

J:\JDS-Hydro\Project_Files\112.112 Woodmen Hills\112.112 West Water Tank\Drawings\Working\112112_TcBuild\112112_5_GECP.dwg 2020/07/20 4:33 PM By: Ryan Mangino

EROSION CONTROL NOTES:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE WAS PREPARED BY VIVID ENGINEERING GROUP (DATED 1/06/2020) AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT



TIMING, CONSTRUCTION STAGING AND SEQUENCING:

EXPECTED START DATE: JULY 2020
INSTALL TEMPORARY EROSION CONTROL - 2 DAYS
- PERIMETER SILT FENCING
- VEHICLE TRACKING CONTROL PAD

EXCAVATION - 2 MONTHS
INSTALL FINAL SITE IMPROVEMENTS - 11 MONTHS
REMOVE TEMPORARY EROSION CONTROL - 5 DAYS

MINIMUM BEST MANAGEMENT PRACTICES ELEMENTS:

- STEP 1- EROSION AND SEDIMENT CONTROL
INSTALL SEDIMENT TRAPPING DEVICES (PERIMETER CONTROLS) PRIOR TO THE START OF CONSTRUCTION.
- STEP 2- SPILL PREVENTION AND RESPONSE
- STEP 3- MATERIAL MANAGEMENT
MATERIAL AND EQUIPMENT STORAGE AREAS SHALL BE SECURE AND CONTAINED TO PREVENT DISCHARGE OF ANY MATERIAL IN RUNOFF. WASTE SHALL BE CONTAINED AND DISPOSED OF PROPERLY. MAINTAIN BMP'S DURING BUILDING AND UTILITY CONSTRUCTION.
- STEP 4- INSPECTION AND MAINTENANCE
(SEE EROSION CONTROL NOTES)
- STEP 5- INSTALL FINAL STABILIZATION - BASE COURSE, LANDSCAPING, EROSION CONTROL BLANKETS, AND SEEDING.
- STEP 6- REMOVE TEMPORARY CONTROLS - SILT FENCING AFTER PERMANENT FEATURES ARE INSTALLED.

FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT:

FINAL STABILIZATION MEASURES INCLUDE BASE COURSE, PARTIAL LANDSCAPE, AND REVEGETATION

EARTHWORK SUMMARY:

PROPOSED SITE:
CUT - 3,790 CY
FILL - 3,296 (*1.15) = 3,790 CY
NET - 0 CY CUT/FILL

DISTURBED AREA - 1.24 AC

EROSION CONTROL FACILITIES:

SILT FENCE (SF) - 745 LF
VEHICLE TRACKING PAD (VT) - 1
CONCRETE WASHOUT - 1
EROSION CONTROL BLANKETS - 385 SY

COMMON NAME (N=NATIVE, I=INTRODUCED)	SCIENTIFIC NAME	LBS PLS/ACRE
WHEATGRASS, SIBERIAN	I AGROPYRON FRAGILE	2.04
WHEATGRASS, SLENDER	N ELYMUS TRACHYCAULUS	10.90
WHEATGRASS, INTERMEDIATE	I THINOPYRUM INTERMEDIUM	3.00
WILDRYE, RUSSIAN	I PSATHYSTROCHYS JUNCEA	2.04
WHEATGRASS, WESTERN	N PASCOPIRUM SMITHII	3.20
CLOVER, RED	I TRIFOLIUM PRATENSE	0.40
FLAX, BLUE-APPAR	I LINUM PERENNE	0.41
SULPHUR-FLOWER BUCKWHEAT	N ERIOGONUM UMBELLATUM	0.55
TOTAL/POUNDS/ACRE		22.54

PCD File No. PPR-20-017

JDS-HYDRO
CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

UNLESS THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

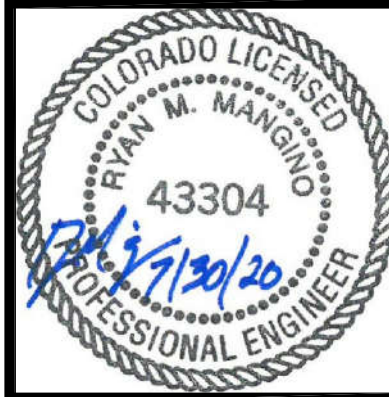
WOODMEN HILLS METROPOLITAN DISTRICT

WEST CONCRETE WATER STORAGE TANK

GRADING & EROSION CONTROL NOTES

REVISIONS							
NO.	DESCRIPTION	BY	APP.	DATE			
1	BID/PCD REVISIONS	RMM	JPM	07/30/20			
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7							

FOR
CONSTRUCTION



Project No.: 112.112
Date: 05/13/20
Design: RMM
Drawn: RMM
Check: JPM

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SHEET 11 OF 30

LEGEND

EX PROPERTY LINE	EX CONTOURS-MAJOR	EX GAS METER	PP CONTOURS-MAJOR	PP FIRE HYDRANT	PP EROSION CONTROL SILT FENCE (INITIAL)
EX RIGHT-OF-WAY	EX CONTOURS-MINOR	EX LIGHT POLE	PP CONTOURS-MINOR	PP WATER LINE FITTING	STAGING AREA (INITIAL)
EX FENCE	EX FIRE HYDRANT	EX UTILITY POLE	PP SANITARY SEWER LINE ALIGNMENT	PP WATER VALVE	CONCRETE WASHOUT (INITIAL)
EX WATER LINE	EX WATER VALVE	EX OVERHANGING LIGHT POLE	PP WATER LINE ALIGNMENT	PP SPOT ELEVATION	RIPRAP (FINAL)
EX SANITARY SEWER LINE	EX WATER MANHOLE	EX SIGN	PP WATER METER & SERVICE	PP VEHICLE TRACKING PAD (INITIAL)	PRE-DEVELOPED FLOW DIRECTION
EX D.H. ELECTRIC	EX SANITARY SEWER MANHOLE	EX VEGETATION (SIZE VARIES)	PP U.G. ELECTRIC LINE	PP EROSION CONTROL BALES (INITIAL)	DEVELOPED FLOW DIRECTION
EX U.G. ELECTRIC LINE	EX TELEPHONE MANHOLE			PP EROSION CONTROL BLANKET (FINAL)	
EX U.G. GAS LINE	EX STORM SEWER MANHOLE				
EX U.G. TELEPHONE LINE					
EX U.G. CABLE LINE					

ENGINEER OF RECORD:

THE GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

Ryan M. Mangino
RYAN M. MANGINO, PE #43304

07/30/20
DATE

OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING & EROSION CONTROL PLAN.

Jeffery J. Jackson

07/30/20
DATE

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY, THROUGH APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

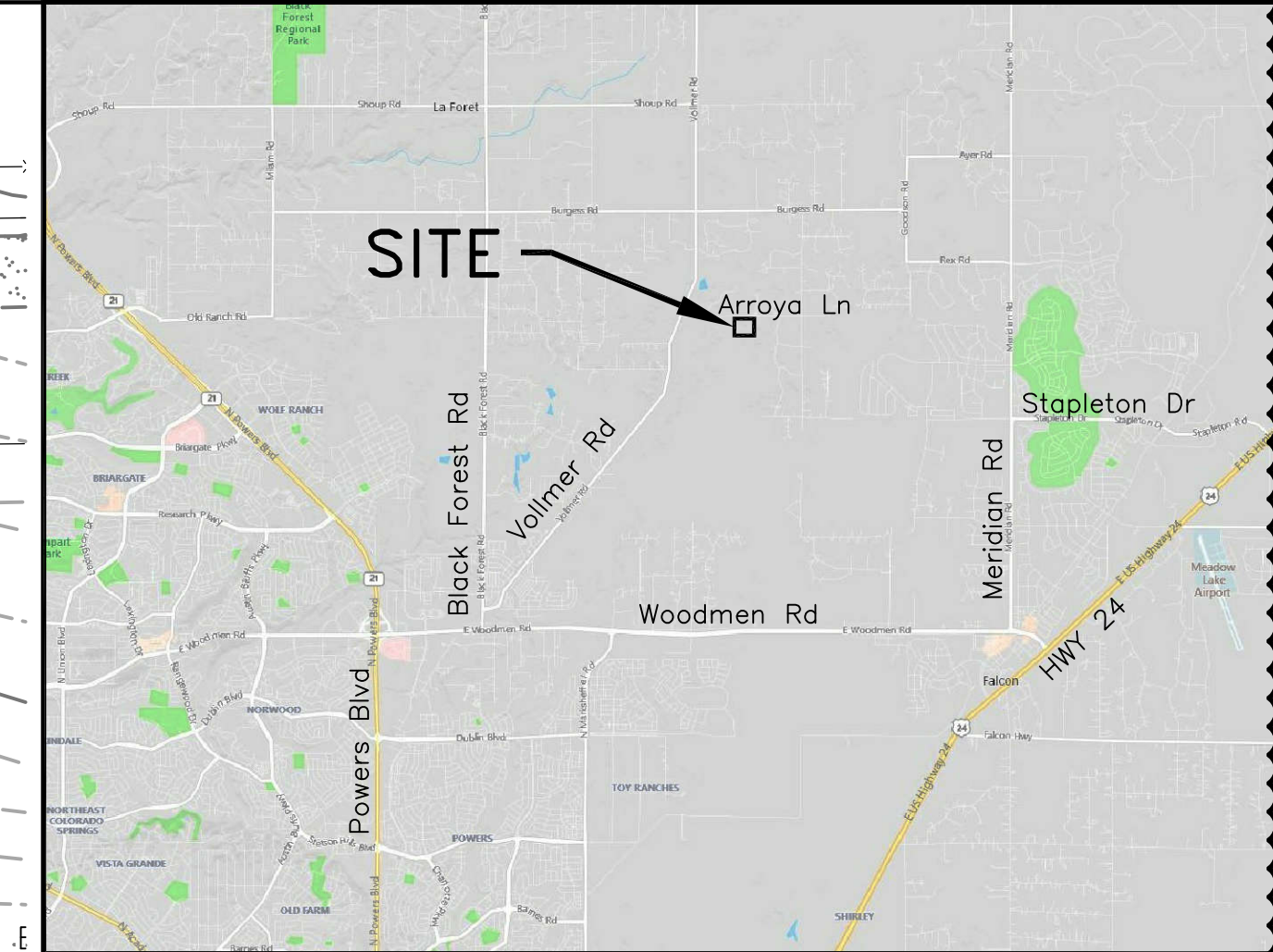
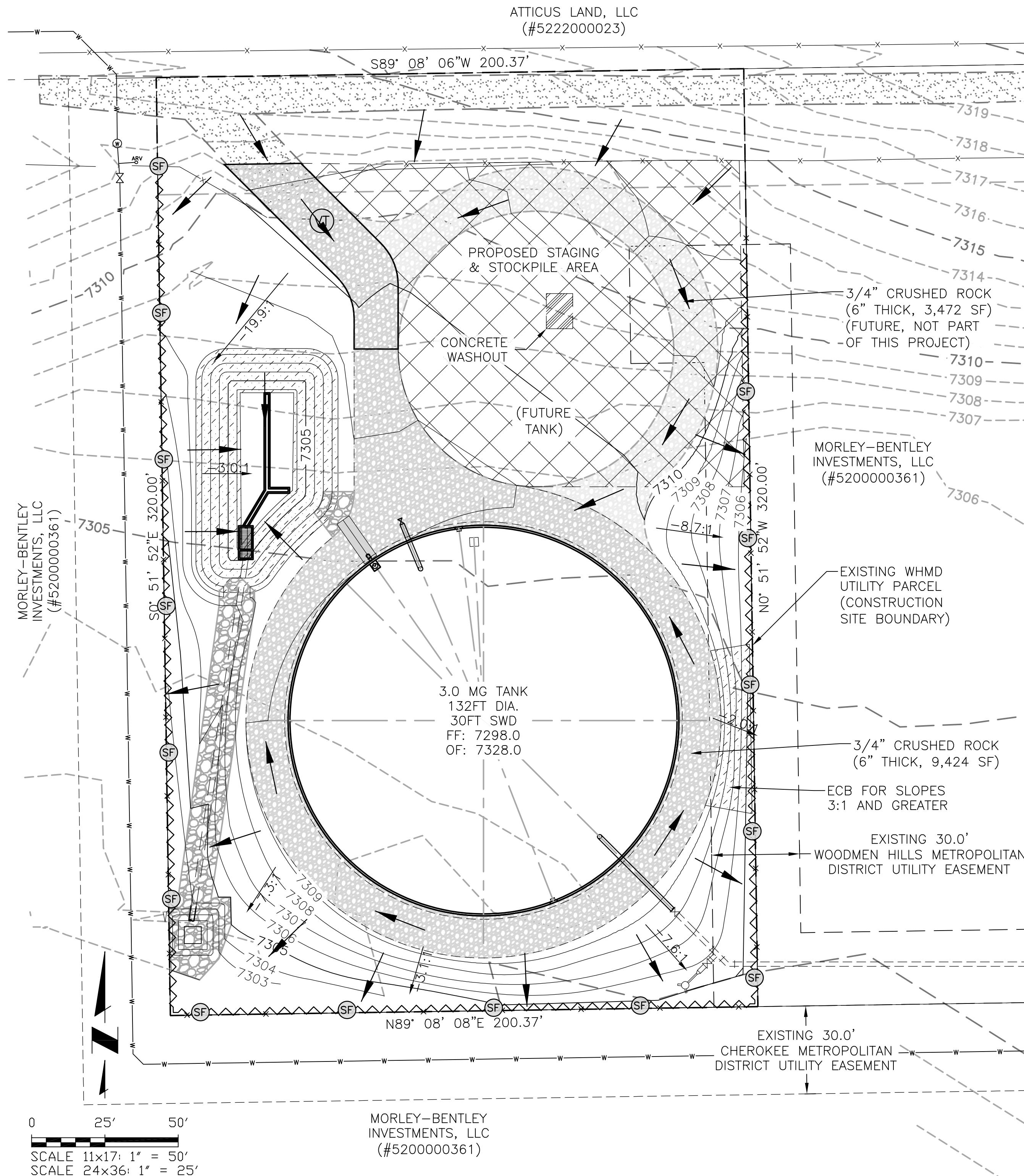
IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JENNIFER IRVINE, P.E.
COUNTY ENGINEER / ECM ADMINISTRATOR

