

--- MATURE WILLOW CLUMP

NOTES:
(I) CONSTRUCT BENDWAY WEIR PER DIRECTION OF ENGINEER.

D-D BENDWAY WEIR TYPICAL
SECTION

E-E BENDWAY WEIR TYPICAL PROFILE

REINVENTING WHITEWATER

\$20 Design and Engineering

Scott Shipley, P.E. 318 Mcconnell Drive Lyons CO, 80540, USA (303) 819-3985

Client:

TOWN OF LYONS

Project Name:

MEADOW PARK PHASE 2 PW 20-B

Status

CONSTRUCTION DOCUMENTS

Drawing Name:

TYPICAL DETAILS- BENDWAY

Revisions:

Drawn By:

Nathan Werner
Checked By:
Scott Shipley

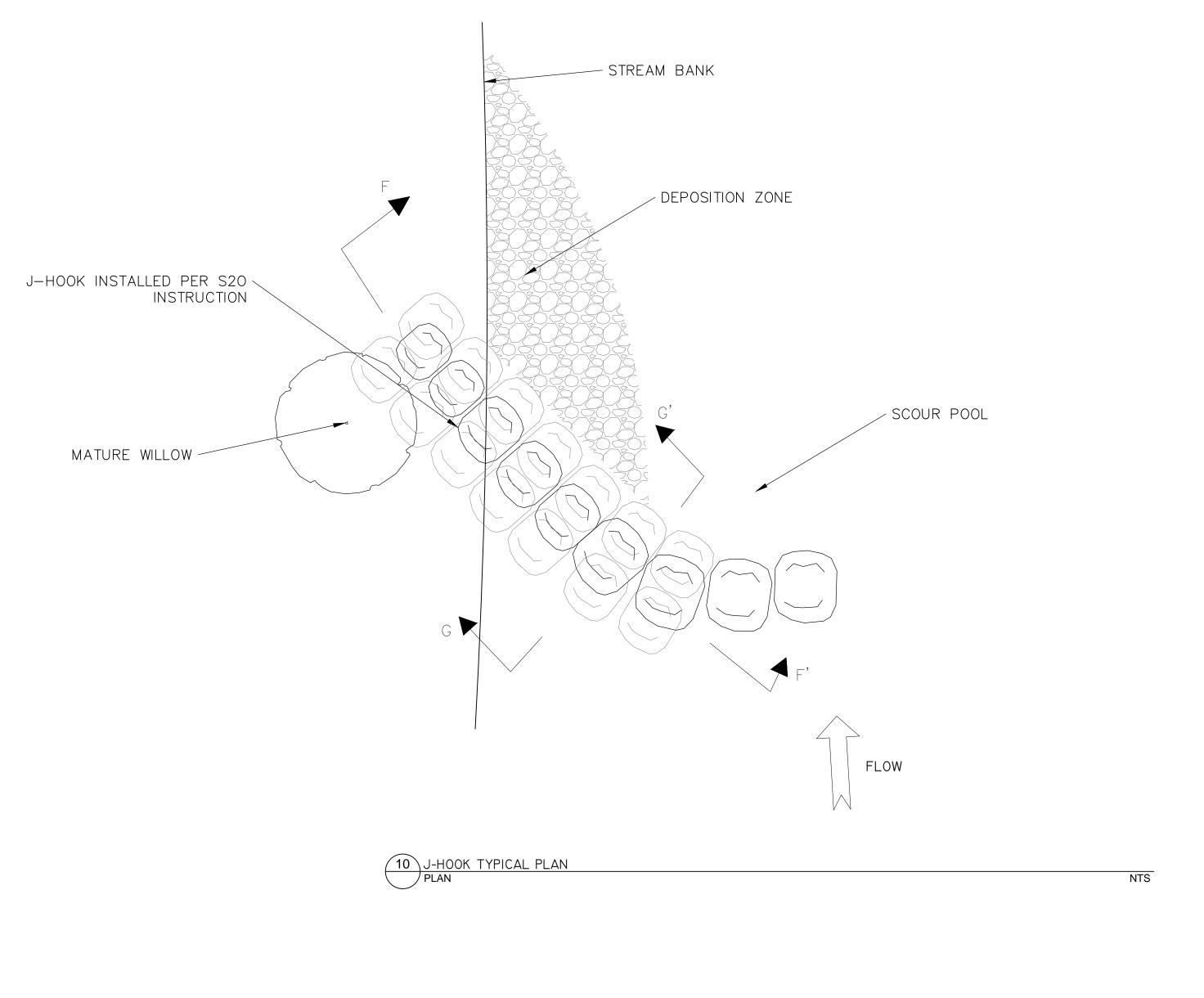
Date: 6/12/2015

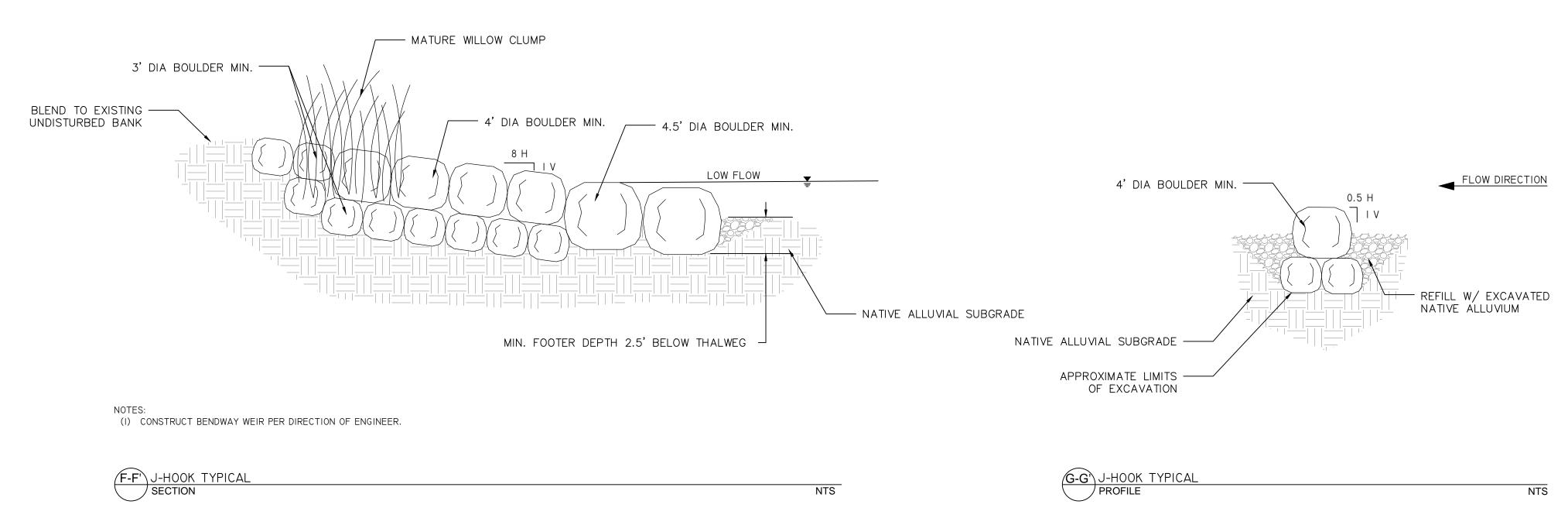
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Scale:

WW-10.3







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MEADOW PARK PHASE 2 PW 20-B

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TYPICAL DETAILS- J-HOOK

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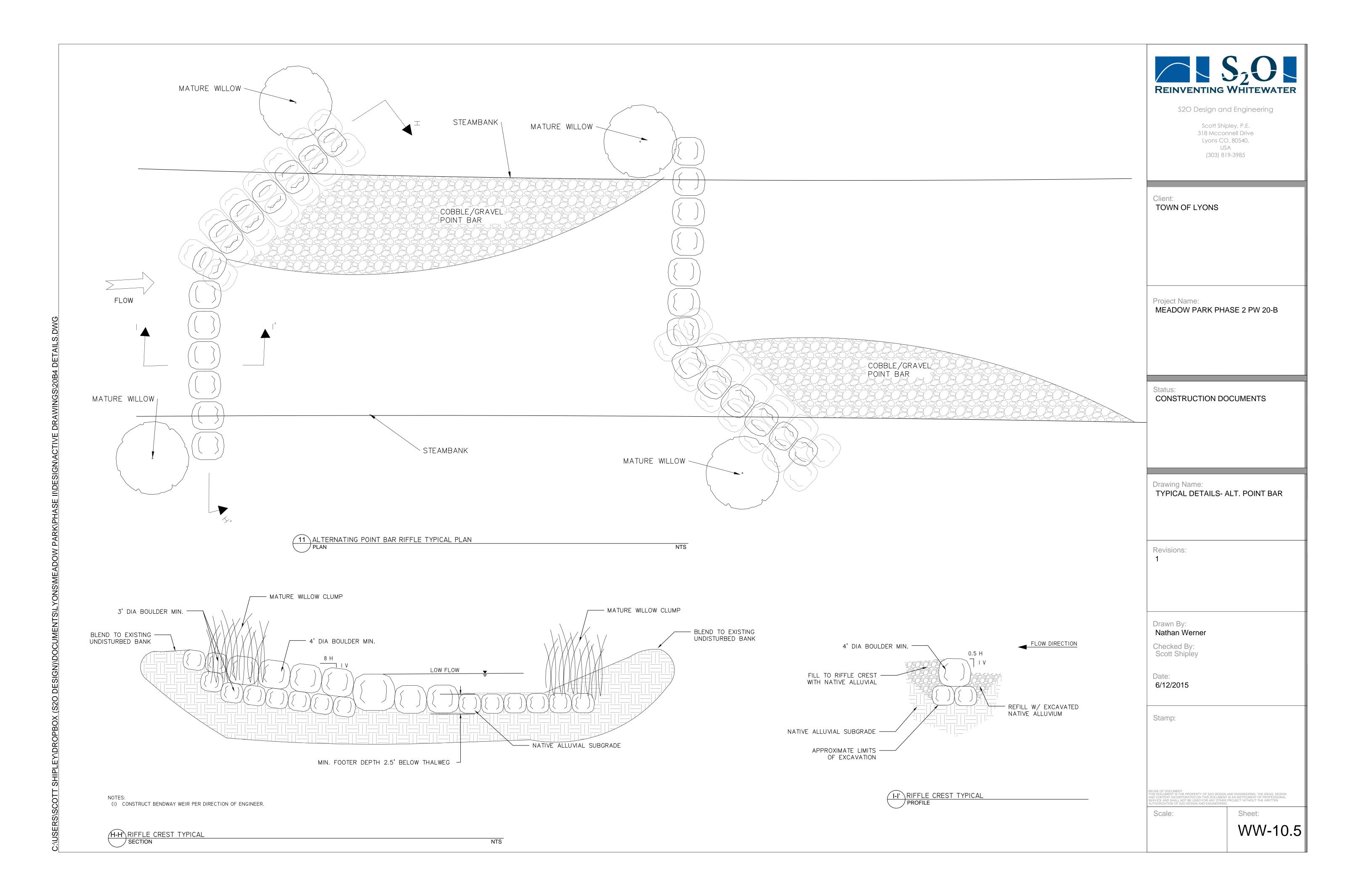
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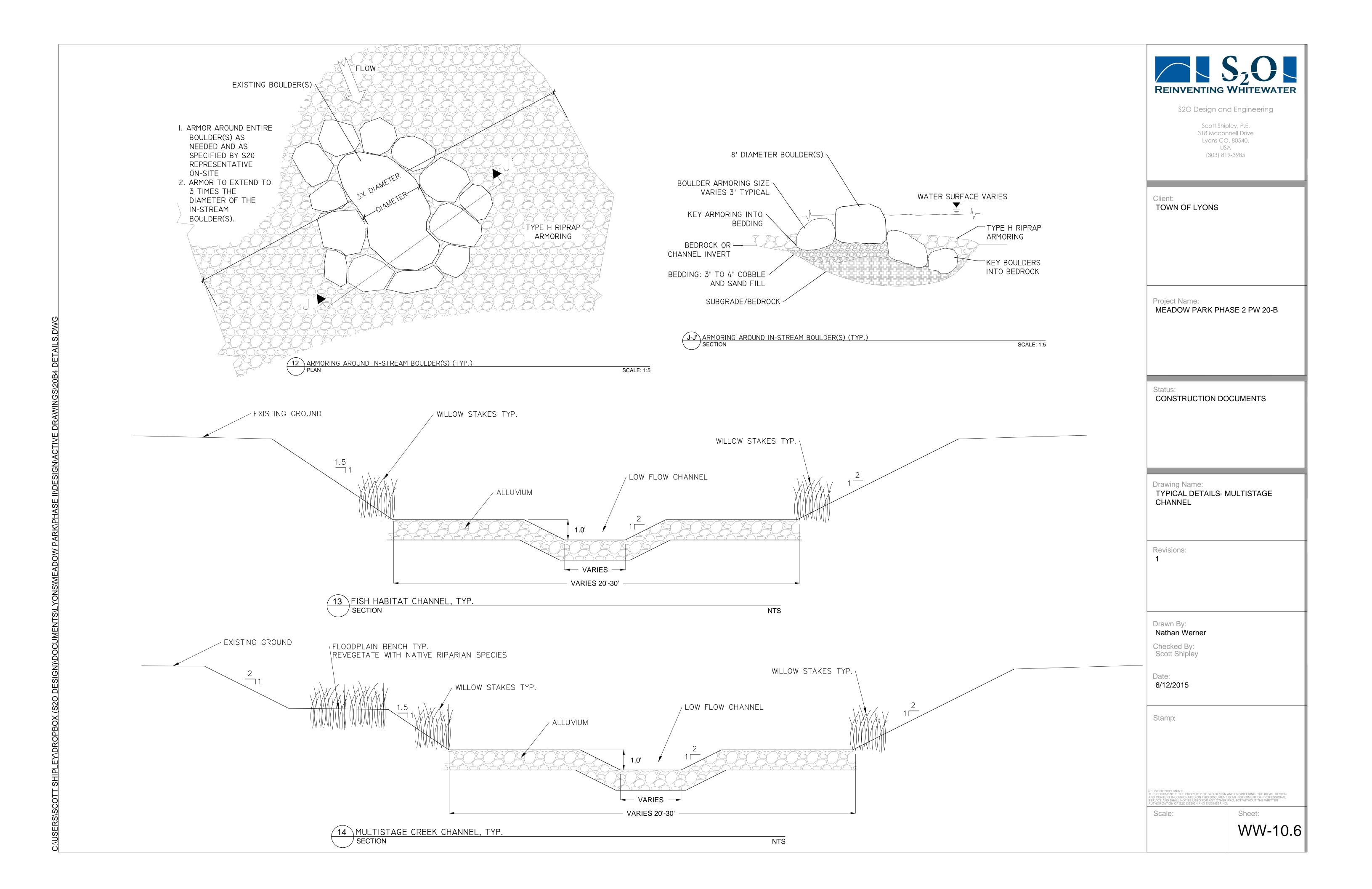
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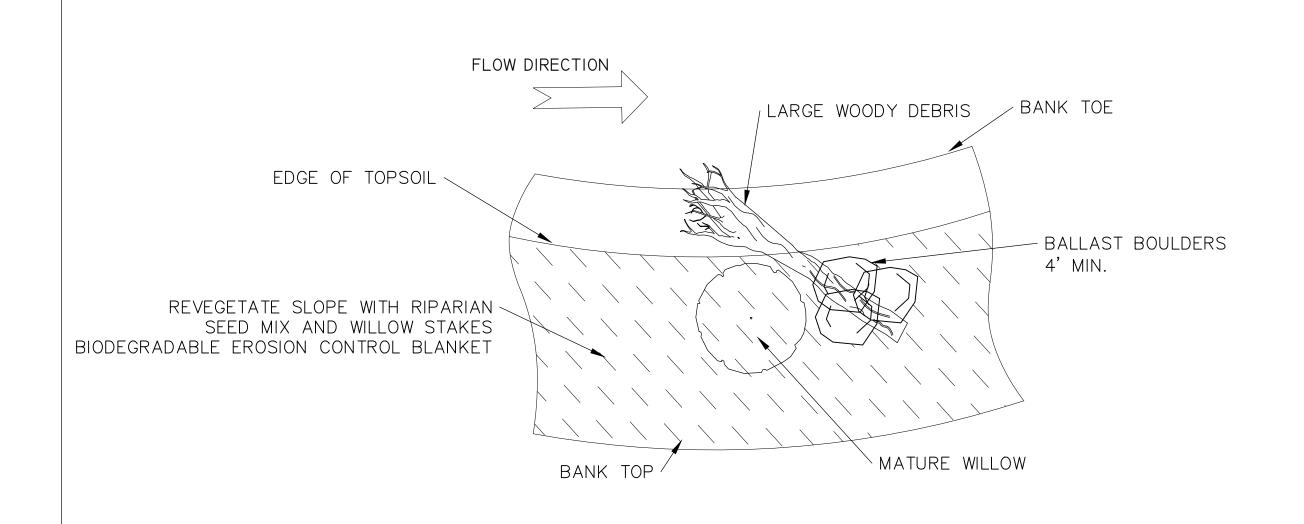
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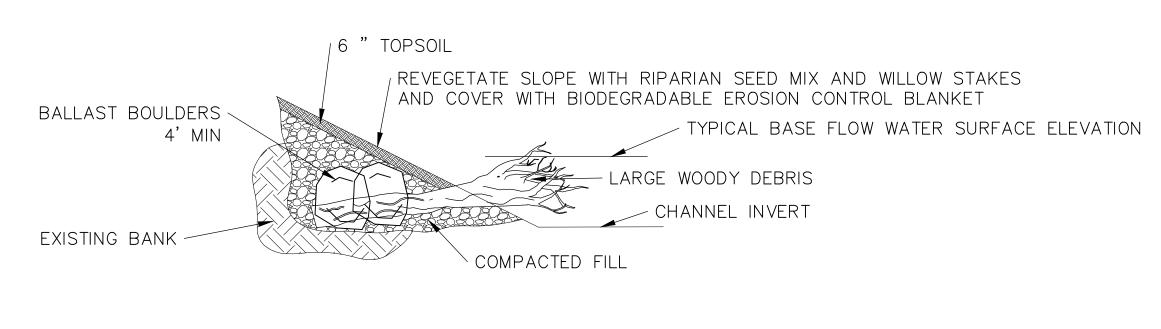
WW-10.4







