow Ave., looking south

B-11 Muddy River from Wittwer Ave. to Ramos Ranch Rd.

Key issues

- Flood control facility R-O-W
- Informal river crossings at Cottonwood and Ramos Ranch to create east/west access by equestrians, OHV's and pedestrians
- Yamashita Bridge

Character

- Riparian
- Isolation

Connection: Wittwer Ave., Cottonwood Ave., Ramos Ranch Rd., east and west sides of valley

Crossings: None

Muddy River at Cottonwood Ave., looking north

B-12 Cottonwood Ave. between UPRR and Heyer St.; Heyer St. between Cottonwood Ave. and Ramos Ranch Rd.

Key Issues

- Drainage swales along Cottonwood Ave.
- School planned at MV Blvd and Ramos Ranch Rd.
- Wide R-O-W

Character

- Large residential lots
- 60' to 100' R-O-W and 25 mph speed limit

Connection: UPRR, Swapp Dr., Ramos Ranch Rd.

Crossings: Victory Joy St., Rosestone Dr., and up to 17 residential driveways

Cottonwood Ave. near Swapp Dr., looking east

SECTION B

B-13 St. Joseph St. from Ramos Ranch Rd. to Willow Ave.

Key issues
- Some undeveloped road with half dedicated R-O-W
- Alternative neighborhood connection to Ramos Ranch Rd. without accessing MV Blvd.

Character
- 30' to 60' R-O-W with no posted speed limit
- Unpaved and unimproved

Connection: Planned school, Ramos Ranch Rd.

Crossings: None

St. Joseph St. between Cave Ave. and Ramos Ranch Rd., looking north

B-14 Airport Rd. between Ramos Ranch Rd. and Diane Ave.

Key Issues
- Clark County Aviation property
- Alternate route between Overton and MVHS
- Street crossings on west side only

Character
- Airport, Industrial and residential area
- Isolation due to setbacks and land use types
- 60' R-O-W and 35 mph speed limit

Connection: Ramos Ranch Rd., MVHS, Overton, Diane Ave. and Lou St.

Crossings: Ross Ave., Joan Ave., Willow Ave, Cottonwood Ave., N. Bader Ave.

Airport Rd. near Willow Ave., looking southeast

B-15 Ramos Ranch Rd. from Heyer St. to Airport Rd.

Key Issues
- River and MV Blvd. crossing
- Development and school planned
- Half dedicated R-O-W

Character
- Transition from valley floor to sand hills
- 30' R-O-W, 25 mph speed limit

Connection: Airport Rd., east/west sides of valley

Crossings: Muddy River, N. Whitmore St., MV Blvd., St. Joseph St., Palo Verde St.

Cottonwood Ave., near Swapp Dr., looking east

SECTION B

B-16 Ramos Ranch Rd. from Cooper St. to Mormon Mesa Rd.; Mormon Mesa Rd. from Ramos Ranch Rd. to Cottonwood Ave.; Cottonwood Ave. to Vista View St.

Key issues

- BLM land from Airport road, east
- Only paved route to Vista View neighborhood
- OHV route to Mormon Mesa

Character

- 25 mph speed limit
- No dedicated R-O-W (BLM)
- Sand hills
- Somewhat Isolated

Connection: Airport Road, Vista View St., Cooper St.

Crossings: Cooper St., Anita Ave., Cottonwood Ave.

Mormon Mesa Rd. near airport, looking east

SECTION C

C-01 Railroad R-O-W from Ramos Ranch Rd. Overton Wash

Key issues
- Some pinch points along alignment
- Heavily used by OHV's as a north/south transportation trail on both sides of track

Character
- Industrial and residential land uses
- 100' R-O-W

Connection: Overton Wash, Cottonwood Ave., south Overton

Crossings: Cave Ave., Bryner Ave., Ryan Ave., Ingram Ave., Lyon Rd., Perkins Ave. and some residential accesses

UPRR at Ryan Ave., looking north

C-02 Andersen St. from Ramos Ranch Rd. to MV Blvd.

Key Issues
- School route from Perkins St. to MV Blvd.
- West Creek
- Portions of R-O-W not dedicated

Character
- Unimproved right-of-way
- Identified as major transportation corridor
- 0' to 60' R-O-W

Connection: Lyon Middle School, Library, multi-family housing, planned school

Crossings: None

Andersen St. at MV Blvd., looking north

C-03 Cooper St. from MV Blvd to Ramos Ranch Rd.

Key Issues
- Utility poles and irrigation ditches on east side of Cooper St.
- Future Cooper Bridge crossing

Character
- Transition from valley floor to sand hills
- 40' to100' R-O-W and 25 mph speed limit

Connection: Fun n' Sun Trailer Park, Maverik, downtown Overton, Airport Rd.

Crossings: 23 residential driveways, Wagonmaster Ave., Muffy Access Rd., Lee Ave.

Cooper St. near Lester Ave., looking north

SECTION C

C-04 Vista View St. from Cottonwood Ave. to Bryner St.; Anita Ave. from town boundary on the west to BLM land to the east

Key issues

- A minor drainage pinch point between Anita Ave. and Lee Ave.
- Structures built in the R-O-W on Anita

Character

- 60' R-O-W and no posted speed limit
- Vista View St. paved, Anita Ave. unpaved
- 2 acre and larger residential lots

Connection: Mormon Mesa Rd., Bryner Ave.

Crossings: Bader Ave., Anita Ave., Lee Ave, Cave, Arrow Ave., Vista View St. and 13 residential driveways

Under road drainage culvert on Vista View St. near Anita Ave., looking south

C-05 Arrow Ave. from Vista View St. to Saddle St.; Saddle St. to Ryan Ave.; Ryan Ave. to Spur St.; Spur St. to Ingram; Ingram Ave. to Muddy River

Key Issues

- Existing road not on dedicated alignment
- Vista View neighborhood has no direct connection to downtown Overton

Character

- Largely undeveloped, development planned
- 60' R-O-W and no posted speed limit

Connection: Vista View neighborhood & Muddy River

Crossings: Ishimoto St., Bryner Ave., 2 unnamed streets, Muddy River and a few residential driveways

Saddle St. at Arrow Ave., looking south

C-06 Bryner Ave. from Vista View St. to Saddle St., Saddle St. to Ryan Ave.; Ryan Ave. to Spur St.; Spur St. to Ingram Ave.; Ingram Ave. to Muddy River

Key Issues

- Dedicated R-O-W to Muddy River
- Vista View neighborhood has no direct connection to downtown Overton

Character

- Largely undeveloped, development planned
- 60' R-O-W and no posted speed limit

Connection: Vista View neighborhood and Muddy River

Crossings: Ishimoto St., 2 unnamed streets, Muddy River and a few residential driveways

River crossing at Ingram Ave., looking west

SECTION C

C-07 Thomas Ave. from MV Blvd to Whitmore St.; Whitmore St. from Thomas Ave. to MV Blvd.

Key issues
- School route
- Walkable blocks to downtown businesses
- MV Blvd. curves and banks at Whitmore St.

