

**AGENDA**

**FOR THE REGULAR MEETING OF THE CITY OF BELEN PLANNING AND ZONING COMMISSION, STATE OF NEW MEXICO, COUNTY OF VALENCIA TO BE HELD ON MONDAY THE 25<sup>th</sup> OF SEPTEMBER 2017 AT 6:00 PM IN THE COUNCIL CHAMBERS AT CITY HALL, 100 SOUTH MAIN STREET, BELEN, NEW MEXICO 87002.**

ALL P & Z COMMISSION MEETINGS ARE VIDEO AND AUDIO RECORDED.

*A COPY OF THE AGENDA MAY BE OBTAINED FROM THE OFFICE OF THE CITY OF BELEN PLANNING & ZONING DEPARTMENT.*

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. PLEDGE OF ALLEGENCE**
- 4. APPROVAL OF AGENDA**
- 5. APPROVAL OF MINUTES:**  
September 11, 2017
- 6. PUBLIC COMMENT 3 MINUTE PRESENTATIONS:** If more time is needed for presentation, please ask to be scheduled on the next agenda.
- 7. PUBLIC HEARING WITH POSSIBLE ACTION**
  - A. BROADBAND UTILITY POLE: BROADBAND NETWORK OF NEW MEXICO LLC.**  
**AGENT: Kevin Winner LEGAL DESCRIPTION:** Township 5 North, Range 2 East, Section 18, Map 100, Tracts 159A1, 159A2, 157, 156B & a portion of Land of Par 2 Enterprises, containing 1.59 ac.
- 8. DISCUSSION**  
Landscape Ordinance
- 9. INFORMATIONAL ITEMS**
  - a. Communication from the Commission and Staff
- 10. ADJOURNMENT**

RESPECTFULLY SUBMITTED

/s/  
Lisa R Miller  
Planning & Zoning Administrator

If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact 505-966-2746 at least one week prior to the meeting.

cc: Mayor & City Council  
News Bulletin

Belen Chamber of Commerce  
Belen Recreation Center

Belen Public Library  
Belen City Hall

**JERAH R CORDOVA**  
MAYOR  
**LEONA VIGIL**  
CITY MANAGER



**CITY OF BELEN**  
100 SOUTH MAIN STREET  
BELEN, NEW MEXICO 87002  
(505) 966-2746  
[www.belen-nm.gov](http://www.belen-nm.gov)

**WAYNE GALLEGOS**  
CITY COUNCIL  
**DAVID CARTER**  
CITY COUNCIL  
**DARLEEN ARAGON**  
CITY COUNCIL  
**FRANK ORTEGA**  
MAYOR PRO-TEM

**CITY OF BELEN  
PLANNING & ZONING COMMISSION MEETING  
MINUTES  
SEPTEMBER 11, 2017**

Chairman Steve Etheridge called the regular meeting of the Belen Planning and Zoning Commission meeting to order at 6:00 p.m.

**PRESENT:** Chairman Steve Etheridge  
Vice Chair Pete Armstrong  
Commissioner Gordon Reeves

**ABSENT:** Commissioner Claudine Montano  
Commissioner Jim Lardner

**CITY STAFF:** Steven Tomita, Economic Development  
Lisa R Miller, Planning & Zoning Administrator

**PLEDGE OF ALLEGIANCE**

Chairman Steve Etheridge led the Pledge of allegiance.

**APPROVAL OF AGENDA:**

Vice Chair Pete Armstrong moved to approve the Agenda.

Commissioner Gordon Reeves seconded the motion.

Motion Carried.

**APPROVAL OF MINUTES:**

Lisa Miller informed the Commission that there was an error on the Agenda. It should read the minutes of August 28<sup>th</sup>.

Vice Chair Pete Armstrong moved to approve the minutes of August 28, 2017.

Commissioner Gordon Reeves seconded the motion.

Motion carried.

### **PUBLIC COMMENT**

None.

### **DISCUSSION**

#### **Landscape Ordinance**

Steven Tomita said that he was not actually sure of what the Commission decided to do on this. What he remembers is that they were going to go over the Queen Creek Ordinance page by page and markup language that is not appropriate for Belen.

Vice Chair Pete Armstrong said that it was his understanding that was what they would do.

Chairman Steve Ethridge said that was his too.

Steven Tomita said then they would take the document and bring in what the City had agreed upon and incorporate it into one document.

The Commission was asked if there were any comments on the Purpose of the Landscaping Standards. The Commission said that the only thing that needs to change is the reference to Queen Creek. Any part of the document where it says Queen Creek needs to be changed to the City of Belen. To preserve and accentuate agricultural heritage was discussed.

Steven Tomita said that Belen has a strong agricultural heritage. He explained that Queen Creek was a big agricultural area and they were undergoing huge growth and did not want to lose all of the agricultural lands and that was why they put that in their Ordinance. There are some agricultural areas in the Belen area and as Belen grows and expands, and does the City have a desire to preserve and maintain that agricultural heritage.

It was decided to leave that in. On number 4, the phrase preserve existing native vegetation, as an integral part of the Sonoran Desert and wildlife habitats was removed. Native plants and vegetation was discussed. Reserving existing vegetation was discussed.

Vice Chair Pete Armstrong said to keep in mind what that is saying because this will be a document that people will be looking at and it is saying that they have to preserve vegetation. That is a strong statement to be saying when most new construction comes in and just clears out an empty lot of all vegetation before proceeding with a build out.

Steven Tomita said that they might want to look at preservation would be an area like the Bosque. That is an area that is important to preserve. If you incorporate the statement preserving existing native vegetation here you are not even going to be able to remove a sagebrush plant. You need to be careful on how this is worded.

It was decided to remove the statement of preserving existing native vegetation. The next change was with what list of very-low to moderate water use plant list should be used for this area. Vice Chair Pete Armstrong suggested that the Albuquerque's list of acceptable plants, which is a very in depth document, should be used.

Commissioner Gordon Reeves asked if the local nurseries would have a list.

Vice Chair Pete Armstrong said that they issue with the local nurseries is that their stock is basically plant materials that they can sell and may not be from the local area. Some come out of Dallas, Arizona, etc. and they are not really specific to this area.

Steven Tomita made the suggestion of changing the wording to say we encourage all plant materials be selected from the Albuquerque plant list. That was agreed upon.

Street right-of-way landscaping was discussed.

Vice Chair Pete Armstrong said that the Village of Los Lunas used the one tree and six shrubs for each thirty feet of street and it looks very nice. Los Lunas put in a lot of effort into getting irrigation to the areas that were developed. If you put it in it needs to be maintained and the City is lacking in that area. His concern is it is one thing to say what we want, it another to make it happen, then it is another to maintain the area once it is done.

Steven Tomita said that this will need to be looked at because it may need to be in the Ordinance or it could just be a policy. He suggested that another statement be added to the street right-of-way landscaping and that is spacing may be subject to the specific canopy cover. What also needs to be changed is the Planning Administrator needs to be changed to Planning Director. A Planning Administrator may not have the knowledge or the experience to make some of the decisions and a director is usually someone who has extensive years of training.

The next thing discussed was the minimum plant sizes.

Chairman Steve Ethridge said that he remembers that they had decided on a 2" caliper with a height of 10'.

Vice Chair Pete Armstrong said that it depends on the type of tree. He took exception to all of those numbers.

Commissioner Gordon Reeves said that he would prefer a 2" caliper.

Steven Tomita said that they should go by the caliper size and not a container size because you can put a small tree into a big container.

Vice Chair Pete Armstrong said that if they are going to do this the caliper needs to be used. He suggested a minimum of a 2" caliper measured 4" above the ground.

Chairman Steve Ethridge said for the inorganic ground covers should consist of crusher fines instead of decomposed granite, pea gravel, or river rock. Crusher fines compact better.

Vice Chair Pete Armstrong said that he was in agreement with that. You will also be able to have a better choice in colors. He also feels that it should be down to a ¼" minus minimum size crusher fines.

Steven Tomita said that the river rock is good when you have drainage and rip-rap and the more rocky stones collect to much grit. Fiver rock also collects scorpions.

Commissioner Gordon Reeves that this is landscape rock and a ½" minus minimum is fine for this. ¼" minus is basically used for driveways.

Steven Tomita said that a ¼" minus is great for driveways, pathways and trails but where you want a more attractive and textured area the ½" minus is better. Depending on the slope of the landscape, the fine washes out easier than the larger stone does.

Under Minimum Standards number 4 is to be removed completely. Under 5. Common Area Landscaping the size of the trees shall be 2" caliper. Landscape buffer setbacks were discussed.

Vice Chair Pete Armstrong asked what was meant by EMP on the setback table provided.

Steven Tomita said that is Industrial, warehouses, offices manufacturing, and things like that. Offices are not manufacturing, warehouses are not manufacturing. These are businesses that have a number of employees.

Vice Chair Pete Armstrong said that changing the acronym so that it is better understood would be better. He suggested Office, Industrial, Warehouse.

Steven Tomita said that it could be OWI. He also said that the Commission needs to look and the distance required for these zones for the buffer setbacks. There is an option, Queen Creek did get carried away a little, but by using the option of a buffer and a wall that total could be reduced. If you look at Travertine, if they did not have that huge space separating them from the residential area, you would need at least 40' between them and the homeowner.

Vice Chair Pete Armstrong asked why the asterisk was used there instead of addressing this in another section or whatever the Commission determines that to be. It says may be required, so why not determine what the distance should be and leave it at that.

Steven Tomita said that the reason that they put this in there is if you have a large lot, or suburban type lot and open areas, and a big company comes in next to them and develops a small lot subdivision, then this area is going to get pretty noisy with increased traffic, so that is why they are putting on the chart that they may impose a buffer setback.

Vice Chair Pete Armstrong said that he understands that but does not feel it should be addressed by using an asterisk.

Steven Tomita said that another column could be added with the acronym LLC-Large Lot Residential. This table is trying to address buffer impacts.

It was discussed and was decided to add another column to address this. And a noted footnote that would say that it could be reduced by using other approved methods. Under Landscape

Installation General, the cash escrow or irrevocable letter or credit was discussed. This was changed to an acceptable form of financial insurance. They next discussed the overhead clearance.

Chairman Steve Ethridge said that he would like to see signs and lighting added to this. The overhead service wires are not just an issue.

Commissioner Gordon Reeves said that issue is addressed in a few more paragraphs.

Vice Chair Pete Armstrong suggested that the overhead service wires should be moved to the area where the lights and signs are addressed and removed from this paragraph.

The clear site triangle was discussed. The Commission was informed that the City of Belen goes by the NM DOT standards. The tree canopy height was brought up and it was decided that it should read a mature tree canopy height shall not be less than six feet. The plant materials used in public right-of-ways should come from the Albuquerque list and Dot Standards if applicable.