DATE

LOT (EASEMENT) COVERAGE

AREA OF EASEMENT	64,118 S.F.
GROSS FLOOR AREA OF TANKS	20,625 S.F.
% EASEMENT COVERAGE WITH TANKS (INCLUDING FUTURE)	32%
AREA OF GRAVEL/DRIVEWAY (INCLUDING FUTURE)	12,897 S.F.
% EASEMENT COVERAGE WITH DRIVEWAY	52%



NOTES:

- SEED AND MULCH ALL DISTURBED AREAS THAT WILL NOT HAVE IMPROVEMENTS (I.E. GRAVEL ROADS, RIPRAP, ETC.)
- SLOPES ON THE SITE RANGE FROM 3:3:1 TO 3:1:1, INCLUDING EXISTING TOPOGRAPHY AND PROPOSED GRADING.
- EROSION CONTROL BLANKETS ARE REQUIRED ON SLOPES 3:1 AND STEEPER.
- EASEMENT BOUNDARY IS ALSO CONSIDERED THE CONSTRUCTION BOUNDARY AND LIMITS OF DISTURBANCE.
- AREAS OF CUT INCLUDE THE DETENTION POND, PLUNGE POOL, AND FOOTPRINT OF THE TANK. ALL OTHER AREAS ARE FILL.
- NO VEGETATION EXISTS ON THE SITE PRIOR TO CONSTRUCTION AS SITE WAS ALREADY STRIPPED.
- NO BATCH PLANTS ARE PROPOSED AS A PART OF THIS PROJECT.
- THERE ARE NO STREAM CROSSINGS WITHIN THE LIMITS OF THIS PROJECT.
- PLEASE REFER TO THE DETENTION POND DRAWINGS FOR INFORMATION REGARDING THE DETENTION POND.
- ACCESS POINTS AND SITE NOT ACCESSIBLE TO PUBLIC.
- ALL BMP'S ARE TEMPORARY AND MUST BE INSTALLED PRIOR TO LAND DISTURBANCE. NO BMP'S ARE PHASED FOR THIS PROJECT.
- ENTIRE PARCEL SHALL BE USED AS A CONSTRUCTION BOUNDARY WITH LIMITS OF DISTURBANCE BEING PARCEL LINES.
- THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATIONS AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY EL PASO COUNTY DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

PCD File No. PPR-20-017

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

WOODMEN HILLS METROPOLITAN DISTRICT
WEST CONCRETE WATER STORAGE TANK
GRADING & EROSION CONTROL PLAN

NO.	DESCRIPTION	BY	APP.	DATE
1	BID/PCD REVISIONS	RMM	JPM	07/30/20
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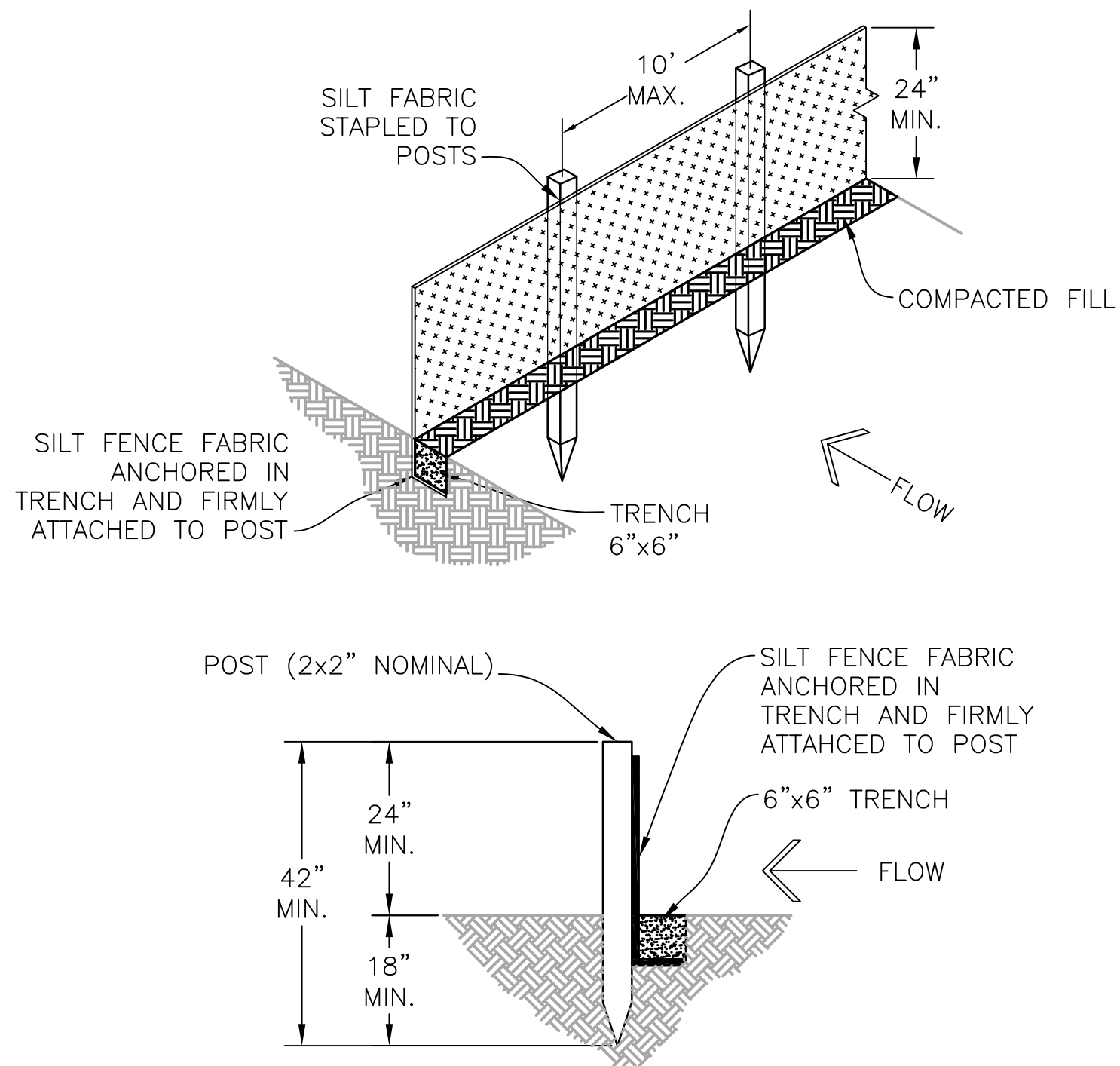
FOR CONSTRUCTION



Project No.: 112.112
Date: 05/13/20
Design: RMM
Drawn: RMM
Check: JPM

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SHEET 12 OF 30

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SILT FENCE DETAIL
N.T.S.

INSTALLATION REQUIREMENTS:

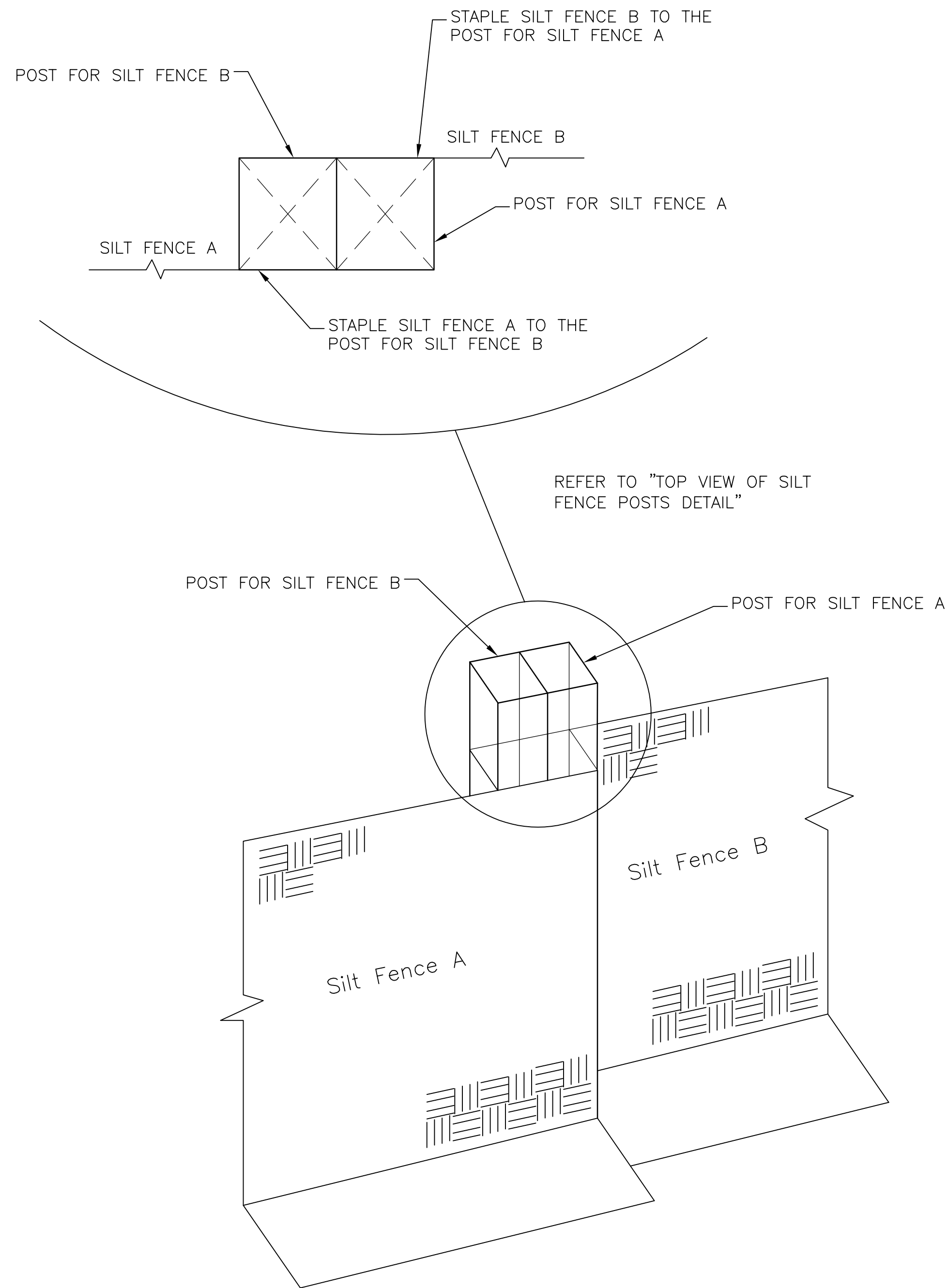
1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6 INCHES AND SHALL NOT EXTEND MORE THAN 3 FEET ABOVE THE ORIGINAL GROUND SURFACE.

