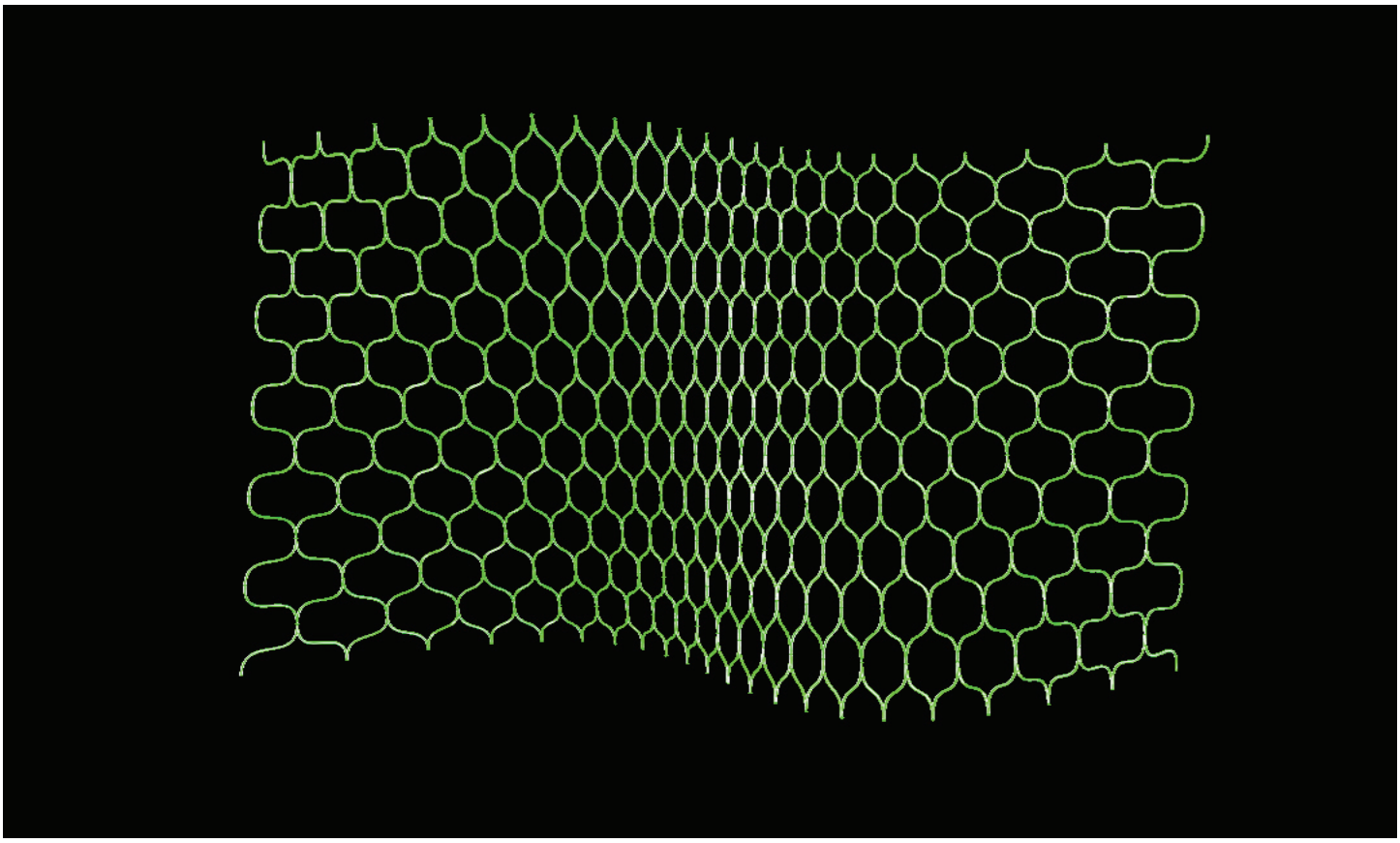
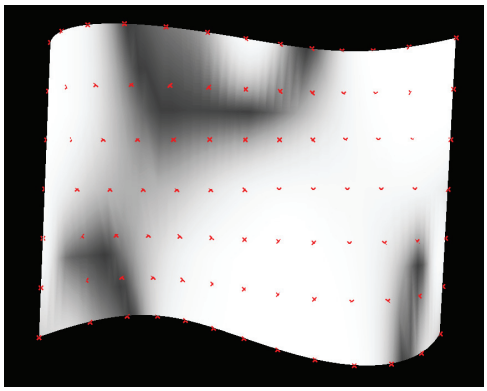
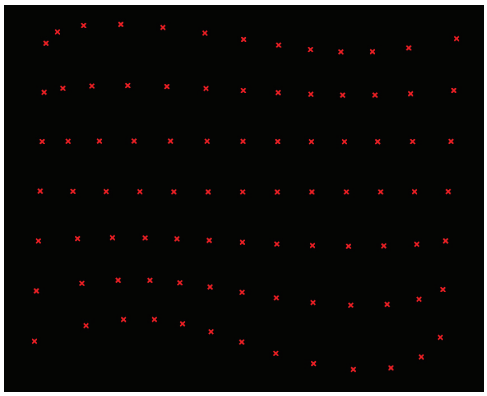
3_4 BEZIER CONNECTION