Vice Chair Pete Armstrong has an issue with a low water use plant list being used here.

Commissioner Gordon Reeves said that is so the City may maintain the areas easier.

Steven Tomita said that you would rather have low water plants. You don't want to have a bunch of cotton woods all along Main St. This is talking about the public right-of-way in this section.

Vice Chair Pete Armstrong suggested that it read, shall consider low water use plants. Only using low water use plants ties your hands because there are a number a plants that are not considered low water plants but once established, they are relatively low water use and accomplish what you want.

Steven Tomita said that he understands where he is coming from and suggested that the low water use plants be left in and add, or as may be approved by the Planning Director.

The Commission decided on that wording for this section of plant materials used. The Commission agreed on number nine; Site Stabilizations. The vegetative native plants were discussed.

Steven Tomita said that New Mexico has established standards and they have a listing of all the plants that you can use to revegetate. They went through extensive studies on how to revegetate for stability, etc.

Chairman Steve Ethridge asked if we could get a copy of that.

Steven Tomita said that it is the Airborne Particulate Matter Regulations. It is the same one used in Albuquerque.

The Commission decided to use this. Dust Control was discussed next.

Steven Tomita said that the Commission needs to require a SWPPP and dust control plan. That is mandatory.

They moved on to Prohibited Plants.

Chairman Steve Ethridge suggested that Mulberry trees be crossed out as a prohibited tree.

Vice Chair Pete Armstrong said that he has Mulberry trees, and he loves them, but in most places they are prohibited because of allergies and the mess they make. He also takes offense with some of the other plants listed. He likes Fountain Grass and some Olive trees, some of them are not very high in pollen counts.

Steven Tomita said that not Olive trees are prohibited. There are some listed as being allowed.

Vice Chair Pete Armstrong said that he does not think that the City should be that prescriptive. He suggested a different approach by allowing low pollen producers that inhibit allergies. Junipers are a high pollen producing tree, yet you see them all around.

Steven Tomita said that they need to come up with some language restrictions or limiting pollen producing trees.

Chairman Steve Ethridge suggested that the Commission stop at this point. They have covered a lot of material and can continue this at the next meeting.

Steven Tomita said that some of this is the easiest part because when they start getting into the buffers and the open space that is when you get in the area where you are going to have more public debates.

Chairman Steve Ethridge requested that the rest of this be reviewed at the next Commission meeting. The Commission agreed and tabled the issue.

#### **COMMUNICATIONS FROM THE COMMISSION AND STAFF**

Steven Tomita said that the lease agreement between the Schools and Tractor Supply has been signed so they will be moving forward. It is the intent of Tractor Supply to be open in early January. He informed the Commission that the staff has received the plans for the building shell at the corner of Main & Reinken Ave. That building will contain three retailers and it is our understanding that Dominos is one of them. Loves is moving forward rapidly, they are starting on the utilities. There are several Retailers looking in the Belen area. He is hoping that he can make more announcements shortly. He is also composing a letter to the Valencia County Planning Director informing him that the City will be exercising their three mile planning and platting jurisdiction. We review anything that is coming into the County within the area. We also have a one mile zoning jurisdiction. They are going to be informed that this needs to be recognized and the City notified. This is mandated by State law. We have joint approval or denial in those areas. He did submit the alley issue to the City Manager. The City Manager will be assessing the best way to go about that.

Vice Chair Pete Armstrong said that he received a phone call Sunday and the previous party interested in purchasing his property on Main and W Chavez is still interested in purchasing this property. He said let's remember 911 and all of the suffering people in Texas and Florida.

**ADJOURNMENT**

There being no further business to come before the City of Belen Planning & Zoning Commission, Commissioner Gordon Reeves moved to adjourn.

Vice Chair Pete Armstrong seconded the motion.

Motion carried.

The regular meeting of the City of Belen Planning & Zoning Commission adjourned at 7:36 pm.

\_\_\_\_\_  
Chairman Steve Ethridge

**ATTEST:** \_\_\_\_\_  
Steven Tomita, Economic Development Director

**CITY OF BELEN  
100 SOUTH MAIN STREET  
BELEN, NM 87002  
(505) 864-8221**

**NOTICE OF PUBLIC HEARING**

**NOTICE IS HEREBY GIVEN** to the public and all parties of interest that the Belen Planning and Zoning Commission will conduct a public hearing for a **BROADBAND UTILITY POLE: BROADBAND NETWORK OF NEW MEXICO LLC. AGENT: Kevin Winner**

**LEGAL DESCRIPTION:** Township 5 North, Range 2 East, Section 18, Map 100, Tracts 159A1, 159A2, 157, 156B & a portion of Land of Par 2 Enterprises, containing 1.59 ac.

You are further notified that this public hearing will be held on **Monday, September 25, 2017 at 6:00 PM**, in the Council Chambers at City Hall, 100 South Main Street, Belen, NM 87002. Any person having objections or wishing to be heard should make such protests to the Belen Planning and Zoning Commission at the above stated date and time. Comments should be mailed to the Belen Planning and Zoning Department at 100 South Main Street, Belen, NM 87002.

**LEGAL NOTICE PUBLISHED: September 7, 2017**



# VALENCIA COUNTY News-Bulletin

For Inquiries Please Call: (505) 864-4472

## Ad Proof/Order Confirmation

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100 SOUTH MAIN ST  
BELEN, NM 87002 USA

**Account Number**  
1001840

**Ad Order Number**  
0001368967

**Ordered By** LISA  
**Customer EMail** Lisa.Miller@belen-nm.gov  
**Ad Cost** \$33.98  
**Tax Amount** \$2.83  
**Total Amount** \$36.81  
**Amount Due** \$36.81

**Customer Phone** 5058648221  
**PO Number** 41236  
**Sales Rep** abaldonado  
**Order Taker** abaldonado  
**Payment Method** Credit Card  
**Payment Amount** \$0.00

**Joint Ad #**

**Affidavits** 0

### Pick Up #

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WYSIWYG Content

CITY OF BELEN  
100 SOUTH MAIN STREET  
BELEN, NM 87002  
(505) 884-8221

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Published in the Valencia County News-Bulletin on September 7, 2017.



**CITY OF BELEN**  
**100 SOUTH MAIN STREET**  
**BELEN, NM 87002**  
**(505) 864-8221**

**WIRELESS TELECOMMUNICATIONS FACILITIES APPLICATION**

**APPLICATION INFORMATION:**

Name, mailing address, and phone number of applicant:

Broadband Network of New Mexico, LLC, 2955 Red Hill Avenue, Costa Mesa, CA 92626, Attn: Kevin Winner, 505-690-3172

**WTF PERMIT APPLICATION REQUIREMENTS. (Please attach the following information for all WTF permits)**

A. No WTF may be constructed, installed, modified, or operated within the municipal limits of the city without first obtaining a permit from the city. An application for a WTF permit shall be submitted to the city zoning officer and shall include the following:

1. A general location map showing the proposed site for the WTF and surrounding lands within a ¼ mile radius of the proposed site. This map should show major roads and other features necessary to locate the site.
2. A vicinity map showing property lines of the land on which the WTF is located, and surrounding properties adjacent to the WTF property. On-Site and off-site zoning and land uses will be indicated on the vicinity map, including the city of Belen and other zoning jurisdiction, if applicable.
3. Documentation regarding collocation as described in these regulations;
4. Site plans, drawn to scale, that include the following information.
  - a. All property lines, showing distances and bearings, with topography sufficient to characterize site drainage;
  - b. All existing and proposed site improvements, including buildings and structures, roadways and easements, utility lines, and landscaping, with dimensions and setbacks from property lines;
  - c. A written statement and elevation drawings of the proposed WTF, indicating the type of construction, support structure, tower height, and visual image presented by the WTF;
  - d. A notarized statement from the applicant that describes the facility's capacity and declares the number and type(s) of antenna(s) that it can accommodate, or an explanation of why the facility cannot be designed to accommodate other users;
  - e. An engineer's stamp and registration number;
  - f. A five-year plan stating their intentions and not subject to change; and
  - g. Any other information as requested by the city.

5. For any new WTF, a letter of intent committing the WTF owner and any successors to allowing shared use of the facility if an additional user agrees in writing to meet reasonable terms and conditions of shared use.

B. Any requests for a WTF permit will be submitted with a filing fee of one hundred dollars (\$100.00) to the zoning officer.

Applicant Signature [Signature] Date Applicant Submitted 8/13/17

Amount of Fee Received \$100.00 Date Application Received 8-7-17

Date of Hearing 9-25-17 Zoning Officer Signature \_\_\_\_\_



Broadband Network of  
New Mexico, LLC  
2955 Red Hill Ave. Ste. 200  
Costa Mesa, CA 92626  
USA Tel: (657) 261-3814  
www.ITBUtility.com

### **Project Narrative**

**Description of Work:** Broadband Network of New Mexico, LLC (“BNNM”) proposes to construct one (1) new small cell pole within the public right-of-way, in the city of Belen (“City”), and attach one (1) Omni Multi-directional antenna, one (1) U/E Relay, and one (1) Remote Radio Head.

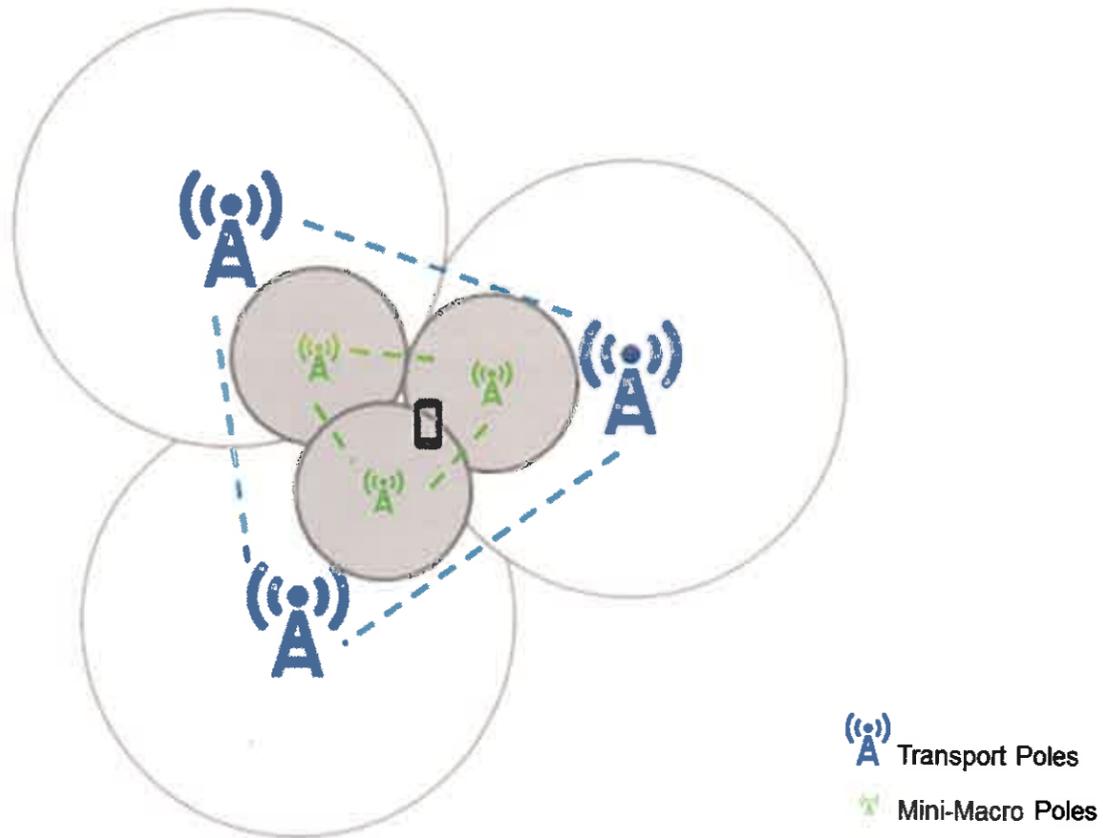
**Purpose:** The focal purpose of this installation is to fulfill capacity objectives caused by the rapid increased usage of wireless data and technology in the City. BNNM is constructing a new, nationwide hybrid transport network that provides high-speed, high-capacity bandwidth to facilitate the next generation of devices and data-driven services and to meet our ever-growing demand for connectivity.

