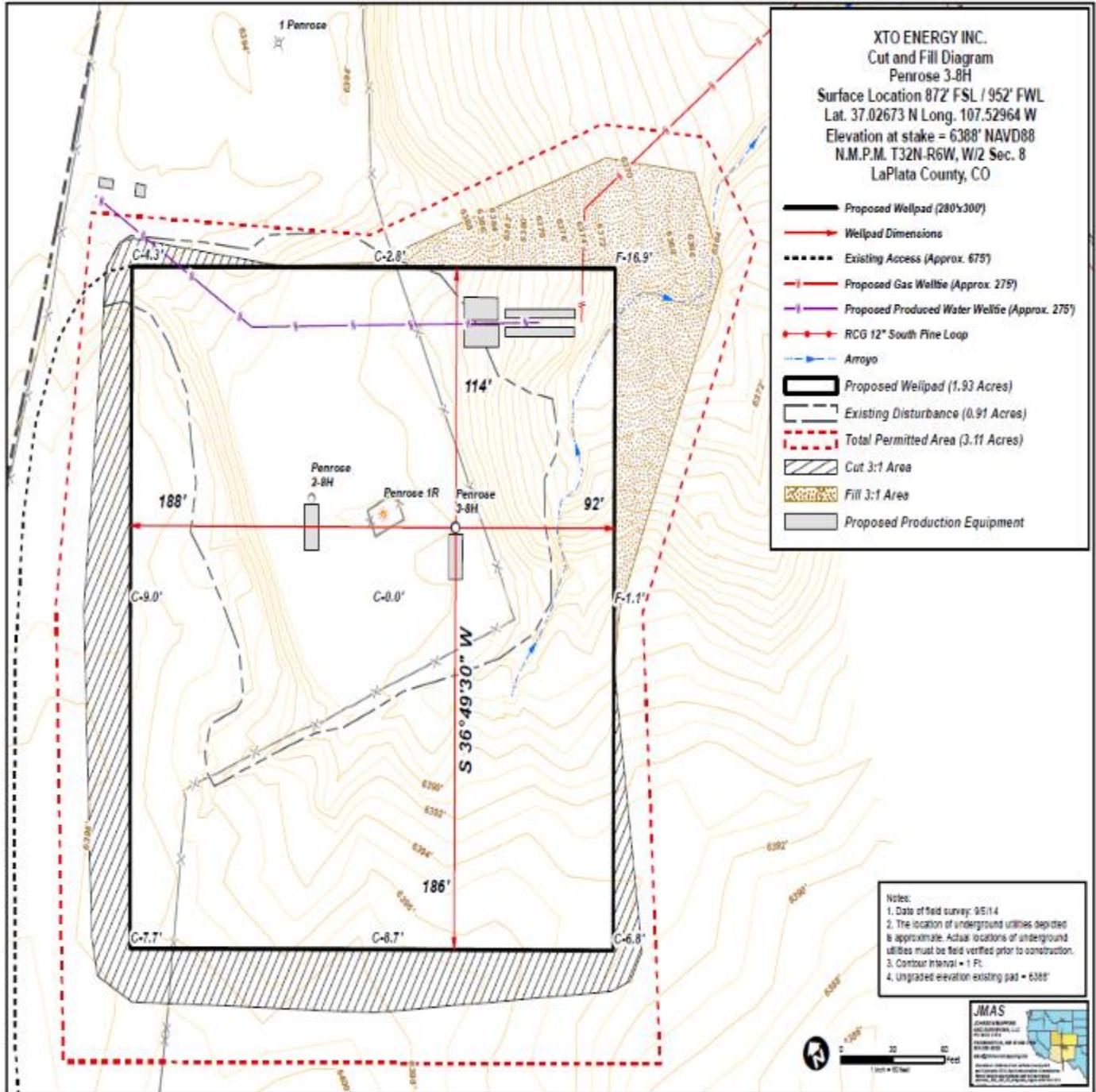


ELEVATIONS OF WELL PAD

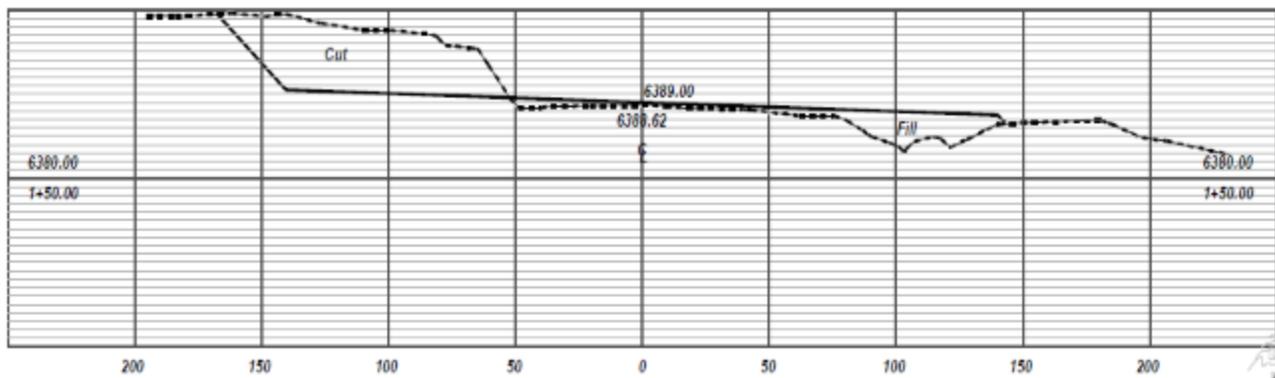
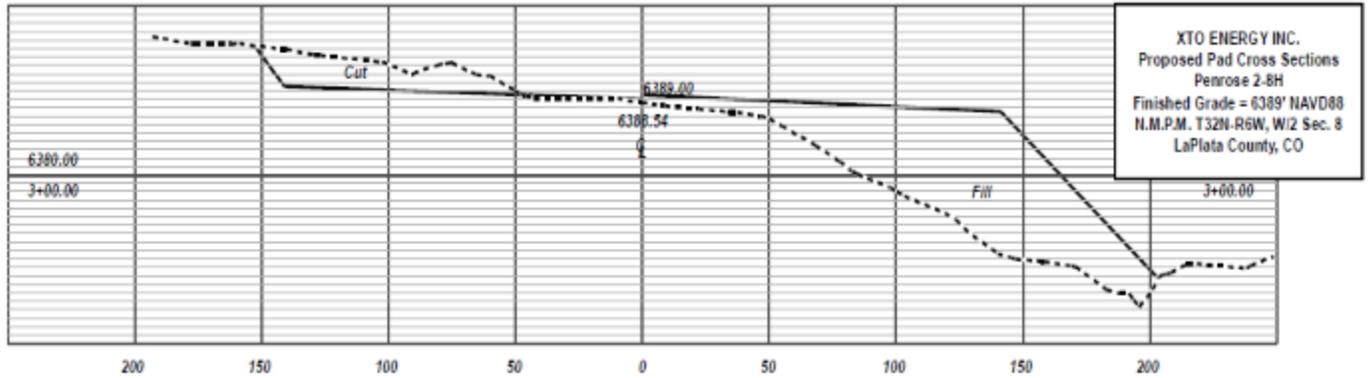