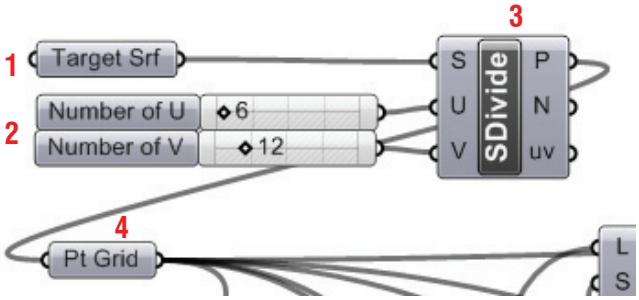


Step1 : Points from Surface





1. ***Surface*** (Params/Geometry/Surface) : “Target Srf”
- Draw one free surface in Rhino scene
- Right Click and Set one surface : click the target surface in Rhino scene
2. ***Number Slider*** x 2 (Params/Special/Number Slider)
- “Number of U” : Even numbers, Lower limit=4, Upper limit=30, Value=6
- “Number of V” : Even numbers, Lower limit=2, Upper limit=30, Value=12
3. ***Divide Surface*** (Surface/Util/Divide Surface)
- Connect *Surface(*“Target Srf”) to S
- Connect *Number Slider(*“Number of U”) to U
- Connect *Number Slider(*“Number of V”) to V
4. ***Point*** (Params/Geometry/Point) : “Pts Grid”
- Connect to *Divide Surface(P)* to “Pts Grid”



Step2 : Grouping Points

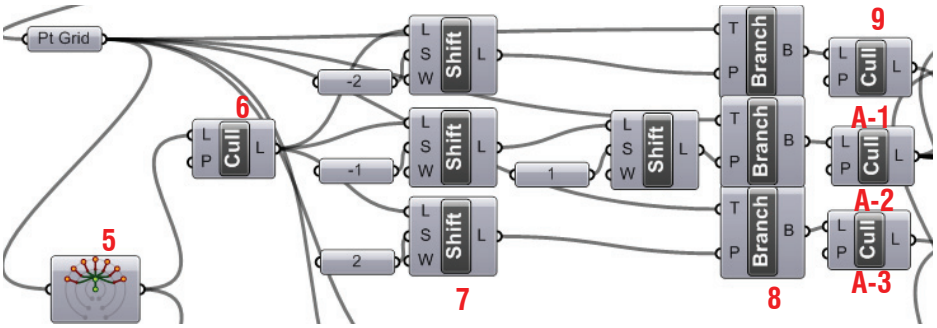
5. ***Param Viewer*** (Params/Special/Param Viewer)
- Connect *Point(*"Pts Grid") as Input

6. ***Cull Pattern*** (Logic/Sets/Cull Pattern)
- L(Data) : Connect *Param Viewer*
- P(Culling Pattern) : Manage Boolean Collection -> "True / False"

7. ***Shift List*** (Logic/List/Shift List) x 4
- L(Data) : Connect *Cull Pattern* (True / False)
- S(Shift offset) : -2(Integer) / -1 and then +1(integer) / +2(integer) for each