**Uses:** This network combines fiber, repeaters and microwave technologies to ensure that the network is cost-efficient, low-impact to communities, and can be effectively upgraded and augmented in the future. BNNM’s hybrid transport network can be used to support driverless vehicles (commercial, personal and agricultural), remote weather monitoring stations, rural communities where high-speed connectivity is lacking, and much more.

**Footprint:** Our proposed installation in Belen will play an essential role in fulfilling capacity objectives. The location of this installation and general design details are depicted in our submitted construction drawings. Overall, the footprint of our project in the City is very minimal. By installing one (1) new small cell pole we will be able to provide backhaul connectivity across the City and BNNM has eliminated the need for a significant amount of trenching that would otherwise be required for installations of fiber or traditional macro cell towers. Our small cell Omni antenna leverages cutting edge antenna technology utilizing small equipment that can be stealth to comply with City preferences.



Broadband Network of  
New Mexico, LLC  
2955 Red Hill Ave. Ste. 200  
Costa Mesa, CA 92626  
USA Tel: (657) 261-3814  
www.ITBUtility.com



**How it Works:** Existing Macro (transport) poles and new small cell antennas work in tandem to ensure that coverage and capacity goals are met. Small cell sites densify network coverage by relaying the source signal from the transport poles wirelessly, then repeating this source signal to the end user via our small cell antenna. This allows for network densification without adding larger, and less aesthetic wireless facilities. As future capacity requirements increase, the transport poles allow for utilization of small cell sites to fill increased coverage gaps and capacity needs.



### **New Wood Utility Pole**

**Design:** Installation of one (1) 50 ft. wood utility pole within the right-of-way of the City.

**Site Information:** See table below.

Candidate ID	Pole Type	Installation Type	Latitude	Longitude	Pole Height (ft.)
EP90XS750B	Utility Pole	New Pole	34.656422	-106.778207	50'

**Analysis:** When selecting a new small cell site, there are a number of considerations that we take into account, including the identified coverage area, availability of existing infrastructure within the right-of-way, height of existing infrastructure, feasibility of using existing infrastructure, and zoning district (industrial and commercial prioritized, if possible).

The first step in choosing an effective site requires us to look at the search ring provided by our client to identify the coverage area they wish to address. With the search ring area identified, the next step is to determine what types of existing infrastructure is available in this area. For this site in particular, the identified coverage area has existing infrastructure within the right-of-way, by way of wooden utility poles. Due to the lack of height with the existing infrastructure, our only feasible option for this site was the installation of a new pole.

Once our pole type had been identified, the next step is for us to find a location that works, while taking into account jurisdiction-specific preferences. For this site, the search ring covered different zonings districts and while we were mindful to make every effort to propose the site in a Commercial/Industrial area, placement in this zoning designation was unavoidable. When placing a new utility pole for a small cell site, the objective is to choose areas that maximize coverage while minimizing visual impact and also choose low traffic areas that do not have significant decorative landscaping. We sought out an area with existing utility poles in the right-of-way to ensure our new pole will blend in aesthetically.

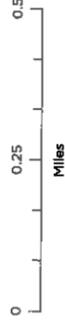
Multiple designs were considered before determining our proposed wooden utility pole design to be the least intrusive and have the least amount of aesthetic impact. After analyzing the surrounding areas, we felt typical monopole designs were too large and would be too intrusive if placed in the right-of-way. A non-functioning streetlight design was considered in areas where there are existing street lights, however, this design was determined not to be viable due to the fact that a non-functioning streetlight would disturb the current aesthetics concerns in the area more than our proposed design and raised safety concerns. Once the utility pole design was finalized, the most sensible material to use was wood. While other materials such as metal and concrete were considered, wood would better match the existing aesthetics of the wood utility poles in the surrounding area and minimize the overall footprint of these sites.

# Belen, New Mexico

1 Proposed Small Cell Site  
EP90XS750B/9NMB000505  
34.65642200 -106.77820700  
Height: 50 Feet



● Small Cell, New Pole



Candidate locations as of 7/03/2017



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**ELECTRICAL NOTES CONT'D**

13. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED BY THE CONTRACTOR WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
14. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
15. DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO NOTES AND REQUIREMENTS EXCAVATION, AND BACKFILLING.
16. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IEC.
17. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURER'S CATALOG INFORMATION OF ANY/ALL EQUIPMENT AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE MOBILITE CM PRIOR TO INSTALLATION.
18. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE MOBILITE CM UPON FINAL ACCEPTANCE.
19. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
20. DISCONNECT SWITCHES SHALL BE UL-RATED, H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
21. ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND KNOWN AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
22. RACEWAYS: CONDUIT SHALL BE SCHEDULE 80 PVC MEETING OR EXCEEDING NEMA TC2 - 1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'COLD GALV'.
23. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
24. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THWN INSULATION, UNLESS OTHERWISE NOTED, 600 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.
25. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
26. SERVICE: AS SPECIFIED ON THE DRAWINGS. OWNER OR OWNER'S AGENT WILL APPLY FOR POWER. ALL PROVISIONS FOR TEMPORARY POWER WILL BE OBTAINED BY THE CONTRACTOR.
27. TELEPHONE OR FIBER SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.
28. ELECTRICAL AND TELCO/FIBER RACEWAYS TO BE BURIED A MINIMUM DEPTH OF 30", UNLESS OTHERWISE NOTED.
29. CONTRACTOR SHALL PLACE 6" WIDE DETECTABLE WARNING TAPE AT A DEPTH OF 6" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM".
30. ALL BOLTS SHALL BE 3-16 STAINLESS STEEL

**GROUNDING NOTES:**

1. ALL HARDWARE SHALL BE 3-16 STAINLESS STEEL, INCLUDING LOCK WASHERS. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND, AS SPECIFIED, BEFORE MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.
4. ALL ELECTRICAL AND GROUNDING AT THE POLE SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.
5. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
6. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING #5 GROUND WIRES. FOLLOW ANTENNA AND BTS MANUFACTURER'S PRACTICES FOR GROUNDING REQUIREMENTS.
7. ALL GROUND CONNECTIONS SHALL BE #6 AWG, UNLESS OTHERWISE NOTED. ALL WIRES SHALL BE COPPER WITH THHN, UNLESS OTHERWISE NOTED. ALL GROUND WIRE SHALL BE SOLID TIN COATED OR STRANDED GREEN INSULATED WIRE.
8. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE, 10 OHMS MAXIMUM. PROVIDE SUPPLEMENT GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE MOBILITE CM.
9. NOTIFY ARCHITECT/ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
10. ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED A MINIMUM OF 30" BELOW GRADE/ 6" BELOW FROST-LINE IN TRENCH, UNLESS OTHERWISE NOTED. BACK FILL SHALL BE COMPACTED AS REQUIRED BY ARCHITECT/ENGINEER.
11. ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.
12. ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:
  - A. BURNDY, HY-GRADE U.L. LISTED CONNECTORS FOR OUTDOOR USE OR AS APPROVED BY APPLICANT PROJECT MANAGER.
  - B. CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).
  - C. ONE (1) HOLE TINNED COPPER COMPRESSION (LONG BARREL) FITTINGS.
13. ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP (RESULTING FROM USE OF PROPER CRIMPING DEVICES) AND WEATHER-PROOFED WITH HEAT SHRINK.
14. ALL CONNECTION HARDWARE SHALL BE TYPE 3-16 STAINLESS STEEL (NOT ATTRACTED TO MAGNETS).
15. ELECTRICAL SERVICE EQUIPMENT GROUNDING SHALL COMPLY WITH NEC, ARTICLE 250-82 AND SHALL BOND ALL (E) AND NEW GROUNDING ELECTRODES. NEW GROUNDING ELECTRODE SHALL INCLUDE BUT NOT LIMITED TO GROUND RODS.

**TESTING AND EQUIPMENT TURN UP REQUIREMENTS:**

1. RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT TESTING WILL COMPLY WITH CURRENT INDUSTRY STANDARDS AND OR THOSE STANDARDS OF THE EQUIPMENT MANUFACTURER OR PROVIDED TO THE CONTRACTOR PRIOR TO TESTING.
2. CONTRACTOR WILL USE THE APPROPRIATE CALIBRATED TESTING EQUIPMENT IN THE TESTING OF RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT THAT MEET INDUSTRY STANDARDS OF THE MANUFACTURER OR THOSE STANDARDS PROVIDED TO THE CONTRACTOR PRIOR TO TESTING.
3. CONTRACTOR TO VERIFY AND RECORD ALL TEST RESULTS AND PROVIDE THESE RESULTS WITHIN THE FINAL CLOSE OUT PACKAGE.
4. ALL PERSONNEL INVOLVED IN THE TESTING OF RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT WILL BE REQUIRED TO HAVE BEEN TRAINED AND OR CERTIFIED IN THE PROPER TESTING OF RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT.

