

J:\JDS-Hydro\Project_Files\112 Woodmen Hills\112.96 Lift Station 1 Replacement\Drawings\1296_1_GEC.dwg 2019/02/27 4:13 PM By: RMM

EROSION CONTROL NOTES:

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM THE PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT AND A PRE-CONSTRUCTION CONFERENCE IS HELD WITH PCD INSPECTIONS.
2. 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.
3. 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 TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE 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 PCD INSPECTIONS STAFF.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THESWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE 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.
11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
12. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
13. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
14. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER 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. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
15. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
16. 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.
17. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
18. 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.
19. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
20. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
21. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
22. INDIVIDUALS 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 INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
23. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
24. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
26. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY CTL-THOMPSON, INC. DATED SEPTEMBER 29, 2015, AND SHALL BE CONSIDERED A PART OF THESE PLANS.

27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 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

28. ALL AREAS NOTED TO BE RESEEDED SHALL BE SEEDED WITH A NATIVE AND INTRODUCED GRASS MIXTURE. THE SEED WILL BE APPLIED USING MECHANICAL TYPE DRILLS AT 0.25"-0.5" INTO TOPSOIL. AREA NOT ACCESSIBLE TO A DRILL SEEDER AND SLOPES STEEPER THAN 2:1 SHALL BE HAND BROADCAST AT DOUBLE THE ABOVE SEED RATE AND RAKED AT 1/4 TO 1/2 INTO THE TOPSOIL. ALL SEEDED AREAS WILL BE MULCHED: 1-1/2 TONS CERTIFIED WEED FREE NATIVE HAY PER ACRE MECHANICALLY CRIMPED IN TOPSOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER. MAINTENANCE OF ANY SWALES WILL INCLUDE EROSION CONTROL AND PREVENTION, DEBRIS REMOVAL AND OCCASIONAL MOWING. CARE SHALL BE USED DURING THE REMOVAL OF SEDIMENT FROM ANY DRAINAGE WAYS. ANY SEEDING OR EROSION CONTROL MEASURE THAT IS DISTURBED DURING MAINTENANCE SHALL BE IMMEDIATELY REPAIRED. EXISTING VEGETATIVE COVER WHERE DISTURBANCE IS TO TAKE PLACE IS ROUGHLY 50%. THE SEED MIX SHALL BE MADE UP OF THE FOLLOWING AS PER THE EL PASO COUNTY CONSERVATION DISTRICT (RECOMMENDATION OBTAINED APRIL 2015):

TIMING, CONSTRUCTION STAGING AND SEQUENCING:

EXPECTED START DATE: MARCH 2019
INSTALL TEMPORARY EROSION CONTROL – 2 DAYS
- PERIMETER SILT FENCING
- VEHICLE TRACKING CONTROL PAD

ROUGH GRADING – 2 DAYS
INSTALL FINAL SITE IMPROVEMENTS – 7 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 LIFT STATION SITE:
CUT – 1,109 CY (INCLUDES EM TANK, GRAVEL FOR TANK, BASE COURSE, & MANHOLES STRUCTURAL EXCAVATION)
FILL – 964 (*1.15) = 1,109 CY
NET – 0 CY CUT/FILL

DISTURBED AREA – 0.96 AC

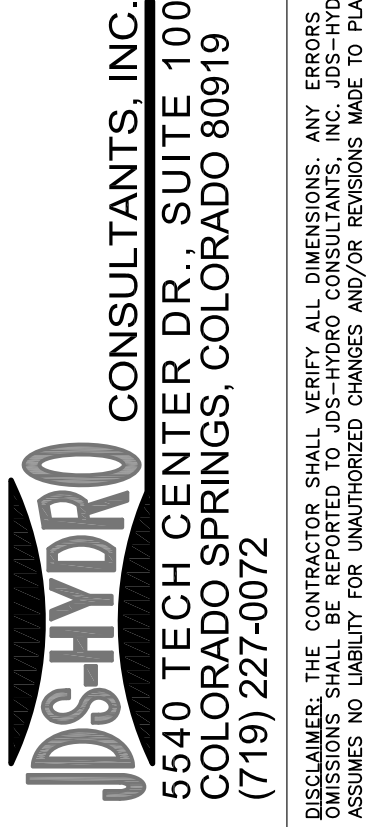
EROSION CONTROL FACILITIES:

SILT FENCE (SF) – 865 LF
VEHICLE TRACKING PAD (VT) – 1

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	PSATHYROSTACHYS JUNCEA	2.04
WHEATGRASS, WESTERN	N	PASCOPYRUM 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. PPR1841

EPC 3/20/19



WOODMEN HILLS METROPOLITAN DISTRICT

LIFT STATION #1 REPLACEMENT

GRADING & EROSION CONTROL NOTES

REVISIONS						
NO.	DESCRIPTION	BY	APP.	DATE		
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3						
4						
5						
6						
7						

100% DESIGN DRAWINGS



Project No.: 112.96
Date: 02/15/19
Design: RMM
Drawn: RMM
Check: DES

C13

SHEET 13 OF 19

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS 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, PE #43304

11/15/18
DATE

OWNER'S STATEMENT:

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

11/19/19
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 THE 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, 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.

Approved

by Elizabeth Nijamp
El Paso County Planning and Community Development
on behalf of Jennifer Irvine, County Engineer, ECM Administrator

03/20/2019 3:44:24 PM

JENNIFER IRVINE, P.E.
COUNTY ENGINEER

DATE

LEGEND

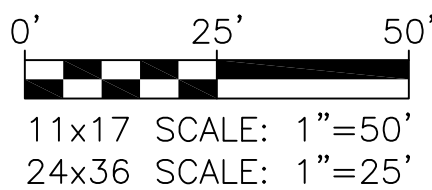
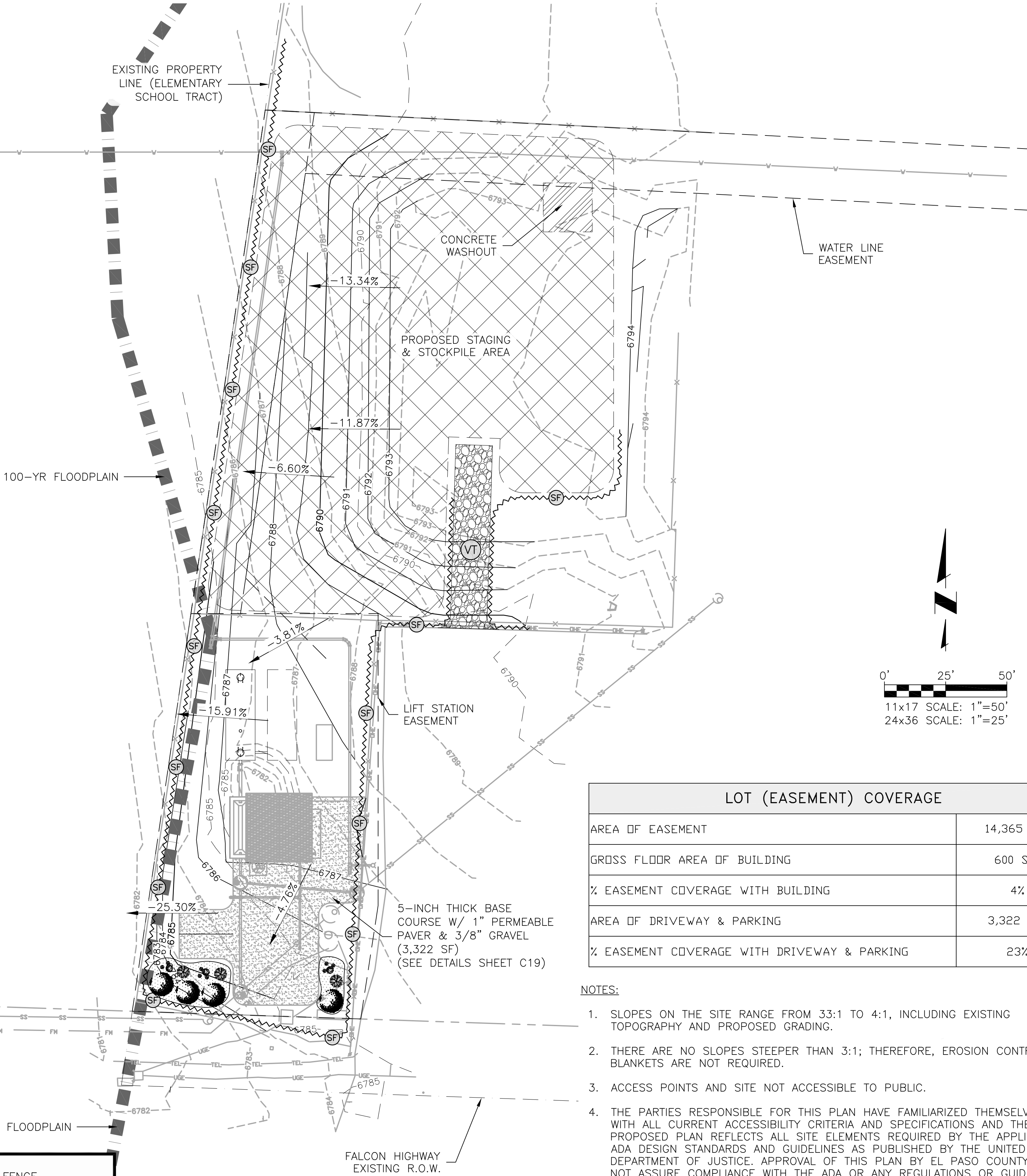
---	BOUNDARY / RIGHT-OF-WAY	---	GAS	---	EXISTING GAS LINE
---	EXISTING/PROPOSED EASEMENT	---	FOP	---	EXISTING FIBER OPTIC LINE
---	EXISTING WATER LINE	---	---	---	100-YR FLOODPLAIN (APPROX.)
---	EXISTING RAW WATER LINE	---	---	---	PROPOSED PIPE
---	EXISTING SANITARY SEWER LINE	---	---	---	EXISTING/PROPOSED VALVE
---	EXISTING FENCE	---	---	---	SANITARY SEWER MANHOLE
---	EXISTING UNDERGROUND ELECTRIC	---	---	---	STORM SEWER MANHOLE
---	EXISTING OVERHEAD ELECTRIC	---	---	---	FIRE HYDRANT
---	EXISTING TELEPHONE LINE	---	---	---	