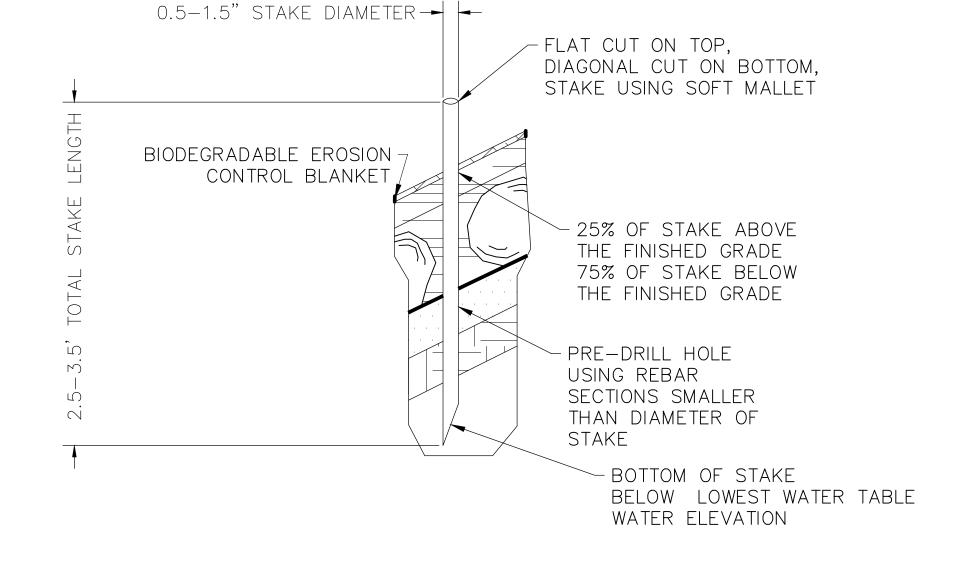
## BANK STABILIZATION WITH LARGE WOODY DEBRIS TYPICAL PLAN VIEW



15 BANK STABILIZATION WITH LARGE WOODY DEBRIS, TYP.

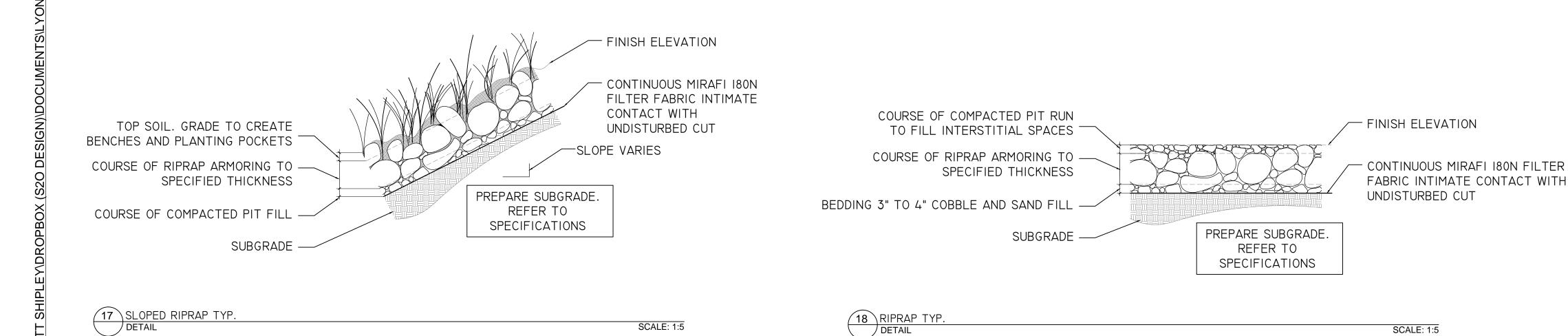
Obtain willow or willow type adventitiously rootable stock. Material should be from an area with similar soil, climate, and location relative to the stream. The material shall be at least two years old and free of disease, rot, or insect infestation. Material shall be harvested while dormant and soaked (1 to 14 days) before installation.

Top of cutting shall be above competing vegetation. Back fill hole with water and soil mix to achieve good soil to stem contact. Space stakes in a 1 to 3 foot random pattern.



SCALE: 1:5

LIVE STAKING, TYP.



SCALE: 1:5



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CONSTRUCTION DOCUMENTS

Drawing Name: TYPICAL DETAILS- LWD WILLOW STAKE

Revisions:

Drawn By:

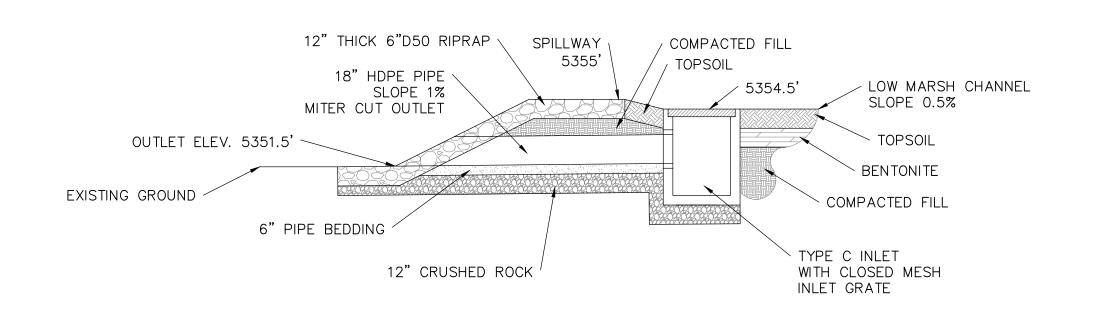
Nathan Werner Checked By: Scott Shipley

6/12/2015

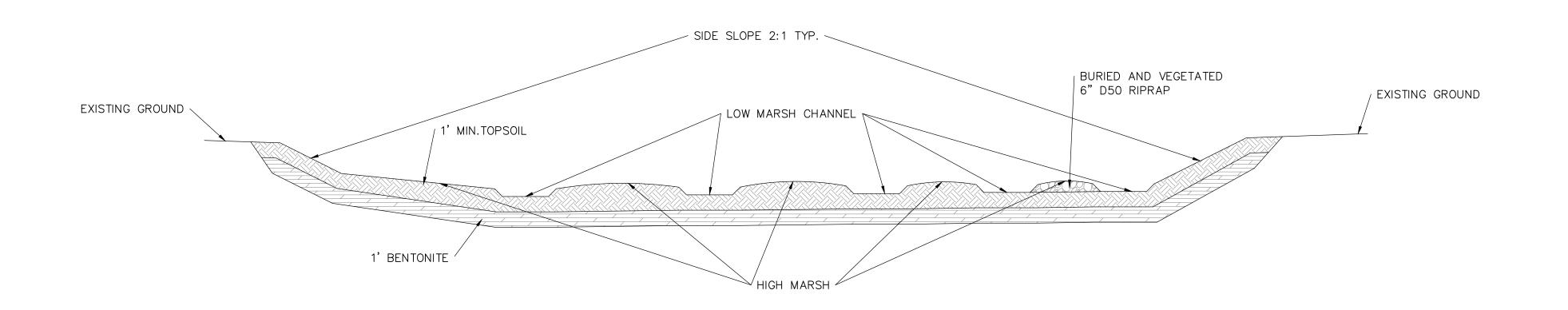
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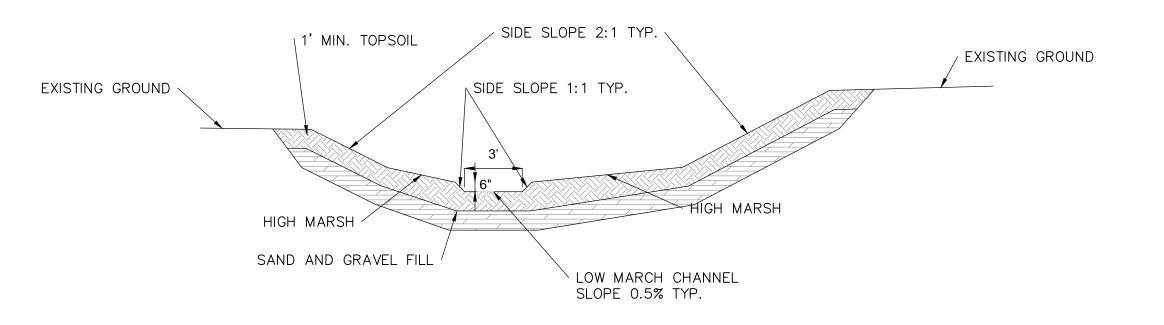
WW-10.7







A-A WETLAND CROSS SECTION NTS



B-B WETLAND CROSS SECTION

NTS



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TYPICAL DETAILS- WETLAND

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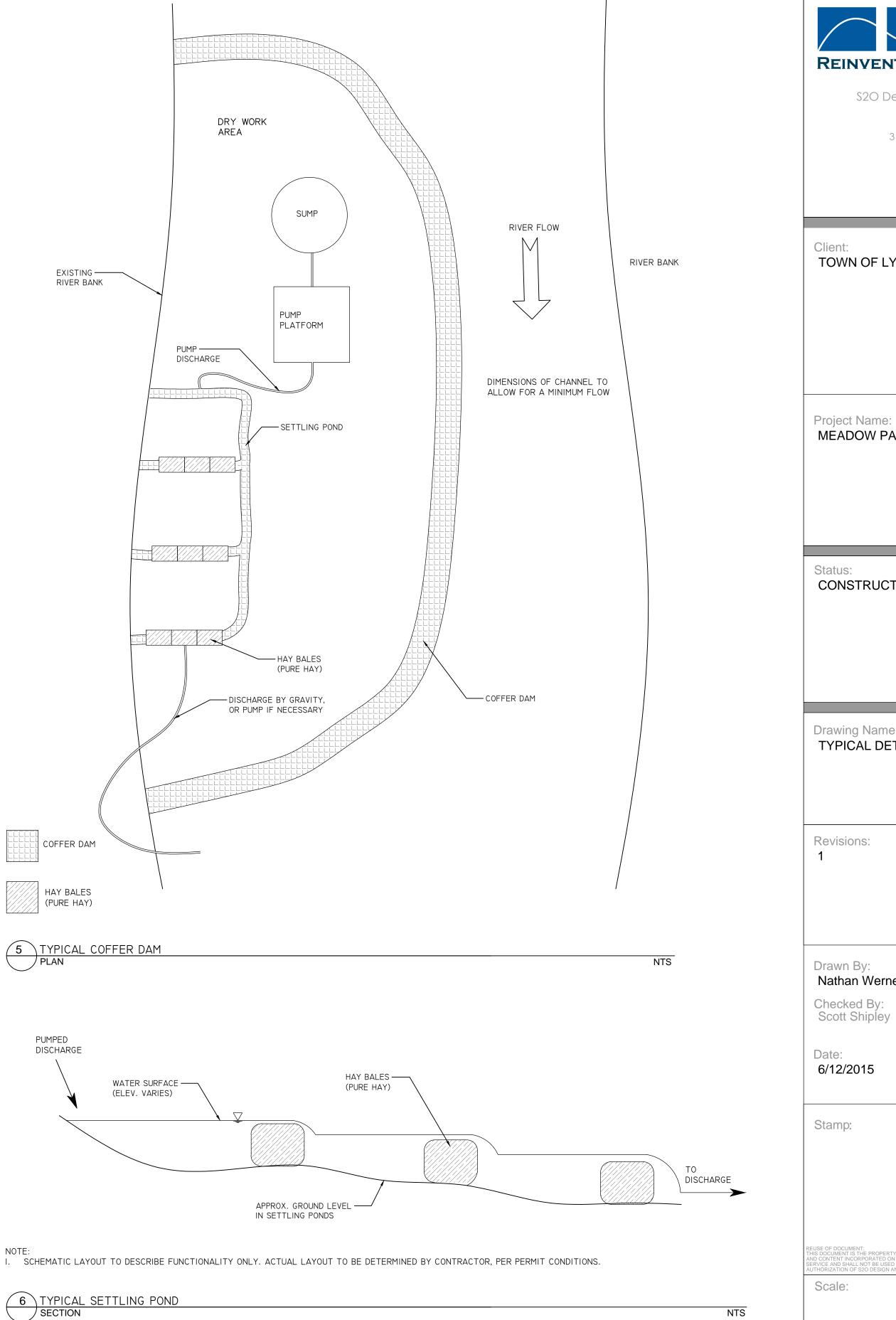
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Scale:

WL-1.1

4 WATER FILLED COFFER DAM TYPICAL

SECTION



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TOWN OF LYONS

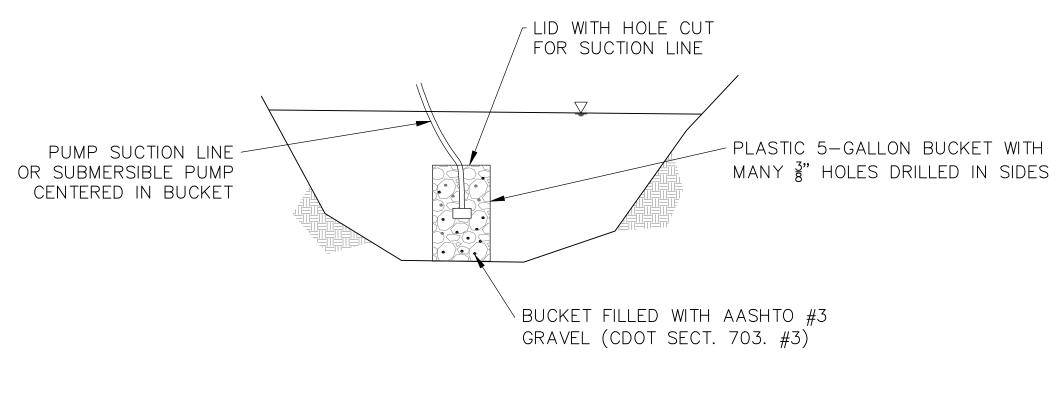
MEADOW PARK PHASE 2 PW 20-B

CONSTRUCTION DOCUMENTS

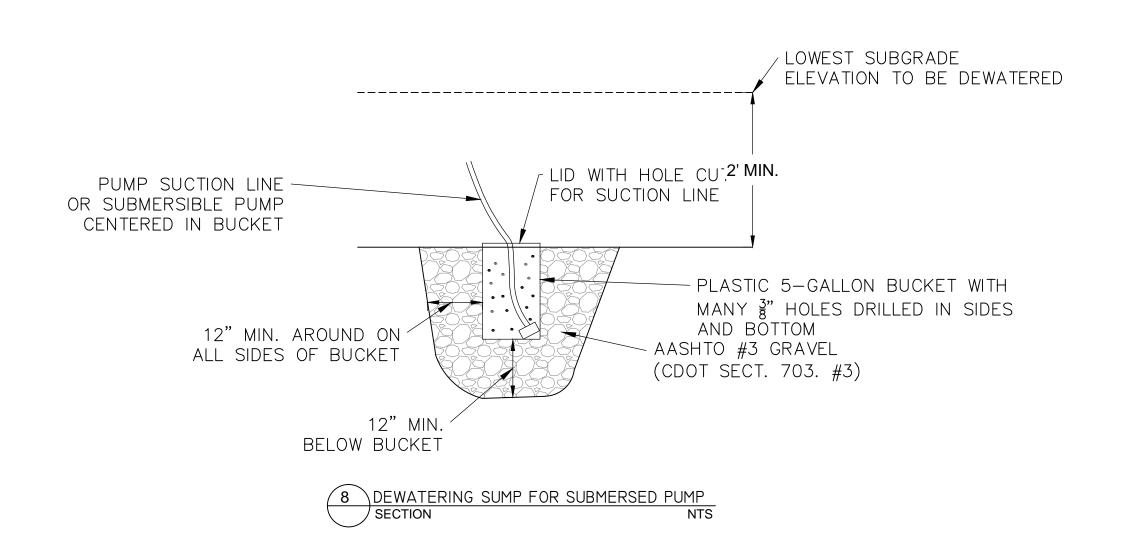
Drawing Name: TYPICAL DETAIL- DEWATER (1)

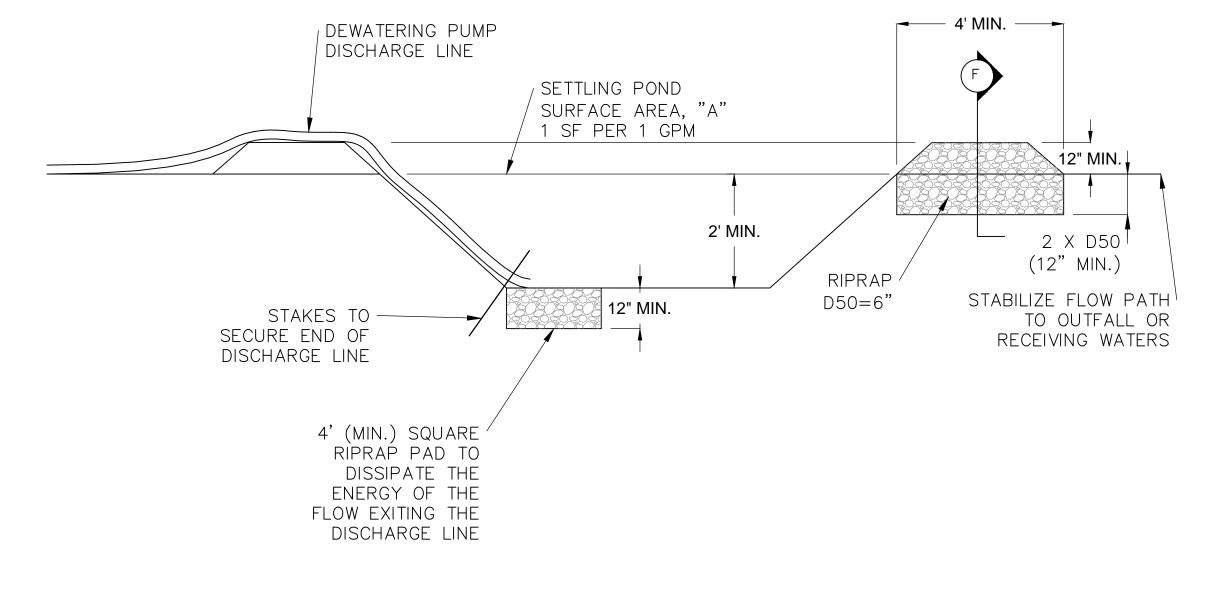
Nathan Werner

DW-1.0

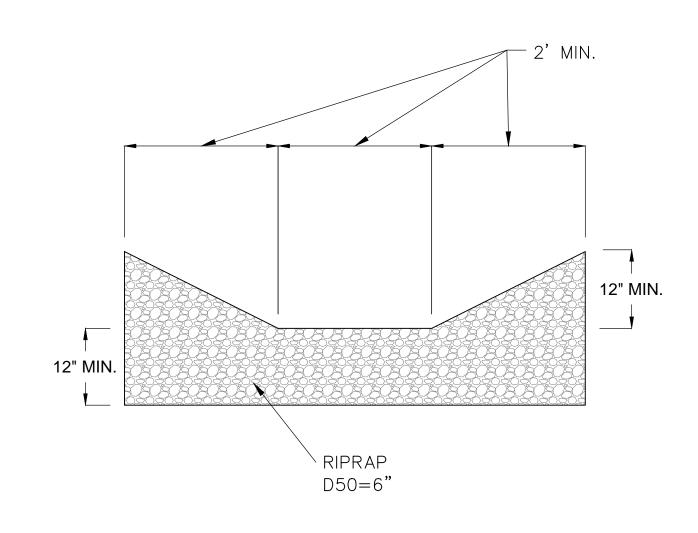








9 SUMP DISCHARGE SETTLING BASIN SECTION NTS







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Client: TOWN OF LYONS

Project Name:

MEADOW PARK PHASE 2 PW 20-B

Status: CONSTRUCTION DOCUMENTS

Drawing Name:

TYPICAL DETAIL DEWATER (2)

Revisions:

Drawn By: Nathan Werner

Checked By: Scott Shipley

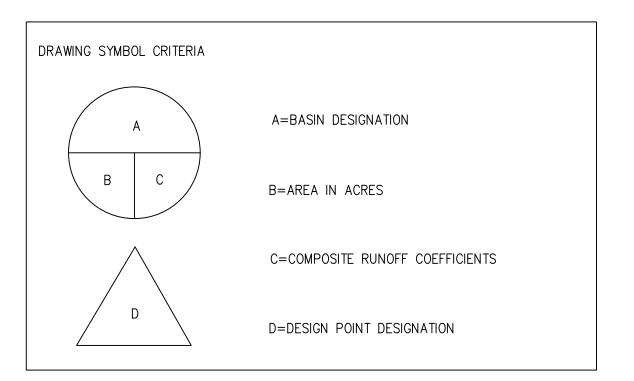
Date: 6/12/2015

Stamp:

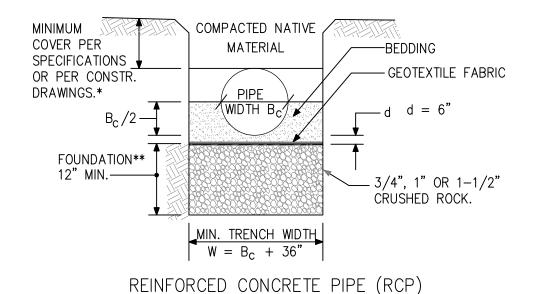
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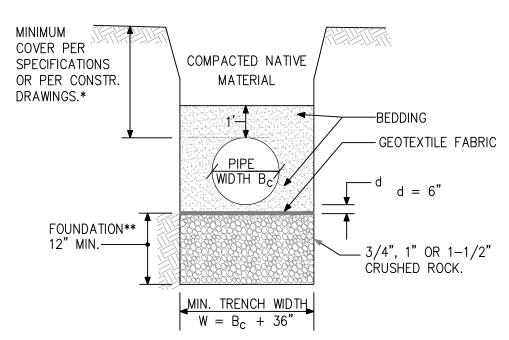
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DW-1.1

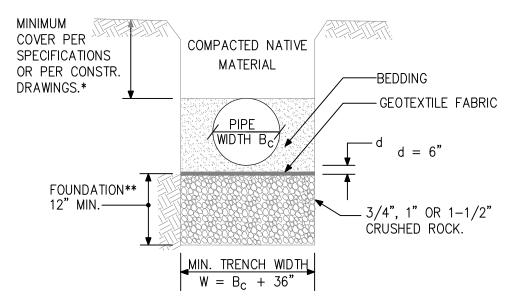


NATIVE SOIL:	BEDDING:
COARSE GRAINED SAND AND GRAVEL (50% OR MORE BY WEIGHT RETAINED ON # 40 SIEVE)	CDOT CLASS A FILTER MATERIAL (SECTION 703.0q)
FINE GRAINED SOIL (LESS THAN 50% RETAINED ON # 40 SIEVE)	UDFCD TYPE 1 FILTER MATERIAL, CDOT FINE AGGREGATE FOR CONCRETE AASHTO M6 (SECTION 703.01)





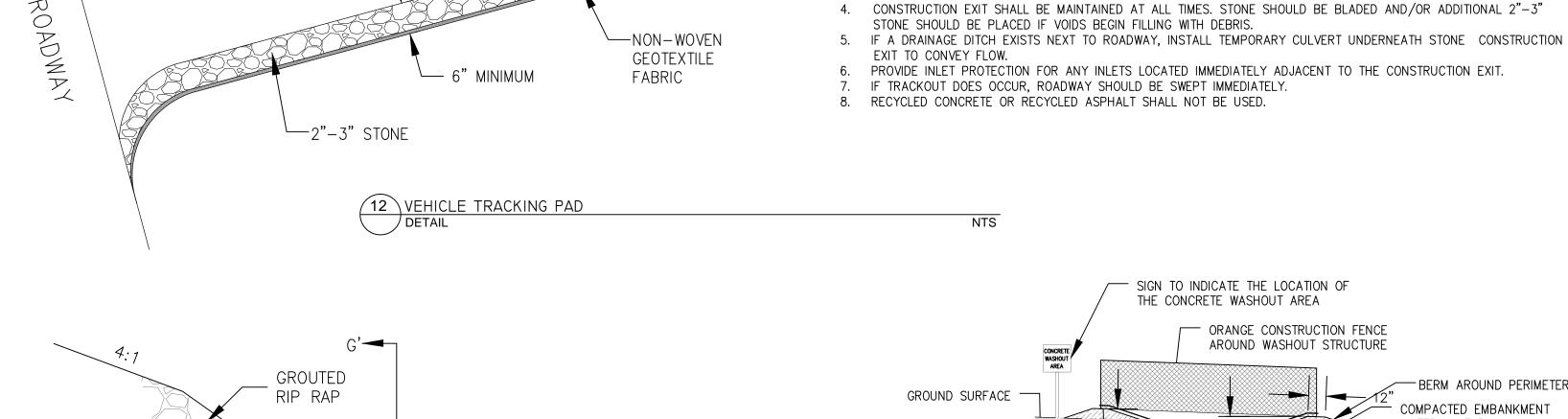
## POLYVINYL CHLORIDE PIPE (PVC)

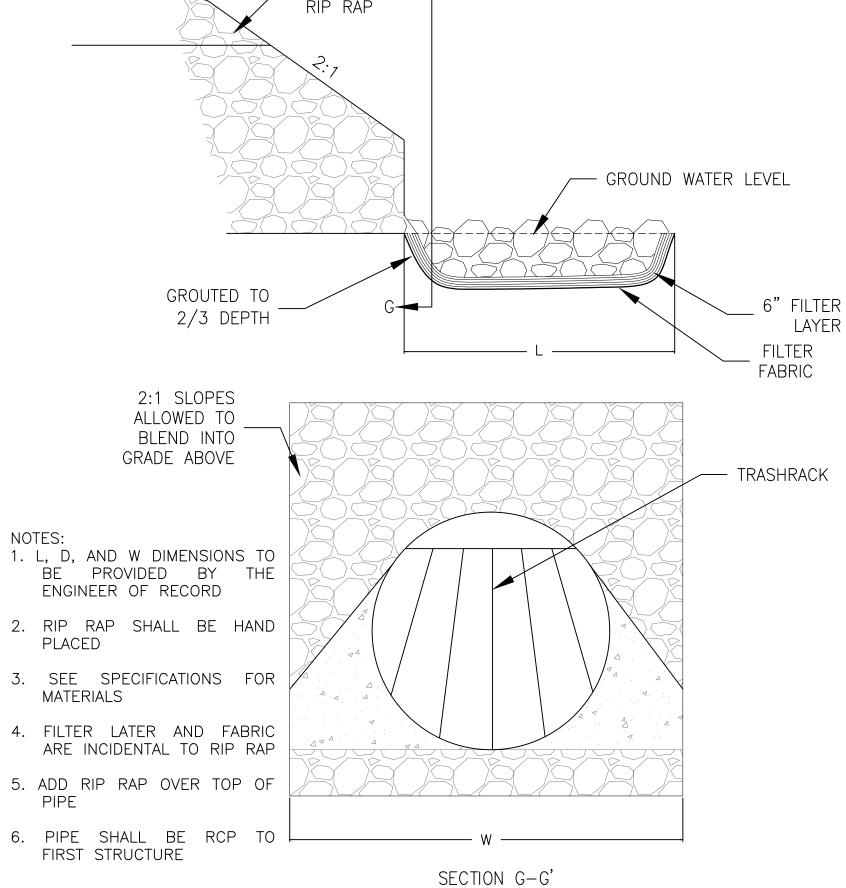


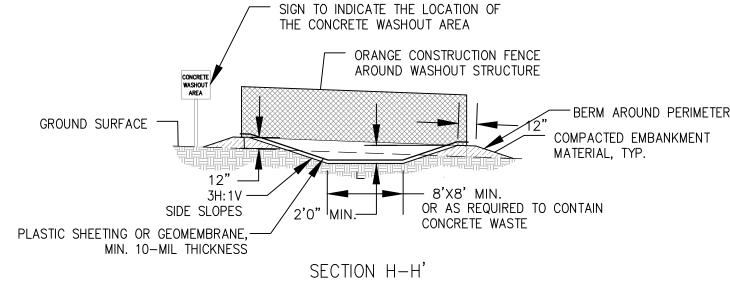
HIGH DENSITY POLYETHELENE (HDPE)

- \* MINIMUM COVER SHALL NOT INCLUDE PAVEMENT.
- \*\* MAY BE REQUIRED IN AREAS WITH HIGH GROUNDWATER TABLE OR UNSUITABLE SUB-GRADE.