5. ALL TEST RESULTS SHALL BE TIME STAMPED, RECORDED AND PRESENTED PRIOR TO ENERGIZING AND TURN UP OF ANY EQUIPMENT.
6. GPS EQUIPMENT IS NOT TO BE TESTED OR ATTACHED TO ANY CABLING DURING TESTING, DOING SO WILL DAMAGE THE GPS UNIT.
7. PRIOR TO TESTING IF THE CONTRACTOR HAS ANY QUESTIONS ABOUT THE TESTING PROCEDURES THEY ARE TO CALL AND OBTAIN ASSISTANCE FROM A QUALIFIED DESIGNATED TESTING REPRESENTATIVE.
8. EQUIPMENT IS NOT TO BE ENERGIZED UNTIL ALL TESTING HAS BEEN COMPLETED, APPROVED AND THE APPROPRIATE AUTHORITY HAS BEEN NOTIFIED AND GIVES APPROVAL TO ENERGIZE THE EQUIPMENT.

**SITE WORK NOTES:**

1. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
2. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-BUILT DRAWINGS BY GENERAL CONTRACTOR AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
3. ALL (E) UTILITIES, FACILITIES, CONDITIONS AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL (E) UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING (E) UTILITIES.
4. CONTRACTOR SHALL VERIFY ALL (E) UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER OR MOBILITE CM FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT THEIR OWN RISK AND EXPENSE. CONTRACTOR SHALL CALL LOCAL UTILITY LOCATE HOT LINE, SUCH AS 811, FOR UTILITY LOCATIONS A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. ALL NEW AND (E) UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK. ANY COST RELATED TO ADJUSTING (E) STRUCTURES SHALL BE BORNE SOLELY BY THE CONTRACTOR.
6. GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO (E) GRADES AT THE GRADING LIMITS.
7. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.

**BROADBAND NETWORK OF  
NEW MEXICO, LLC**



**PROJECT NO:** EP90XS750B  
**DRAWN BY:** SLD  
**CHECKED BY:** SF

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

A 07.14.17 90% CONSTRUCTION CD

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE LICENSED REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT, TO ALTER THIS DOCUMENT

**EP90XS750B  
9NMB000505B  
S. MAIN ST. & W. BERNARD AVE.  
VALENCIA COUNTY  
BELEN CITY, NM 87002  
WOOD UTILITY POLE**

**SHEET TITLE  
GENERAL NOTES**

**SHEET NUMBER  
GN-2**



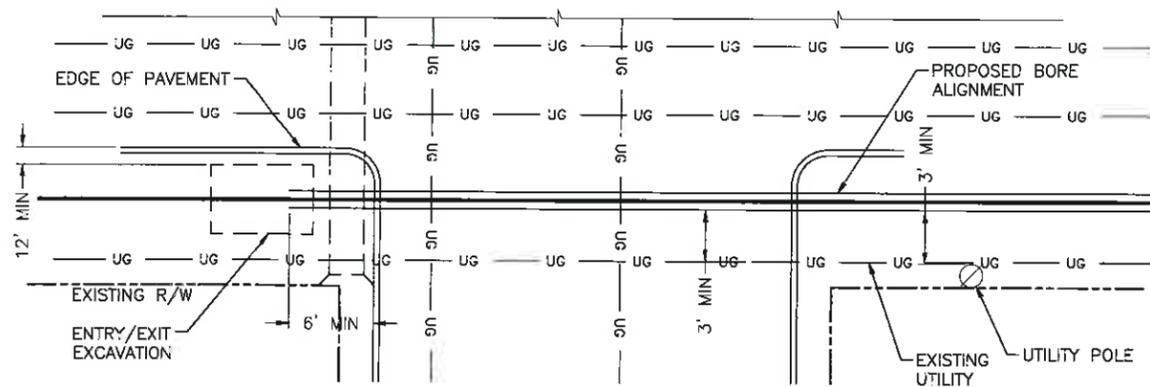




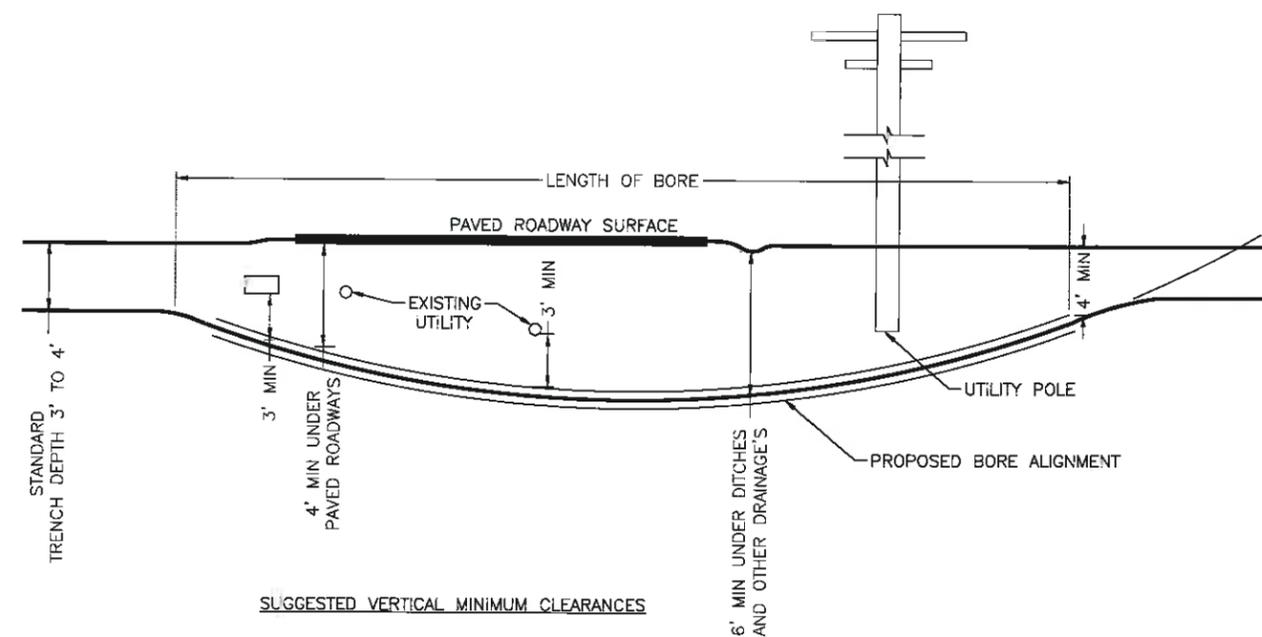








SUGGESTED HORIZONTAL MINIMUM CLEARANCES

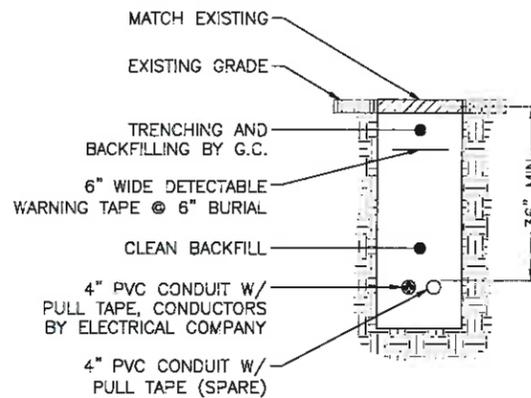


SUGGESTED VERTICAL MINIMUM CLEARANCES

**DIRECTIONAL BORING DETAILS**

SCALE: NOT TO SCALE

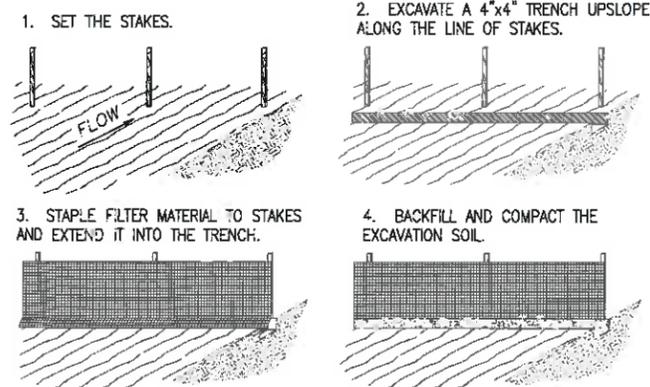
1



**TRENCH SECTION DETAIL**

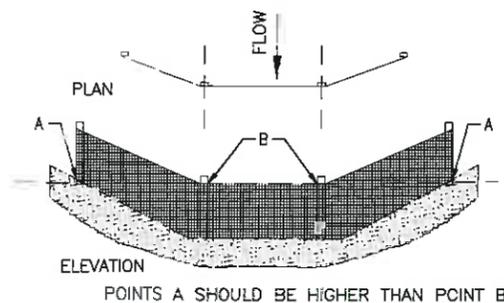
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2



**EROSION CONTROL NOTES:**

- EROSION CONTROL DEVICES SHALL BE INSTALLED, INSPECTED, AND FULLY OPERATIONAL PRIOR TO CLEARING AND SHALL BE MAINTAINED DAILY THROUGHOUT CONSTRUCTION AND UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- ALL EROSION CONTROL MEASURES SHALL CONFORM TO LOCAL, STATE AND COUNTY STANDARDS.
- EROSION CONTROL MEASURES INDICATED ON THESE PLANS MEET THE MINIMUM REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE NECESSARY AS DETERMINED BY FIELD CONDITIONS OR BY THE INSPECTOR. CHANGES AND REINFORCEMENT MAY BE REQUIRED WHEN FAILURE OF THE EROSION CONTROL MEASURES PERSISTS.
- CONTRACTOR SHALL PROVIDE DUST CONTROL AND SHALL PROTECT ADJACENT STREETS FROM ACCUMULATION OF SOIL.
- CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEARING ANY DEBRIS AND/OR SEDIMENT CAUSED BY CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES AT ALL TIMES. CONTRACTOR SHALL INSPECT AND REPAIR ALL EROSION CONTROL MEASURES AT THE END OF EACH DAY AND AFTER EACH RAIN EVENT.
- CONTRACTOR SHALL CLEAN OUT ALL EROSION CONTROL MEASURES BEFORE THEY ARE TWO-THIRDS FULL OR AS SPECIFIED BY THE INSPECTOR OR ENGINEER.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY DIRT OR MUD FROM THE TIRES OF ANY CONSTRUCTION VEHICLES PRIOR TO THEIR LEAVING THE SITE.