VICINITY MAP
N.T.S.

---	PROPOSED SILT FENCE
---	PROPOSED VEHICLE TRACKING PAD

NOTES:
1. SEED AND MULCH ALL DISTURBED AREAS.



LOT (EASEMENT) COVERAGE

AREA OF EASEMENT	14,365 S.F.
GROSS FLOOR AREA OF BUILDING	600 S.F.
% EASEMENT COVERAGE WITH BUILDING	4%
AREA OF DRIVEWAY & PARKING	3,322 S.F.
% EASEMENT COVERAGE WITH DRIVEWAY & PARKING	23%

NOTES:

- SLOPES ON THE SITE RANGE FROM 33:1 TO 4:1, INCLUDING EXISTING TOPOGRAPHY AND PROPOSED GRADING.
- THERE ARE NO SLOPES STEEPER THAN 3:1; THEREFORE, EROSION CONTROL BLANKETS ARE NOT REQUIRED.
- ACCESS POINTS AND SITE NOT ACCESSIBLE TO PUBLIC.
- 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. PPR1841

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

WOODMEN HILLS METROPOLITAN DISTRICT

LIFT STATION #1 REPLACEMENT

GRADING & EROSION CONTROL PLAN

NO.	DESCRIPTION	BY	DATE
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100% DESIGN
DRAWINGS

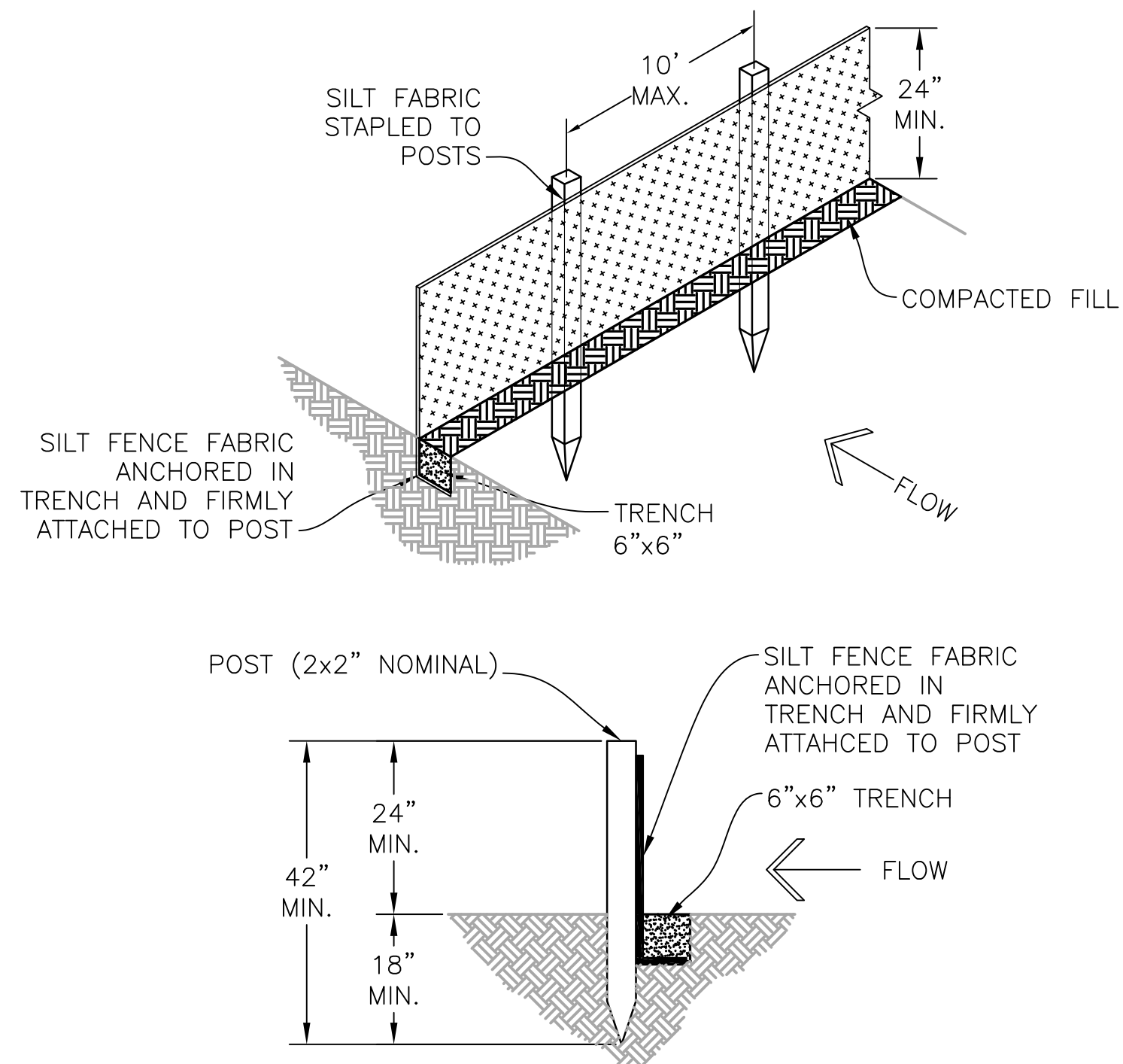


Project No.: 112.96
Date: 02/15/19
Design: RMM
Drawn: RMM
Check: DES

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SHEET 14 OF 19

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SILT FENCE DETAIL
N.T.S.

INSTALLATION REQUIREMENTS:

