

**Section 74.1204 Interference Analysis  
K257CD, Phoenix, Etc., AZ  
October, 2012**

FM translator station K257CD, Phoenix, Etc., AZ, is presently licensed to operate on Channel 257D (99.3 MHz) with a directional Effective Radiated Power of 18 watts (Horizontal) from a multi-use tower site atop Shaw Butte near Phoenix, Arizona. On September 11, 2012, station K257CD was forced to cease operation because commercial power to the transmitter building was terminated and efforts by the landlord to restore power have been unsuccessful (See K257CD, Notification of Suspension of Operations/Request for Silent STA, FCC File No. BLSTA-20120914AAG).

In order to return K257CD to service, the Applicant has secured a lease on an adjacent tower structure on Shaw Butte for the K257CD transmission system. The proposed relocation of K257CD represents only a 2 second change in both the latitude and longitude of the K257CD antenna/transmitter site. In addition, the Applicant proposes herein to change from the cumbersome licensed 3-antenna Scala HDCA-10 horizontally polarized directional antenna array, to a single element Scala FMVMP-1 vertically polarized directional antenna. As demonstrated herein, the proposed technical facility meets all applicable protection requirements contained in Section 74.1204 of the FCC Rules.

Co-Channel and First-Adjacent Channel Protection Criteria

Attached are two maps which demonstrate that K257CD technical facility proposed herein complies with the contour overlap provisions of Section 74.1204 of the FCC Rules with respect to all pertinent cochannel (See Exhibit 1) and first-adjacent channel (See Exhibit 2) assignments, authorizations and applications with the exception of a 2003 pending application filed by Big Bend Broadcasting for a new FM translator station to serve South Phoenix, AZ (FCC File No. BNPFT-20030314AAW). The 2003 South Phoenix application is discussed below.

As filed, the 2003 South Phoenix application causes 1.4 km of prohibited overlap to the K257CD licensed 60 dBu F(50,50) protected contour. Consequently, the 2003 South Phoenix Application is unacceptable as filed. Rather than pursue resolution through Opposition, the instant proposal was designed to reduce the area of prohibited overlap with respect to the non-compliant 2003 South Phoenix application<sup>1</sup> in accordance with Section 74.1204(c) in order to facilitate an expedited grant of the instant application so that K257CD may resume operations as quickly as possible.

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<sup>1</sup> As shown on the attached map labeled Exhibit 3, the area of overlap received from the 2003 South Phoenix application is reduced from 5.7 km<sup>2</sup> to 4.2 km<sup>2</sup>.

### Second and Third Adjacent Channel Protection Criteria

As discussed above, a minimal transmitter site change is proposed herein. The K257CD transmitter site remains within the protected contour of third-adjacent channel, full service stations KPKX, Phoenix, AZ (Channel 254C) and KESZ, Phoenix, AZ (Channel 260C). Consequently, the translator's interfering contour is located with the KPKX and KESZ protected contours resulting in contour overlap as defined in Section 74.1204 of the FCC Rules.

At the proposed K257CD transmitter site, both KPKX and KESZ produce an F(50,50) signal strength of 87 dBu. Therefore, in the vicinity of the third-adjacent channel translator station, the translator's relevant interfering contour is the 127 dBu contour. According to free space calculations, the translator's predicted 127 dBu contour will extend only 14 meters from the translator's transmitter site. Exhibit 4 (attached) is a aerial map which depicts the translator's transmitter site and the surrounding vicinity.

As demonstrated on Exhibit 4, the translator station is located atop Shaw Butte on a remote mountaintop east of Phoenix. There are no housing units and no population in the vicinity of the transmitter site or within the 127 dBu interfering contour. Therefore, the proposed channel change will cause no interference to any population presently served by KPKX and KESZ.

Accordingly, the proposed facility satisfies Section 74.1204(d) of the FCC Rules with respect to KPKX and KESZ because it has been "demonstrated that no actual interference will occur due to lack of population or such other factors as may be applicable".