Character
- Overton downtown core with street lights
- 60' R-O-W and 25 mph speed limit

Connection: Downtown Overton, Mack Lyon Middle School, MV Blvd.

Crossings: Jones St., Andersen St., Bonelli Ave., Cox Ave., McDonald Ave., Ingram Ave., Adelle Ave., Shurtliff Ave., and many residential driveways

Whitmore St. at MV Blvd., looking south

C-08 MV Blvd. from Ramos Ranch Rd. to Andersen St.; Yamashita St. from MV Blvd. to Ryan Ave.; Ryan Ave. from Yamashita St. to MV Blvd.

Key issues
- Pedestrian and bicycling route
- Wide shoulders
- Some sidewalk adjacent to R-O-W

Character
- Mix of residential, commercial and public facilities
- 70' R-O-W and 35 mph speed limit

Connection: U. S. Post Office, library, Maverik community center, senior center, Best Western, Metro sub-station, multi-family housing

Crossings: Lou St., Oliver St., Whitmore St., Ryan Ave., Bryner Ave, Catherine Ave., Cave Ave.

MV Blvd. at the library, looking west

C-09 Lester Ave. from Cooper St. to the Muddy River

Key Issues
- Neighborhood connection to Muddy River
- Irrigation gates, ditches at the end of R-O-W

Character
- Residential neighborhood
- 60' R-O-W, 25 mph speed limit
- No street lights or sidewalks

Connection: Cooper St. and the Muddy River

Crossings: None

Lester Ave. at irrigation ditch, looking west

SECTION C

C-10 Andersen St. from MV Blvd. to Perkins St.

Key issues

- School route
- Walkable blocks to downtown businesses

Character

- Overton downtown core with street lights
- 66’ to 80’ R-O-W and 25 mph speed limit

Connection: Downtown Overton, Mack Lyon Middle School, MV Blvd.

Crossings: Virginia Ave., Thomas Ave., Bonelli Ave., Cox Ave., McDonald Ave., Ingram Ave., Adelle Ave., Shurtliff Ave., and many residential driveways

Andersen St. at Ingram Ave., looking south

C-11 Jones St. to from Thomas Ave. to Moapa Valley Blvd.

Key issues

- Neighborhood route

Character

- Mix of residential, multi-family housing, commercial and public facilities
- 82’ R-O-W and 25 mph speed limit

Connection: Virginia Ave. and MV Blvd., church, U.S. Post Office

Crossings: Thomas Ave., Bonelli Ave., U.S. Post Office driveway, church parking lot access, multi-family complex driveway, RV park access, 5 residential driveways

Jones St. at Virginia Ave., looking north

SECTION C

C-12 Thomas Ave. from Andersen St. to Conley St.; Conley St. to Overton Park; Overton Park Access Road to Deer St.; Deer St. to unnamed street; Unnamed street to the Muddy River

Key Issues

- Neighborhood connection to Muddy River
- Dedication on unnamed street, but no improvements
- Planned development

Character

- Downtown Overton core
- Agricultural field in production
- 50' to 80' R-O-W, park access road not dedicated

Connection: Downtown Overton, Overton Park, senior housing, Deer St., Muddy River

Crossings: Smythe St., Adelia St., Conley St., Overton Park Access Rd., Deer St.

Unnamed street alignment west of Overton Park

C-13 Muddy River from Ramos Ranch Rd. to northern edge of the Overton Wildlife Management Area

Key issues

- Trail in flood control facility R-O-W
- Development planned along segments
- Planned Cooper Bridge

Character

- Riparian
- Some Isolation

Connection: Overton Wildlife Management Area, Ramos Ranch Rd.

Crossings: Cooper St. with informal river crossings at Ingram Ave., Lewis Ave. and Overton Wildlife Management Area

River crossing in the Overton Wildlife Management Area, looking north

SECTION C

C-14 Ingram Ave. from the Muddy River eastward to BLM land

Key Issues
- BLM disposal area

Character
- Largely undeveloped, development planned
- 60' R-O-W, no posted speed limit

Connection: Muddy River, BLM land

Crossings: N. Ishimoto St., Vista View St., Archer St., and 3 unnamed streets

Ingram Ave. at Muddy River, looking east

C-15 Virginia Ave. from Andersen to Overton Park Access Rd.

Key Issues
- Irrigation ditches on both sides of Virginia Ave.
- School and neighborhood route
- Historic homes

Character
- Overton downtown core
- 40' R-O-W, 25 mph speed limit

Connection: Downtown Overton, Mack Lyon Middle School, Overton Park, senior housing

Crossings: Jones St., MV Blvd., and Deer St.

Virginia Ave. at MV Blvd., looking west

C-16 MV Blvd. from Lewis Ave. to Virginia Ave.

Key issues
- Downtown Overton
- NDOT R-O-W

Character
- Business corridor
- Walkable blocks
- 100' R-O-W, 25 mph speed limit
- 10' sidewalks on much of the east side

Connection: Lewis Ave., Virginia Ave., Lin's grocery store, hardware stores, McDonald's, Sugar's, Inside Scoop, Credit Union

Crossings: Alma Ave., Tres Lobos Ave., Perkins Ave.

MV Blvd. at Lin's, looking north toward Virginia Ave.

SECTION C

C-17 Deer St. from Lewis Ave. to Overton Park Access Road

Key Issues
- Wide R-O-W
- Neighborhood connection to Overton Park
- Some half R-O-W dedication

Character
- ¼ acre to 2 acre lots
- 50' to 80' unpaved R-O-W, 25 mph speed limit

Connection: Muddy River, BLM land
Crossings: N. Ishimoto St., Vista View St., Archer St. and 3 unnamed streets

Deer St. at Lewis Ave., looking north

C-18 Lewis Ave. from MV Blvd. eastward to BLM land

Key Issues
- Water reclamation ponds at end of Lewis Ave.
- River crossing
- OHV access route

Character
- 2+ acre parcels
- Wildlife Management Area on south
- 80' R-O-W and 25 mph speed limit

Connection: Downtown Overton, Muddy River, BLM land, Overton Wash

Crossings: Deer St., Muddy River, several residential driveways

Lewis Ave. near Deer, looking west

SECTION C

C-19 Eastern unnamed street between Lewis Ave. and Ingram Ave.

Key issues
- OHV route
- Planned development
- Edge of town boundary & BLM disposal land

Character
- Undeveloped and unimproved
- Very isolated
- 50' R-O-W

Connection: BLM land, Lewis Ave., future development, Water Reclamation District processing plant

Crossings: None

Eastern unnamed street at Lewis Ave., looking north

C-20 East town boundary at Saddle St. through the Overton Wash from Muddy River to BLM at west town boundary

Key Issues
- OHV east/west access route across MV Blvd.
- Undercrossing of UPRR tracks at MV Blvd.
- Shooting and dumping in Overton Wash
- Wash on "Town of Overton" property

Character
- Most development is on the north, ranging from large lots to senior housing (Robbin's Nest trailer park).