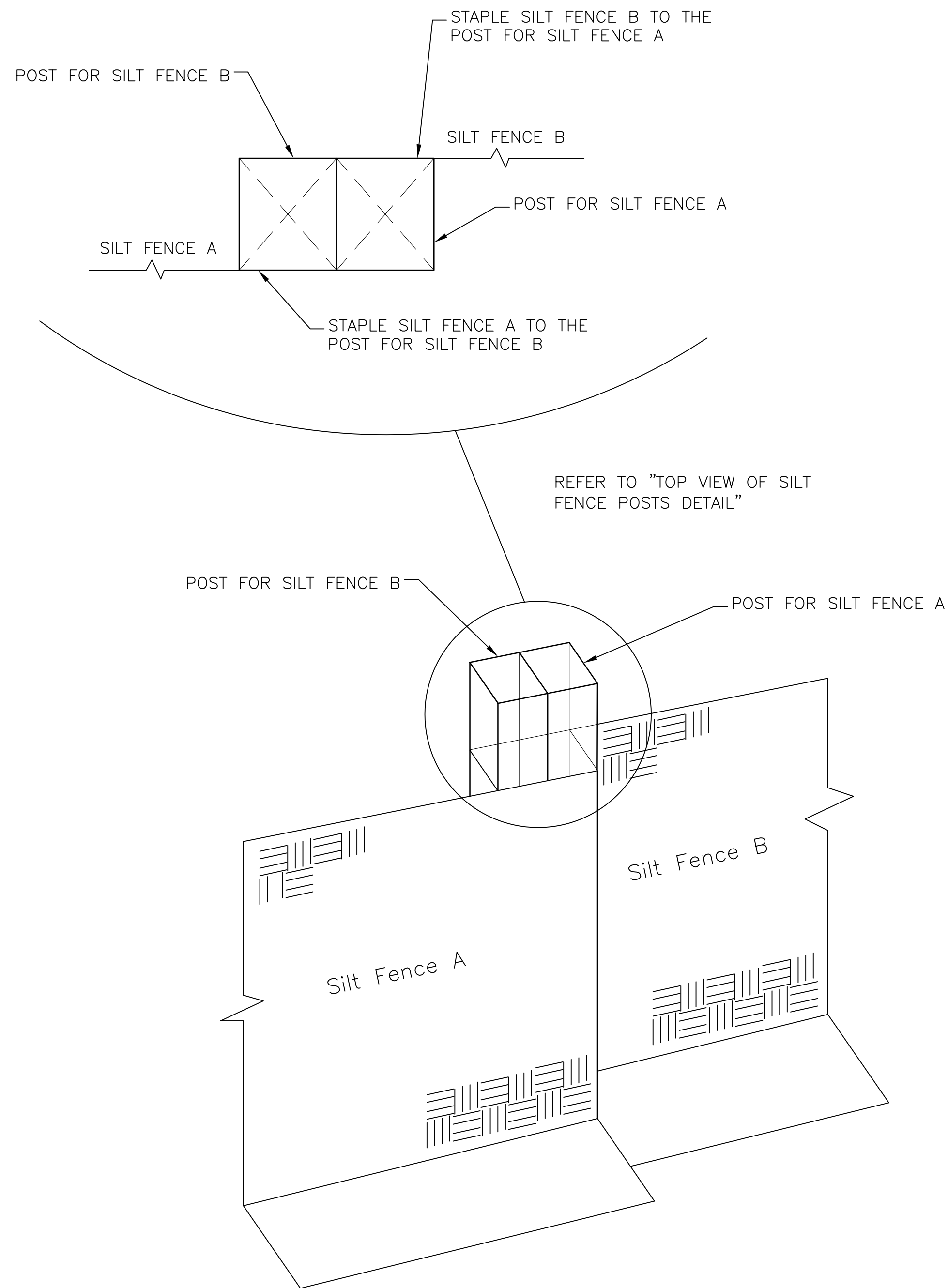
1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD 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



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EPC 3/20/19

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100% DESIGN
DRAWINGS



Project No.: 112.96
Date: 02/15/19
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Drawn: RMM
Check: DES

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SHEET 15 OF 19

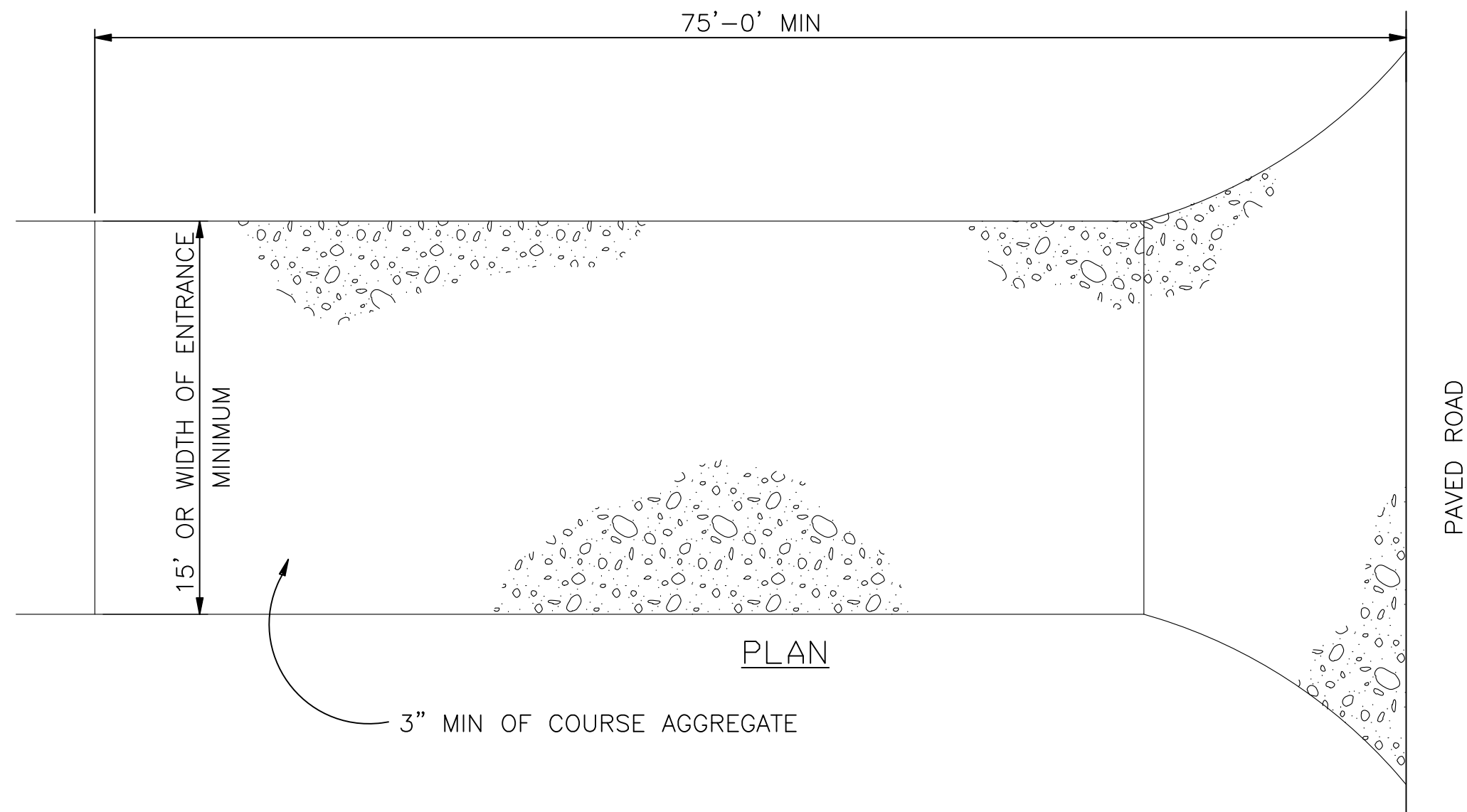
WOODMEN HILLS METROPOLITAN DISTRICT

LIFT STATION #1 REPLACEMENT

GRADING & EROSION CONTROL DETAILS 1

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.