8. ***Branch*** (Logic/Tree/Tree Branch) x 3
- T(Data) : Connect *Point(*"Pts Grid") for each
- P : Connect *Shift List* x 3 for each

9. ***Cull Pattern*** (Logic/Sets/Cull Pattern) x 3
- L(Data) : Connect *Cull Pattern* (False / False / True / True)
- P(Culling Pattern) : Manage Boolean Collection -> "False / True" for each
  -> * *Group A-1 / A-2 / A-3*



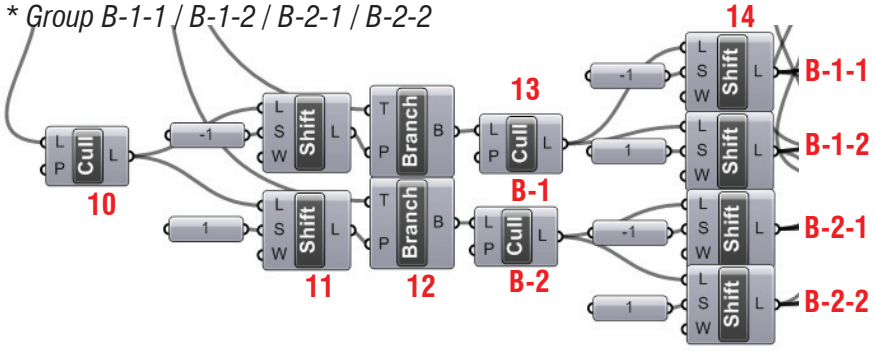
10. ***Cull Pattern*** (Logic/Sets/Cull Pattern)
- L(Data) : Connect *Param Viewer*
- P(Culling Pattern) : Manage Boolean Collection -> "False / True"

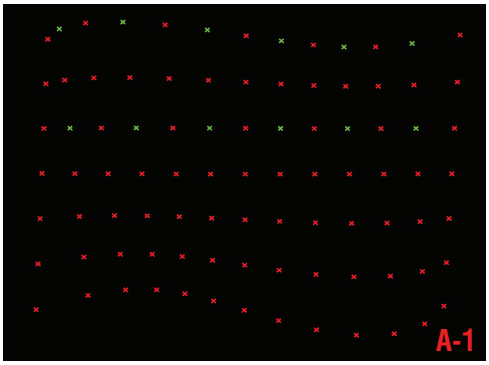
11. ***Shift List*** (Logic/List/Shift List) x 2
- L(Data) : Connect *Cull Pattern* (False / True)
- S(Shift offset) : -1(integer) / +1(integer) for each

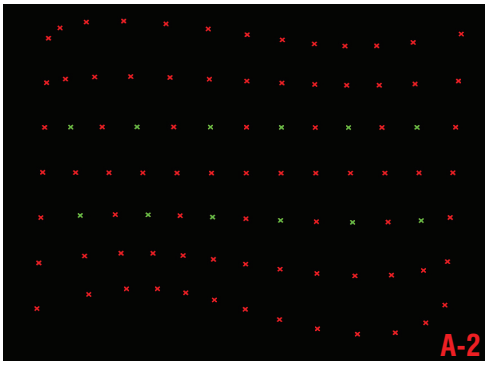
12. ***Branch*** (Logic/Tree/Tree Branch) x 2
- T(Data) : Connect *Point(*"Pts Grid")
- P : Connect *Shift List* x 2 for each

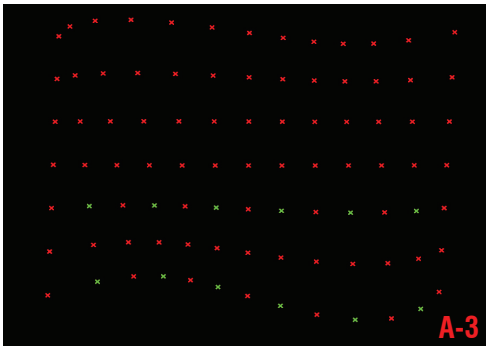
13. ***Cull Pattern*** (Logic/Sets/Cull Pattern) x 2
- L(Data) : Connect *Branch*
- P(Culling Pattern) : Manage Boolean Collection -> "True / False"