Connection: Muddy River, BLM land, MV Blvd.

Crossings: MV Blvd.

Overton Wash where it parallels the UPRR tracks, just southwest of Robbin's Nest

C-21 Access roads in the Wildlife Management Area

Key Issues
- Seasonal hunting to the east
- Visitor's Center planned
- Access to Lake Mead and St. Thomas

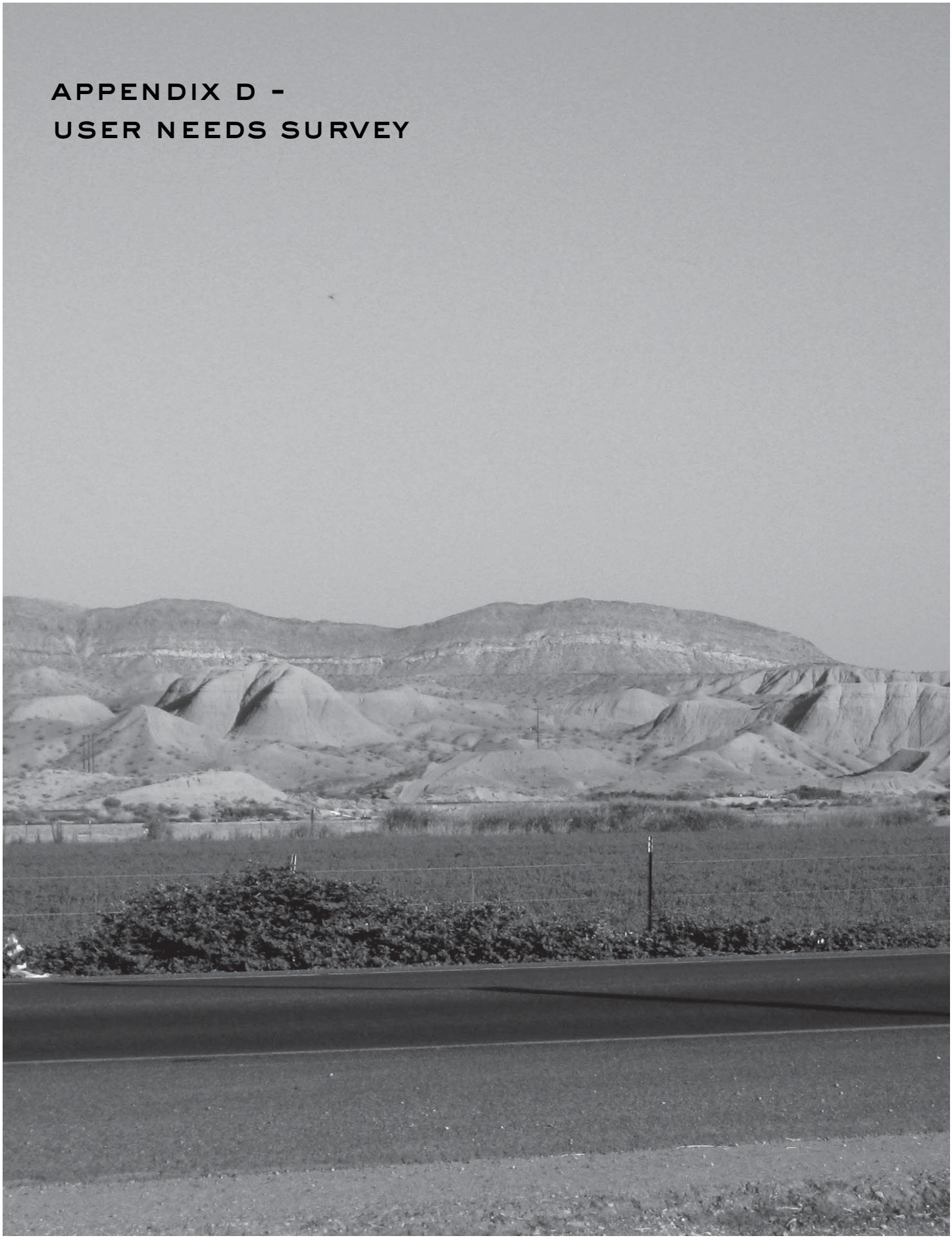
Character
- Agricultural land in production
- Irrigation ditches
- Camping area

Connection: Overton, Muddy River, Lake Mead, St. Thomas

Crossings: Muddy River

South end of Wildlife Management Area

APPENDIX D -
USER NEEDS SURVEY



MOAPA VALLEY TRAILS STUDY SURVEY

This survey is intended to gather your input and gauge your interest in trail use in and around Moapa Valley (Logandale and Overton). Please circle applicable answers and write-in answers to open questions.

1. Do you live in Moapa Valley? Yes No

2. If yes to question 1, what are the nearest cross streets to your home?

3. What is your age group? Under 18 18-25 26-35 36-45 46-55 56 + over

4. What is your gender? Male Female

5. What would be the most important amenities to accompany any new trails in Moapa Valley? (circle up to five)

- Fitness course
- Restrooms
- Mile markers
- Water fountains
- Bike racks
- Shade (trees or structures
- Lighting
- Connections to existing parks
- Connections to other trails
- Connections to business
- Picnic areas/benches
- Waste receptacles
- Dog waste bag stations
- Regular maintenance
- Wide trail shoulders for walking /jogging
- Wildlife viewing spots
- Wheelchair accessibility
- Trail heads with parking
- Crossings of major roads
- Historical and environmental interpretation signs
- Directional/destination signs

6. What do you believe are the primary benefits of open space trails? (circle up to three)

- Neighborhood revitalization
- Nature watching
- Recreational opportunities
- Improved physical fitness and health
- Active transportation (bicycling, walking)
- Environmental interpretation
- Children's access to school
- Reduced exposure to auto traffic
- Improved air quality by eliminating auto trips
- No benefits

7. Is there any more information about trails in Moapa Valley that you would like to share?

8. Contact information (Optional, in case we clarification)

Name:

Phone:

Email:

9. If you would like to be notified of future public meetings for the trails study, please include your email address on question 8, and circle the option below:

Contact me about meetings and events Do not contact me

10. Do you (please circle the one that applies, and then proceed to associated survey questions as indicated):

Walk (If you walk, please proceed to out the walk/run survey questions on page 3)

Run/Jog (If you run/jog, please proceed to out the walk/run survey on the page 3)

Bicycle (If you bicycle, please proceed to the bicycle survey questions on page 4)

Ride a horse (If you ride a horse, proceed to the equestrian survey questions on pages 5 and 6)

Ride an OHV/ATV/motorcycle
(If you ride one of these vehicles, please fill out the OHV/ATV/Motorcycle survey questions on page 7)