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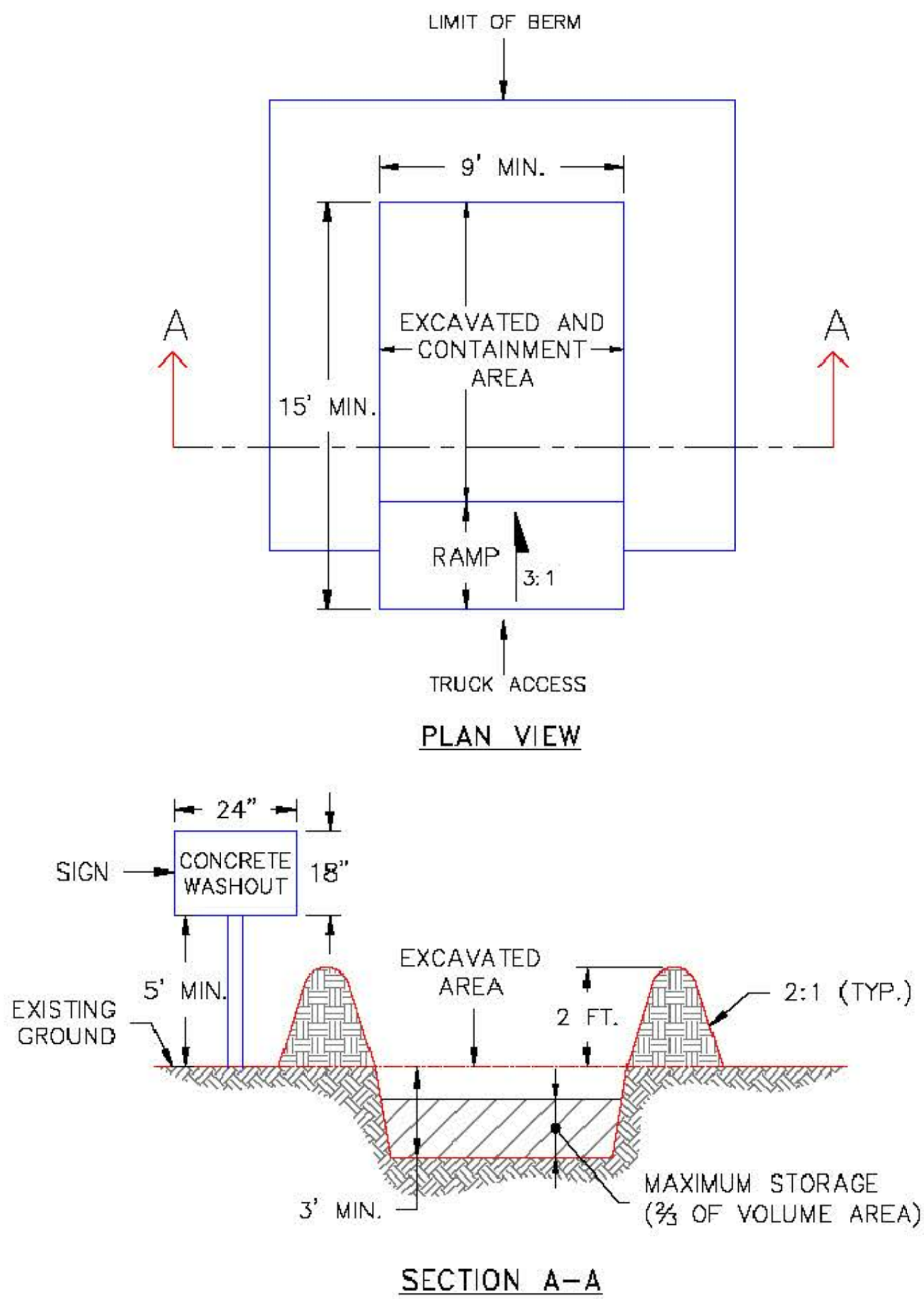
VEHICLE TRACKING PAD DETAIL
N.T.S.

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. PPR1841

EPC 3/20/19

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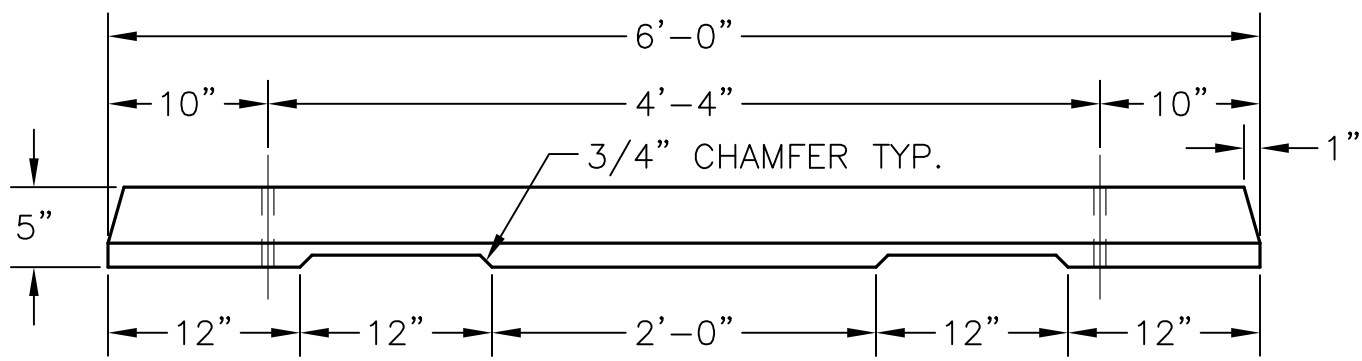
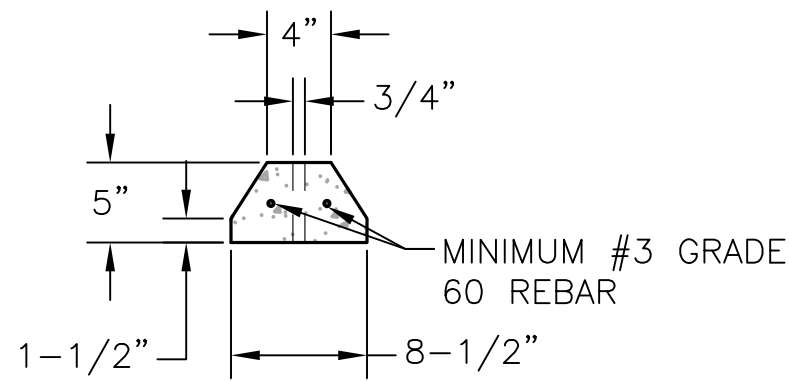
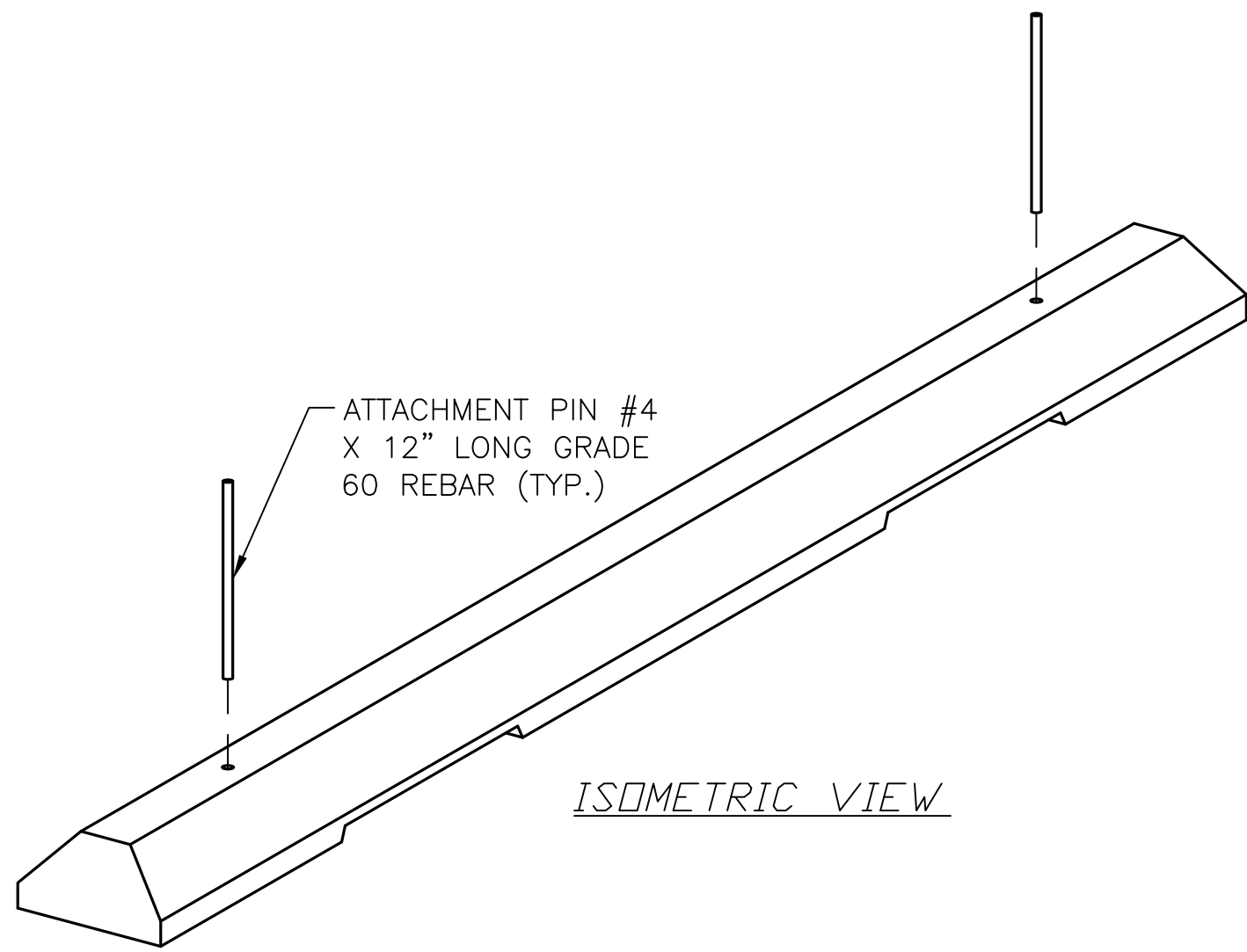
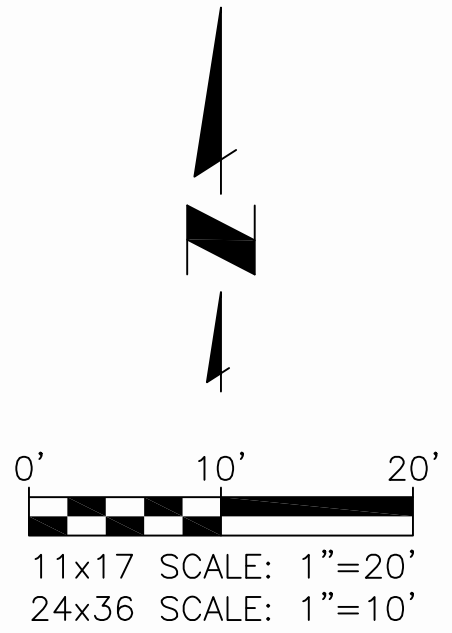
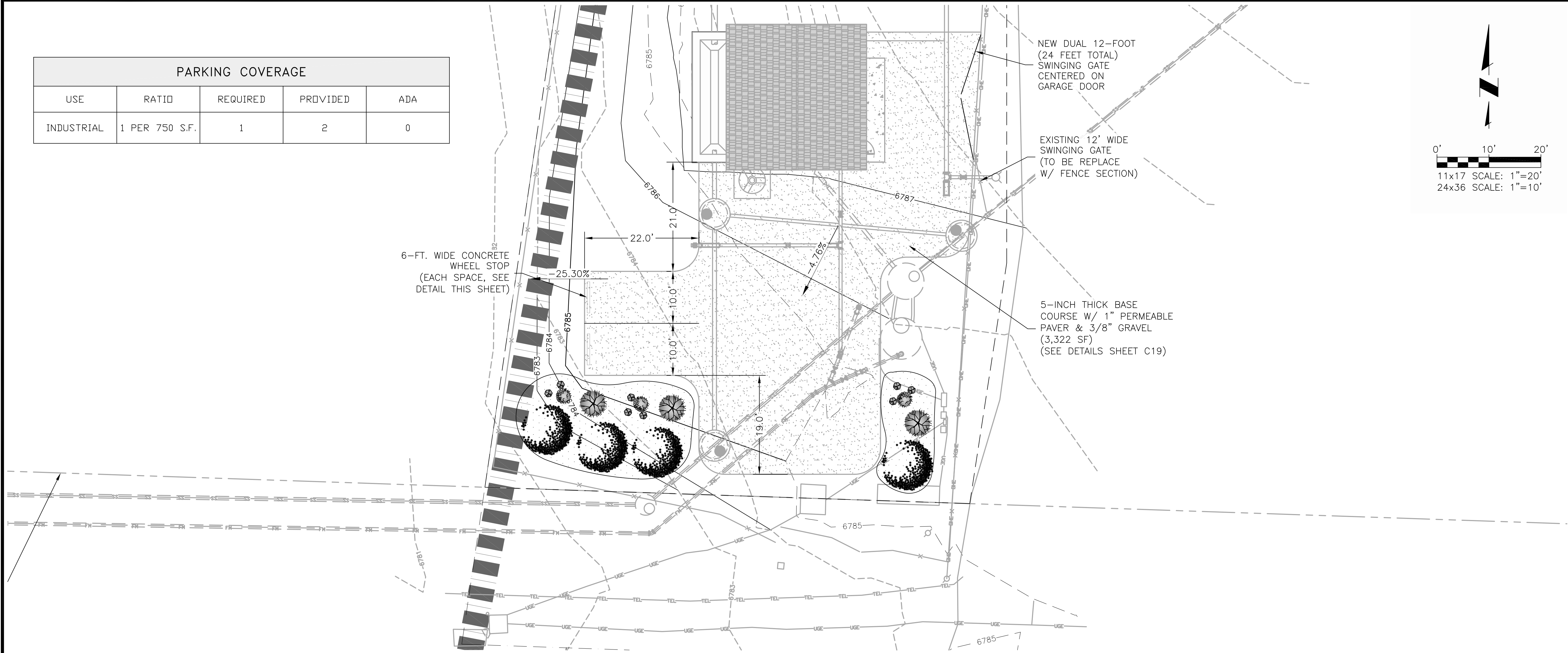
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SHEET 16 OF 19