SITE MAP



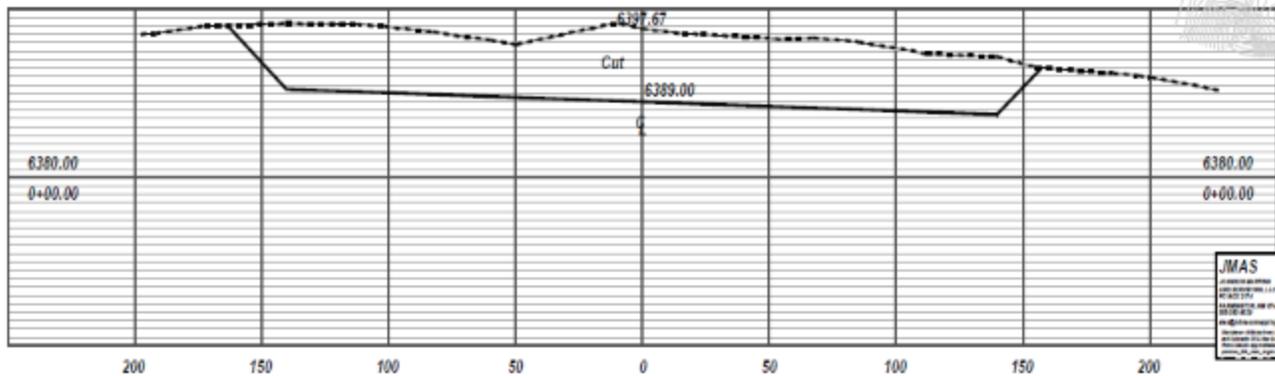
ELEVATIONS OF WELL PAD



SITE MAP



SCALE: HOR 1"=50' VER 1"=20'