Survey questions for those interested in walking or running in Moapa Valley

1. How often do you walk or run in Moapa Valley?
   Daily Weekly Monthly Rarely Never

2. What time of day do you walk or run? (circle all that apply)
   Weekday mornings Weekday afternoons Weekday evenings

   Weekend mornings Weekend afternoons Weekend evenings

3. What is the average distance you walk or run?
   Under 2 miles 2 to 5 miles 6 to 10 miles more than 10 miles

4. Where do you walk or run? (circle all that apply)
   Along Moapa Valley Blvd Along existing paved roads

   Along existing unpaved roads In open area with trails

   Open areas w/o trails Along irrigation ditches

   Other (please specify):

5. What prevents you from walking or running in Moapa Valley more often? (check all that apply)
   Lack of sidewalks or paths Existing sidewalks or paths are in poor condition

   I have to carry things I travel with small children

   Time constraints Concerns about safety (crime/personal)

   Too far to destination Weather

   Other (please specify):

6. Do you walk or run for:

   Exercise/fitness Travel to school/work
   Recreation/social Taking walks with pets and/or children
   Errands or other transportation

7. If you walk for transportation what are the key destinations you would like to walk to in Moapa Valley, i.e. Sugars or MVHS. (Please list all that apply):

Survey questions for those interested in bicycling in Moapa Valley

1. How often do you ride a bicycle in Moapa Valley?

   Daily Weekly Monthly Rarely Never

2. What time of day do you ride your bicycle? (circle all that apply)

   Weekday mornings Weekday afternoons Weekday evenings

   Weekend mornings Weekend afternoons Weekend evenings

3. What is the average distance you ride?
   Under 2 miles 2 to 5 miles 6 to 10 miles more than 10 miles

4. Where are your favorite places to ride? Please provide specific route information (i.e. destinations, street names). Precise directions are most helpful.

5. Would the following improvements influence you to bike more often? (Please rate each improvement by likelihood of influencing you to bike more often?)

	Not at all	Unlikely	Somewhat unlikely	Somewhat likely	Very likely
More bike lanes					
More bike routes overall					
More paved (off-street) paths					
More on-road bicycle paths					
Signage					
Traffic calming measures (like speed bumps)					
Bicycle amenities (like bike parking)					

6. For the most part, the land that you bike on is… Public Private Not sure

7. If you bike for transportation, what are the key destinations you would like to bike to in Moapa Valley, i.e. Sugars, high school? (Please list all that apply)

Survey questions for those interested in equestrian activities in Moapa Valley

1. If you own horses in Moapa Valley, how many do you own?

2. How often do you ride a horse in Moapa Valley? (please circle the one that applies)

   daily weekly monthly rarely never

3. When you ride, do you (please circle the one that applies):

   trailer to another location depart from your home/boarding facility

4. Which of the following equestrian activities do you participate in? (please circle all that apply)

   pleasure/trail riding Endurance rides Roping activities Dressage

5. Considering where you like to ride, do you have to cross Moapa Valley Blvd. during that ride? (please circle the one that applies)

   Yes If yes, where do you cross?

   No

6. Where are your favorite places to ride? Please provide specific route information (i.e. destinations, street names). Precise directions are most helpful.

7. When thinking of your usual ride, what is the duration of your average ride?

   less than 1 hour 1 - 2 hours 3 – 4 hours more than 4 hours

8. When thinking of your *ideal* ride, what would the duration of your ideal ride be?

   less than 1 hour 1 - 2 hours 3 – 4 hours more than 4 hours

9. When thinking of your usual ride, what is the distance you usually cover when riding?

   ride in an arena less than 3 miles 3 – 6 miles 6 – 10 miles more than 10 miles

10. If equestrian trails were developed in Moapa Valley, how likely is it that you would use the trails?

    Likely somewhat likely somewhat unlikely unlikely not sure

11. If you are unsure or unlikely to use designated equestrian trails, please explain why you wouldn't use the trails.

Please continue survey (3 more questions) on back of page

12. Would the following improvements influence you to ride more often? (Please rate each improvement by likelihoo of influencing you to bike more often)

	Not sure	Unlikely	Somewhat unlikely	Somewhat likely	Very likely
Equestrian parking facilities					
An equestrian park					
Equestrian amenities along trails (mounting blocks, water troughs, hitching posts)					
Clearly designated trails for equestrian use					

13. For the most part, the land that you ride on is… Public Private Not sure

14. If you ride a horse for transportation, what are the key destinations you would like to ride to in the Moapa Valley, i.e. Sugars or high school? (Please list all that apply.)

Survey questions for those interested in ATV/OHV/Motorcycles activities in Moapa Valley

1. How many off-highway vehicles (OHV/ATV/Motorcycles) do you own?

2. What types of OHV's do you ride? (Please circle all that apply)

   ATV Motorcycle Sand/Dune Buggy or similar Other (please list)

3. How do you access off-street trails most often?

   Depart directly from your home Trailer to a site

4. Considering where you like to ride, do you have to cross Moapa Valley Blvd during that ride?
   Yes No

5. Where are your favorite places to ride? Please provide specific route information (i.e. destinations, street names). Precise directions are most helpful.