6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES. HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

MAINTENANCE REQUIREMENTS:

1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED.

TOP VIEW OF SILT FENCE POSTS DETAIL



PCD File No. PPR-20-017

WOODMEN HILLS METROPOLITAN DISTRICT

WEST CONCRETE WATER STORAGE TANK

GRADING & EROSION CONTROL

DETAILS 1

NO.	DESCRIPTION	BY	APP.	DATE	REVISIONS						
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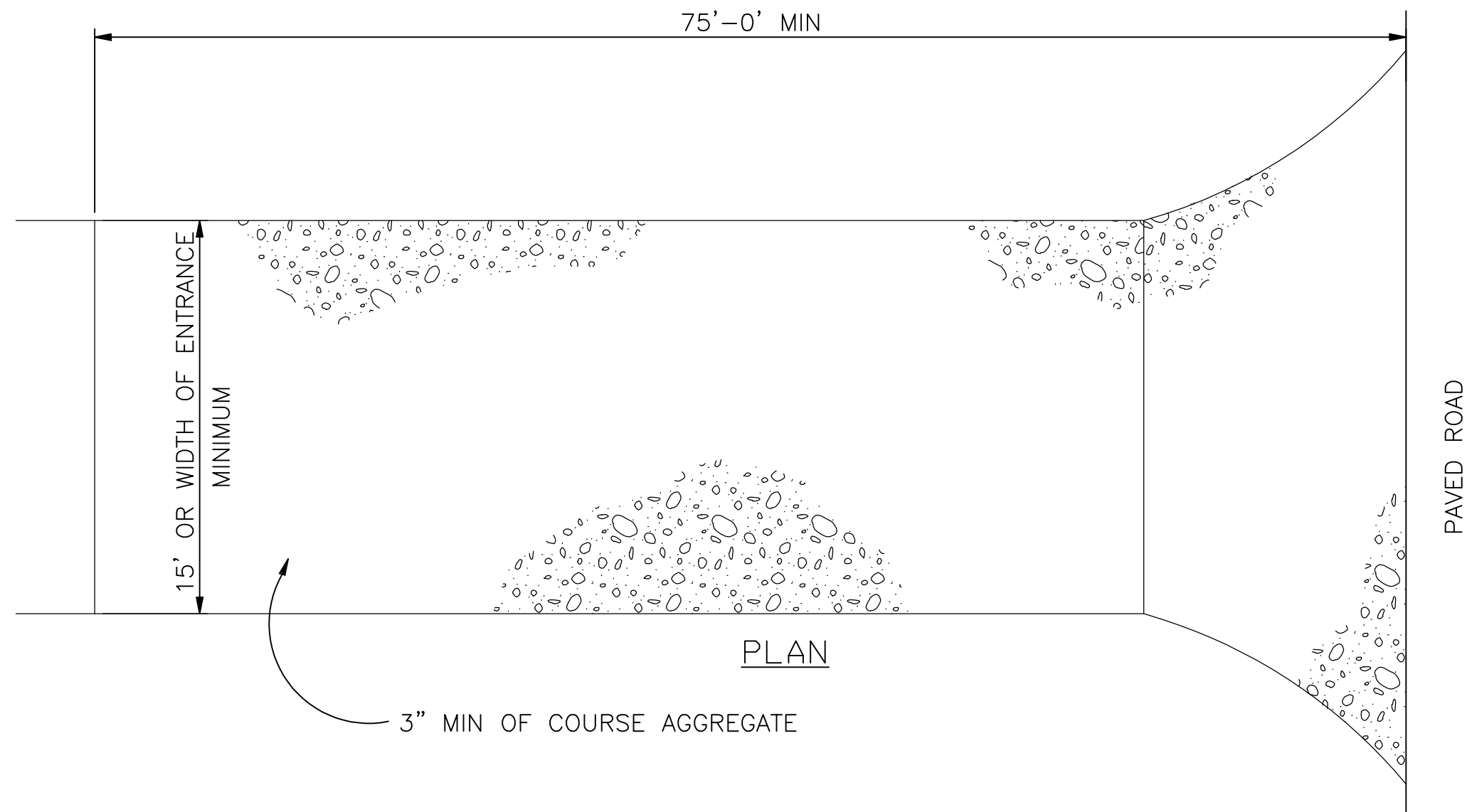


Project No.: 112.112
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SHEET 13 OF 30

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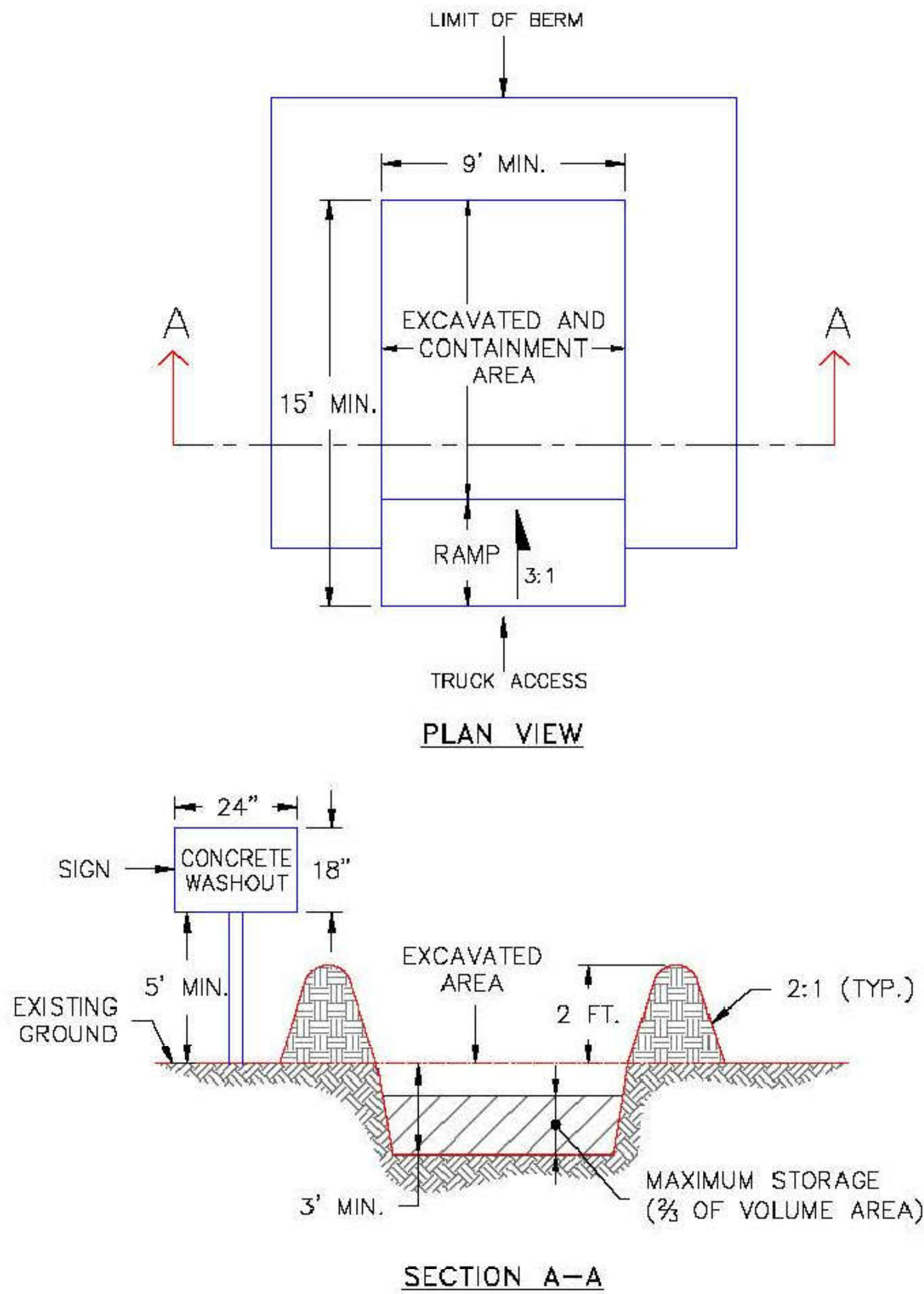
VEHICLE TRACKING PAD DETAIL
N.T.S.

INSTALLATION REQUIREMENTS:

1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED.
4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
4. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.
5. TO BE REMOVED JUST PRIOR TO FINAL SURFACING AND STABILIZATION.



- NOTES:
1. SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.
 2. EROSION BALES MAY BE USED AS AN ALTERNATIVE FOR THE BERM.

1/1/08
DATE APPROVED:
John A. McCarty
DEPARTMENT OF TRANSPORTATION

Concrete Washout Structure
Standard Drawing
REVISION DATE: 7/17/07
FILE NAME: SD_3-84



PCD File No. PPR-20-017

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

WOODMEN HILLS METROPOLITAN DISTRICT
WEST CONCRETE WATER STORAGE TANK
GRADING & EROSION CONTROL
DETAILS 2

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1	BID/PCD REVISIONS	RMM	JPM 07/30/20
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CONSTRUCTION