# Cochannel Section 74.1204 Overlap Exhibit

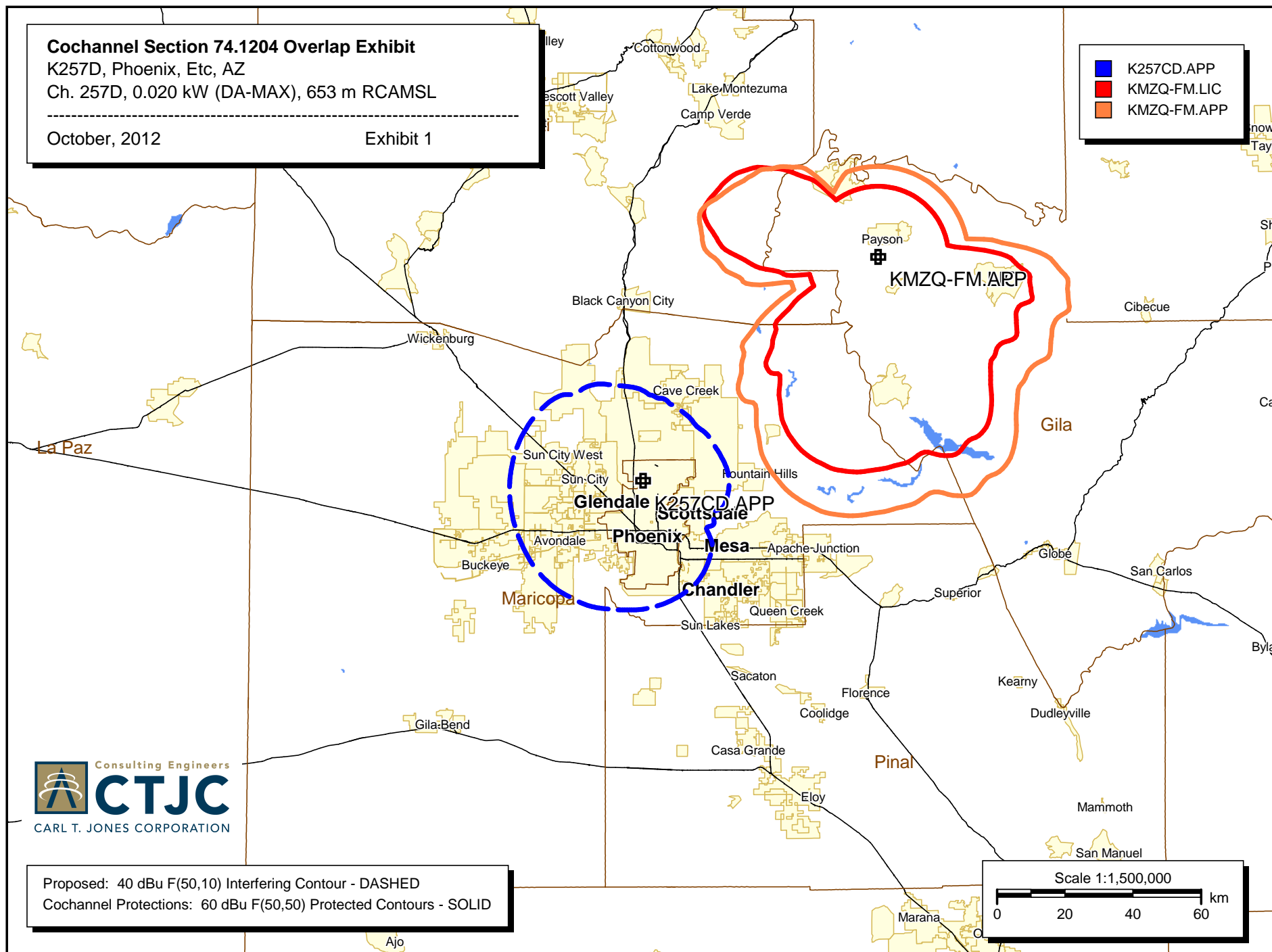
K257D, Phoenix, Etc, AZ

Ch. 257D, 0.020 kW (DA-MAX), 653 m RCAMSL

October, 2012

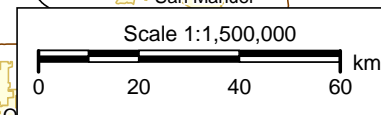
Exhibit 1

■ K257CD.APP  
■ KMZQ-FM.LIC  
■ KMZQ-FM.APP



Consulting Engineers  
**CTJC**  
CARL T. JONES CORPORATION

Proposed: 40 dBu F(50,10) Interfering Contour - DASHED  
Cochannel Protections: 60 dBu F(50,50) Protected Contours - SOLID