6. When thinking of your usual ride, what is the duration of your average ride?

   less than 1 hour 1 - 2 hours 3 – 4 hours more than 4 hours

7. When thinking of your *ideal* ride, what would the duration of your ideal ride be?

   less than 1 hour 1 - 2 hours 3 – 4 hours more than 4 hours

8. When thinking of your usual ride, what is the distance you usually cover when riding?

   ride in an arena less than 3 miles 3 – 6 miles 6 – 10 miles more than 10 miles

9. If OHV trails were developed in Moapa Valley, how likely is it that you would use the trails?

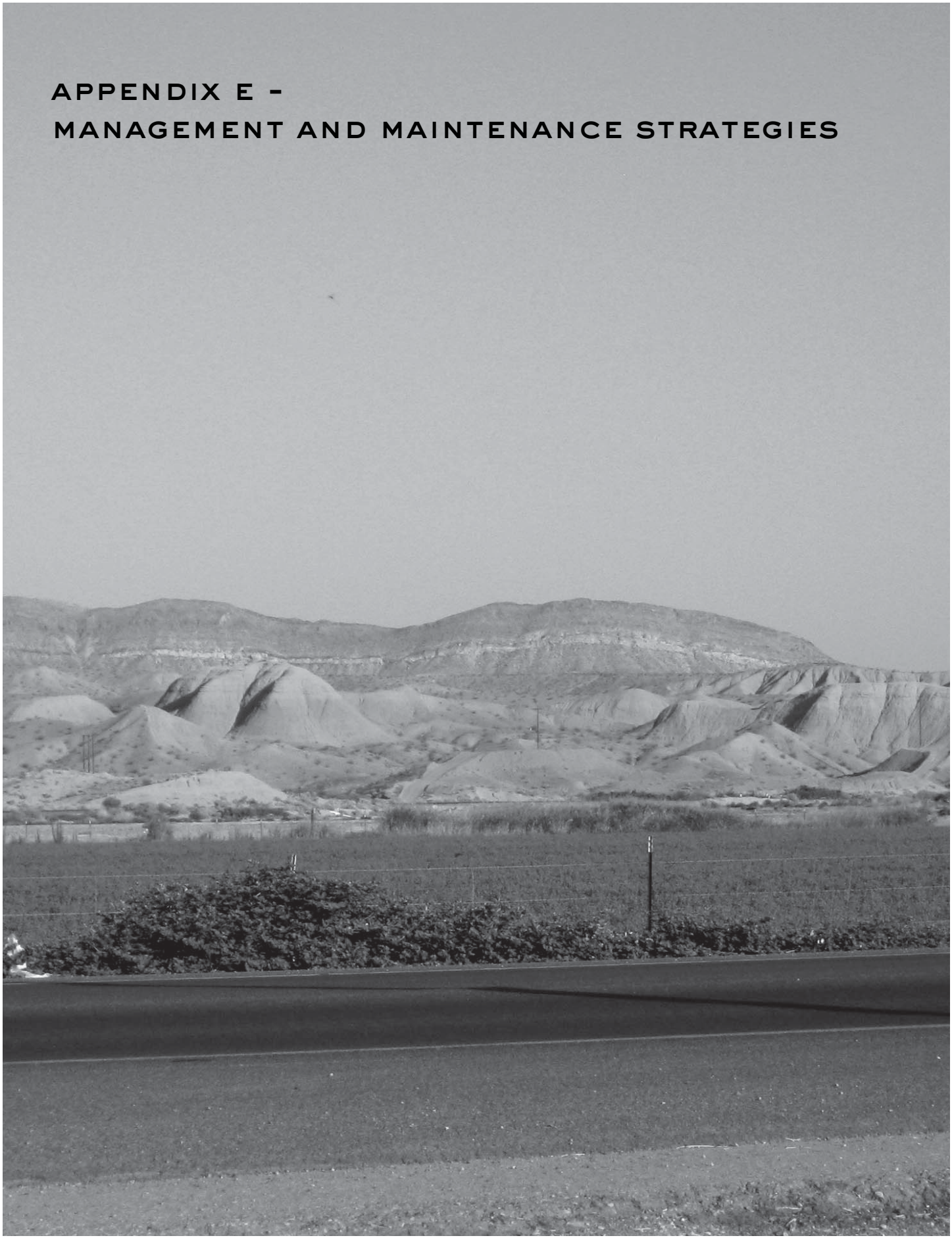
   Likely somewhat likely somewhat unlikely unlikely not sure

10. If you are unsure or unlikely to use designated OHV trails, please explain why you wouldn't use the trails?

11. For the most part, the land that you bike on is… Public Private Not sure

12. If you ride an OHV for transportation, what are the key destinations you would like to ride to in the Moapa Valley, i.e. Sugars or Maverik? (Please list all that apply.)

APPENDIX E -
MANAGEMENT AND MAINTENANCE STRATEGIES



Management and Maintenance Strategies

Management Responsibilities

Clark County will manage the Moapa Valley Trail System. Clark County has a full service Park and Recreation Department and is experienced in managing public parks, trails and facilities. Established management policies and practices will apply to the Moapa Valley Trail system.

The following recommendations pertain to an asphalt trail surface with crusher fine shoulders. As mentioned previously, concrete is another option to consider for the trail surface and should be further explored during the design phase.

Trail Maintenance

Effective trail maintenance is critical to the overall success and safety of any trail system. Maintenance activities typically include: pavement stabilization, landscape maintenance, facility upkeep, sign replacement, litter removal and painting. A successful maintenance program requires continuity and often involves a high level of citizen participation. Routine maintenance on a year-round basis will not only improve trail safety, but will also prolong the life of the trail. The benefits of a good maintenance program are far-reaching, including:

- A high standard of maintenance is an effective advertisement to promote the trail as a local and regional recreational resource.
- Good maintenance can be an effective deterrent to vandalism, litter, and encroachments.
- A regular maintenance routine is necessary to preserve positive public relations between the adjacent land owners and managing agency.
- Good maintenance can make enforcement of regulations on the trail more efficient. Local clubs and interest groups will take pride in "their" trail and will be more apt to assist in protection of the trail.
- A proactive maintenance policy will help improve safety along the trail.

Ongoing trail maintenance likely includes some, if not all, of the following activities:

Vegetation

In general, visibility between plantings at trailside should be maintained so as to avoid creating the feeling of an enclosed space. This will also give trail users good, clear views of their surroundings, which enhances the aesthetic experience of trail users. Under-story vegetation within the trail right-of-way should not be allowed to grow higher than 36 inches. Trees species selection and placement should be made which minimize vegetative litter on the trail as well as root uplifting of pavement. Vertical clearance along the trail should be periodically checked, and any overhanging branches over the trail should be pruned to a minimum vertical clearance of 10 feet (12 feet for equestrians).

Surfacing

Asphalt is the recommended surface material for much of the Moapa Valley Trail system. Cracks, ruts and water damage will need to repair periodically.

Where drainage problems exist along the trail, ditches and drainage structures will need to be kept clear of debris to prevent wash outs along the trail and maintain positive drainage flow. Checks for erosion along the trail should be made during the wet season, and immediately after any storm that brings flooding to the local area.

The trail surface should be kept free of debris, especially broken glass and other sharp objects, loose gravel, leaves and stray branches. Trail surfaces should be swept periodically. Soft shoulders should be well maintained to maximize their usability.

Pest and Vegetation Management

Basic measures should be taken to protect the trail investment. This includes a bi-annual clearing along both sides of the trail to prevent invasion of plants into the pavement and shoulder areas. The recommended time of year for clearing is fall and spring. Wherever possible, vegetation control should be accomplished by mechanical means or hand labor. Some species may require spot application of state-approved herbicide.

Litter and Illegal Dumping

Staff or volunteers should remove litter along the trail. Litter receptacles should be placed at access points such as trailheads.

Illegal dumping should be controlled by vehicle barriers, regulatory signage and fines as much as possible. When it does occur, it should be removed as soon as possible in order to prevent further dumping. Neighborhood volunteers, friends groups, alternative community service crews and inmate labor should be considered in addition to maintenance staff.

Signage

Signs should be repaired or replaced along the trail on an as-needed basis.