50' MINIMUM 12' MINIMUM D ANED ROADWAY -NON-WOVEN GEOTEXTILE MINIMUM FABRIC 2"-3" STONE 12 VEHICLE TRACKING PAD DETAIL

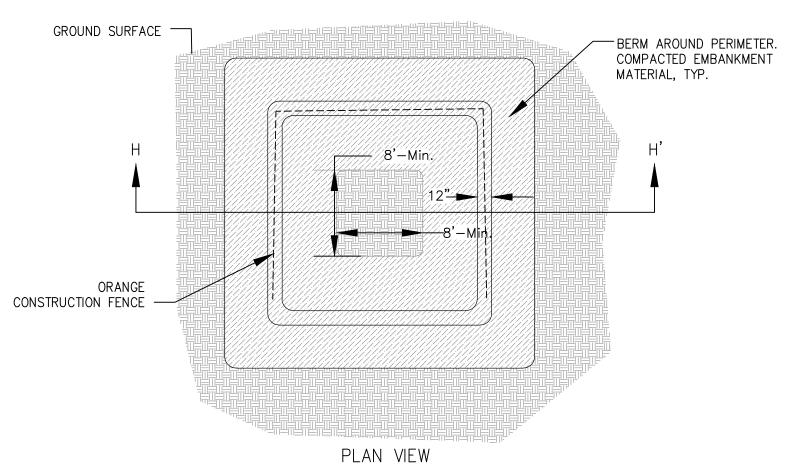






1. PAVED ROADWAY TO BE KEPT CLEAN OF MUD, DIRT, ROCKS, AND DEBRIS AT ALL TIMES.

2. GEOTEXTILE FABRIC SHALL COMPLY WITH CDOT 712.08b. 3. 2"-3" STONE SHALL CONTAIN LESS THAN 10% FINES.



- 1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE; PLACED A
- MINIMUM 50' FROM STATE WATERS. VEHICLE TRACKING CONTROL IS REQUIRED AT CONCRETE WASHOUT ENTRANCE IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
- A PLASTIC SHEETING OR GEOMEMBRANE LINER SHALL BE PLACED. MINIMUM 10-MIL THICKNESS.. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY
- FOR WASTE CONCRETE.
- WASTE MATERIAL FROM CONCRETE WASHOUT OPERATIONS MUST BE REMOVED AND LEGALLY DISPOSED OF WHEN IT HAS ACCUMULATED TWO-THIRDS OF THE WET STORAGE CAPACITY OF THE STRUCTURE AND AT THE END OF
- 6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.
- 7. NO STORMWATER RUN-OFF SHALL DRAIN INTO CONCRETE WASHOUT AREA.

S2O REINVENTING WHITEWATER

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**TOWN OF LYONS** 

Project Name:

MEADOW PARK PHASE 2 PW 20-B

CONSTRUCTION DOCUMENTS

Drawing Name:

TYPICAL DETAIL- BMP (1)

Revisions:

Drawn By: Nathan Werner

Checked By: Scott Shipley

Date: 6/12/2015

Stamp:

Scale:

BMP-1.0

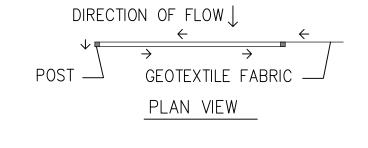
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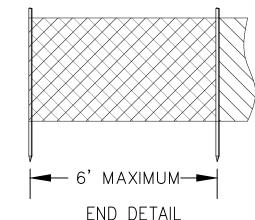
13 RIP RAP AT CULVERT OUTLET