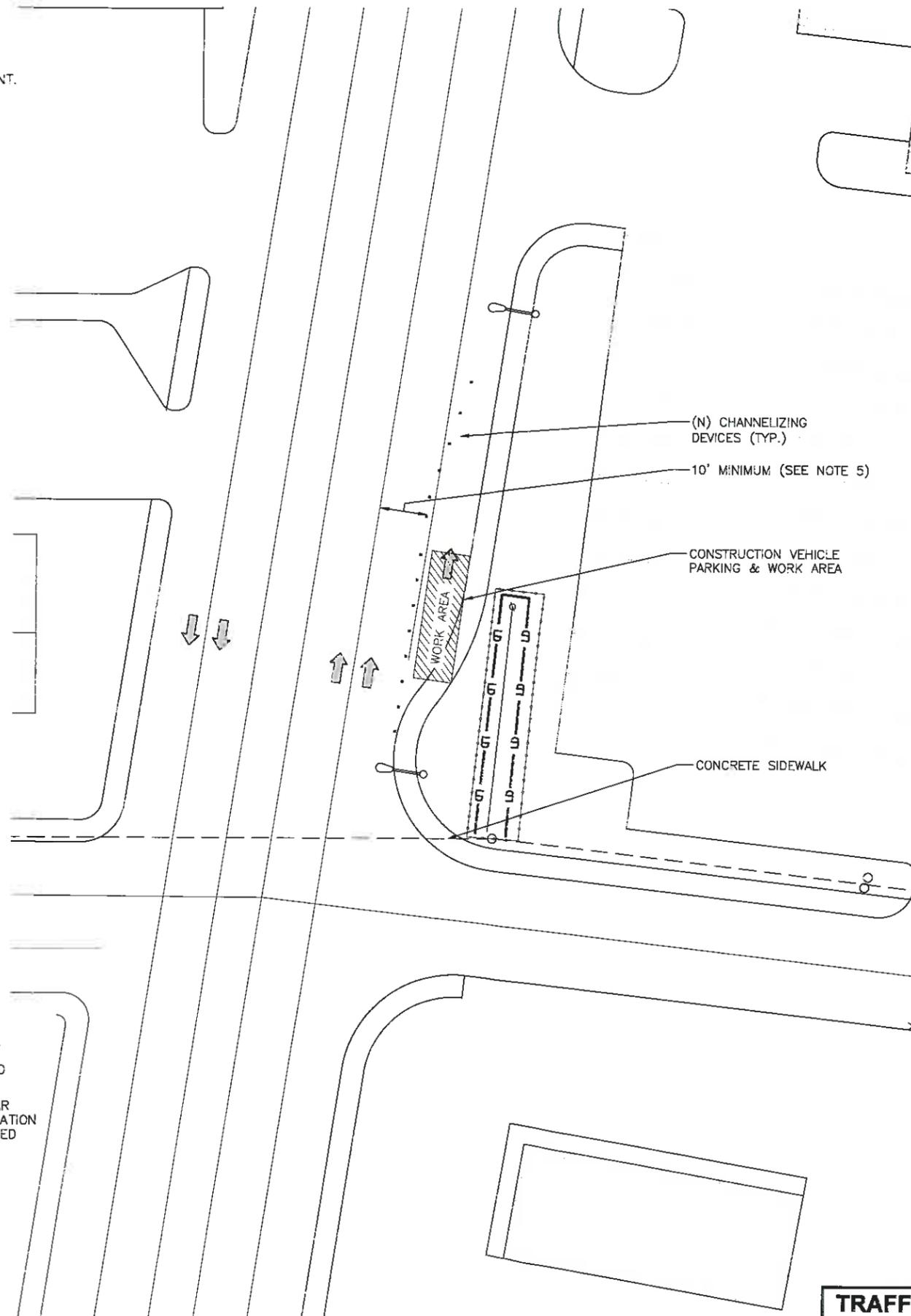
**SILT FENCE DETAIL**

SCALE: NOT TO SCALE

3

**TRAFFIC CONTROL GENERAL NOTES**

1. ALL TEMPORARY TRAFFIC CONTROL SIGNAGE, LAYOUTS AND PROCEDURES SHALL COMPLY WITH LOCAL JURISDICTIONAL REQUIREMENTS AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, WHICHEVER IS MORE STRINGENT.
2. PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.
3. TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. SHALL BE PLACED AS SHOWN ON PLANS. SIGNS SHALL NOT BE PLACED WITHOUT ACTUAL LANE CLOSURES AND SHALL BE IMMEDIATELY REMOVED UPON REMOVAL OF THE CLOSURES.
4. SELECTION, PLACEMENT, MAINTENANCE, AND PROTECTION OF TRAFFIC, PEDESTRIANS, AND WORKERS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) - PART VI "TEMPORARY TRAFFIC CONTROL", AND LOCAL JURISDICTIONAL REQUIREMENTS UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS, AND SHALL BE APPROVED BY THE APPROPRIATE HIGHWAY AUTHORITY HAVING JURISDICTION.
5. ADVANCE WARNING SIGNS, DISTANCES, AND TAPER LENGTHS MAY BE EXTENDED TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY AND FOR ACTUAL TRAFFIC SPEEDS IF IN EXCESS OF POSTED SPEED LIMITS.
6. TAPERS SHALL BE LOCATED TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.
7. CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON THE (E) TRAFFIC SIGNAL SYSTEMS SHALL BE BAGGED OR COVERED.
8. ALL (E) ROAD SIGNS, PAVEMENT MARKINGS AND/OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE (N) TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED, OR RELOCATED. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO MATCH PRE-CONSTRUCTION CONDITION AFTER COMPLETION OF WORK.
9. CONTRACTOR SHALL CONTACT LOCAL AUTHORITY HAVING HIGHWAY JURISDICTION AND PROVIDE ADDITIONAL "FLAGMEN" OR POLICE SUPERVISION, IF REQUIRED.
10. ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON A MINIMUM 6H:1V SLOPE PRIOR TO END OF EACH WORK DAY. OTHER EXCAVATED AREAS WITHIN THE CLEAR ZONE ARE TO BE EITHER BACKFILLED OR PRECAST CONCRETE CURB BARRIER CONSTRUCTION BARRIER SET TEMPORARILY IN PLACE TO SHIELD VEHICULAR AND PEDESTRIAN TRAFFIC.
11. WHERE DICTATED BY LOCAL CONDITIONS, THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN AND WORKER CROSSING LOCATIONS IN ACCORDANCE WITH ALL APPLICABLE CODES AND OSHA REQUIREMENTS.
12. CONSTRUCTION ZONE SPEED LIMIT IF REDUCED FROM POSTED LIMITS SHALL BE IN ACCORDANCE WITH MUTCD AND WILL BE DETERMINED BY THE AUTHORITY HAVING JURISDICTION.
13. THERE SHALL BE NO WORKERS, EQUIPMENT, OR OTHER VEHICLES IN THE BUFFER SPACE OR THE ROLL AHEAD SPACE.
14. DRIVEWAYS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH AT LEAST ONE W20-1 SIGN (ROAD WORK AHEAD) AS A MINIMUM.
15. CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION PROVIDED THEY COMPLY WITH MUTCD.
16. THE SPACING BETWEEN CONES, TUBULAR MARKERS, VERTICAL PANELS, DRUMS, AND BARRICADES SHOULD NOT EXCEED A DISTANCE IN FEET EQUAL TO 1.0 TIMES THE SPEED LIMIT IN MPH WHEN USED FOR TAPER CHANNELIZATION, AND A DISTANCE IN FEET EQUAL TO 2.0 TIMES THE SPEED LIMIT IN MPH WHEN USED FOR TANGENT CHANNELIZATION.
17. WHEN CHANNELIZATION DEVICES HAVE THE POTENTIAL OF LEADING VEHICULAR TRAFFIC OUT OF THE INTENDED VEHICULAR TRAFFIC SPACE, THE CHANNELIZATION DEVICES SHOULD BE EXTENDED A DISTANCE IN FEET OF 2.0 TIMES THE SPEED LIMIT IN MPH BEYOND THE DOWNSTREAM END OF THE TRANSITION AREA.
18. TAPER LENGTHS ARE CALCULATED AS FOLLOWS:  
 $L = WS^2/60$  (40 MPH AND HIGHER) OR  $L2 = WS$  (OVER 40 MPH),  
 WHERE W = OFFSET WIDTH (FT), S = TRAFFIC SPEED (MPH).



**PLAN NOTES:**

1. PLANS DEPICTED ARE GENERAL GUIDELINES FOR TEMPORARY TRAFFIC CONTROL PLANS (TCP) TO INCLUDE PEDESTRIAN AND WORKER SAFETY. CONTRACTOR IS REQUIRED TO HAVE PREPARED A SITE-SPECIFIC TCP FOR REVIEW AND APPROVAL BY THE HIGHWAY AUTHORITY HAVING JURISDICTION. IF REQUIRED, THE FIRM PREPARING THE TCP SHALL BE AUTHORIZED OR CERTIFIED BY THE AUTHORITY HAVING JURISDICTION.
2. EXTEND CHANNELIZATION DEVICES INTO SHOULDER WHERE APPLICABLE.
3. DISTANCES AS INDICATED IN TABLE 1 SHOULD BE INCREASED FOR CONDITIONS THAT WOULD AFFECT STOPPING DISTANCE SUCH AS DOWNGRADES OR LIMITED SIGHT DISTANCES. DISTANCES CAN BE DECREASED FOR LOW-SPEED (RESIDENTIAL) AREAS WITH APPROVAL BY THE AUTHORITY HAVING JURISDICTION. NIGHT-TIME WORK IS PROHIBITED UNLESS IT IS REQUIRED AS A CONDITION OF APPROVAL BY THE HIGHWAY AND LOCAL AUTHORITY HAVING JURISDICTION.
4. SHOULDER TAPERS SHOULD BE 1/3 OF THE ON-STREET TAPER LENGTH.
5. MAINTAIN A MINIMUM LANE WIDTH OF 10'.

TABLE 1

POSTED SPEED (MPH)	DISTANCE BETWEEN SIGNS			TAPER L (SEE NOTE)	BUFFER
	A	B	C		
15	100'	100'	100'	45'	100'
20	100'	100'	100'	80'	115'
25	100'	100'	100'	125'	155'
30	200'	200'	200'	180'	200'
35	200'	200'	200'	245'	250'
40	350'	350'	350'	320'	305'
45	350'	350'	350'	540'	360'
50	500'	500'	500'	600'	425'
55	500'	500'	500'	660'	495'
60	500'	500'	500'	720'	570'
65	500'	500'	500'	780'	645'

NOTES:  
 A) DISTANCES IN FEET UNLESS OTHERWISE NOTED.  
 B) CONTRACTOR TO VERIFY (E) SPEED LIMIT.  
 C) DISTANCES SHOWN ARE NOT VALID FOR LIMITED ACCESS HIGHWAYS. CONSULT STATE DOT MANUAL FOR DISTANCES.  
 D) ADJUST DISTANCES TO COMPLY WITH REQUIREMENT OF THE STATE OR LOCAL HIGHWAY AUTHORITY HAVING JURISDICTION. SEE NOTE 1, SHEET 6.1.  
 E) TAPER LENGTHS SHOWN BASED ON 12' LANE WIDTH. SEE NOTE 18, SHEET 6.1.