Flooding

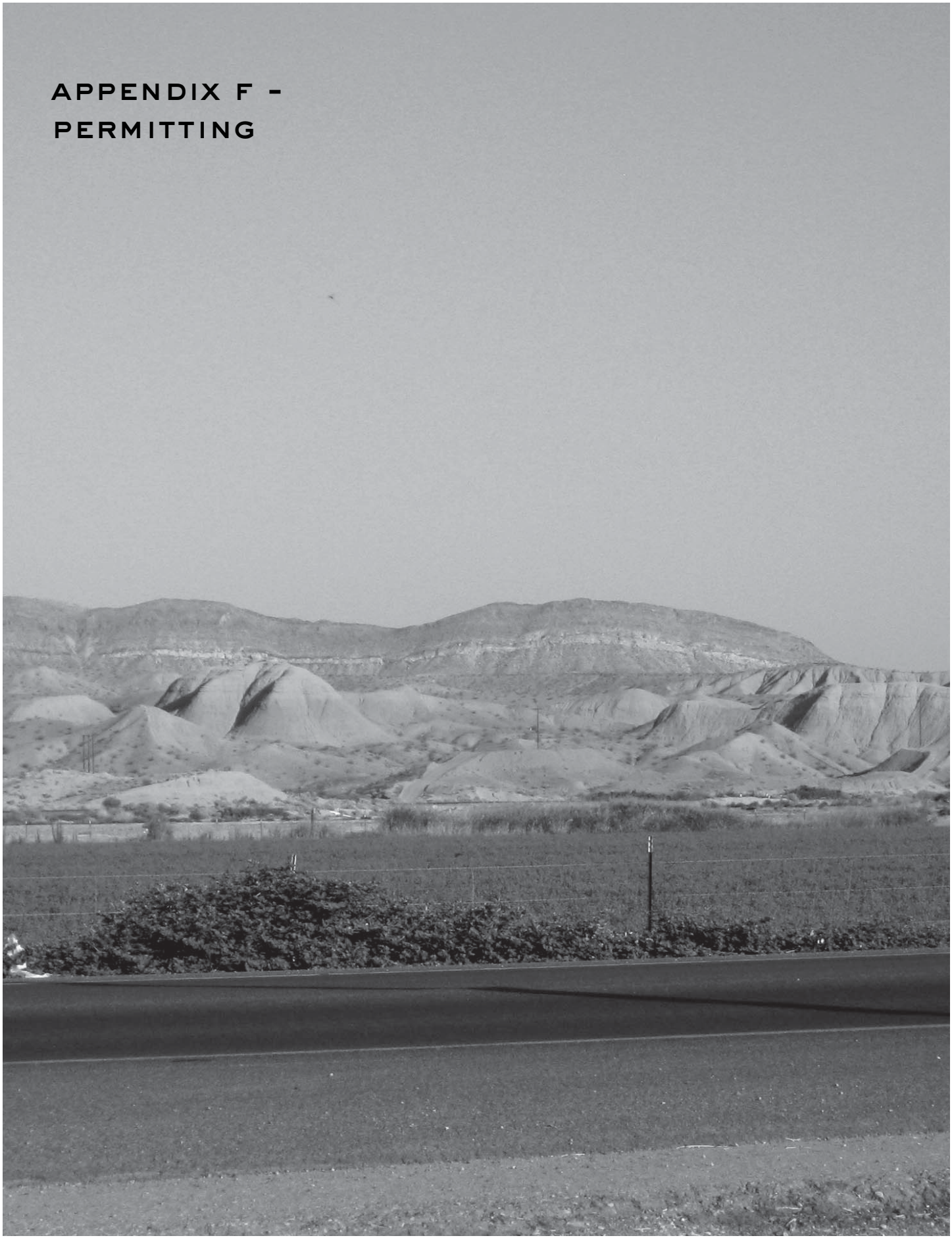
Portions of trail are proposed along the Muddy River and thus are subject to periodic flooding. Debris accumulated on the trail surface should be removed after each recession of water. Debris should be periodically removed from the waterway under any bridge structure.

The Table below summarizes maintenance recommendations for the Moapa Valley Trail System:

Maintenance Task	Suggested Frequency
Inspections	Seasonal – at both beginning and end of summer
Sign repair/replacement	1-3 years
Site furnishings; replace damaged components	As needed
Fencing repair	Inspect monthly for holes and damage, repair immediately
Pavement markings replacement	1-3 years
Pavement sweeping/blowing	As needed; before high use season
Pavement sealing; pothole repair	5-15 years
Lighting repair	Annually
Introduced tree and shrub plantings, trimming	1-3 years
Shrub/tree irrigation for introduced planting areas	Weekly during summer months until plants are established
Shoulder plant trimming (weeds, trees, branches)	Bi-annual (Fall or Spring)
Major damage response (fallen trees, washouts, flooding)	As needed
Culvert inspection	Before rainy season; after major storms
Maintaining culvert inlets	Inspect before onset of wet season
Waterbar maintenance (earthen trails)	Annually
Trash disposal	Weekly during high use; twice monthly during low use
Litter pick-up	Weekly during high use; twice monthly during low use
Graffiti removal	Weekly; as needed

Typical maintenance vehicles for the trail will be light pick-up trucks and occasionally heavy dump trucks and tractors. A mechanical sweeper is recommended to keep the trail clear of loose gravel and other debris. Care should be taken when operating heavier equipment on the trail to warn trail users and to avoid breaking the edge of the trail surface.

APPENDIX F - PERMITTING



Permitting Requirements

The following permits may be necessary before constructing any trails as part of the Moapa Valley Trail Plan:

Dust Control Permit	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Air Quality Management (DAQM), 500 S. Grand Central Pkwy, P.O. Box 551776, Las Vegas, NV 89155-1776
Contact:	Brenda Williams, Public Information Coordinator, Office: 702-455-4883 Fax: 702-383-9994
Regulated Activity:	In accordance with DAQM Regulations, a dust control permit is required for any grading or other land-disturbance activities within Clark County.
Prerequisite(s):	This permit is required for construction activity in Clark County impacting greater than 0.5 acre or 100 linear feet of trench. Also must display sign per 17.5.1.6 DAQM regulations. An application form, project location map, and dust mitigation plan are required for submittal.
Processing Time:	7 days
Fees:	$132.00 per disturbed acre
Submittal:	Application, location map, and dust mitigation plan
When To Submit:	Construction phase
Who Submits:	Contractor
Who Receives:	Contractor
URL(s):	http://www.accessclarkcounty.com/depts/daqem/aq/Pages/permits_dust.aspx

Encroachment Permit	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Public Works Community Development Division, 500 S. Grand Central Parkway, P.O. Box 554000, Las Vegas, NV 89155-4000 General Number: 702-455-6000
Contact:	Dave Betley: Office: 702-455-4808 Dennis Lemoine, P.E. Office: 702-455-6146 Mel Brown Office: 702-455-0304 Or Art Alvarez Assistant Manager Office: 702-455-4619
Regulated Activity:	Activity within Clark County ROW.
Prerequisite(s):	Construction activity within Clark County ROW. Submit 100 percent drawings. Required prior to encroachment. A traffic control plan also needs to be approved and submitted with the application.
Processing Time:	30 days
Fees:	Application Fee $75 Inspection Fee 4.375 percent of the estimated cost of work or $225 which ever is greater
Submittal:	100 percent design with application and a traffic control plan
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://dsnet.co.clark.nv.us/dsweb/civil_engineering/forms/encroach_permit_app.pdf http://dsnet.co.clark.nv.us/dsweb/civil_engineering/forms/encroachment_map.pdf