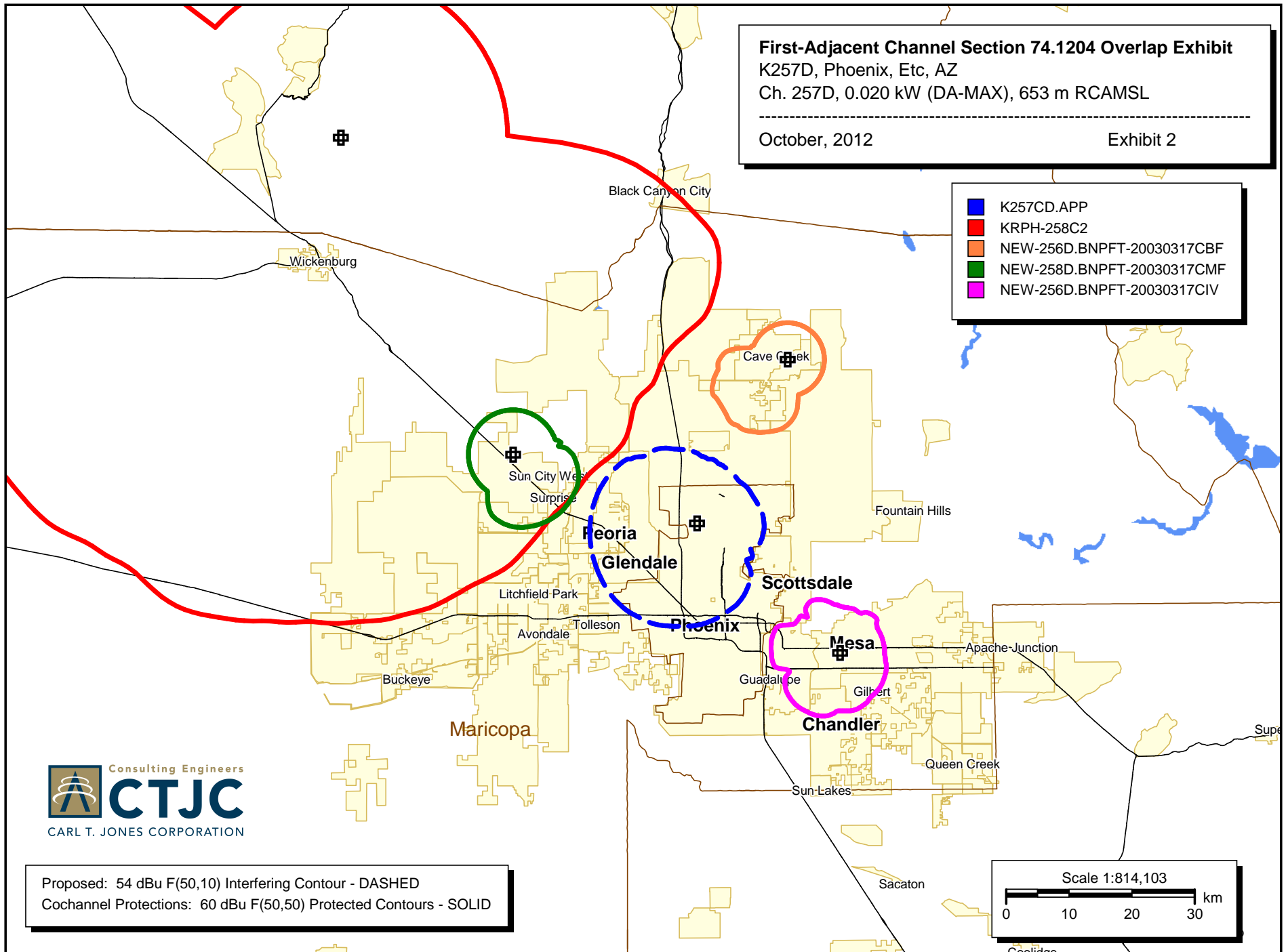


**First-Adjacent Channel Section 74.1204 Overlap Exhibit**  
K257D, Phoenix, Etc, AZ  
Ch. 257D, 0.020 kW (DA-MAX), 653 m RCAMSL