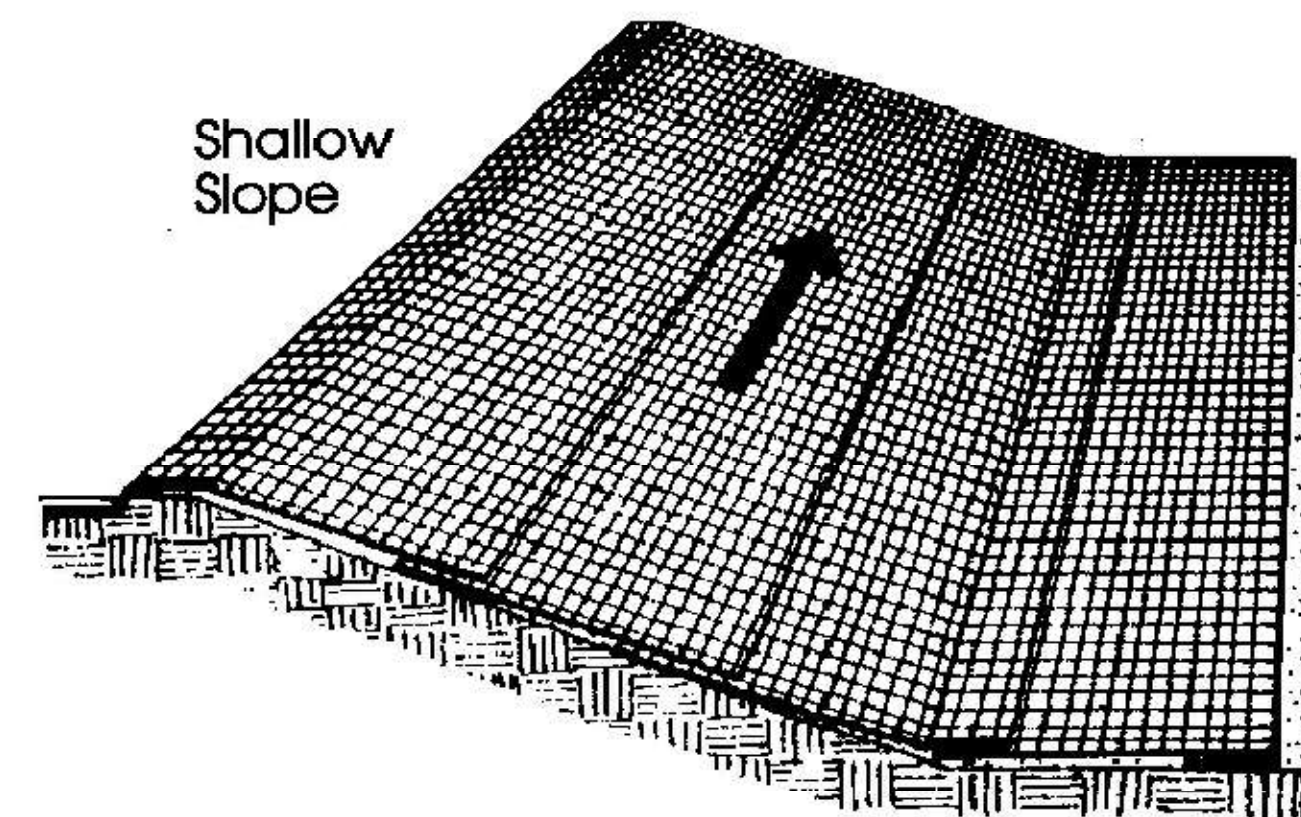


Project No.: 112.112
Date: 05/13/20
Design: RMM
Drawn: RMM
Check: JPM

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SHEET 14 OF 30

2020/07/20 4:33 PM By: Ryan Mangino J:\JDS-Hydro\Project_Files\112.112_Woodmen_Hills\112.112_West_Water_Tank\Drawings\Working\112112_TcBuild\112112_5_GECP.dwg

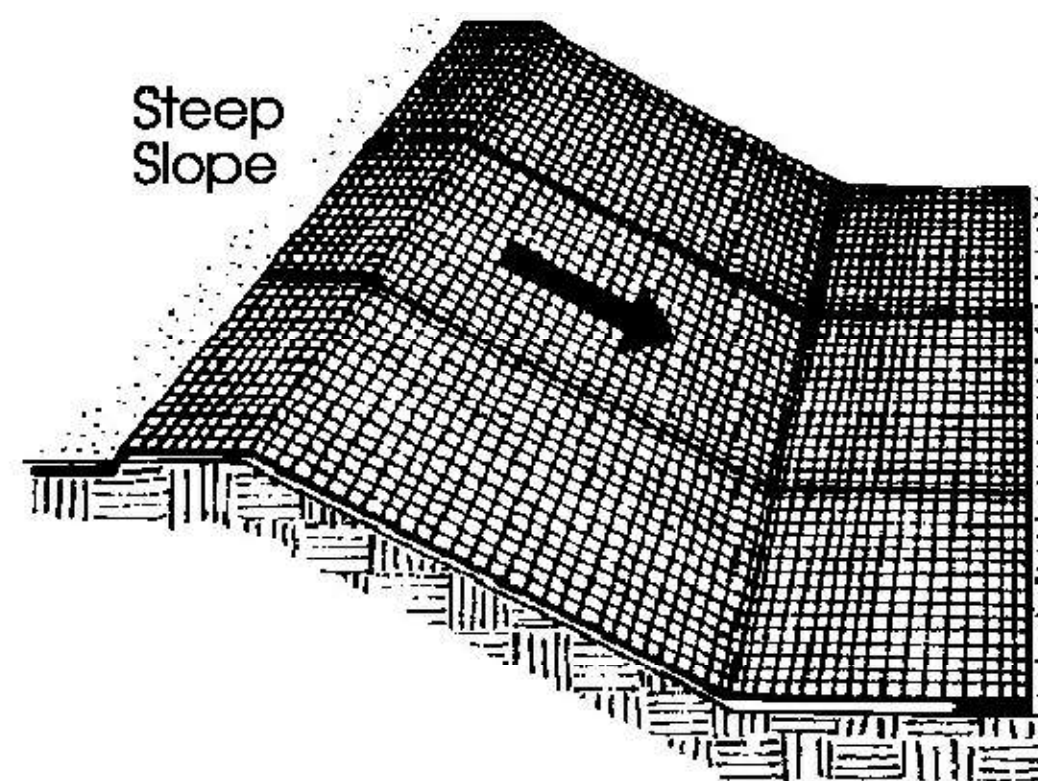
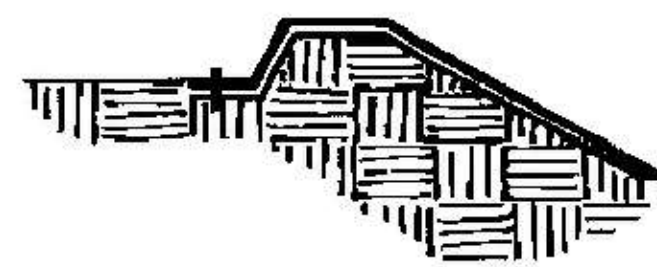
From: Virginia Soil and Water Conservation Commission, 1985



Shallow Slope

On shallow slopes, strips of netting may be applied across the slope.

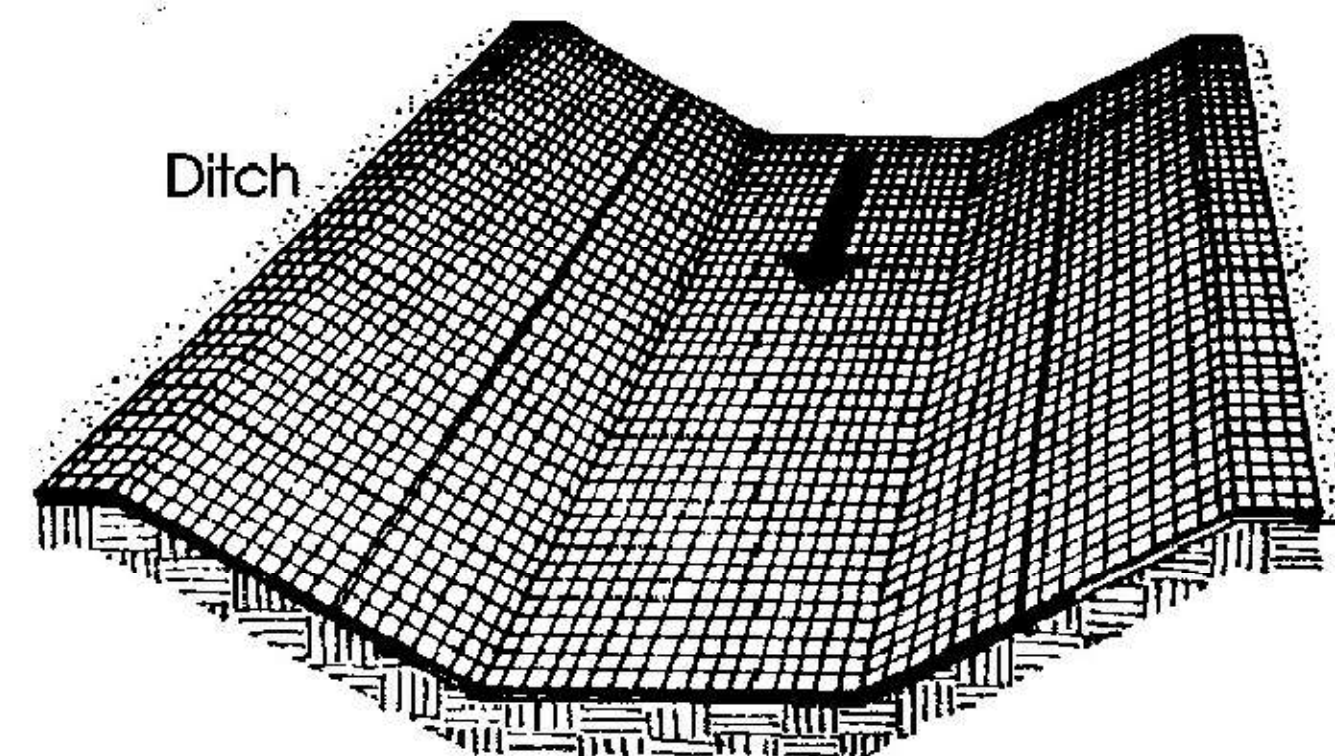
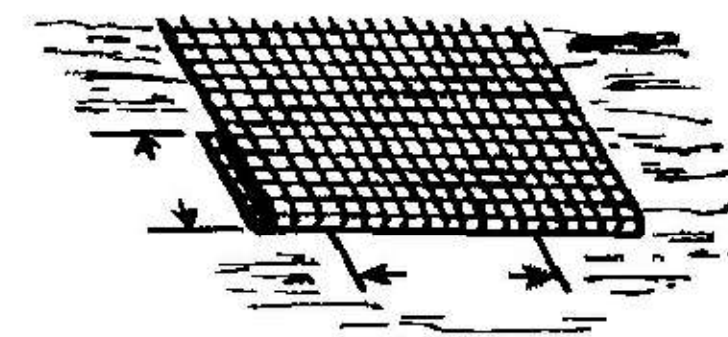
Where there is a berm at the top of the slope, bring the netting over the berm and anchor it behind the berm.



Steep Slope

On steep slopes, apply strips of netting parallel to the direction of flow and anchor securely.

Bring netting down to a level area before terminating the installation. Turn the end under 6" and staple at 12" intervals.



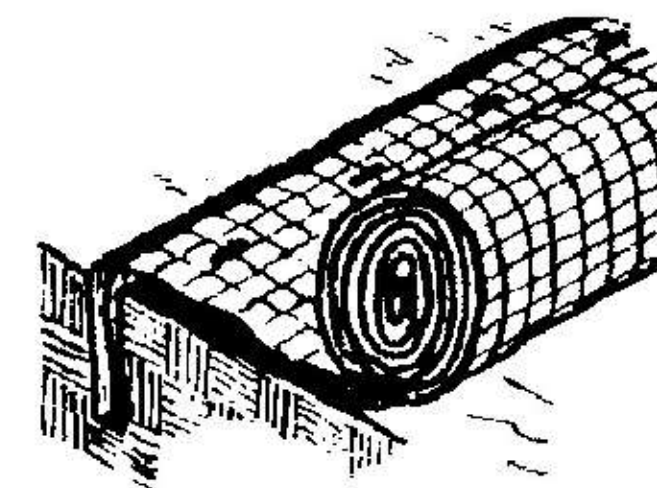
Ditch

In ditches, apply netting parallel to the direction of flow. Use check slots every 15 feet. Do not join strips in the center of the ditch.