Grading Permit	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Building, 500 S. Grand Central Parkway, Las Vegas, NV 89155
Contact:	Contact: Dean Freidli Assistant Director Office: 702-455-3030 Fax: 702-455-5810 Contact: Ron Lynn Office: 702-455-3000 Fax: 702-221-0630 NOTE: All Community Development review and permits are required prior to issuing any Building Department Permits
Regulated Activity:	Required for site grading and activity within the jurisdiction of Clark County, NV.
Prerequisite(s):	Soils report must be approved. Community Development Division review and permits are required before issuing any Building Department permits.
Processing Time:	60 days
Fees:	To be determined based on the Administrative Code
Submittal:	Design Phase: 100 percent design, Construction Phase: Application and Soils Review
When To Submit:	Design phase, Construction phase
Who Submits:	Design Phase: Project proponent, Construction Phase: Project proponent
Who Receives:	Design Phase: Project proponent, Construction Phase: Contractor
URL(s):	http://dsnet.co.clark.nv.us/dsweb/civil_forms.html http://dsnet.co.clark.nv.us/dsweb/civil_engineering/forms/grading_review_cklist.pdf

Landscape Certification for Grading and Earthwork	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Building, 500 S. Grand Central Parkway, Las Vegas, NV 89155
Contact:	Contact: Dean Freidli Assistant Director Office: 702-455-3030 Fax: 702-455-5810 Contact: Ron Lynn Office: 702-455-3000 Fax: 702-221-0630 NOTE: All Community Development review and permits are required prior to issuing any Building Department Permits
Regulated Activity:	Certify that landscape materials have been installed in accordance with Clark County Design Manual (Ch. 6 and Appendix B).
Prerequisite(s):	Certification that landscape materials are in accordance with regulations and requirements.
Processing Time:	14 to 60 days
Fees:	None
Submittal:	Certification
When To Submit:	Construction phase
Who Submits:	Project proponent/Contractor
Who Receives:	Project proponent/Contractor
URL(s):	http://www.accessclarkcounty.com/depts/daqem/aq/Documents/LandscapeSupplyRockStockpiles.pdf

Off-Site Construction Permit	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Public Works Community Development Division, 500 S. Grand Central Parkway, P.O. Box 554000, Las Vegas, NV 89155-4000 General Number: 702-455-6000
Contact:	Dave Betley: Office: 702-455-4808 Dennis Lemoine, P.E. Office: 702-455-6146 Mel Brown Office: 702-455-0304 Or Art Alvare Assistant Manager Office: 702-455-4619
Regulated Activity:	Activity within Clark County ROW.
Prerequisite(s):	All off-site improvements within Clark County ROW. Requires 100 percent design drawings.
Processing Time:	1 to 3 weeks
Fees:	Percent of bond. First $28,750 is $300 or 4.375 percent, whichever is greater, next $ 86, $250 is 3.5 percent, over $115,000 is 1.75 percent.
Submittal:	100 percent design with application
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://dsnet.co.clark.nv.us/dsweb/index.html

Soils Report Submittal	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Building, 500 S. Grand Central Parkway, Las Vegas, NV 89155
Contact:	Contact: Dean Freidli Assistant Director Office: 702-455-3030 Fax: 702-455-5810 Contact: Ron Lynn Office: 702-455-3000 Fax: 702-221-0630 NOTE: All Community Development review and permits are required prior to issuing any Building Department Permits
Regulated Activity:	Soils associated with on-site construction activity (Required for Grading Permit).
Prerequisite(s):	Application submitted with Grading Permit application.
Processing Time:	14 to 60 days
Fees:	None
Submittal:	100 percent design with grading permit application
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://dsnet.co.clark.nv.us/dsweb/index.html http://dsnet.co.clark.nv.us/dsweb/building_services/tech_guides/tg19.pdf

Traffic Barricade Plan Approval	
Category:	Clark County Permits
Issuing Agency:	Clark County Department of Public Works Traffic Operations 5821 E. Flamingo Road, Las Vegas, NV 89122
Contact:	Herbert L. Arnold P.E. Chief of Traffic engineering Office: 702-455- 6100
Regulated Activity:	Impacts to Traffic Access and/or Circulation in Clark County ROW.
Prerequisite(s):	Traffic Barricade Plan associated with construction activity or discharge activity impacting Clark County ROW. Not required prior to issuing Encroachment and Off-Site Permits except for Encroachment Permit for Discharge of Water.
Processing Time:	Land Closure: 7 days, Road Closure: 14 to 30 days
Fees:	No fees
Submittal:	Application and Traffic Barricade Plan
When To Submit:	Construction phase
Who Submits:	Contractor
Who Receives:	Contractor
URL(s):	http://dsnet.co.clark.nv.us/dsweb/civil_engineering/forms/traffic_control_app.pdf

NEPA Decision Document (Categorical Exclusion, FONSI or ROD)	
Category:	Federal Permits
Issuing Agency:	United States Bureau of Reclamation (USBR) Lower Colorado Region, P.O. Box 61470, Boulder City, NV, 89006-1470
Contact:	Joe Liebhauser, Director of the Resources Management Office Office: 702-293- 8147 Fax: 702-293-8106
Regulated Activity:	Proposed alignment across USBR land or in USBR ROW requires NEPA compliance.
Prerequisite(s):	Agency coordination is required for all NEPA processes and documentation. Public involvement is required for some EAs and for all EISs.
Processing Time:	Tiered EA- approximately 1 to 3 months for preparation and agency coordination. Longer for more complex projects. EA- approximately 6 to 8 months for preparation and agency coordination. Longer for more complex projects. EIS- approximately 12 to 18 months for preparation and agency coordination. Longer for more complex projects.
Fees:	Project specific
Submittal:	NEPA Document
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://www.usbr.gov/pmts/economics/guide/nepa.html

NDOT ROW Encroachment Permit	
Category:	Nevada State Permits
Issuing Agency:	Nevada Department of Transportation (NDOT), District I, PO Box 170, 123 E Washington Ave, Las Vegas, NV 89125
Contact:	Rudye Lucero, Supervisor 3, associate engineer Office: 702-671-6610 Fax: 702-385-6511
Regulated Activity:	NDOT requires this permit for construction activities within the NDOT ROW.
Prerequisite(s):	NDOT must be notified early in the design phase. The application is due when 90 percent of the design is complete prior to occupancy. One application package is required for the encroachment of each separate NDOT roadway ROW. Each application package must include a NAC 408 compliance letter, design sheets of affected NDOT ROW, and a component that addresses NDOT pavement replacement, if applicable. Obtain prior to construction activity in NDOT ROW
Processing Time:	14 to 60 days (or longer depending on scope of work)
Fees:	$600.00 per application
Submittal:	Design phase: 100 percent design; Construction phase: Application package
When To Submit:	Design phase and Construction phase
Who Submits:	Design phase: Project proponent; Construction phase: Contractor
Who Receives:	Design phase: Project proponent; Construction phase: Contractor
URL(s):	http://www.nevadadot.com/business/forms/pdfs/ROW_RightOfWayOccupancyPermit.pdf http://www.nevadadot.com/business/forms/pdfs/ROW_DrainageInformationForm.pdf http://www.nevadadot.com/business/forms/pdfs/ROW_DrainageTermsConditions.pdf