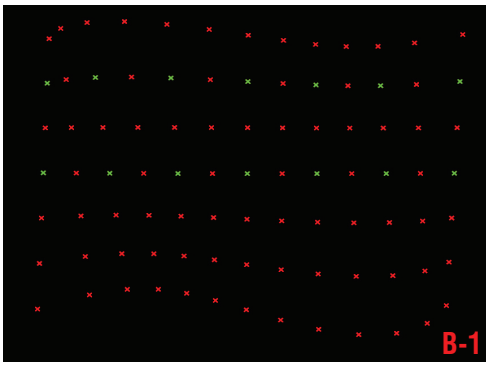
14. ***Shift List*** (Logic/List/Shift List) x 2
- L(Data) : Connect *Cull Pattern* (False / True)
- S(Shift offset) : -1(integer) / +1(integer) / -1(integer) / +1(integer) for each
  -> * *Group B-1-1 / B-1-2 / B-2-1 / B-2-2*

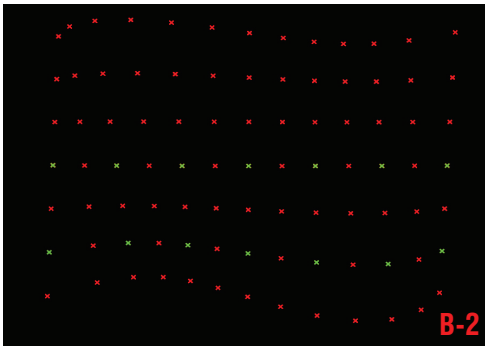












Step3 : Connecting Point Groups

15. ***Vector 2Pt*** (Vector/Vector/Vector 2Pt) x 6
- Vector(1) : from B-1-1 to B-2-1
- Vector(2) : from A-2 to A-1
- Vector(3) : from B-1-2 to B-2-2
- Vector(4) : from B-2-1 to B-1-1
- Vector(5) : from A-2 to A-3
- Vector(6) : from B-2-2 to B-1-2

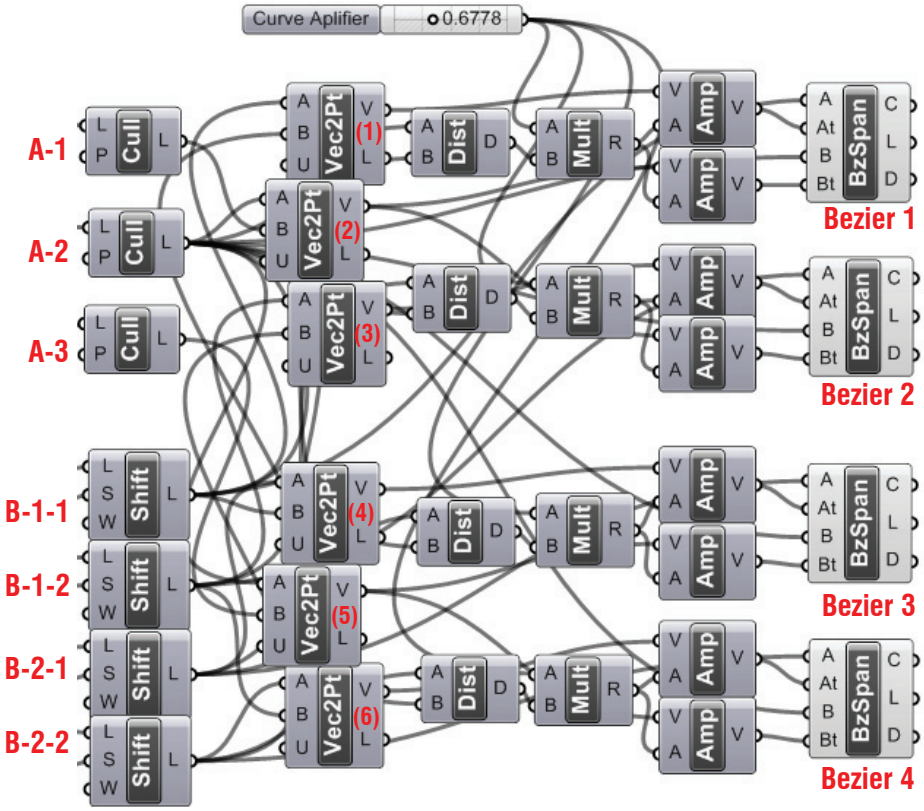
16. ***Number Slider*** (Params/Special/Number Slider)
- "Curve Amplifier" : Floating point, Lower limit=0, Upper limit=2, Value=0.677

