# 5.1 Modeling of corrosion

# 5.2 Earthquake selection

## 5.2.1 MS-AS as recorded sequences



Mainshock

4s gap

Aftershock

RSN1505 and RSN 3189 from the Chichi Earthquake sequences

## 5.2.1 MS records



# 5.3 Analytical model

## Calibration with physical tests

## Pristine condition

C:\ConditionDependentPBEE\Calibration-files\Calibration_Test_26_Goodnight_et_al.tif

## Corroded columns

C:\ConditionDependentPBEE\Thesis\VAC Thesis 2.0\Chapter-5\figs\Model_vs_MaEtAl_220218.tif

# 5.4 Analytical framework

## Selection of Impact Measure

C:\ConditionDependentPBEE\Thesis\VAC Thesis 2.0\Chapter-5\figs\CDF_PGA.tif

C:\ConditionDependentPBEE\Thesis\VAC Thesis 2.0\Chapter-5\figs\CDF_SdT1.tif

# 5.5 Results

## 5.5.1 Structural response at different corrosion levels

## 5.5.2 Effects of MS-AS sequence

### Effect on corrosion in increase of demands



## 5.5.3 Strain demands vs SD(Teff)

|  |  |  |
| --- | --- | --- |
| **Serviciability** | **Collapse Prevention** | **Ultimate** |
|  |  |  |
|  |  |  |
| **Serviciability** | **Collapse Prevention** | **Ultimate** |
|  |  |  |
|  |  |  |

# 5.6 Discussion of results