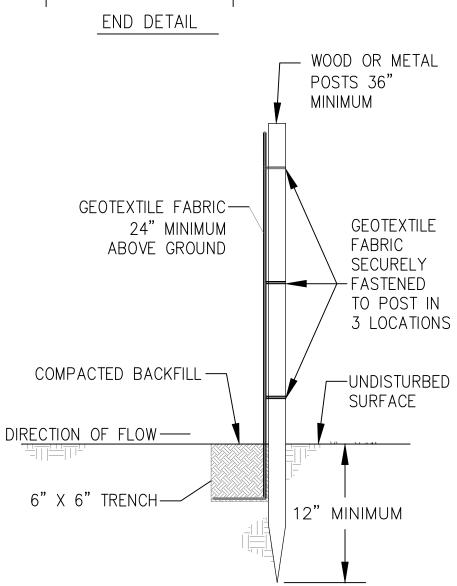
14 CONCRETE WASHOUT AREA
DETAIL

11 STORM DRAINAGE PIPE BEDDING PLAN DETAILS

DETAIL

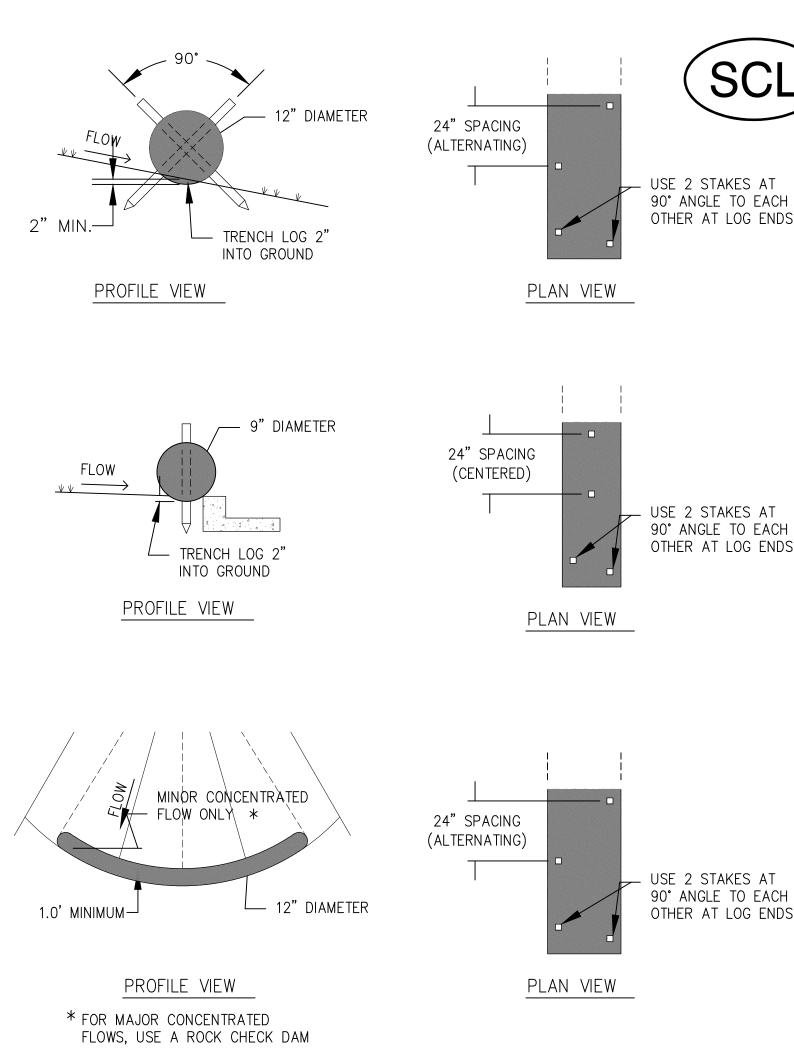


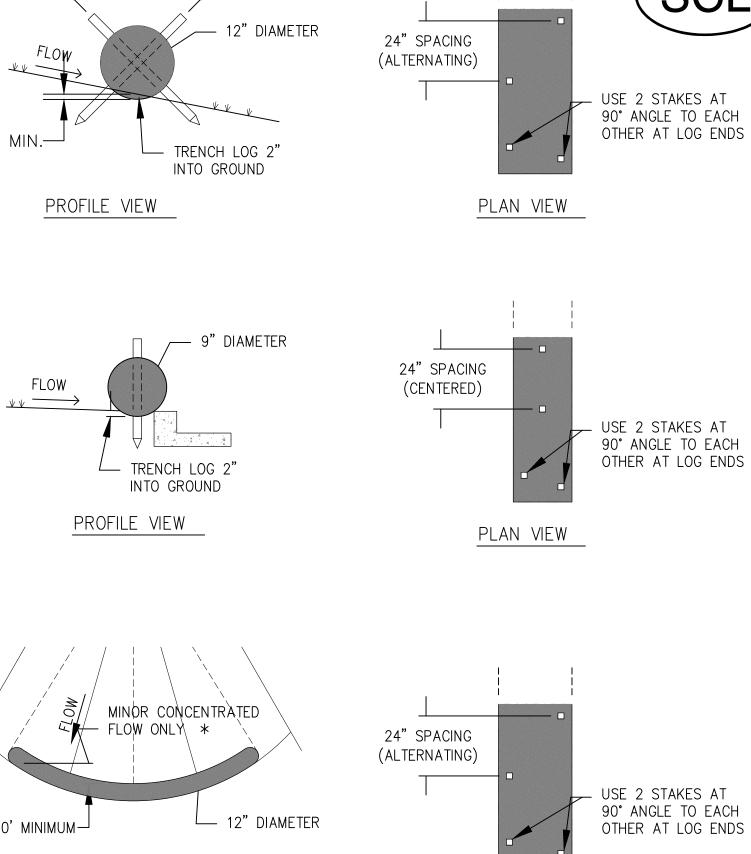


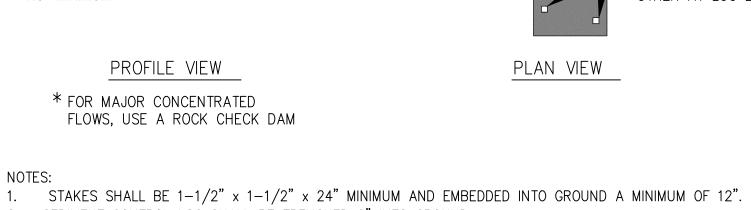


- 1. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS-SECTION OF 2 INCHES. METAL POSTS SHALL BE
- STUDDED "T" OR "U" TYPE. 2. GEOTEXTILE FABRIC SHALL COMPLY WITH CDOT 712.08b.
- 3. GEOTEXTILE FABRIC SHALL EXTEND A MINIMUM OF 6" BELOW GRADE AND ANOTHER 6" HORIZONTALLY IN A "L" SHAPE BEFORE BACKFILLING AND COMPACTING THE TRENCH. (SLICING METHOD IS ALSO ACCEPTED)
- 4. SILT FENCE SHALL NOT BE USED IN CONCENTRATED 15 LOWS HEIGHT OF THE GEOTEXTILE FABRIC.
- 5. SILT FENCE SHALL ONLY BE PLACED PARALLEL TO SURFACE CONTOURS.
- 6. CLEAN AND REMOVE SILT WHEN THE SILT REACHES
- 7. UPON PERMANENT STABILIZATION OF AREAS UPSLOPE OF THE SILT FENCE, THE SILT FENCE SHALL BE REMOVED AND





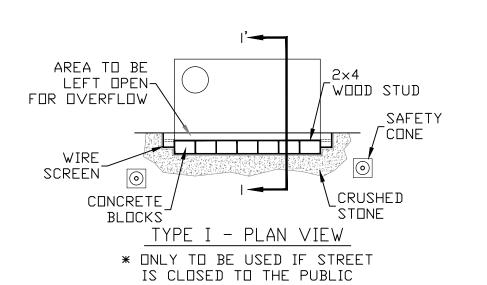


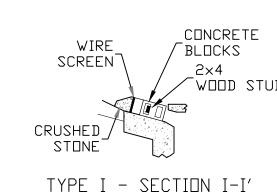


### NOTES:

- 2. SEDIMENT CONTROL LOG SHALL BE TRENCHED 2" INTO GROUND.
- 3. FOR CONTINUOUS CONTROL, ADJACENT SEDIMENT CONTROL LOGS SHALL BE PLACED FIRMLY TOGETHER
- 4. SEDIMENT SHALL BE CLEANED/ REMOVED WHEN SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE SEDIMENT CONTROL LOG.







Project Name: MEADOW PARK PHASE 2 PW 20-B \_MOOD STUD

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Revisions:

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06/12/2015

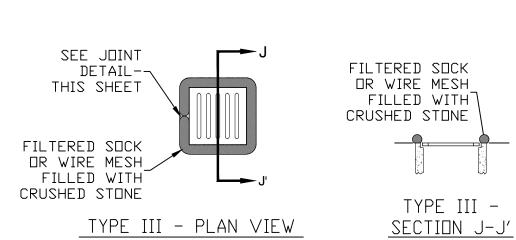
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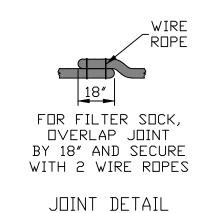
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TYPICAL DETAIL- BMP (2)

CONCRETE BLOCK 12" 12" AREA TO BE LEFT OPEN FOR OVERFLOW FOR WIRE MESH LOG, PLACE DRANGE FILL GAPS IN JOINT

-SAFETY C□NE ON EACH SIDE OF INLET WITH ADDITIONAL CRUSHED STONE AND FILTER SOCK OR WIRE MESH WRAP WITH WIRE MESH FILLED WITH CRUSHED STONE TYPE II - PLAN VIEW





Drawn By: Nathan Werner Checked By:

- CRUSHED STONE SHALL BE NO. 4 STONE WITH 0% PASSING THE 3/4" SIEVE.
- 2. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES 1/2 THE INLET PROTECTION
- 3. INLET PROTECTION SHALL BE PLACED IN A MANNER NOT TO CAUSE SIGNIFICANT FLOODING IN PUBLIC STREETS OR AREAS.
- 4. INSET FILTER BAGS WITH OVERFLOW PORTS MAY BE USED IN HIGH TRAFFIC AREAS AS A SUBSTITUTE. 5. IF LARGE DEPOSITS OF SEDIMENT ENTERS THE STORM SEWER, THE CONTRACTOR SHALL CLEAN THE STORM SEWER TO THE SATISFACTION OF THE CITY.

3 INLET PROTECTION / DETAILS

Scale:

**BMP-1.1** 

Sheet:

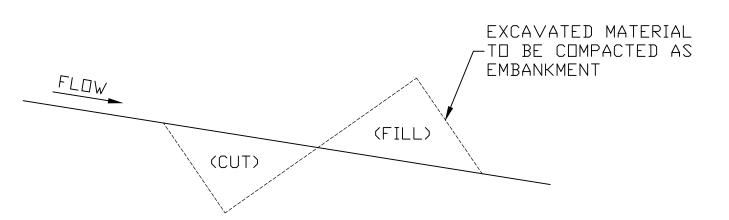
DISTURBED AREAS PERMANENTLY STABILIZED.

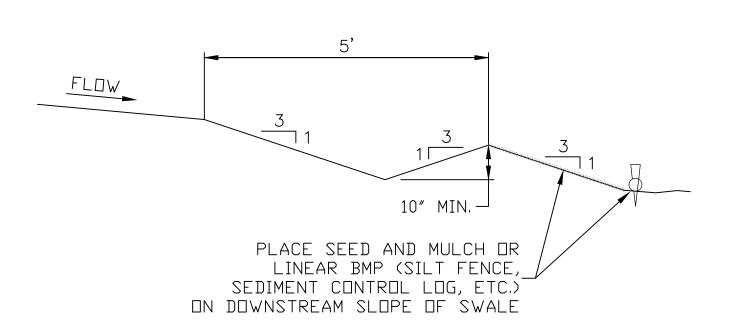
PROFILE VIEW

#### NOTES:

- 1. CHECK DAMS SHALL BE INSTALLED PRIOR TO UPSTREAM EARTH DISTURBING ACTIVITIES.
- 2. STONE SHALL HAVE < 10% FINES.
- EACH END OF CHECK DAM SHALL BE 6" MINIMUM HIGHER THAN CENTER.
- 4. SEDIMENT SHALL BE REMOVED FROM THE CHECK DAM WHEN THE SEDIMENT DEPTH REACHES 1/2. THE HEIGHT OF THE CENTER.
- 5. CHECK DAM SHALL BE REMOVED ONCE ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED.
  6. UPON REMOVAL OF CHECK DAM, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED FILL, SEEDED AND COVERED WITH AN EROSION CONTROL BLANKET ADEQUATE FOR EXPECTED CHANNEL VELOCITY.







# NOTES:

- 1. CHECK DAMS OR EROSION CONTROL BLANKETS MAY BE REQUIRED IF VELOCITY BEGINS TO ERODE DITCH/ SWALE.
- 2. DIVERSION DITCHES/ SWALES SHALL BE DISCHARGED TO SEDIMENT TRAPS OR BASINS WHICH HAVE BEEN SIZED APPROPRIATELY.
- 3. IF SEDIMENT BEGINS TO COLLECT IN THE SWALE, THE SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE SWALE.





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