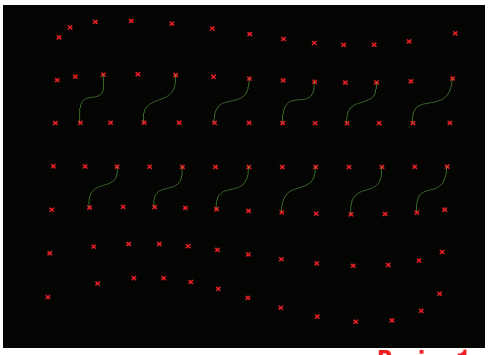
** Bezier Span Connection*

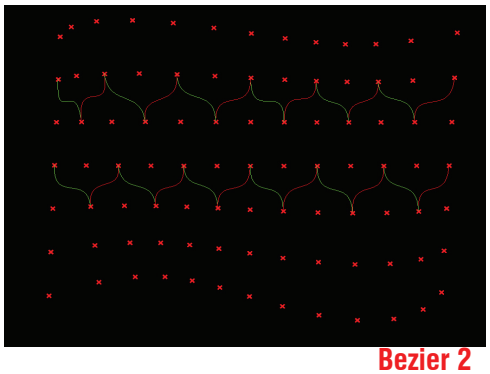
17. ***Distance*** (Vector/Point/Distance) :
- for Bezier 1 : Distance between A-2 and B-1-1
- for Bezier 2 : Distance between A-2 and B-1-2
- for Bezier 3 : Distance between A-2 and B-2-1
- for Bezier 4 : Distance between A-2 and B-2-2

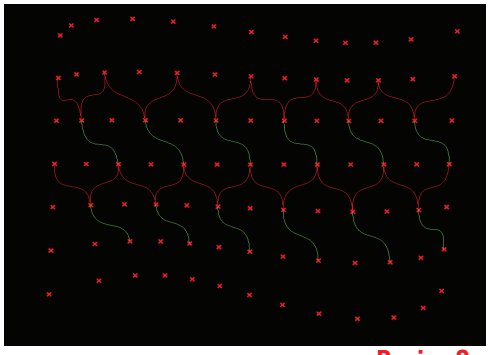
18. ***Multiply*** (Scalar/Operators/Multiply) : *Distance* x ***(***"Curve Amplifier") for each

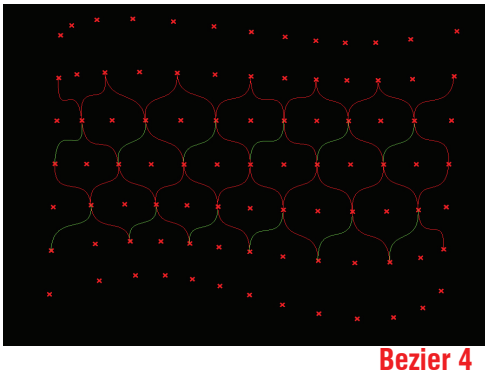
19. ***Bezier Span*** (Curve/Spline/Bezier Span)
- Bezier 1 — A(point) : "B-1-1" / At(vector) : amplified "Vector(1)"
  B(point) : "A-2" / Bt(vector) : amplified "Vector(2)"
- Bezier 2 — A(point) : "B-1-2" / At(vector) : amplified "Vector(3)"
  B(point) : "A-2" / Bt(vector) : amplified "Vector(2)"
- Bezier 3 — A(point) : "B-2-1" / At(vector) : amplified "Vector(4)"
  B(point) : "A-2" / Bt(vector) : amplified "Vector(5)"
- Bezier 4 — A(point) : "B-2-2" / At(vector) : amplified "Vector(6)"
  B(point) : "A-2" / Bt(vector) : amplified "Vector(5)"




Bezier 1


Bezier 2


Bezier 3


Bezier 4

Appendix
- Definition map