**TRAFFIC CONTROL PLAN - LANE MERGE**

SCALE: NOT TO SCALE

**BROADBAND NETWORK OF NEW MEXICO, LLC**

**Clear Blue Services**  
427 S. PRICE RD. TEMPE, AZ 85281 602-425-9600

PROJECT NO:	EP90XS750B
DRAWN BY:	SJD
CHECKED BY:	SF

**PRELIMINARY NOT FOR CONSTRUCTION**

A	07.14.17
90% CONSTRUCTION CD	

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**EP90XS750B  
 9NMB000505B  
 S. MAIN ST. & W. BERNARD AVE.  
 VALENCIA COUNTY  
 BELEN CITY, NM 87002  
 WOOD UTILITY POLE**

SHEET TITLE  
**VEHICULAR TRAFFIC CONTROL PLAN**

SHEET NUMBER  
**TC-1**



# Queen Creek Zoning Ordinance



Original adoption January 6, 1999. Updated April 19, 2017, Ordinance No's 628-17 through 636-17.

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

minimum in depth, river run rock, or expanded shale.

- c. Trees shall not be planted under outdoor lighting structures. Landscape plant material shall be arranged in a manner not to obstruct security lighting. Where a conflict arises between landscape elements required under this Ordinance and security lighting, the Planning Administrator shall make the final determination.
  - d. Plant material installed within the site triangle at roadway intersections shall not exceed twenty-four inches (24") in height at maturity. Tree canopy height shall not be less than six feet (6'). The site triangle at an intersection shall be calculated according to Chapter 9, Section 9.2 of the Maricopa County Department of Transportation Roadway Design Manual. The Town of Queen Creek's official reference for roadway design standards.
  - e. All plant materials used in public right-of-way, medians, or parking lot islands shall come from the Arizona Municipal Water Users Association Low Water Use Plant List.
9. *Site Stabilizations.* The applicant shall revegetate the graded and / or disturbed land where any construction activity has occurred in order to prevent erosion by water, wind or subsidence, as follows:
- a. Revegetate the construction area with native species or with revegetation seed mixes. Revegetative native plants include: desert trees, desert shrubs and grasses, large specimen cacti or seeding of the same.
  - b. Weedy species such as Russian Thistle, Telegraph Plant, Desert Broom, Pigweed or Burrow Bush shall be weeded to prevent growth and spread of such species onto adjacent properties.
  - c. Slopes steeper than three to one (3:1), where revegetation and plant material alone will not hold soil in place, shall be held in place with turf, retaining walls, rip-rap, or shall be developed with a system of terraces or diversions to ensure slope stability, control surface water runoff and encourage rapid vegetation establishment, or any method deemed appropriate by the Town.
10. *Dust Control.* During grading and until revegetation is established, the applicant shall use the following methods to reduce and mitigate the production of dust and such methods shall be addressed in the grading permit prior to commencement of construction.
- a. Dust palliative approved by Town Engineer;
  - b. Watering during grading;
  - c. Use of decomposed granite or other decorative landscape material as a groundcover for non-slope and vehicular/pedestrian areas; and,
  - d. The use of motor oil, oil treatment, sodium chloride, or any other palliative method that cause adverse effects on human, animal or plant life or that may cause property damage shall be prohibited.
- D. *Prohibited Plants.* The "Swan Hill Olive" and the "Wilson Hill Olive" varieties may be used due to their non-flowering non-pollen status and are exempt from the prohibited plants list:
1. Olive Trees (*Olea Europaea*) are prohibited for reasons of their profuse production of allergy producing pollen except for the two (2) varieties as mentioned above;
  2. Fountain Grass (*Pennisetum Setaceum*) is prohibited as a defined weed with the potential to spread throughout the Town and become a fire hazard;
  3. Common Bermuda grass (*Cynodon Dactylon*) is prohibited as a defined weed and for its profuse production of allergy producing pollen. (For clarification purposes, non-allergenic species are permissible as approved by the Town); and,

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

4. Mulberry Trees (*Morus*) are prohibited as noxious pollen producers.

### E. *Street Rights-Of Way Landscaping.*

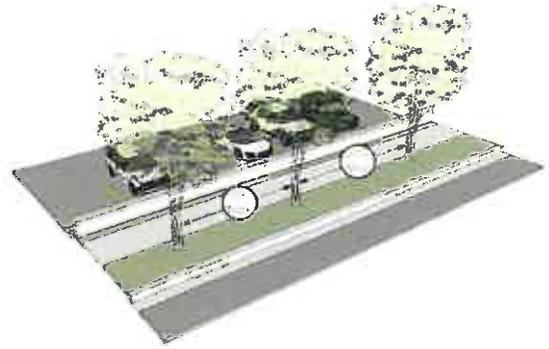
1. Street trees and other plant materials (i.e. shrubs, ground cover, accent plantings, etc.) shall be planted within all street right-of-ways in all zoning districts.

2. Trees shall not be planted in planting strips that are less than five (5) feet wide, measured from the back of curb to the edge of the adjacent sidewalk.

3. All parcels located at the intersection of an arterial intersection, shall observe a buffer setback pursuant to Table 5.3-1. Said buffer shall not be encumbered by parking areas, buildings or other improvements. The Planning Administrator or his or her designee shall have the authority to impose special conditions or guidelines on the development of property at arterial intersections that affect the following design elements in order to achieve the purposes of this section:

- a. Landscape architecture;
- b. Building architecture;
- c. Building orientation;
- d. Vehicular ingress, egress, and circulation;
- e. Walls and screening devices; and,
- f. Building setbacks.

4. Street trees shall be spaced on each side of the street and within medians where applicable, in order to form a pleasant experience for motorists, pedestrians, and building occupants, as applicable.



5. Planting shall be spaced at regular intervals without regard to property lines in order to present a balanced appearance. Required spacing shall be not greater than thirty feet (30') or fraction thereof to achieve a tree-lined street appearance. Linear planting is preferred.

6. Trees for an entire block shall be planted at the same time.

7. Up to two (2) different species of trees may be planted alternately where an entire block is developed.

8. A minimum of six (6) shrubs are required per every one (1) tree planted.



9. The entire area of the right-of-way, between the property line and back of curb (BOC) and / or pavement except for approved driveways, walkways and bike paths, shall be landscaped.

- F. *Parking Lot Landscaping.* Parking lots shall be landscaped in accordance with the requirements of Section 5.6 of this Ordinance.

- G. *Retention Basin Landscaping and Design Requirements.*

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

1. All private retention basins in single residence, duplex, multifamily, commercial, or industrial projects, or districts shall be landscaped. Such basins shall not exceed more than fifty percent (50%) of the linear street frontage.
2. Retention basins shall be contoured and designed as an integral part of any frontage landscaping and shall not take on the appearance of a ditch or basin.

### H. *Native Plant Preservation and Landscape Plan Standards.*

1. *Purpose.* The purpose of these standards is to protect native plants and to ensure appropriate re-vegetation for all development projects. The standards provide for in-place preservation protection of existing plants and the transplanting of native plant materials indigenous to the area such as: varieties of Acacia, Mesquite and Cercidium trees, Ocotillo, Cholla, Bursage and mixed Palo Verde-Cacti Community, Hedge Hog Cactus and Barrel Cactus, shrubbery and succulents typical of the Sonoran Desert Region. These standards protect the public health, safety and general welfare by:

- a. Preserving organic and inorganic characteristics of the Sonoran Desert Region;
- b. Preserving desert wildlife habitats and food sources;
- c. Requiring protection re-vegetation of native plants, disturbed during land development;
- d. Encouraging the use of native plants that are drought tolerant and require low maintenance and minimal groundwater after establishment; and,
- e. Reducing the potential for erosion by water, wind, or subsidence.

#### 2. *Standards.*

- a. All existing native plants shall be preserved in their original location except within those areas permitted to be graded. Large and / or unique

native plants within areas proposed for grading shall be preserved in place.

- b. In no case, shall native plants be removed, destroyed, or relocated from an existing stand of native plants which is to be preserved in place.

- c. Protected native plants (as defined by the Arizona Department of Agriculture) determined to be transplantable shall be salvaged and relocated on-site when they are located within areas designated to be graded. Salvaged plants may be maintained in a temporary nursery pending relocation in accordance with the approved landscape plan. All temporary nurseries shall:

- 1) Provide automatic drip irrigation system.
- 2) Provide fertilizer to promote plant health.

- d. Native plants are to be transplanted on-site and shall be used within those areas designated as "common area" or landscaped area that has been graded as part of the approved grading plan and within the front yards of residential lots.

- e. Mistletoe infestations shall be removed from all salvaged plants prior to relocation.

#### 3. *Determination of Salvageability.*

- a. Salvageability shall be indicated on the Landscape Plan submittal during the site plan process.

- b. All plants receiving a "high" rating shall be preserved in place or salvaged and transplanted within on-site landscaped areas. All "medium" and "low" rated plants shall be placed in a salvage pool from which fifty percent (50%) of the plants shall be used on site or replaced on a two to one (2:1) basis with nursery stock.

High: A "high" rating will be assigned to plants meeting the following criteria:

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

- 1) Plant health is good to excellent with no major infestations or apparent diseases.
  - 2) Plant age is young enough to suggest a likely chance of transplant survival.
  - 3) Plant is undamaged and is conducive to box or space transplanting, (upright branching).
  - 4) Soils can be excavated, are cohesive, and seem capable of supporting a boxed or spaded rootball.
  - 5) Surrounding topography permits access with the appropriate equipment needed to box or spade and remove the plant.
  - 6) Adjacent plants do not pose a likely interference with root systems or interfere with plant removal.
4. *Inspections.* All protected native plants scheduled to remain in place or authorized for destruction, removal or relocation by the approved Landscape Plan shall be tagged and numbered prior to an on-site inspection by the Planning Administrator. Salvage operators shall not commence until the Planning Administrator has performed an inspection and given approval to begin salvage.
5. Tagging shall be completed as outlined below:
- a. Tags shall be color-coded according to the following schedule so that the status of each plant may be easily identified: plants proposed for destruction shall be tagged with red plastic tape; plants proposed for relocation on-site shall be tagged with blue plastic tape; plants proposed for relocation to another site shall be tagged with yellow plastic tape; and plants proposed to remain in place shall be tagged with white plastic tape.
  - b. Tags required by this Section shall be affixed in a visible location on the plant. The initial inspection will be performed once tagging is completed and an inspection request has been received by the Planning Administrator.
- c. Once affixed, the tags shall not be removed until the approved Landscape Plan is implemented and a final inspection has been performed by the Planning Administrator.
  - d. All areas designated to remain as natural open space shall be fenced or taped off for protection during the grubbing and / or grading operation. The developer is responsible for maintaining this “no disturbance” boundary line and no plants shall be salvaged from this protected area.
  - e. No permit for grubbing or grading of a site may be issued prior to the completion of the initial on-site inspection.
6. For single-family lot development, the Planning Administrator shall verify limits of grading and the relocation of any salvaged plants in accordance with the approved site plan.
7. A follow-up inspection shall be performed which verifies the required on site relocation of salvaged plants to their new locations or the holding nursery, and the required in place preservation of native plants.
- I. *Irrigation Guidelines.* An irrigation plan is required and subject to review and approval by Planning Administrator or his or her designee.
  - J. *General Landscaping and Site Maintenance.*

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

1. The applicant, property owner, and / or subsequent or successor owners and their agents shall be responsible for maintenance of landscaping on the property on a continuing basis for the life of the development as specified in this Section. All required landscaping shall be maintained in a neat and orderly manner at all times. This shall include, but not be limited to, mowing, edging, pruning, fertilizing, watering, weeding, and other activities common to the maintenance of landscaping.
2. Landscaped areas shall be kept free of trash, litter, weeds and other materials or plants not a part of the landscaping.
3. All required plant material shall be maintained in a healthy, growing condition as is appropriate for the season. Plant materials which exhibit evidence of insect pests, disease, and / or damage shall be appropriately treated, and dead plants promptly removed and replaced within the next planting season after installation. If replacement is necessary, all plants and other non-living landscape materials shall be equal in size, density and appearance as originally required at the time of the approval of the development order or development permit.

the proposed development corresponding the zoning district as set forth in Columns "B" and "C" in Table 5.4-1 hereto.