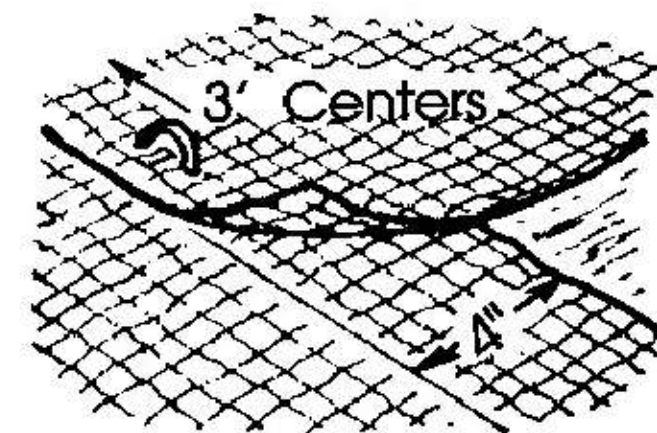
City of Colorado Springs
Storm Water Quality

Figure ECB-1
Erosion Control Blanket
Application Examples

DEN/M/153722.CS/CB/FigECB-1/9-99

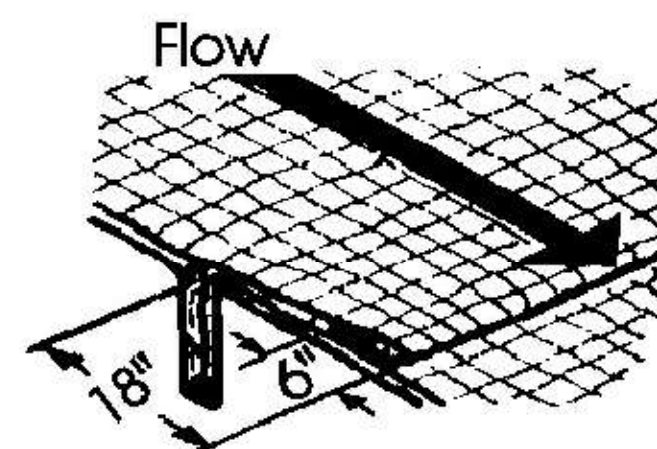
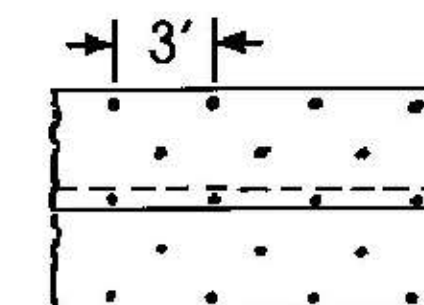


Anchor Slot: Bury the up-channel end of the net in a 6" deep trench. Tamp the soil firmly. Staple at 12" intervals across the net.



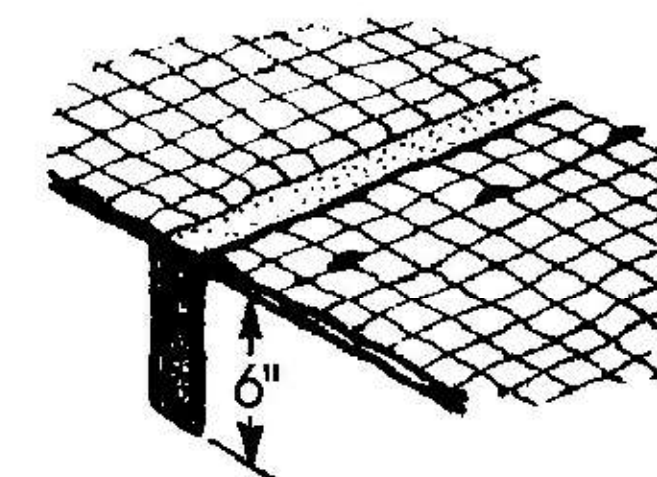
3' Centers

Overlap: Overlap edges of the strips at least 4". Staple every 3 feet down the center of the strip.

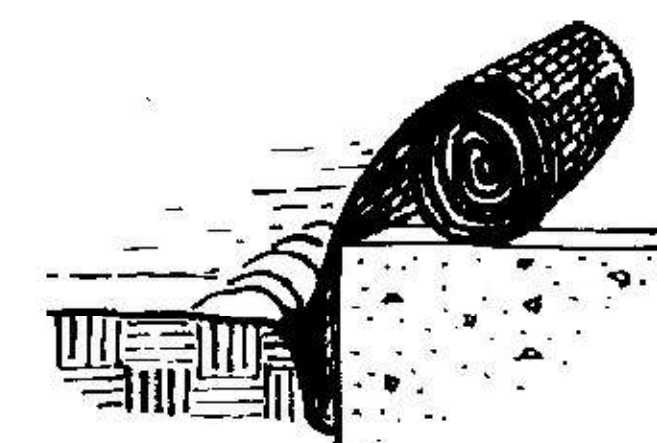


Flow

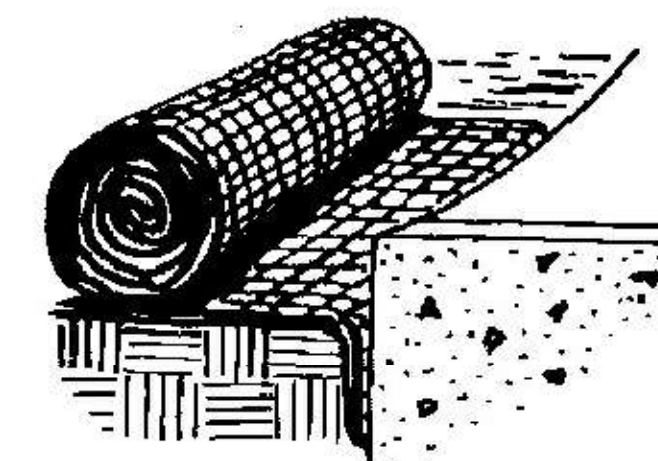
Joining Strips: Insert the new roll of net in a trench, as with the Anchor Slot. Overlap the up-channel end of the previous roll 18" and turn the end under 6". Staple the end of the previous roll just below the anchor slot and at the end at 12" intervals.



Check Slots: On erodible soils or steep slopes, check slots should be made every 15 feet. Insert a fold of the net into a 6" trench and tamp firmly. Staple at 12" intervals across the net. Lay the net smoothly on the surface of the soil - do not stretch the net, and do not allow wrinkles.



Anchoring Ends At Structures: Place the end of the net in a 6" slot on the up-channel side of the structure. Fill the trench and tamp firmly. Roll the net up the channel. Place staples at 12" intervals along the anchor end of the net.



City of Colorado Springs
Storm Water Quality

Figure ECB-2
Erosion Control Blanket
Installation Requirements

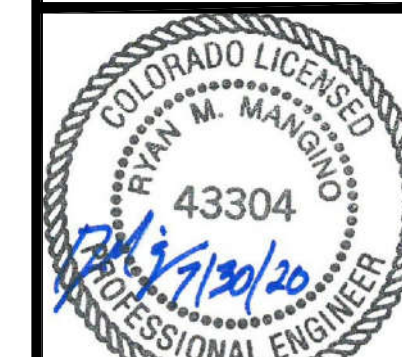
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WOODMEN HILLS METROPOLITAN DISTRICT
WEST CONCRETE WATER STORAGE TANK
GRADING & EROSION CONTROL
DETAILS 3

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1	BID/PCD REVISIONS	RMM	JPM 07/30/20
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FOR
CONSTRUCTION



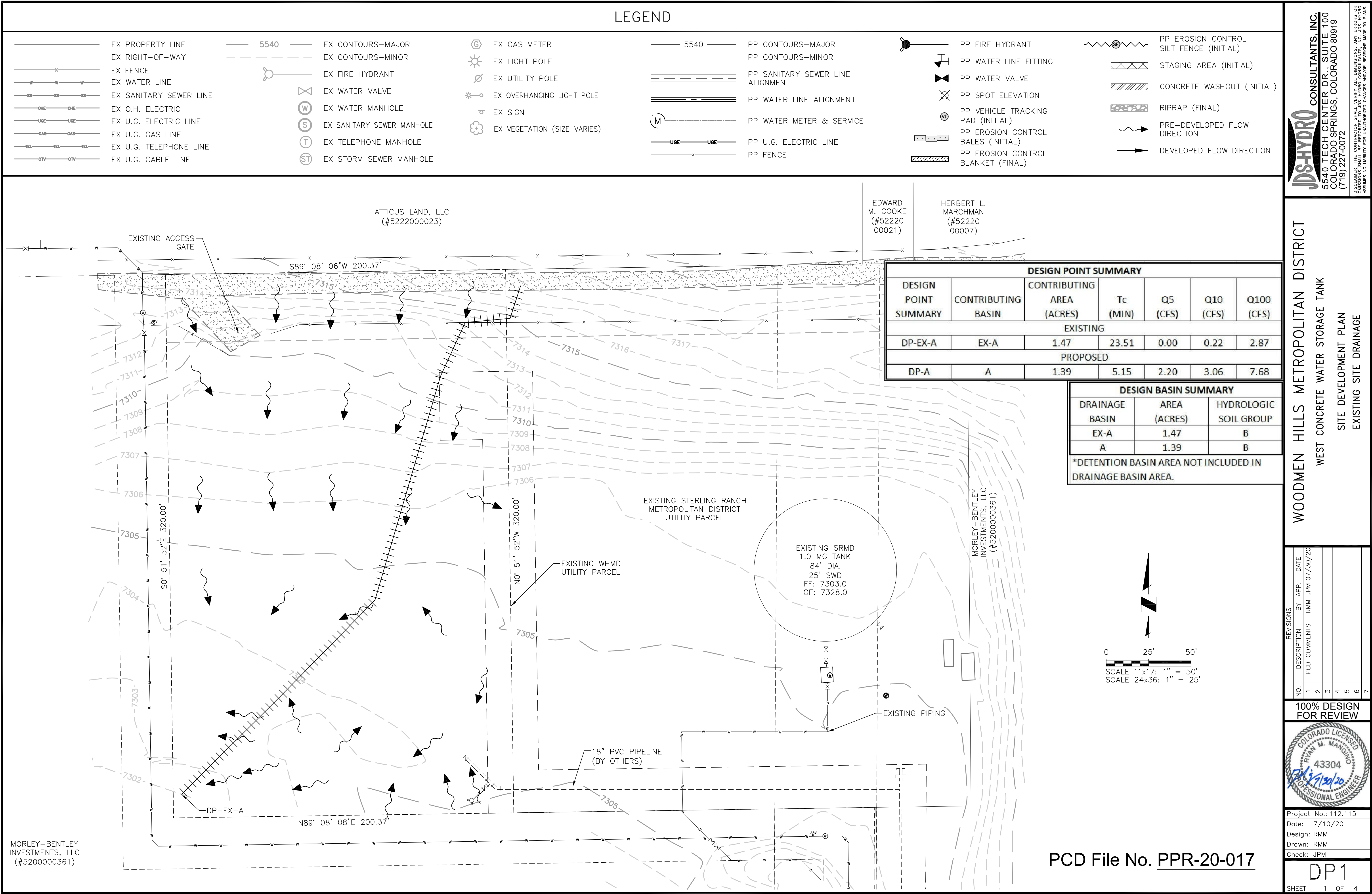
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Design: RMM
Drawn: RMM
Check: JPM

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SHEET 15 OF 30

PCD File No. PPR-20-017

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2020/07/30 5:43 PM By: Ryan Mangino



MORLEY-BENTLEY INVESTMENTS, LLC (#5200000361)

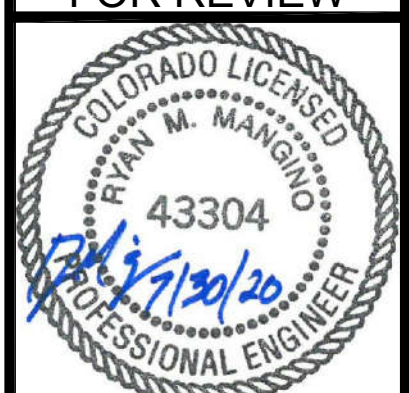
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WOODMEN HILLS METROPOLITAN DISTRICT
WEST CONCRETE WATER STORAGE TANK
SITE DEVELOPMENT PLAN
EXISTING SITE DRAINAGE