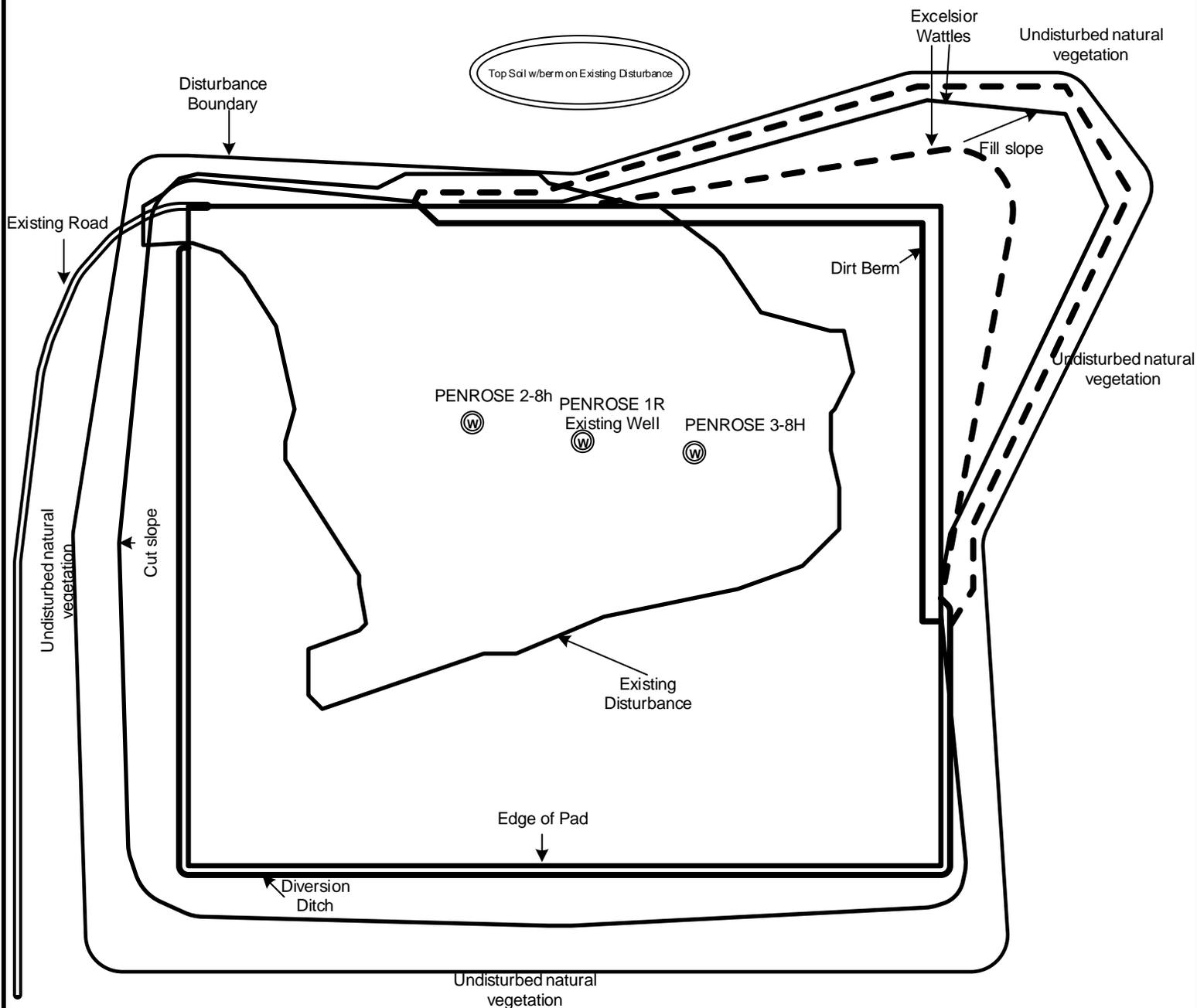


JMAS
JAMES M. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
NO. 10000
STATE OF COLORADO
10/15/2010