**Table 5.4-1 Required Open Space**

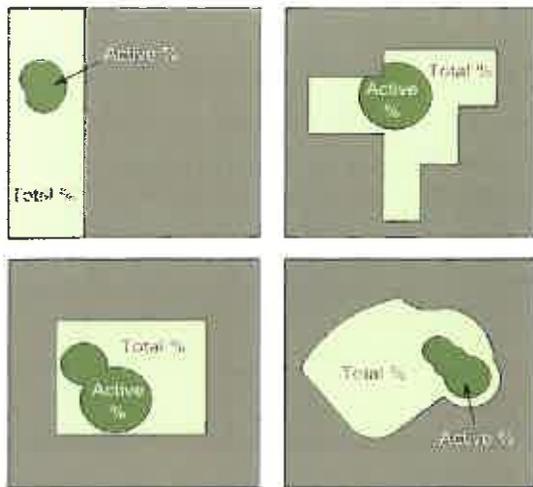
(A) Zoning District	(B) Total Open Space	(C) Active Open Space
Rural Residential (A-1, R1-190, R1-145, R1-108)	0%	0%
Estate Residential (R1-54 R1-43)	0%	0%
Suburban Type-A (R1-35)	5%	10%
Suburban Type-B (R1-18, R1-15, R1-12)	7.5%	15%
Urban Residential (R1-9, R1-8, R1-7, R1-6, R1-5, R1-4, R1-3, MDR, and HDR)	20%	30%
Commercial (B1, C-1, C-2, C-3, MU, AT and TC)	15%	N/A
Industrial (EMP-A and EMP-B)	10%	N/A

### 5.4 Open Space

- A. All new development in the Town of Queen Creek shall provide Open Space as provided herein and designed as required in Chapter 6 of the Town of Queen Creek Subdivision Ordinance.
- B. *Community Trails System.* The applicant shall provide a community open space network and / or trails system, which system shall be integrated with the *Parks Trails and Open Space Master Plan*, which is hereby incorporated by this reference as if set forth in its entirety herein. The trails shall be maintained by the applicant.
- C. *Required Open Space.* Required open space shall be reserved for any development in the zoning districts types forth in Column "A" of Table 5.4-1, below, based upon the percentage of net acres in

1. *Active Open Space.* Active Open Space shall be provided as referred in Table 5.4-1 may include, but shall not be limited to: recreational activities as golf courses, sport courts / fields, picnic areas, playgrounds and trails as defined in Section 1.14. Additional active amenities and reduction in active open space may be approved by the Planning Administrator.
2. *Passive Open Space.* Open Space not defined as Active maybe considered as Passive Open Space as defined in Article 1, Section 1.14 of this Ordinance.

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS



**D. Open Space Designation.** Open space shall not be further than the following distances from any lot or, if the proposed development does not involve a subdivision, any primary building, and the entrance allowing people, bikes, or equestrians to enter into the open space or view the open space area:

1. One-sixth (1/6<sup>th</sup>) of a mile or eight-hundred and eighty feet (880') from passive open space; and,
2. One-fourth (1/4<sup>th</sup>) of a mile or one-thousand, three-hundred and twenty feet (1,320') from active open space.

**E. Open Space Maintenance.** Land designated as open space shall be maintained as open space and may not be separately sold, subdivided, or developed except as provided below.

1. Any areas reserved as open space shall be indicated on the sketch plan and preliminary site plan or subdivision plat. An Open Space Provision and Maintenance Plan shall be submitted as a part of the application for development approval including the project phasing schedule. This plan shall designate and indicate the boundaries of all open space areas required by this Ordinance. The plan shall:
  - a. Designate areas to be reserved as open space. The specific design of open space areas shall be sensitive to the physical and design characteristics of the site;

- b. Designate the type of open space which will be provided; and,
  - c. Specify the manner in which the open space shall be perpetuated, maintained, and administered.
2. The types of open space which may be provided to satisfy the requirements of this Ordinance, together with the maintenance required for each type, are as follows:

- a. Passive open space shall be maintained in a healthy, neat, clean, and weed-free condition. Waterways and landscaped areas lying between public right-of-way lines and the property, unless such streets, waterways, or landscaped areas are expressly designated to be maintained by a designated governmental authority shall be free-flowing and devoid of debris;
  - b. No specific maintenance is required for agricultural uses;
  - c. Active open space areas shall be accessible to all residents of the development. Maintenance is limited to insuring that there exist no hazards, nuisances, or unhealthy conditions; and,
  - d. Greenways are linear green belts linking residential areas with other open-space areas. These greenways may contain bicycle paths, footpaths, and bridle paths. Connecting greenways between residences and recreational areas are encouraged. Maintenance is limited to a minimum removal and avoidance of hazards, nuisances, or unhealthy conditions.
3. All designated open space shall be of suitable size, location, dimension, topography and general character and shall have proper road and / or pedestrian access, as may be appropriate, to be usable open space.

- a. The minimum dimension for usable open space shall be thirty feet (30') and the minimum area shall be one-thousand (1,000) square feet.

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

b. Retention areas or detention basins which are required as part of this Ordinance or the Subdivision Ordinance shall not qualify as an open space area unless fifty percent (50%) or more of the active and usable area is above the twenty-five (25) year storm and is designed for multiple area(s) conforms to the requirements of subsection (1) and (2) below. This standard shall not apply to non-residential developments which shall be permitted to calculate the retention and detention area as part of the required open space area.

1) Retention or detention areas shall be an integral part of the subdivision either as a greenbelt, or as a single basin. Retention areas shall be improved so as to be useable and accessible. Site and architectural amenities, such as armadas or benches shall be provided. "Tot lots", playground equipment, and sport courts equipment shall be elevated above the bottom of the basin for uninterrupted use.

2) Retention or detention areas shall be given a natural character and shall be constructed of natural materials. Terracing, berming and contouring is required in order to naturalize and enhance the aesthetics of the basin. Basin slopes shall not exceed a three to one (3:1) slope.

c. Open space areas shall be landscaped and the majority of the area shall be visible from at least one (1) adjoining arterial, collector, or local street.

F. *Preservation of Open Space.* Open space areas shall be maintained so that their use and enjoyment as open space are not diminished or destroyed. Open space areas may be owned, preserved, and maintained as determined by the Town Council by any of the following mechanisms or combinations thereof:

1. Dedication of open space to the Town, an appropriate public agency, or a non-profit entity if there is a public or non-profit agency willing to accept the dedication and financially capable of maintaining such open space. The Town may not

accept the dedication of open space unless such dedication is part of a linked open space or trails system included in the Queen Creek Open Space and Trails Plan. Dedication of Sonoqui and Queen Creek washes may be required along with rezoning and / or plat approval if the Town demonstrates that impacts of the development on stormwater discharge, public recreation, or water quality are proportionate to the amount of wash area being dedicated. The applicant for plat approval or rezoning may consent to said dedication, pursuant to Section 3.4 of this Ordinance or as a condition of development approval, and said consent shall be deemed to waive any and all constitutional challenges to said dedication requirement;

2. Common ownership of the open space by a homeowner's or neighborhood association which assumes full responsibility for its maintenance except for lands dedicated to the Town. The restrictive covenants shall provide that, in the event that any private owner of open space fails to maintain same according to the standards of this Ordinance, the Town may, following reasonable notice and demand that deficiency of maintenance be corrected, enter the open space to maintain same. The cost of such maintenance shall be charged to those persons having the primary responsibility for maintenance of the open space and shall constitute a lien upon the property and buildable lots of the subdivision or development site; and,

3. Payment of a fee in lieu of dedication of open space, if:

a. The Town Council establishes an Open Space Acquisition Trust Fund for the receipt of fees and other financial commitments for the acquisition and development of public open space.

b. The Town Council adopts an ordinance establishing a fee in lieu or dedication of land for open space. The ordinance shall include the following:

1) The fee amount per residential dwelling unit or equivalent residential dwelling unit;

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

- 2) Time of determination of the fee;
- 3) Time of payment of the fee;
- 4) Form of payment of the fee;
- 5) Restrictions on use of the fees collected;
- 6) Time limit on expenditure of fees;
- 7) Placement of fees in the Open Space Acquisition Trust Fund;
- 8) Maintenance of financial records;
- 9) Allocation of interest on trust fund accounts; and,
- 10) Refund procedures.

G. *Open Space Requirements.* As a part of any application for development approval such as rezoning, site plan, and subdivision and in conjunction with the required landscape plans in Section 5.3, the applicant shall submit an Open Space Provision and Maintenance Plan meeting the requirement of subsections A through C herein.

### 5.5 Lighting

A. *Purpose.* These provisions are intended to control the use of outdoor artificial illuminating devices emitting rays into the night sky which have a detrimental effect on the rural atmosphere, astronomical observations, and which create glare. It is the intention of this Ordinance to encourage good lighting practices such that lighting systems are designed to conserve energy and money, to minimize glare, to protect the use and enjoyment of surrounding property, and to increasing nighttime safety, utility, security, and productivity. The provisions of this Section are authorized by Section 49-1106, A.R.S., which provides that the provisions of Section 49-1101 through Section 49-1106, A.R.S., are cumulative and supplemental and shall not apply within any county, city or town which by ordinance or resolution has adopted provisions restricting light pollution which are equal to or more stringent than the provisions of this Section.