REVISIONS		BY	APP.	DATE
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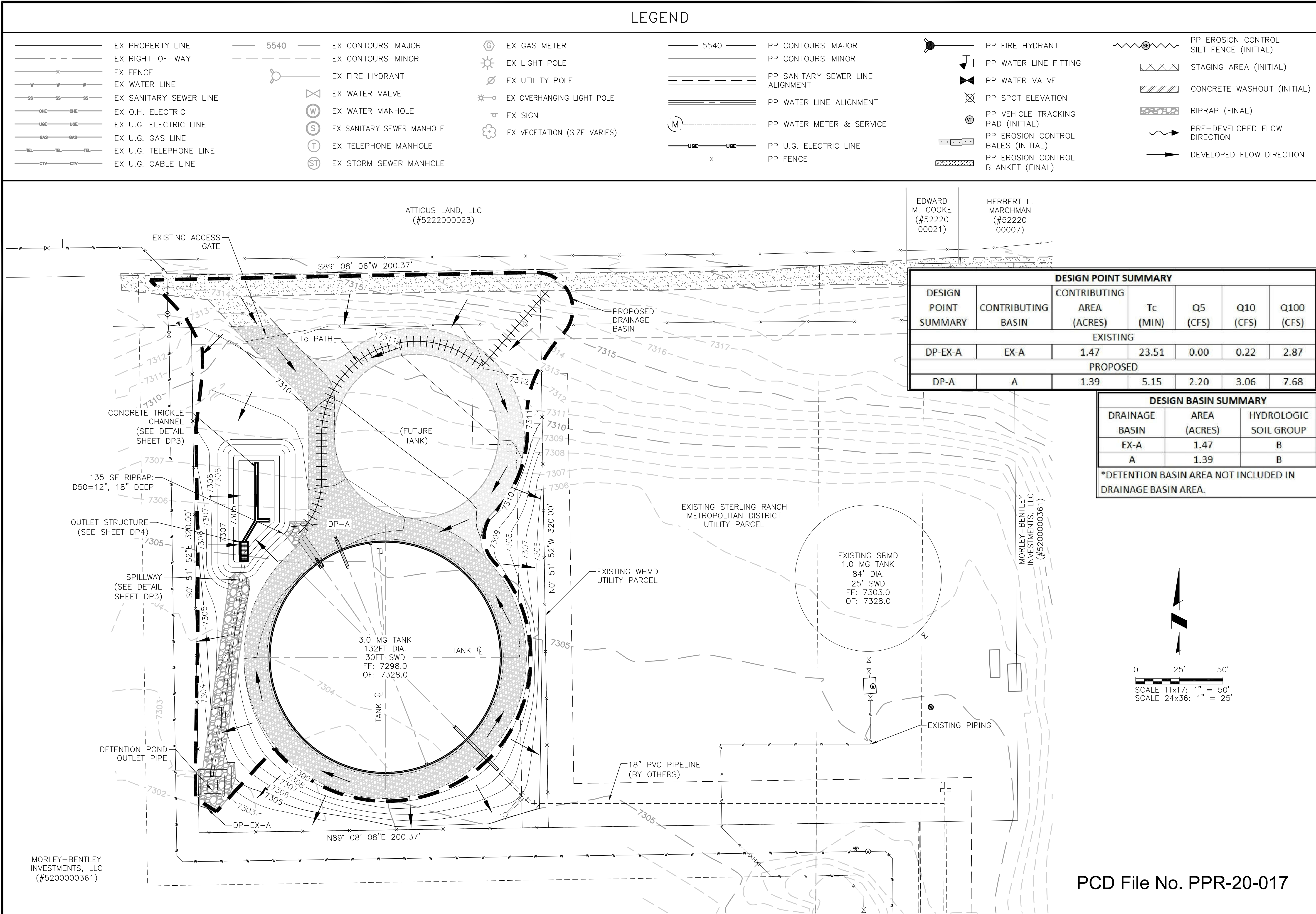
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DP1
SHEET 1 OF 4

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LEGEND

- ---

EX PROPERTY LINE

EX RIGHT-OF-WAY

EX FENCE

EX WATER LINE

EX SANITARY SEWER LINE

EX O.H. ELECTRIC

EX U.G. ELECTRIC LINE

EX U.G. GAS LINE

EX U.G. TELEPHONE LINE

EX U.G. CABLE LINE
- ---

EX CONTOURS-MAJOR

EX CONTOURS-MINOR

EX FIRE HYDRANT

EX WATER VALVE

EX WATER MANHOLE

EX SANITARY SEWER MANHOLE

EX TELEPHONE MANHOLE

EX STORM SEWER MANHOLE
- EX GAS METER

EX LIGHT POLE

EX UTILITY POLE

EX OVERHANGING LIGHT POLE

EX SIGN

EX VEGETATION (SIZE VARIES)
- ---

PP CONTOURS-MAJOR

PP CONTOURS-MINOR

PP SANITARY SEWER LINE ALIGNMENT

PP WATER LINE ALIGNMENT

PP WATER METER & SERVICE

PP U.G. ELECTRIC LINE

PP FENCE
- PP FIRE HYDRANT

PP WATER LINE FITTING

PP WATER VALVE

PP SPOT ELEVATION

PP VEHICLE TRACKING PAD (INITIAL)

PP EROSION CONTROL BALES (INITIAL)

PP EROSION CONTROL BLANKET (FINAL)
- PP EROSION CONTROL SILT FENCE (INITIAL)

STAGING AREA (INITIAL)

CONCRETE WASHOUT (INITIAL)

RIPRAP (FINAL)

PRE-DEVELOPED FLOW DIRECTION

DEVELOPED FLOW DIRECTION

DESIGN POINT SUMMARY						
DESIGN POINT SUMMARY	CONTRIBUTING BASIN	AREA (ACRES)	Tc (MIN)	Q5 (CFS)	Q10 (CFS)	Q100 (CFS)
EXISTING						
DP-EX-A	EX-A	1.47	23.51	0.00	0.22	2.87
PROPOSED						
DP-A	A	1.39	5.15	2.20	3.06	7.68

DESIGN BASIN SUMMARY		
DRAINAGE BASIN	AREA (ACRES)	HYDROLOGIC SOIL GROUP
EX-A	1.47	B
A	1.39	B

*DETENTION BASIN AREA NOT INCLUDED IN DRAINAGE BASIN AREA.

MORLEY-BENTLEY INVESTMENTS, LLC
(#5200000361)

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WOODMEN HILLS METROPOLITAN DISTRICT

WEST CONCRETE WATER STORAGE TANK

SITE DEVELOPMENT PLAN

OVERALL DRAINAGE PLAN

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RYAN M. MANGINO

43304

Professional Engineer

Project No.: 112.115

Date: 7/10/20

Design: RMM

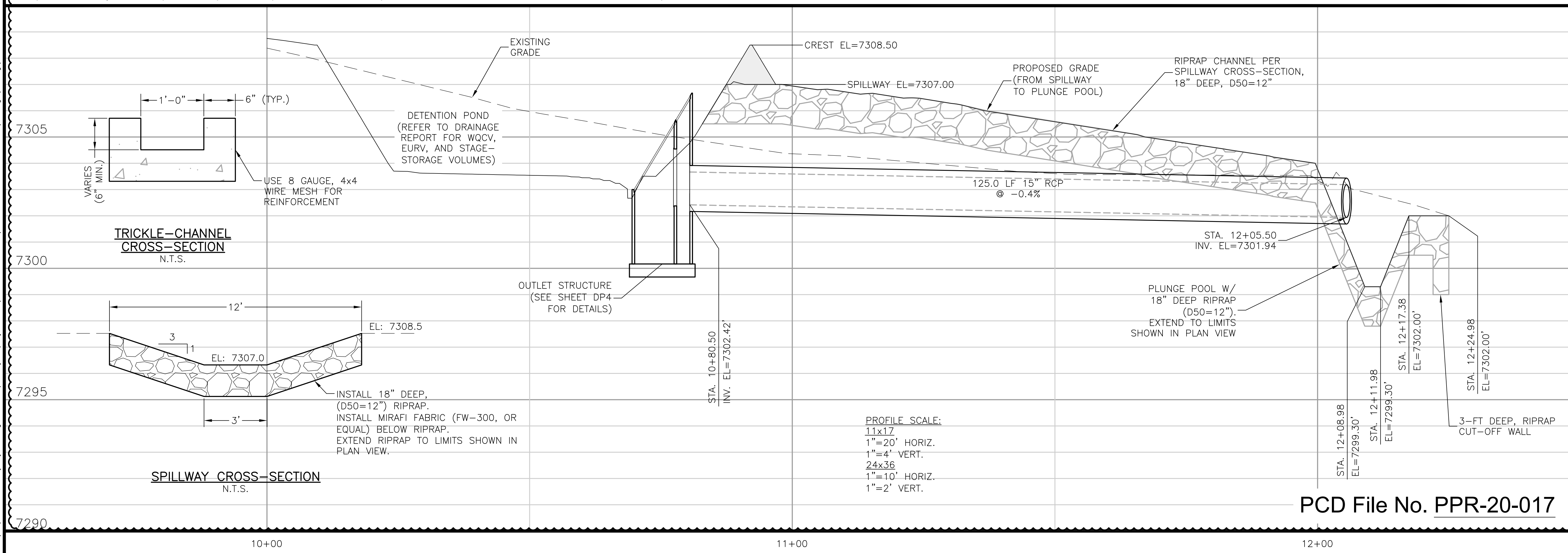
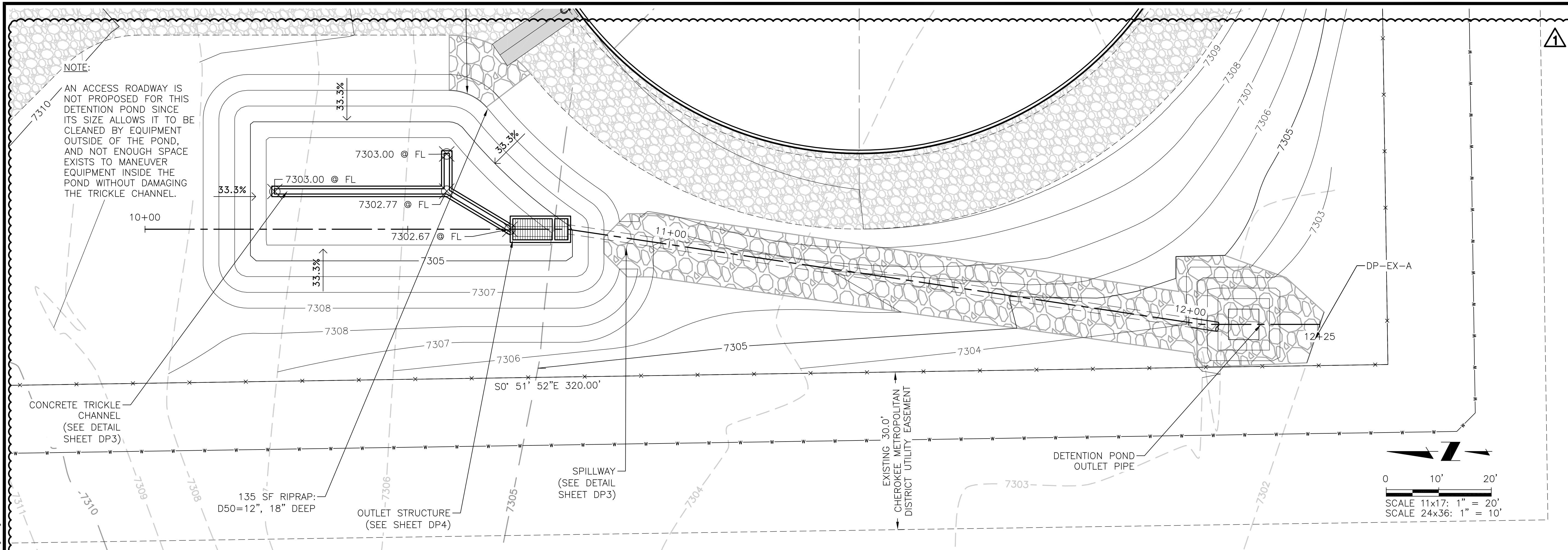
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DP2

SHEET 2 OF 4

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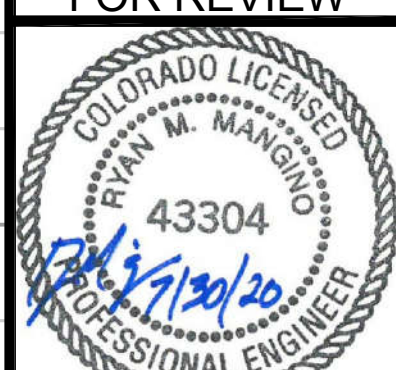