B.M.P. IMPLEMENTATION DURING CLEARING AND WELL PAD DEVELOPMENT



UNDISTURBED NATURAL VEGETATION SHALL BE PRESERVED OUTSIDE OF THE BOUNDARY OF DISTURBANCE, REDUCING SEDIMENT AND EROSION PROBLEMS. DURING THE CLEARING OPERATION ALL VEGETATION 6 INCHES IN DIAMETER OR LARGER WILL BE DE LIMBED AND SOLD TO THE PUBLIC; IF THE VEGETATION IS LESS THAN 6 INCHES IN DIAMETER, IT WILL BE CHIPPED AND USED AS MULCH ON-SITE. EXCELSIOR WATTLES WILL BE PLACED DOWN GRADIENT OF THE DISTURBED AREAS TO INTERCEPT AND RETAIN SEDIMENT UNTIL SUFFICIENT VEGETATION GROWTH HAS OCCURRED OF THE FILL SLOPES OF THE WELL PAD. DURING THE WELL PAD DEVELOPMENT SOIL SHALL BE SEPARATED FROM SOLID ROCK. SOME OF THE ROCK WILL BE STORED FOR STABILIZATION PURPOSES AS NEEDED. THE SOIL WILL BE USED TO CREATE A TEMPORARY DIRT BERM UP GRADIENT OF THE FILL SLOPE TO PREVENT EROSION OF THE FILL SLOPE OF THE WELL PAD. ONCE THE WELL PAD FILL SLOPES HAVE BEEN CONSTRUCTED. A PERMANENT COMPACTED DIRT BERM WILL BE UTILIZED UP GRADIENT OF THE FILL SLOPES TO PREVENT EROSION OF THE FILL SLOPE AND DIRECT RUN OFF TO A DESIRED LOCATION. TOP SOIL WILL BE PULLED FROM THE SURFACE AND BE STORED ON EXISTING DISTURBANCE TO NORTH, WITH A COMPACTED DIRT BERM AROUND THE TOP SOIL TO PREVENT SEDIMENT CONTROL AND TO FACILITATE GROWTH ON THE TOP SOIL FOR CONTINUED EROSION CONTROL.