WOODMEN HILLS METROPOLITAN DISTRICT
LIFT STATION #1 REPLACEMENT
GRADING & EROSION CONTROL DETAILS 2

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072
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PARKING COVERAGE				
USE	RATIO	REQUIRED	PROVIDED	ADA
INDUSTRIAL	1 PER 750 S.F.	1	2	0



CONCRETE WHEEL STOP
N.T.S.

- NOTES:
1. CONCRETE FOR WHEEL STOP SHALL BE 3,000 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
 2. ATTACHMENT PINS SHALL HAVE SEVEN (7) INCHES OF EMBEDMENT.

PCD File No. PPR1841
EPC 3/20/19

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100% DESIGN
DRAWINGS



Project No.: 112.96
Date: 02/15/19
Design: RMM
Drawn: RMM
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SHEET 17 OF 19

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WOODMEN HILLS METROPOLITAN DISTRICT
LIFT STATION #1 REPLACEMENT
PARKING PLAN & DETAILS

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LANDSCAPING NOTES:

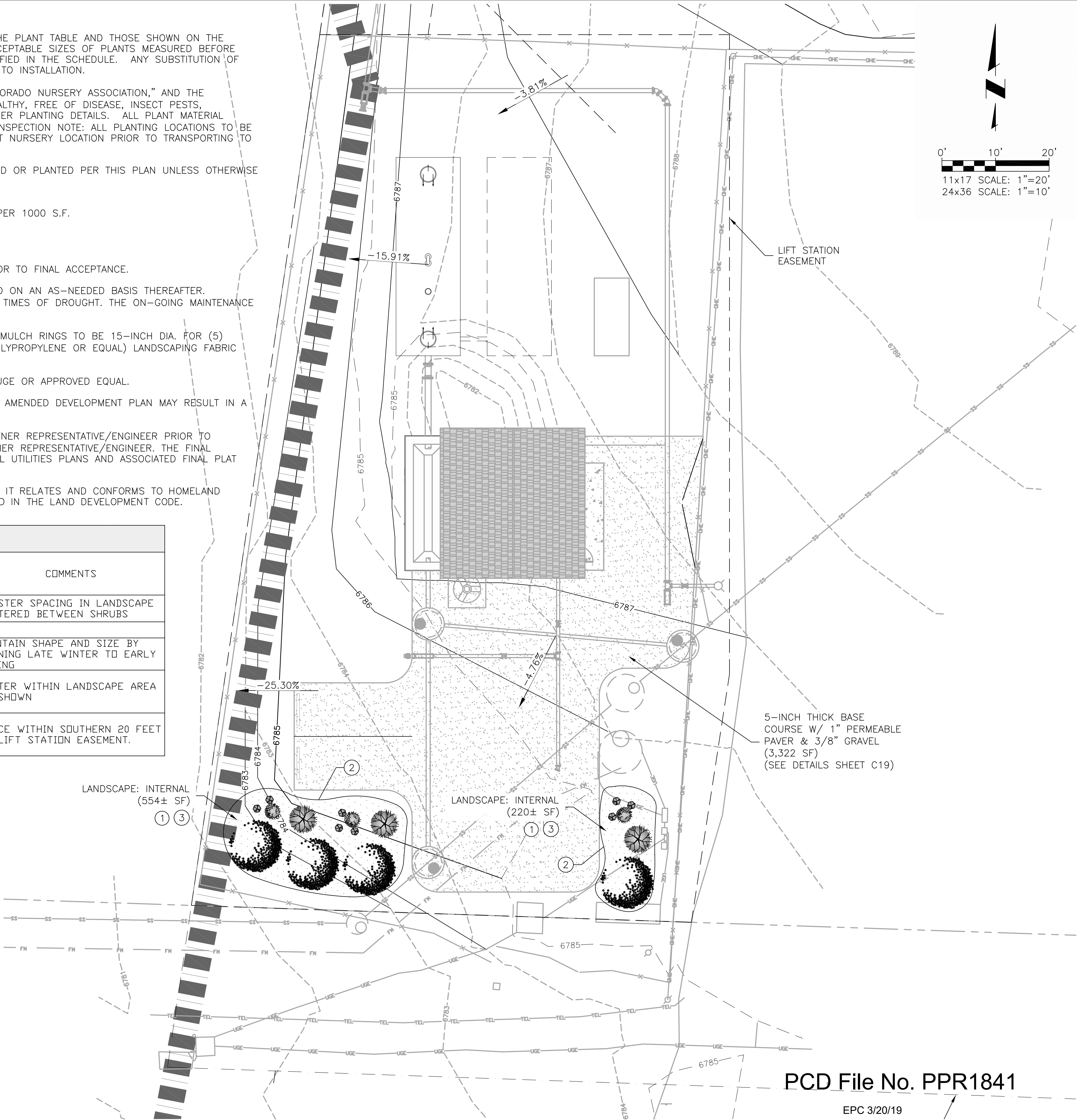
1. **PLANT QUANTITY AND SUBSTITUTION:** IN CASE OF DISCREPANCY IN PLANT QUANTITIES SHOWN ON THE PLANT TABLE AND THOSE SHOWN ON THE PLANTING PLAN, THE QUANTITIES SHOWN ON THE PLANTING PLAN SHALL GOVERN. THE MINIMUM ACCEPTABLE SIZES OF PLANTS MEASURED BEFORE PRUNING WITH BRANCHES IN NORMAL POSITION SHALL CONFORM TO THE PLANTING SIZES AS SPECIFIED IN THE SCHEDULE. ANY SUBSTITUTION OF PLANT SIZE OR SPECIES MUST BE SUBMITTED TO THE ENGINEER IN WRITING FOR APPROVAL PRIOR TO INSTALLATION.
2. **ACCEPTABLE PLANT MATERIAL:** ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET BY THE "COLORADO NURSERY ASSOCIATION," AND THE "AMERICAN STANDARD OF NURSERY STOCK." ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES, HEALTHY, FREE OF DISEASE, INSECT PESTS, MECHANICAL INJURIES, AND HAVE ADEQUATE ROOT SYSTEMS. ALL PLANTINGS SHALL BE INSTALLED PER PLANTING DETAILS. ALL PLANT MATERIAL SHALL BE INSPECTED BY THE ENGINEER OR OWNER PRIOR TO INSTALLATION. STAKING/CONTRACTOR INSPECTION NOTE: ALL PLANTING LOCATIONS TO BE STAKED AND INSPECTED BY CONTRACTOR PRIOR TO INSTALLATION. ALL PLANTS TO BE INSPECTED AT NURSERY LOCATION PRIOR TO TRANSPORTING TO THE SITE.
3. **SITE DISTURBANCE:** ALL AREAS OF SITE DISTURBANCE DUE TO CONSTRUCTION SHALL BE RENOVATED OR PLANTED PER THIS PLAN UNLESS OTHERWISE NOTED.
4. **SOIL AMENDMENTS:** CONTRACTOR SHALL AMENDED PLANTING AREAS AS FOLLOWS:
 - ADD MINIMUM OF 3 CUBIC YARDS OF WELL-COMPOSTED AGED MANURE OR PREMIUM COMPOST PER 1000 S.F.
 - ALL AMENDED AREAS SHALL BE TILLED TO A DEPTH OF 6" PRIOR TO PLANTING.
 - 3 CUBIC YARDS PER 1000 S.F. OF WELL-COMPOSTED AGED MANURE OR PREMIUM COMPOST.
 - ALL AMENDED AREAS SHALL BE TILLED TO A DEPTH OF 6" PRIOR TO PLANTING.
5. **SEEDED TURF:** ALL SEEDED OR HYDROMULCHED AREAS SHALL DEMONSTRATE 95% GERMINATION PRIOR TO FINAL ACCEPTANCE.
6. **IRRIGATION:** OWNER TO HAND WATER FOR ONE TO TWO GROWING SEASONS UNTIL ESTABLISHED AND ON AN AS-NEEDED BASIS THEREAFTER. DISTURBED AREA SEED/GRASS MIXTURE MUST BE IRRIGATED BY OWNER UNTIL ESTABLISHED AND IN TIMES OF DROUGHT. THE ON-GOING MAINTENANCE OF THE NATIVE GRASS IS THE RESPONSIBILITY OF OWNER.
7. **INORGANIC MULCH AND FABRIC:** ALL PLANTINGS TO RECEIVE 3-INCH DEPTH OF INORGANIC MULCH. MULCH RINGS TO BE 15-INCH DIA. FOR (5) GALLON SHRUBS/GRASSES (SEE DETAIL X/X). HIGH QUALITY COMMERCIAL-GRADE (SPUN-BONDED POLYPROPYLENE OR EQUAL) LANDSCAPING FABRIC SHALL BE APPLIED UNDER ALL ROCK BASES.
8. **STEEL EDGE:** ALL EDGER SHALL BE ACME 4" PERFORATED STEEL EDGER "SELF COLORING" 14 GAUGE OR APPROVED EQUAL.
9. **APPROVAL:** ANY FIELD CHANGES OR DEVIATIONS TO THESE PLANS WITHOUT PRIOR APPROVAL OF AN AMENDED DEVELOPMENT PLAN MAY RESULT IN A DELAY OF FINAL APPROVAL AND THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
10. **FINAL TREE AND SHRUB LOCATIONS:** ALL TREE LOCATIONS SHALL BE STAKED FOR APPROVAL BY OWNER REPRESENTATIVE/ENGINEER PRIOR TO PLANTING. SHRUBS SHALL BE PLACED IN THEIR LOCATIONS PER THIS PLAN AND APPROVED BY OWNER REPRESENTATIVE/ENGINEER. THE FINAL LOCATION OF TREES TO BE PLANTED MAY REQUIRE ADJUSTMENT BASED ON APPROVAL OF THE FINAL UTILITIES PLANS AND ASSOCIATED FINAL PLAT AND EASEMENTS.

* BY APPROVING THIS PLAN, THE DIRECTOR IS APPROVING AN ALTERNATE LANDSCAPING DESIGN AS IT RELATES AND CONFORMS TO HOMELAND SECURITY STANDARDS AND PROMOTES WATER CONSERVATION WHILE MEETING THE PURPOSES DESCRIBED IN THE LAND DEVELOPMENT CODE.

SCHEDULE - XERIC/LOW WATER VEGETATION						
SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	MATURE SIZE	PLANTING SIZE (MIN.)	COMMENTS
	GRASS					
	SCHIZACHRIUM SCOPARIUM	LITTLE BLUESTEM	8	2'-0" x 1'-6"	#3 CONT.	CLUSTER SPACING IN LANDSCAPE CENTERED BETWEEN SHRUBS
	SHRUB					
	CERCOCARPUS MONTANUS	MOUNTAIN MAHOGANY	3	5'-0" x 4'-0"	#5 CONT.	MAINTAIN SHAPE AND SIZE BY PRUNING LATE WINTER TO EARLY SPRING
	POTENTILLA FRUTICOSA	GOLDSTAR POTENTILLA	3	2'-6" x 3'-0"	#5 CONT.	CENTER WITHIN LANDSCAPE AREA AS SHOWN
	JUNIPERUS CHNENSIS "BLUE POINT"	BLUE POINT JUNIPER	4	8 FT.	1-INCH CAL.	PLACE WITHIN SOUTHERN 20 FEET OF LIFT STATION EASEMENT.

- ① TYP SHRUB/GRASS PLANTING - REF: DETAIL A/C19
- ② STEEL EDGE, TYP FOR SEPARATION BETWEEN TURF, GRAVEL/MULCH, AND BASECOURSE AREAS - REF: DETAIL B/C19
- ③ MULCH @ 3" DEPTH MIN.