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WOODMEN HILLS METROPOLITAN DISTRICT
WEST CONCRETE WATER STORAGE TANK
SITE DEVELOPMENT PLAN
DETENTION POND OUTLET PLAN & PROFILE

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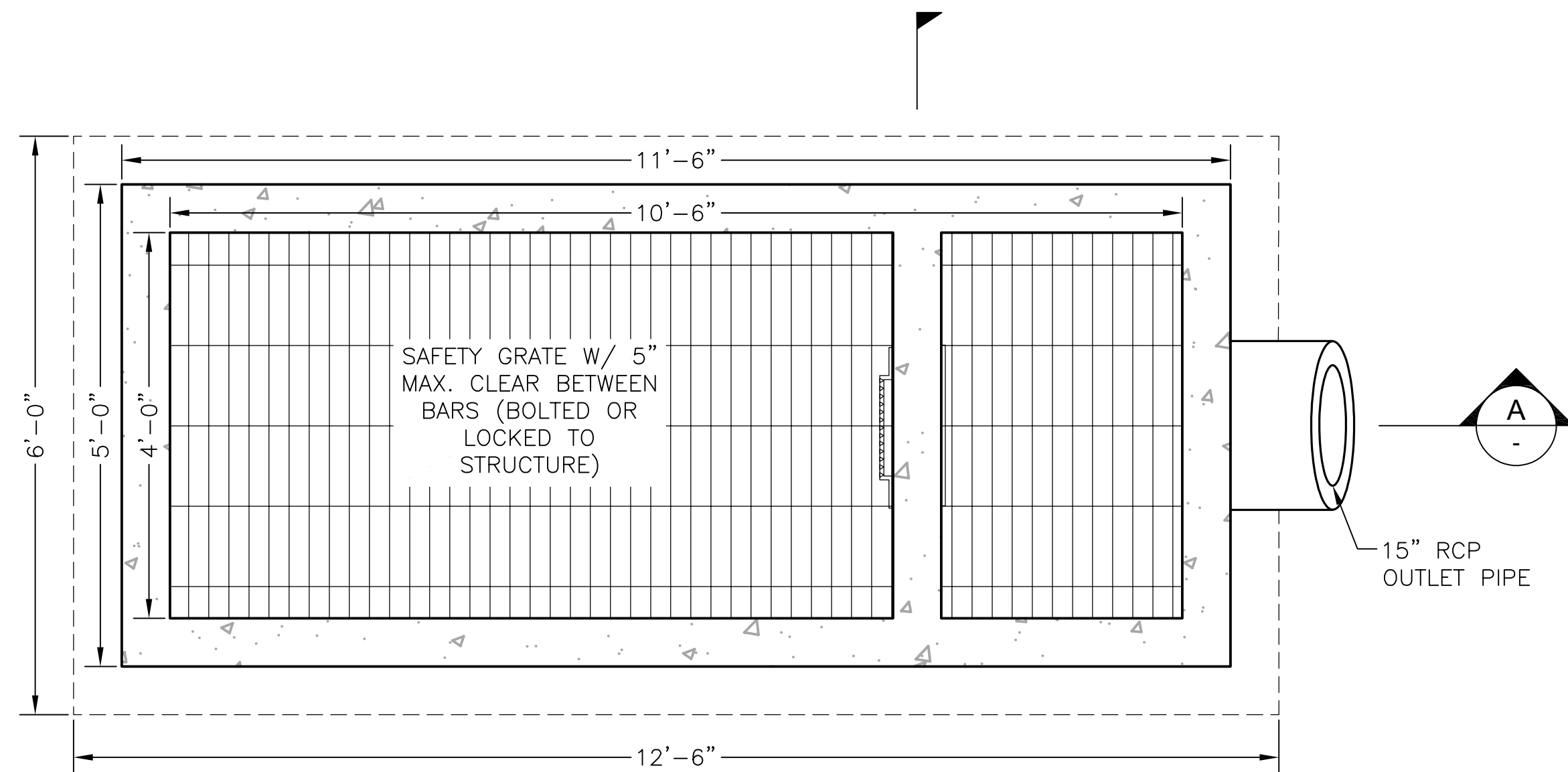
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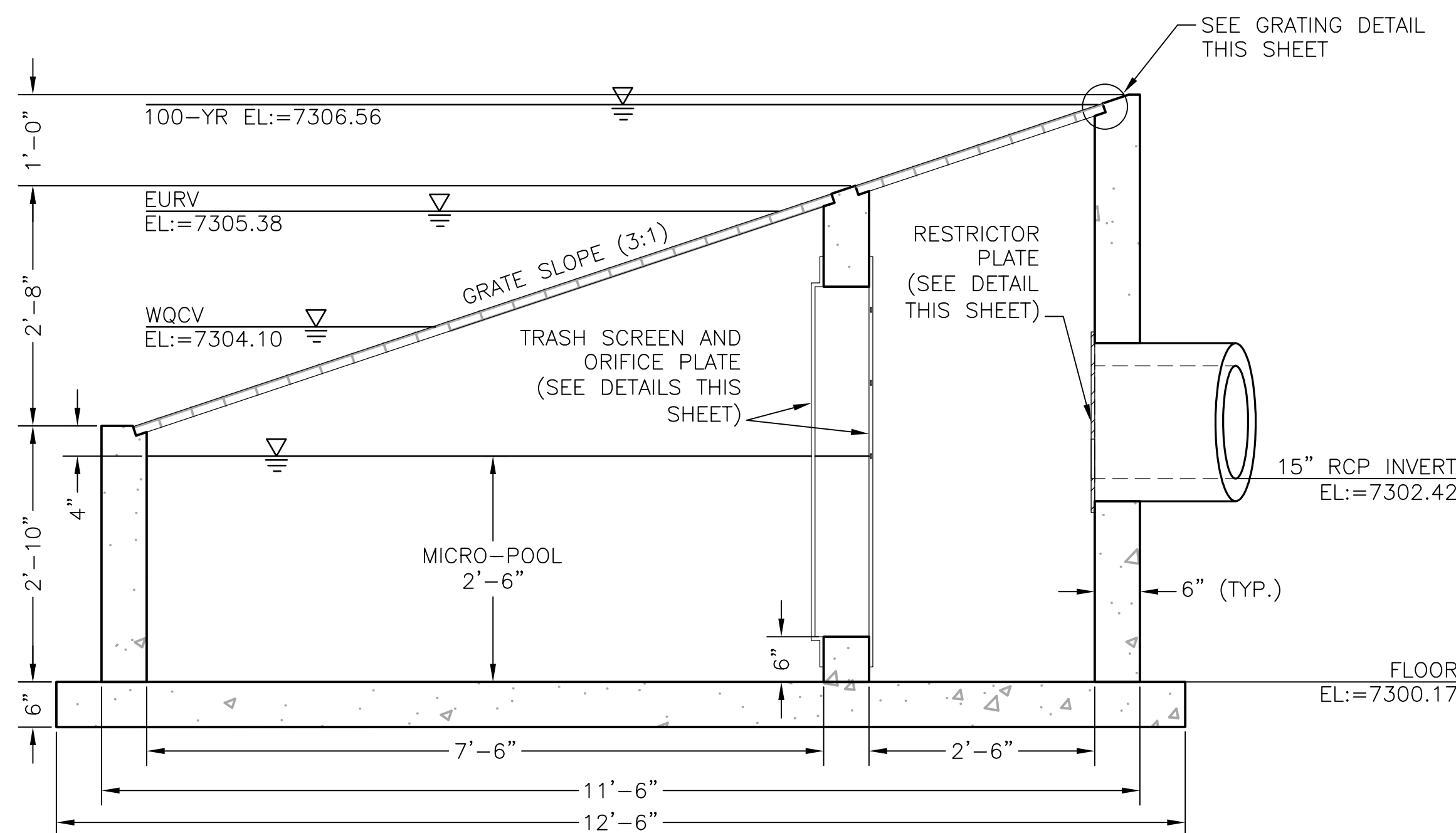
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DP3
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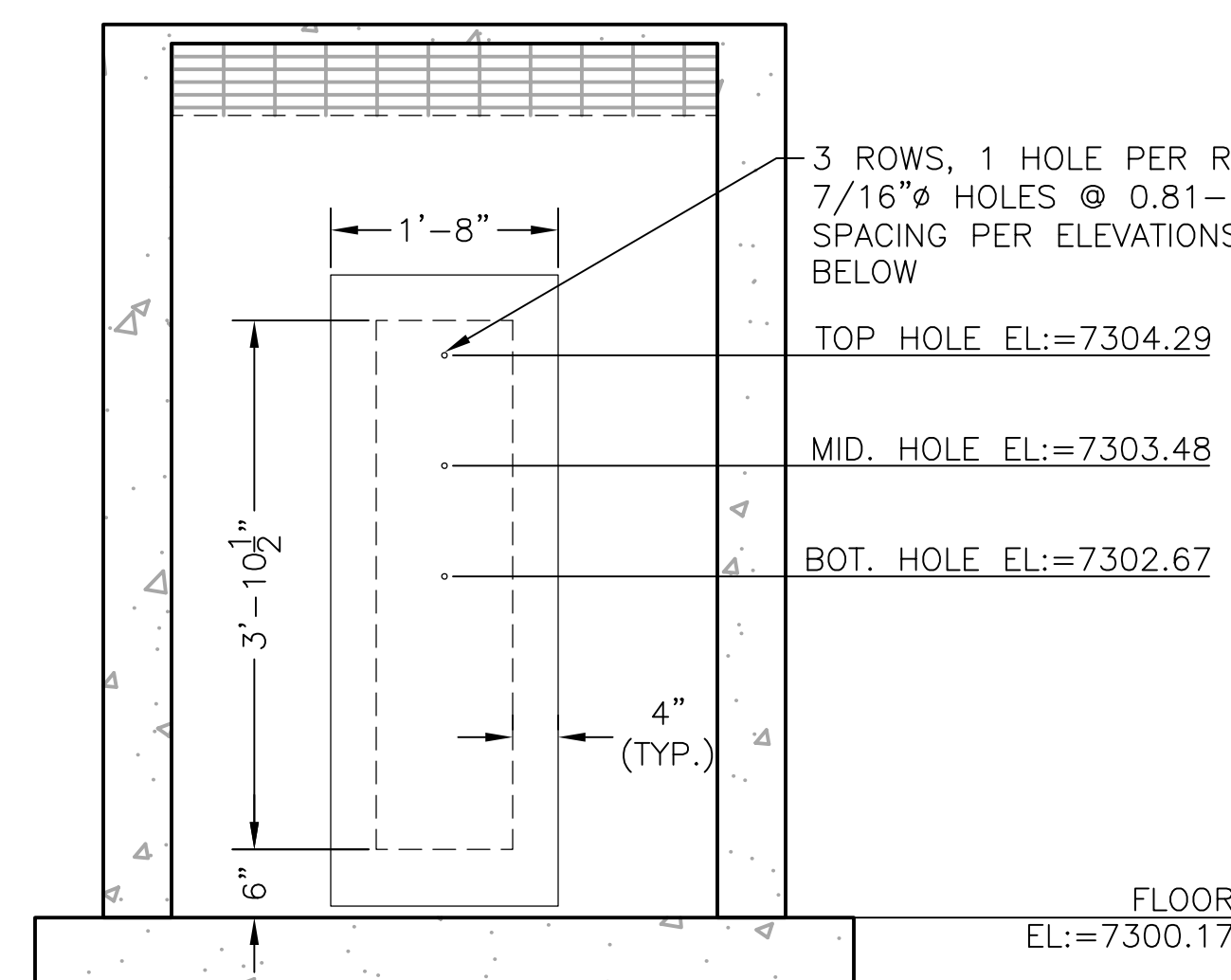
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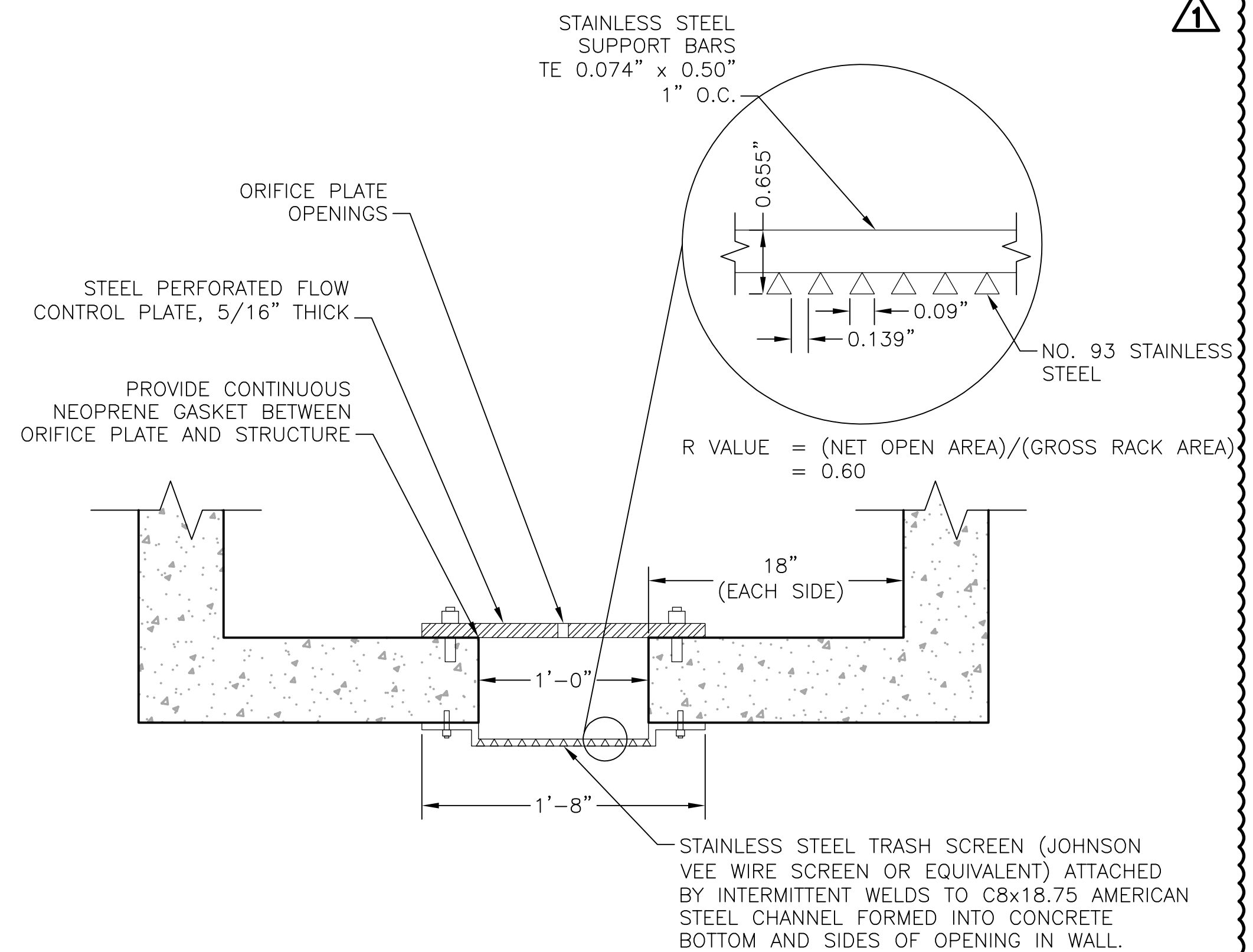
OUTLET STRUCTURE - TOP VIEW
11x17 SCALE: 3/8"=1'-0"
24x36 SCALE: 3/4"=1'-0"