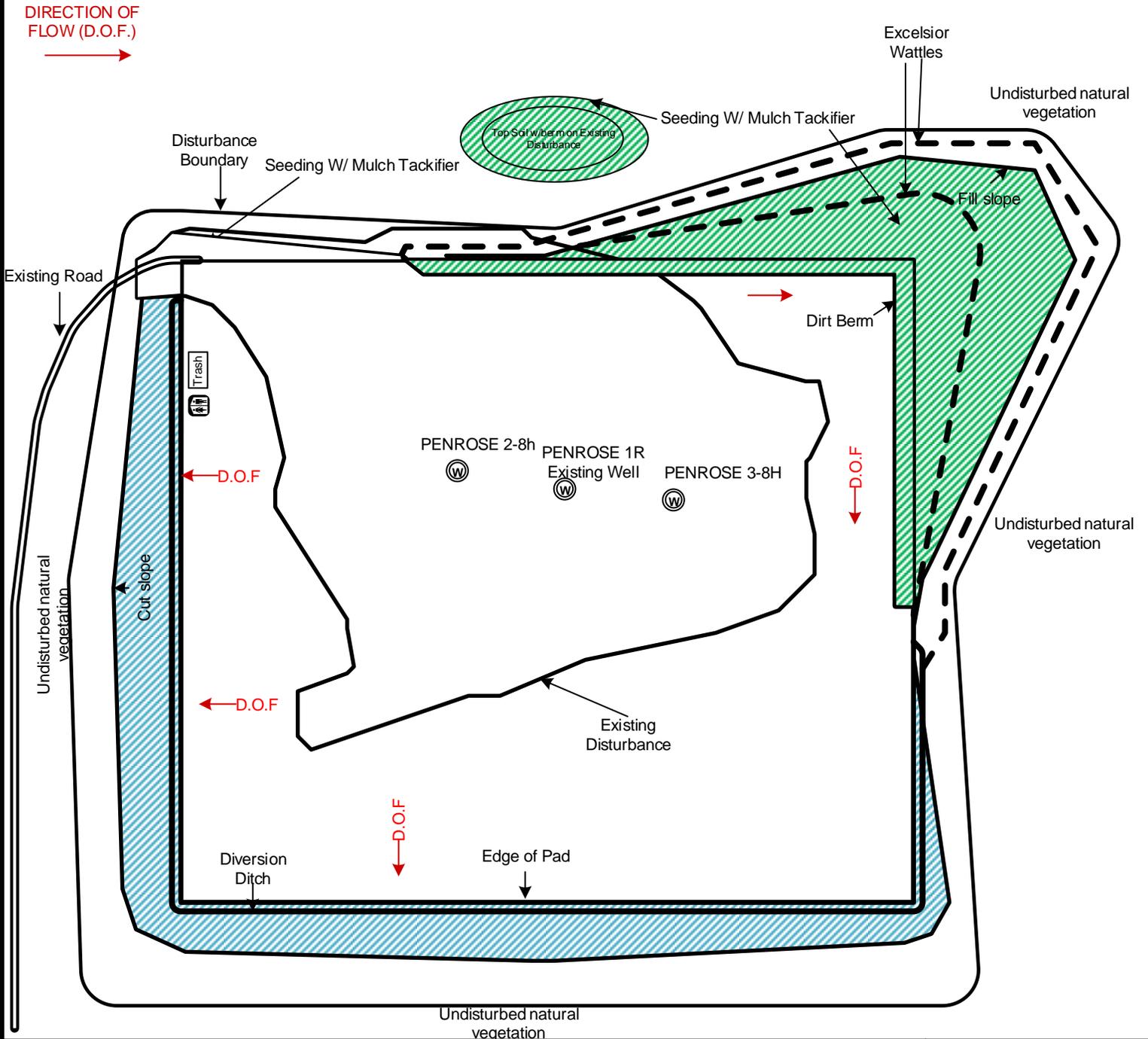
B.M.P. IMPLEMENTATION DURING UTILITY INSTALLATION. BEGIN FINAL GRADE/STABILIZATION



PORTABLE TOILETS SHALL BE SECURED TO TRAILERS/GROUND AND PLACED AWAY FROM DRAINAGE AREAS, TRAFFIC FLOW AND FILL SLOPES.

BEAR PROOF TRASH CONTAINERS SHALL BE PROVIDED DURING THE DRILLING AND COMPLETION OPERATION ONLY. THEY WILL BE PLACED AWAY FROM DRAINAGE AREAS, TRAFFIC FLOW AND FILL SLOPES.

ONCE THE WELL PAD CUT AND FILL SLOPES HAVE ACHIEVED FINAL GRADE, SEEDING WITH A MULCH TACKIFIER WILL BE UTILIZED ON SLOPES AND TOP SOIL THAT CANNOT BE DRILL SEEDED, WHICH WILL OCCUR AFTER DRILLING AND COMPLETION OPERATION ONLY. TO ADHERE THE SEED TO THE SOIL AND PROMOTE THE ESTABLISHMENT OF VEGETATION.



B.M.P. IMPLEMENTATION DURING FINAL STABILIZATION



THE WELL PAD WILL UTILIZE ROAD BASE INSIDE THE DEAD MAN ANCHORS MATCHING THE ABOVE CRITERIA. AFTER THE SURFACE EQUIPMENT HAS BEEN INSTALLED, PRIOR TO PRODUCTION, GRAVEL WILL BE USED AROUND THE SURFACE EQUIPMENT FOR PERMANENT STABILIZATION. FOLLOWING THE PLACEMENT OF GRAVEL TO THE PAD AND SURFACE EQUIPMENT, A ROCK ARMOR OUTFALL WITH EXCELSIOR WATTLES MAY BE PLACED BELOW THE OUTFALL WILL BE PLACED ON THE CONFLUENCE OF THE PAD DIRECTION OF FLOW AND DIVERSION DITCH ON THE CENTRAL EAST EDGE OF THE PAD.