LANDSCAPING	
INTERNAL	
NET SITE AREA	14,365 S.F.
% MINIMUM INTERNAL AREA	5
INTERNAL AREA REQUIRED/PROVIDED	718 S.F. / 774 S.F.
PARKING LOT LANDSCAPE (N/A)	
ROAD FRONTAGE	
FALCON HWY (MINOR ARTERIAL)	93 LF
FRONTAGE WIDTH REQUIRED/PROVIDED	20'/20'
NUMBER OF TREES REQUIRED @ 1/25 LF/PROVIDED	4/4



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WOODMEN HILLS METROPOLITAN DISTRICT
LIFT STATION #1 REPLACEMENT
LANDSCAPING PLAN & NOTES

REVISIONS			
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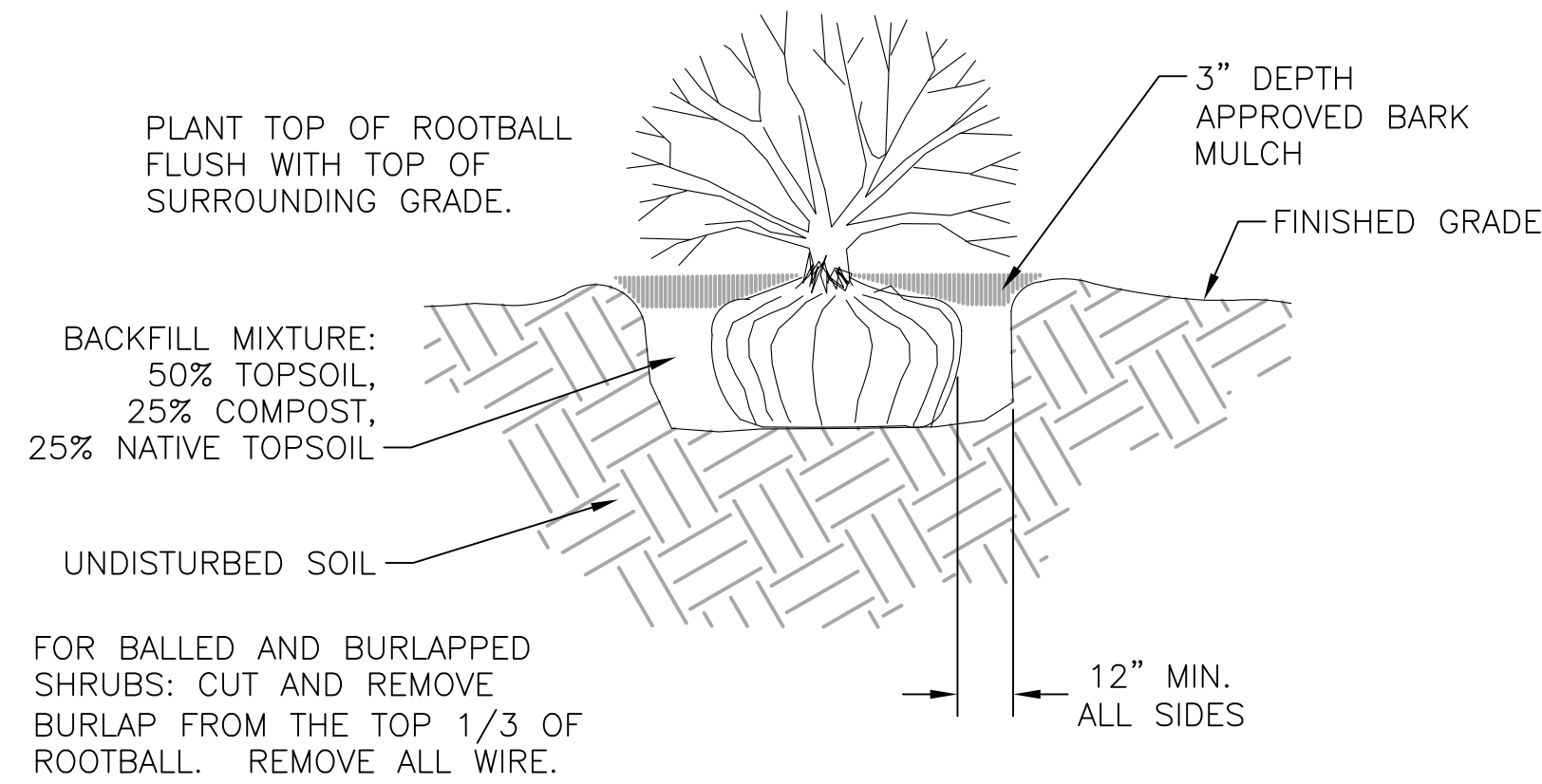
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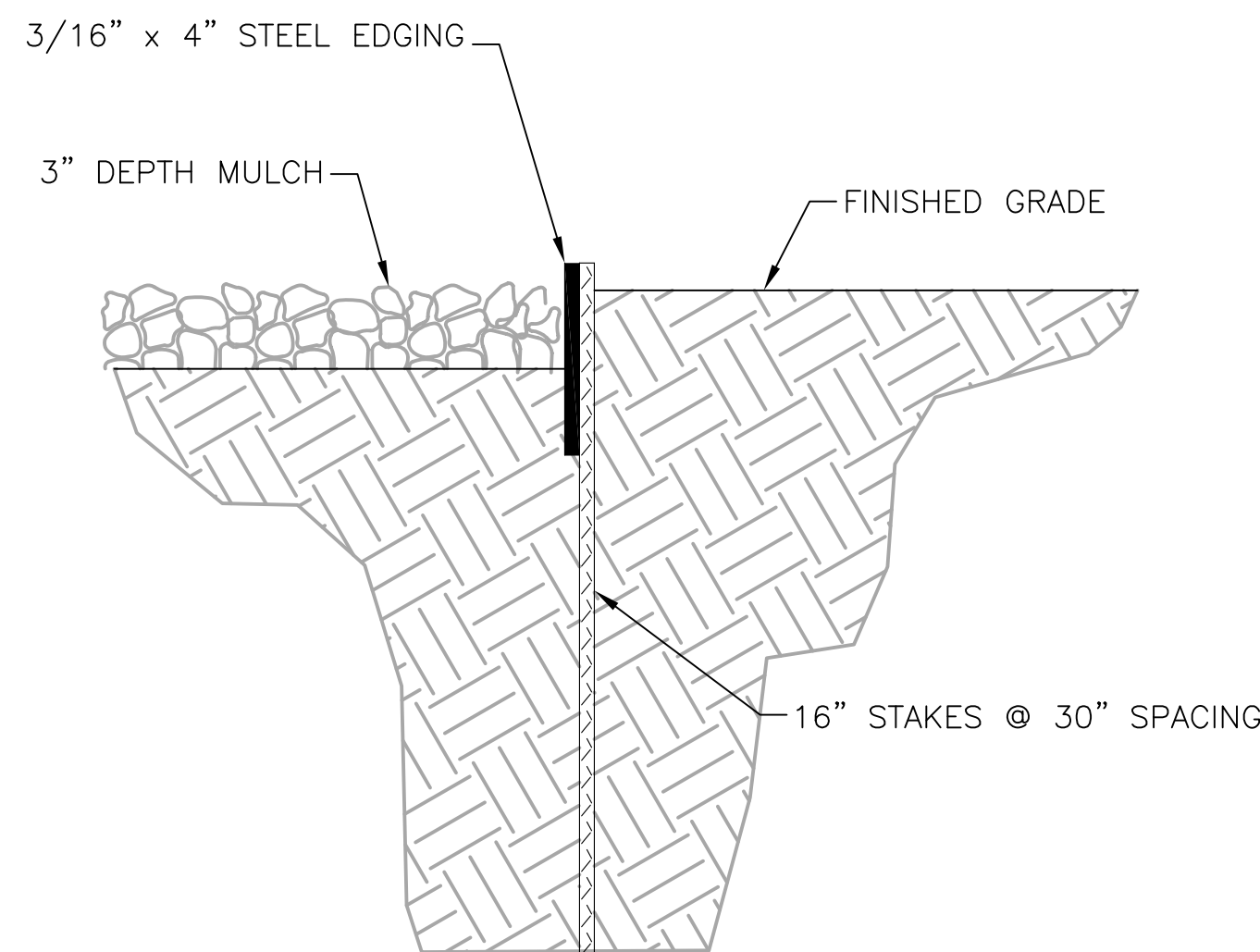
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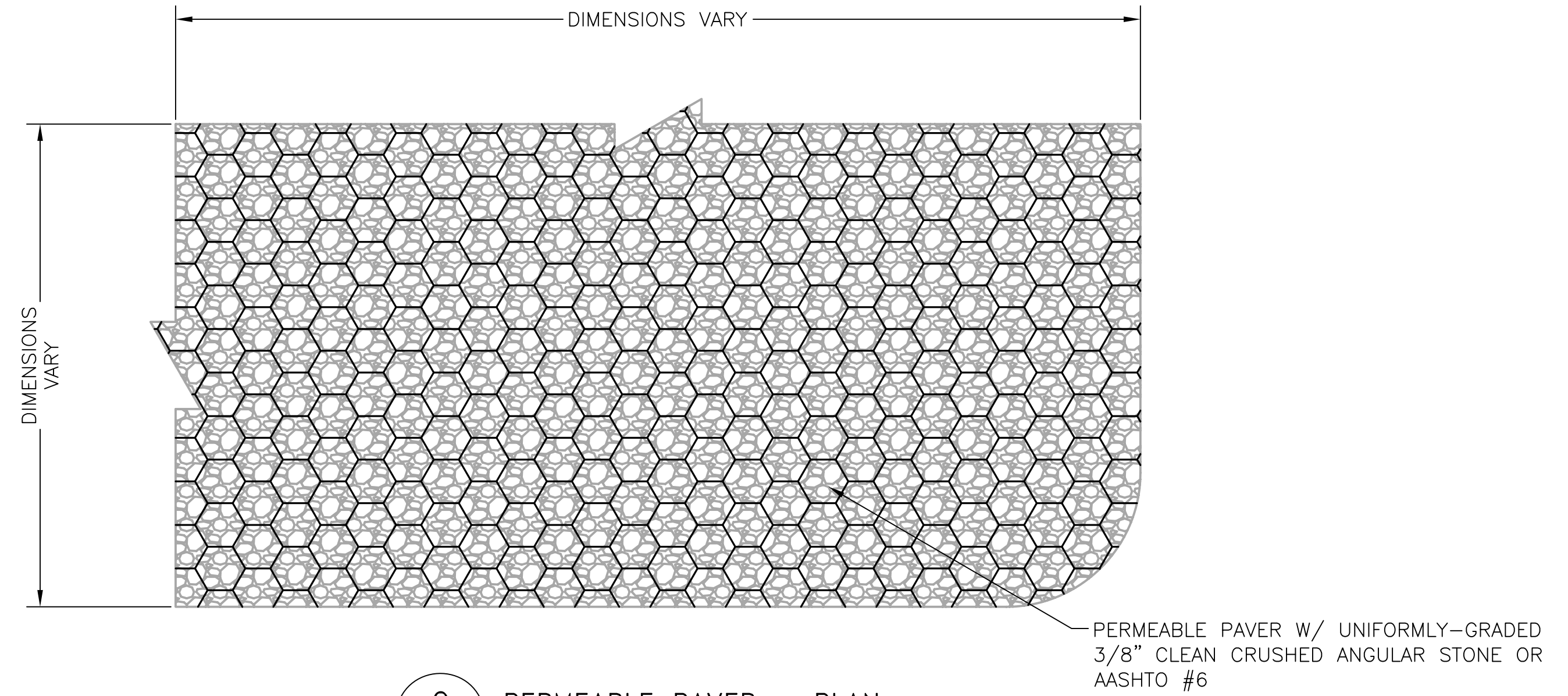
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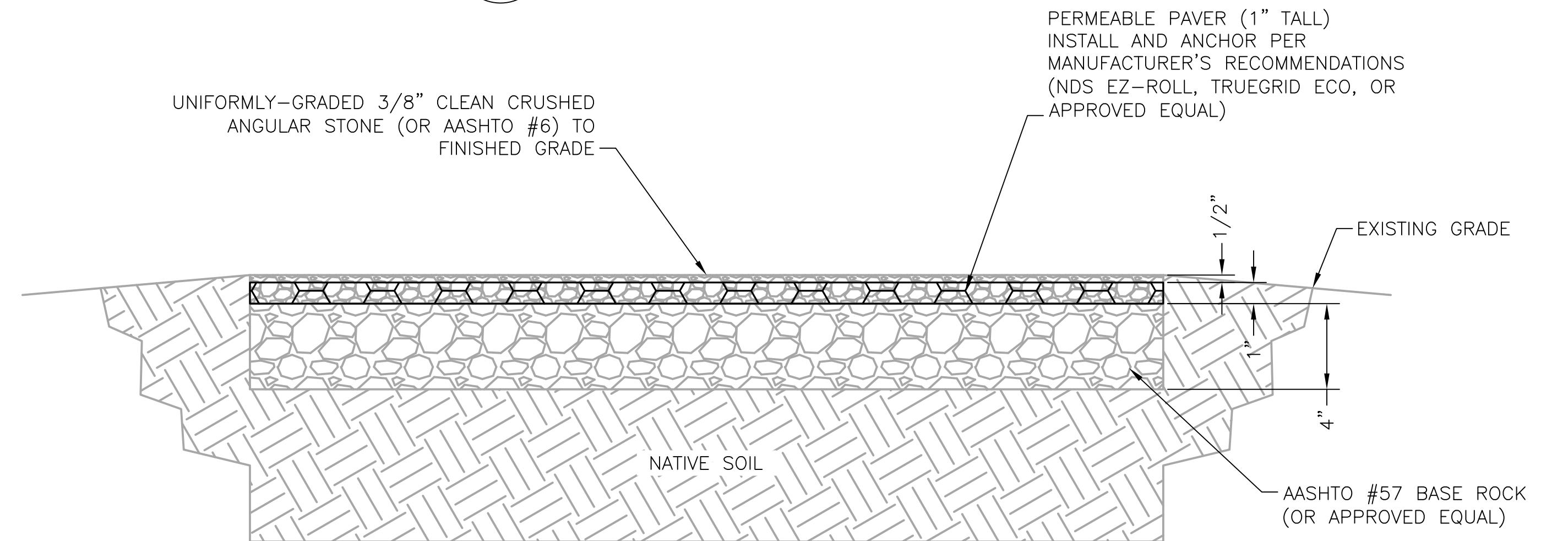
A SHRUB DECORATIVE GRASS PLANTING DETAIL
SCALE: N.T.S.