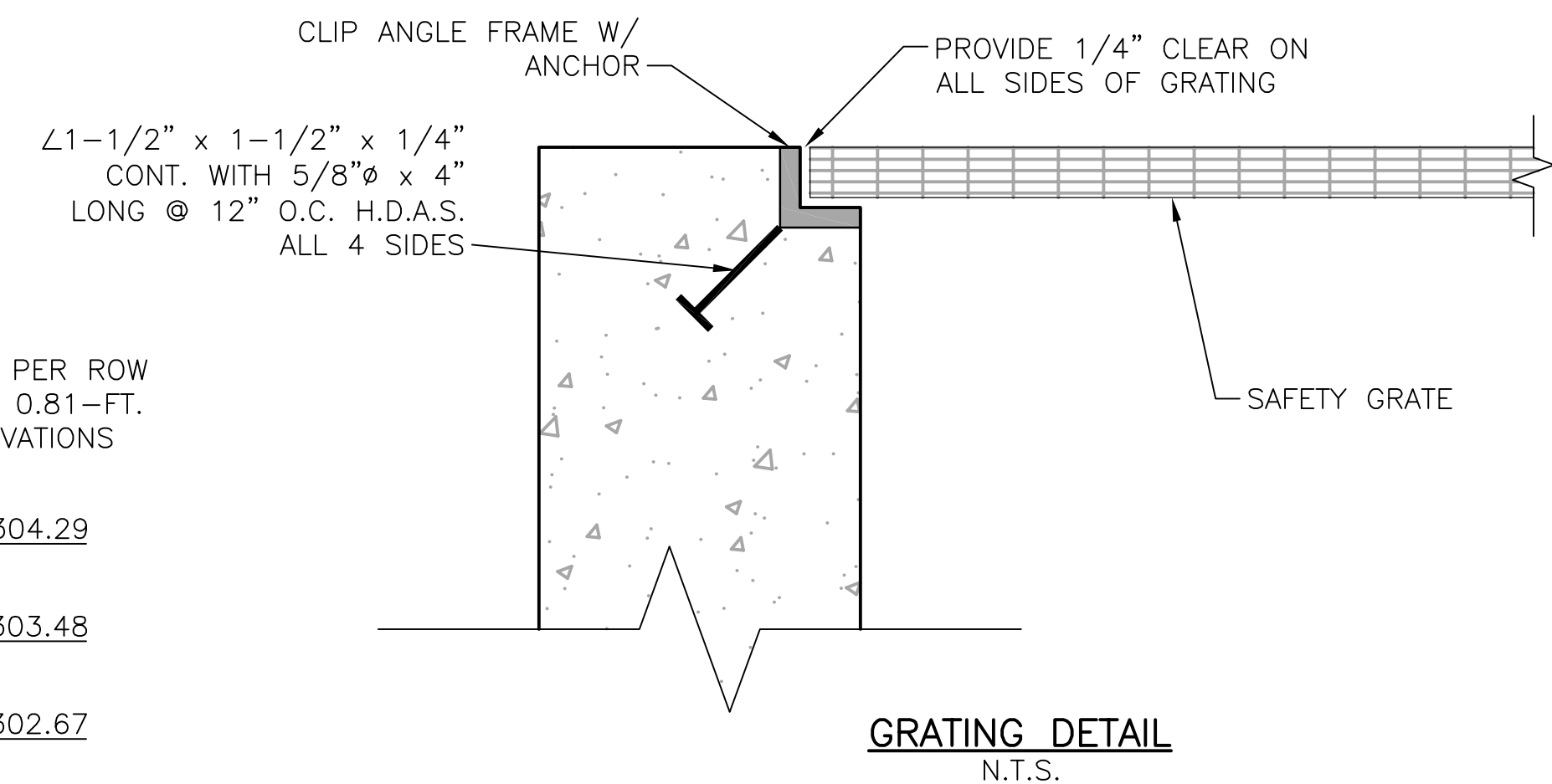
OUTLET STRUCTURE - SECTION A
11x17 SCALE: 3/8"=1'-0"
24x36 SCALE: 3/4"=1'-0"



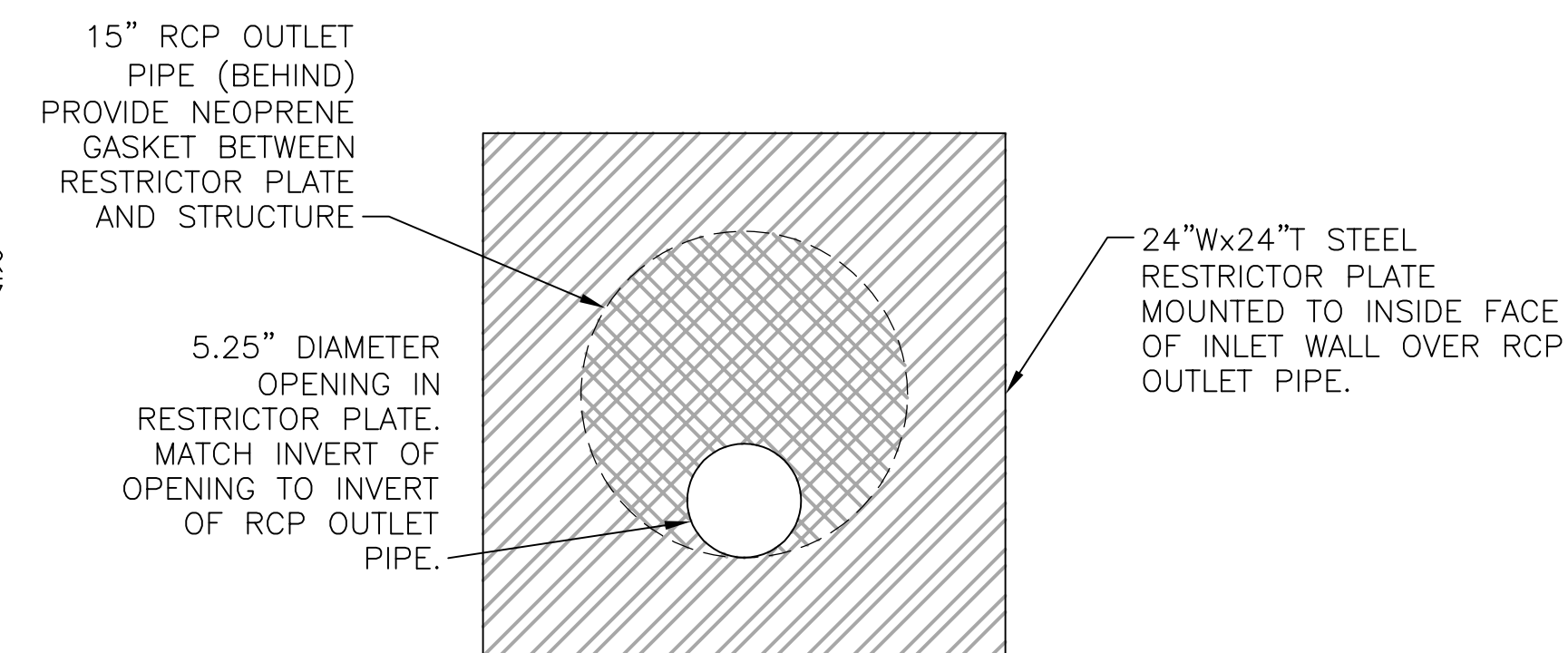
OUTLET STRUCTURE - SECTION B
11x17 SCALE: 3/8"=1'-0"
24x36 SCALE: 3/4"=1'-0"



**TRASH SCREEN & ORIFICE PLATE
PLAN VIEW**
N.T.S.



GRATING DETAIL
N.T.S.



RESTRICTOR PLATE DETAIL
N.T.S.

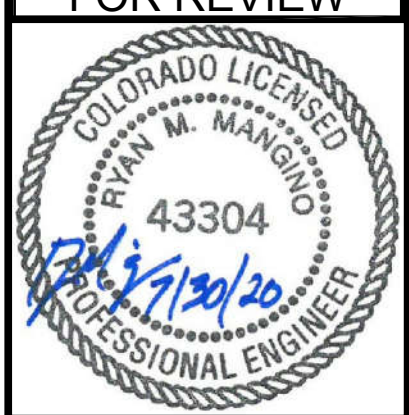
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WOODMEN HILLS METROPOLITAN DISTRICT
WEST CONCRETE WATER STORAGE TANK
SITE DEVELOPMENT PLAN
OUTLET STRUCTURE DETAILS

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