October, 2012

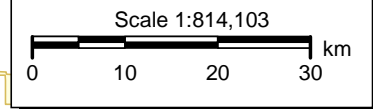
Exhibit 2

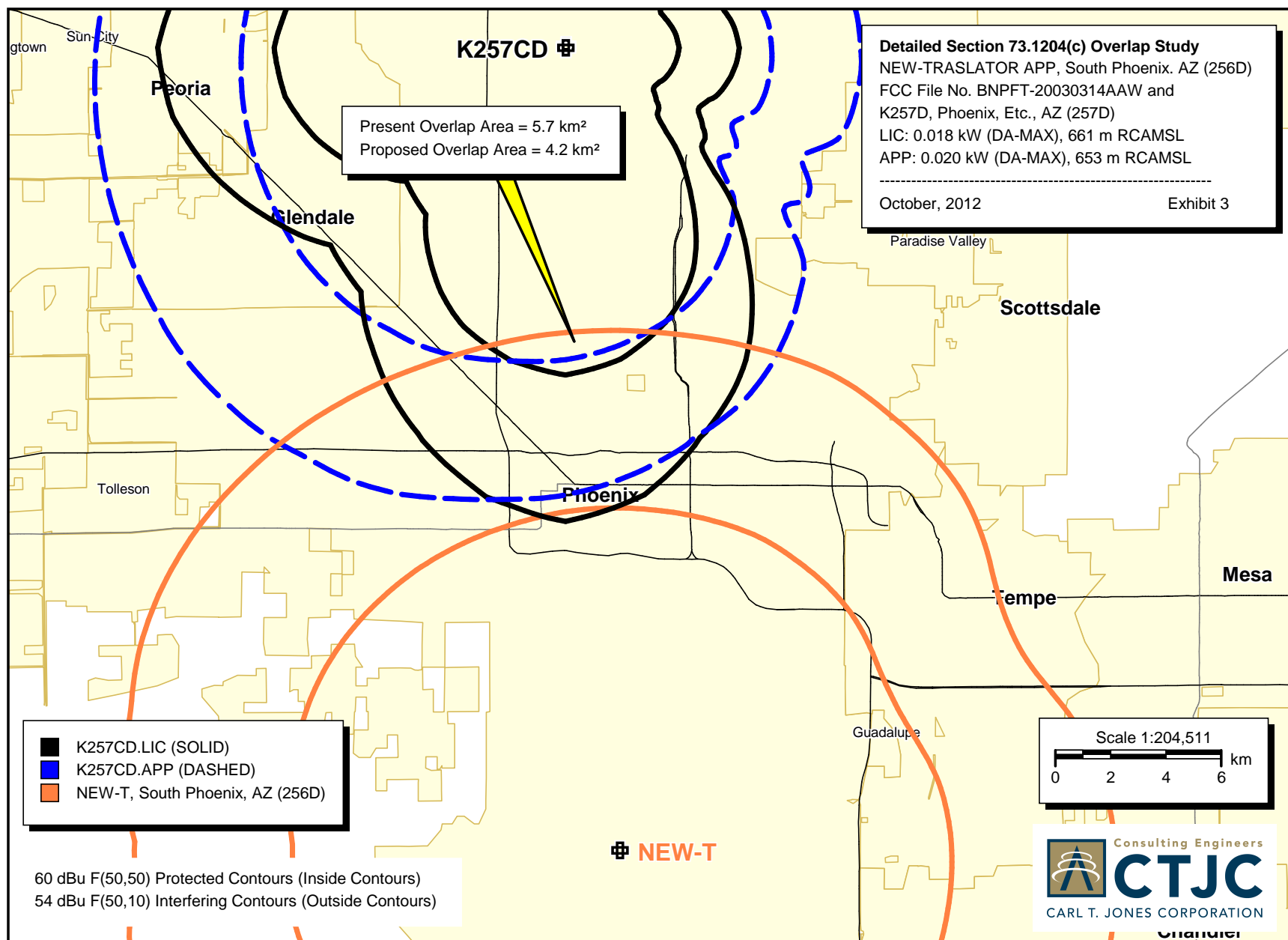
- K257CD.APP
- KRPH-258C2
- NEW-256D.BNPFT-20030317CBF
- NEW-258D.BNPFT-20030317CMF
- NEW-256D.BNPFT-20030317CIV



Consulting Engineers  
**CTJC**  
CARL T. JONES CORPORATION

Proposed: 54 dBu F(50,10) Interfering Contour - DASHED  
Cochannel Protections: 60 dBu F(50,50) Protected Contours - SOLID









K257CD, Phoenix, Etc., AZ  
Predicted Interference Area to Third-Adjacent Channel Stations  
KPKX(FM), Phoenix, AZ (254C)  
KESZ(FM), Phoenix, AZ (260C)  
October, 2012





Google earth

feet 1000  
meters 300



K257CD, Phoenix, Etc., AZ  
Zoomed View of Predicted Interference Area  
to Third-Adjacent Channel Stations  
KPKX(FM), Phoenix, AZ (254C)  
KESZ(FM), Phoenix, AZ (260C)  
October, 2012