#### B. *Conformance with Applicable Codes.*

1. All outdoor artificial illuminating devices shall be installed in conformance with the provisions of this section and the building code of the Town of Queen Creek.
2. Where any provisions of the Arizona Revised Statutes, or any Federal law, or any companion Ordinance conflicts with the requirements of this outdoor light control provision, the most restrictive shall govern.
3. The provisions of this section are not intended to prevent the use of any material or method of installation not specifically prescribed by this Ordinance. In considering any variance from the provisions of this Ordinance, the Board of Adjustment shall take into consideration any state of the art technology which is consistent with the intent of the Ordinance as new lighting technology develops which is useful in reducing light above the horizontal plane.

#### C. *Shielding and Filtration.*

1. All non-exempt outdoor lighting fixtures shall limited to the types of fixtures specified in Table 5.5-1 of this Ordinance and shall have shielding and filtration as required by Table 5.5-1 of this Ordinance.
2. Light source locations shall be chosen to minimize the hazards of glare. The ratio of spacing to mounting height shall not exceed a four to one (4:1) ratio.
3. Poles and standards. All poles or standards used to support outdoor lighting fixtures shall be anodized or otherwise coated to minimize glare from the light source.

D. *Illumination.* In order to minimize glare and hazardous conditions, illumination levels shall not exceed the levels set forth in Table 5.5-2 for any use permitted by this Ordinance. The maximum illumination shall be measured at grade at the property line of the site in accordance with subsection J of this Section.

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

**Table 5.5-1** Shielding Requirement

Area / Activity	Lux (lx)	Footcandles (fc)
<b>Residential Zoning Districts</b>		
Building Exterior	50	5.0
Front, side, or rear yard (at property line)	10	1.0
<b>Non-residential zoning districts</b>		
Adjoining another non-residential zoning district along major arterial	20	2.0
Adjoining residential zoning district along major arterial	10	1.0
Adjoining another non-residential zoning district along minor arterial or collector street	6	0.6
Adjoining another non-residential zoning district along local street	4	0.4
Adjoining another non-residential zoning district along property line	10	0.9
Adjoining residential zoning district along property line	2	0.2
<b>Outdoor Events</b>		
Adjoining non-residential zoning district	1,000	100
Adjoining or within one-thousand feet (1,000') of residential zoning district	100	10

**Notes:**

- [1] This is the preferred light source to minimize undesirable light emission into the night sky affecting astronomical observations.
- [2] Metal halide lighting used primarily for display purposes shall not be used for security lighting after 11:00 p.m. Metal halide lamps shall be installed only in enclosed luminaries.
- [3] Outdoor advertising signs of the type constructed of translucent materials and wholly illuminated from within, do not require shielding. Dark backgrounds with light lettering or symbols are preferred, to minimize detrimental effects.
- [4] For the purposes of this Code, quartz lamps shall not be considered an incandescent light source.
- [5] Warm white and natural lamps are preferred to minimize detrimental effects.

- [6] Metal halide fixture lamp types shall be filtered. "Filtered" means any outdoor light fixture which has a glass, acrylic or translucent enclosure of the light source (quartz glass does not meet this requirement).

**Table 5.5-2** Illumination Standards

Fixture Lamp Type	Shielded	Filtered
Low Pressure Sodium [1]	Partially	None
High Pressure Sodium	Fully	None
Metal Halide	Fully [2, 6]	Yes
Fluorescent	Partially [3, 5]	Yes
Quartz [4]	Partially	None
Incandescent, Greater than 150W	Partially	None
Incandescent, 150W or Less	No	None
Fossil Fuel	No	None
Glass Tubes filled with Neon, Argon, Krypton	No	None

**E. Control of Glare.**

1. Any luminaire with a lamp or lamps rated at a total of more than 1,800 lumens and all flood or spot luminaires with a lamp or lamps rated at a total of more than 900 lumens shall not emit any direct light above a horizontal plane through the lowest direct light emitting part of the luminaire.
2. Any luminaire with a lamp or lamps rated at a total of more than 1,800 lumens and all flood or spot luminaires with a lamp or lamps rated at a total of more than 900 lumens shall be mounted at a height not exceeding the value  $3 + (D/3)$ , where D is the distance in feet to the nearest property boundary. The maximum height of the luminaire shall not exceed twenty-five feet (25').
3. **Exceptions.**
  - a. Any luminaire with a lamp or lamps rated at a total of 1,800 lumens or less and all flood or spot luminaires with a lamp or lamps rated at 900 lumens or less may be used without restriction to light distribution or mounting height except that if any spot or flood

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

luminaire rated 900 lumens or less is aimed, directed or focused such as to cause direct light from the luminaire to be directed toward residential buildings on adjacent or nearby land or to create glare perceptible to persons operating motor vehicles on public ways, the luminaire shall be re-directed or its light output controlled as necessary to eliminate such conditions.

- b. Luminaires used for public roadway illumination may be installed at a maximum height of twenty-five feet (25') and may be positioned at that height up to the edge of any bordering property.
- c. All temporary emergency lighting needed by the Police, the Fire Departments or other emergency services as well as all vehicular luminaires shall be exempt from the requirements of this Ordinance.

### F. *Prohibitions.*

1. *Mercury Vapor Fixtures and Lamps.* The installation of any mercury vapor fixture or lamp for use as outdoor lighting is prohibited.
2. *Certain Other Fixtures and Lamps.* The installation of any low pressure sodium, high pressure sodium, metal halide, fluorescent, quartz or incandescent outdoor lighting fixture or lamp that does not comply with the shielding requirements of Table 5.5-1 and the illumination standards of Table 5.5-2 is prohibited.
3. *Laser Source Light.* The use of laser source light or any similar high-intensity light for outdoor advertising, when projected above the horizontal, is prohibited.
4. *Searchlights.* The operation of searchlights for advertising purposes is prohibited between the hours of 11:00 p.m. and sunrise.
5. *Recreational Facilities.* No outdoor recreational facility, public or private, shall be illuminated by non-conforming means after 11:00 p.m., unless

otherwise permitted by the Town Council pursuant to a conditional use permit, except to conclude specific recreational or sporting event or any other activity conducted at a ball park, outdoor amphitheater, arena, or similar facility in progress prior to 11:00 p.m. All recreational outdoor lighting shall comply with height restrictions as specified in the building codes. Outdoor lighting for open-air arenas primarily used for rodeo and roping activities, shall be permitted to a maximum height of thirty feet (30'), provided shielding and filtration requirements are met.

6. *Outdoor Building or Landscaping Illumination.* The unshielded outdoor illumination of any building, landscaping, signing or other purpose is prohibited, except with incandescent fixtures of 150 Watts or less, or low pressure sodium fixtures.

G. *Exceptions.* The following types of light fixtures shall be exempt from the provisions of this Section:

1. *Non-Conforming Fixtures.* All outdoor light fixtures installed prior to January 1, 1985, those equipped with a permanent automatic shut-off device may remain unchanged, except that the subject light fixtures shall not be operated between the hours of 11:00 p.m. and sunrise.
2. *Fossil Fuel Light.* Light which is produced directly or indirectly by the combustion of natural gas or other utility-type fossil fuels.
3. *Low Intensity Fixtures.* Any outdoor lighting fixture which has a maximum candle power or less than one-thousand (1,000) candelas is exempt from these provisions, if equipped with an automatic device which shuts off the fixture between the hours of 11:00 p.m. and sunrise.

H. *Recreational Facilities.* Any light source permitted by this Ordinance may be used for lighting of outdoor recreational facilities (public or private), such as, but not limited to football fields, soccer fields, baseball fields, softball fields, tennis courts, auto race-tracks, horse race-tracks or show

## ARTICLE 5 – SITE IMPROVEMENT STANDARDS

arenas, consistent with the illumination standards specified in Table 5.5-2 herein, provided all of the following conditions are met:

1. All fixtures used for event lighting shall be fully shielded, or shall be designed or provided with sharp cut-off capability, so as to minimize up-light, spill-light and glare.
2. All events shall be scheduled so as to complete all activity before or as near to 10:30 p.m. as practical, but under no circumstances shall any illumination of the playing field, court, or track be permitted after 11:00 p.m.; except to conclude a scheduled event that was in progress before 11:00 p.m. and circumstances prevented concluding before 11:00 p.m.
3. The height of such lighting shall be a maximum of eighty feet (80').

1. *Outdoor Display Lots.* Any light source permitted by this Ordinance may be used for lighting of outdoor display lots such as, but not limited to, automobile sales or rental, recreational vehicle sales or building material sales, provided all of the following conditions are met:

1. All fixtures used for display lighting shall be fully shielded, or be designed or provided with sharp cut-off capability, so as to minimize up-light, spill-light and glare.
2. Display lot lighting shall be turned off within thirty (30) minutes after the closing of the business. The full illumination of the lot may be permitted after 11:00 p.m., pursuant to a Temporary Use Permit (see Section 3.6). Any lighting used after shall be used as security lighting.

1. *Residential Neighborhoods.* Adequate lighting for residential neighborhoods may be provided for all outdoor amenities areas used at night (i.e. parks, trails, fields, open space areas, sport courts, etc). Lighting sources shall be appropriately shielded from adjacent residential uses to minimize any negative impacts. The following additional standards shall apply:

- a. All outdoor amenity area lighting within 100 feet of a residential property line shall not exceed a maximum height of fifteen feet (15');
- b. In all other amenity areas lighting shall not exceed a maximum height of twenty five feet (25');
- c. All outdoor amenity area lighting shall be setback from all property lines by a minimum distance of fifteen feet (15');
- d. *Submittal Requirements.* A Lighting Plan shall be submitted as part of the Site Plan or Preliminary Plat application which details the location and specifications of all proposed lighting. An ISO foot-candle diagram shall also be provided to indicate the level and extent of proposed lighting.

### K. *Measurement.*

1. *Metering Equipment.* Lighting levels are to be measured in foot-candles with a direct-reading, portable light meter. The meter typically has a color and cosine-corrected sensor with multiple scales and shall read within an accuracy of plus or minus five percent (5%). It shall have been tested, calibrated, and certified by an independent commercial photometric laboratory or the manufacturer within one (1) year of its use.
2. *Method of Measurement.* The meter sensor shall be mounted not more than six inches (6") above ground level in a horizontal position. Readings are taken by qualified personnel only after the cell has been exposed long enough to provide a constant reading. Measurements are made after dark with the light sources in question on, then with the same sources off. The difference between the two (2) readings shall be compared to the maximum permitted illumination and property line at ground level. This procedure eliminates the effects of moonlight and other ambient light sources. Where light patterns overlap, their total intensity shall be the sum of their individual intensities.