Traffic Barricade Plan Approval	
Category:	Nevada State Permits
Issuing Agency:	NDOT, District I, PO Box 170, 123 E Washington Ave, Las Vegas, NV 89125
Contact:	Harvey Traffic Engineer Technician, Office: 702-385-6516
Regulated Activity:	The NDOT ROW Encroachment Permit requires the Contractor to submit a Traffic Barricade Plan.
Prerequisite(s):	The Traffic Barricade Plan must be submitted prior to the start of construction.
Processing Time:	16 to 30 days (or longer depending on scope of work)
Fees:	None
Submittal:	Traffic Barricade Plan
When To Submit:	Construction phase
Who Submits:	Contractor
Who Receives:	Contractor
URL(s):	http://www.nevadadot.com/ http://www.nevadadot.com/business/forms/

Written Approval	
Category:	Nevada State Permits
Issuing Agency:	Nevada Department of Wildlife, 4747 West Vegas Drive, Las Vegas, NV 89108
Contact:	Brad Hardenbrook, Permit Compliance Office: 702-486-5127, Fax: 702-486-5133
Regulated Activity:	Disturbance of wildlife and/or wildlife habitat for the entire project pursuant to Nevada Revised Statute (NRS) 503.597 and applicable Nevada Administrative Code (NAC) Not specific to endangered species.
Prerequisite(s):	Written approval is necessary prior to handling any wildlife as defined by the State of Nevada for the purpose of removing out of harms way. A survey for state-listed species within the project area is required. Other information required includes project alignment, area of disturbance, and the state-listed species to be disturbed.
Processing Time:	30 days of receipt of a written request
Fees:	None
Submittal:	Written request
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://www.ndow.org/law/regs/ http://www.leg.state.nv.us/NAC/NAC-503.html#NAC503Sec005

NPDES General Stormwater Permit for Construction	
Category:	Nevada State Permits
Issuing Agency:	NDEP Bureau of Water Pollution Control 901S Stewart St., Suite 4001, Carson City, NV 89701-5249
Contact:	Cliff Lawson, Stormwater Coordinator Office: 775-687-4670 Fax: 775-687-9448
Regulated Activity:	Activity that will disturb 1 acre or greater, and will discharge storm water runoff from the construction site into a municipal separate storm water sewer system, or “waters of the US” as defined by Section 404 of the CWA.
Prerequisite(s):	Permit issuance is required prior to construction/discharge activities. Preparation of SWPPP is required. Upon project completion, submit a Notice of Termination (NOT).
Processing Time:	48 hours from receipt of the NOI
Fees:	$200.00 filing fee and $200.00 annual fee. Permit fee is project specific
Submittal:	NOI and SWPPP
When To Submit:	Construction phase
Who Submits:	Contractor
Who Receives:	Contractor
URL(s):	http://ndep.nv.gov/bwpc/storm01.htm http://www.epa.gov/npdes/pubs/dmr.pdf http://ndep.nv.gov/bwpc/ConstructionNOI/signin.aspx

Environmental Access and Occupancy Permit for Railroad ROW	
Category:	Utility Services Permits\Coordination
Issuing Agency:	1.) Union Pacific Railroad (UPRR), Contract and Real Estate Department, 1416 Dodge Street, Room 1100, Omaha, NE 68179-1100 2.) 1800 Farnham St, Omaha NE 68102
Contact:	John Devish Manager of Contracts Office: 402-544-8563
Regulated Activity:	Surveys or activities requiring access to a UPRR ROW.
Prerequisite(s):	Submit application form and fee for temporary access. Coordination with UPRR would be required if the project results in UPRR ROW encroachment.
Processing Time:	Environment Survey Access: 30 days for agreement
Fees:	$545 application fee and $1,500 for ROE fee plus cost for a flag person if needed.
Submittal:	Application and fee
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://www.uprr.com/reus/encroach/procedur.shtml

Contractor's Right-of-Entry Agreement	
Category:	Utility Services Permits\Coordination
Issuing Agency:	1.) Union Pacific Railroad (UPRR), Contract and Real Estate Department, 1416 Dodge Street, Room 1100, Omaha, NE 68179-1100 2.) 1800 Farnham St, Omaha NE 68102
Contact:	John Devish Manager of Contracts Office: 402-544-8563
Regulated Activity:	Construction activities within UPRR easements or ROW.
Prerequisite(s):	UPRR and Project proponent negotiate agreement. Agreement signed and submitted by Project proponent. Project proponent and/or contractor submits certificate of insurance and fee payment.
Processing Time:	10 day notification prior to survey or construction activities in UPRR ROW.
Fees:	$500.00
Submittal:	Agreement, certificate of insurance, and fee
When To Submit:	Construction phase
Who Submits:	Contractor
Who Receives:	Contractor
URL(s):	http://www.uprr.com/reus/encroach/encguide.shtml

Pipeline Crossing Agreement	
Category:	Utility Services Permits\Coordination
Issuing Agency:	1.) Union Pacific Railroad (UPRR), Contract and Real Estate Department, 1416 Dodge Street, Room 1100, Omaha, NE 68179-1100 2.) 1800 Farnham St, Omaha NE 68102
Contact:	John Devish Manager of Contracts Office: 402-544-8563
Regulated Activity:	Activities crossing the UPRR ROW.
Prerequisite(s):	UPRR and Project proponent negotiate agreement. Agreement must be signed by Project proponent General Manager and submitted by Project proponent to UPRR.
Processing Time:	Permitting a Crossing: 30 to 45 days. Permitting Parallel Encroachment: 90 to 120 days
Fees:	To Be Determined by UPRR
Submittal:	Agreement Project
When To Submit:	Design phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://www.uprr.com/reus/encroach/encguide.shtml

Drainage and Waterway Encroachment	
Category:	Utility Services Permits\Coordination
Issuing Agency:	1.) Union Pacific Railroad (UPRR), Contract and Real Estate Department, 1416 Dodge Street, Room 1100, Omaha, NE 68179-1100 2.) 1800 Farnham St, Omaha NE 68103
Contact:	John Devish Manager of Contracts Office: 402-544-8563
Regulated Activity:	Drainage Modifications within a UPRR ROW
Prerequisite(s):	Engineering plans completed in accordance with the UPRR Drainage and Waterway Encroachment Planning Guide and Construction Procedures and a hydrology study according to the UPRR Drainage and Waterway Hydrology Study Guide
Processing Time:	Approximately 30 days – notification prior to survey or construction activities in UPRR ROW required.
Fees:	$1,055 application fee
Submittal:	Application, agreement, Hydrology Study, design drawings
When To Submit:	Construction phase
Who Submits:	Project proponent
Who Receives:	Project proponent
URL(s):	http://www.uprr.com/reus/drainage/procedur.shtml

APPENDIX G – ENVIRONMENTAL AND CULTURAL RESOURCES ASSESSMENT