B STEEL EDGE DETAIL
SCALE: N.T.S.



C PERMEABLE PAVER - PLAN
SCALE: N.T.S.



D PERMEABLE PAVER - SECTION
SCALE: N.T.S.

PERMEABLE PAVER NOTES:

ENGINEERING PROPERTIES:

- COMPRESSIVE STRENGTH:
EMPTY PAVERS: ULTIMATE LOAD = 53,683 LBS / 373 PSI
FILLED PAVERS: ULTIMATE LOAD = 500,000 LBS
- POROSITY OF AASHTO #57 AGGREGATE = 0.4

GRAVEL FILL:

- UNIFORMLY-GRADED 3/8" CLEAN CRUSHED ANGULAR STONE OR AASHTO #6.
- EXTEND 3/8" GRAVEL INSIDE PAVER AN ADDITIONAL 1/2 INCH ABOVE PAVER SURFACE AND MATCH SURROUNDING GRADE. PROPOSED FINISHED GRADE SLOPE PER PROJECT GRADING PLAN.
- PROVIDE 1" (MIN.) CLEARANCE BETWEEN ANY CONCRETE EDGE AND PAVER.

AASHTO #57 BASE ROCK:

- GRADATION OF AASHTO #57 COARSE BASE ROCK: 100% PASSING 1-1/2" SCREEN, 95-100% PASSING 1", 25-60% PASSING 1/2", AND 0-10% PASSING #8 SCREEN.
- THICKNESS OF AGGREGATE LAYER IS AS FOLLOWS: NO BASE REQUIRED FOR EROSION CONTROL AND PEDESTRIAN-ONLY LOADS
- COMPACTION OF NATIVE SOIL RECOMMENDED FOR SLOPES UP TO 3%; 4 INCHES FOR LIGHT LOADS (GOLF CARTS); 6 INCHES FOR MEDIUM LOADS (CARS AND PICKUP TRUCKS); 8 INCHES FOR HEAVY LOADS (FIRE TRUCKS).
- COMPACT WITH ONE TO THREE PASSES OF 5-TON STEEL WHEEL ROLLER. SINCE IT IS DIFFICULT TO MEASURE DENSITY OF COARSE AGGREGATE, APPROACH OF REQUIRING A FIXED DENSITY IS NOT APPLICABLE.

SUBGRADE NATIVE SOIL:

- COMPACT SUBGRADE NATIVE SOILS TO 95% STANDARD PROCTOR DENSITY PER ASTM D696
- CONSULT WITH PROJECT GEOTECHNICAL ENGINEER FOR POTENTIAL SOIL MODIFICATION (EG. LIME TREATMENT) AND COMPACTION LEVEL FOR CBR <5% AND R-VALUE <10, AASHTO A-5, A-6, AND A-7 SOILS.

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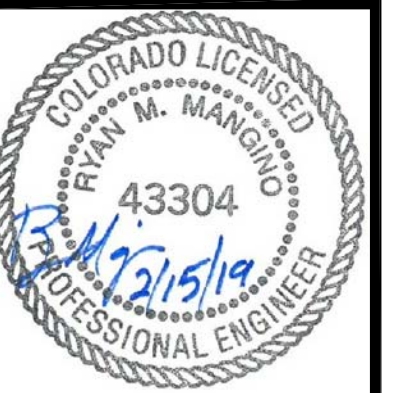
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LIFT STATION #1 REPLACEMENT
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