

MY GARAGE @ NORTHCREST

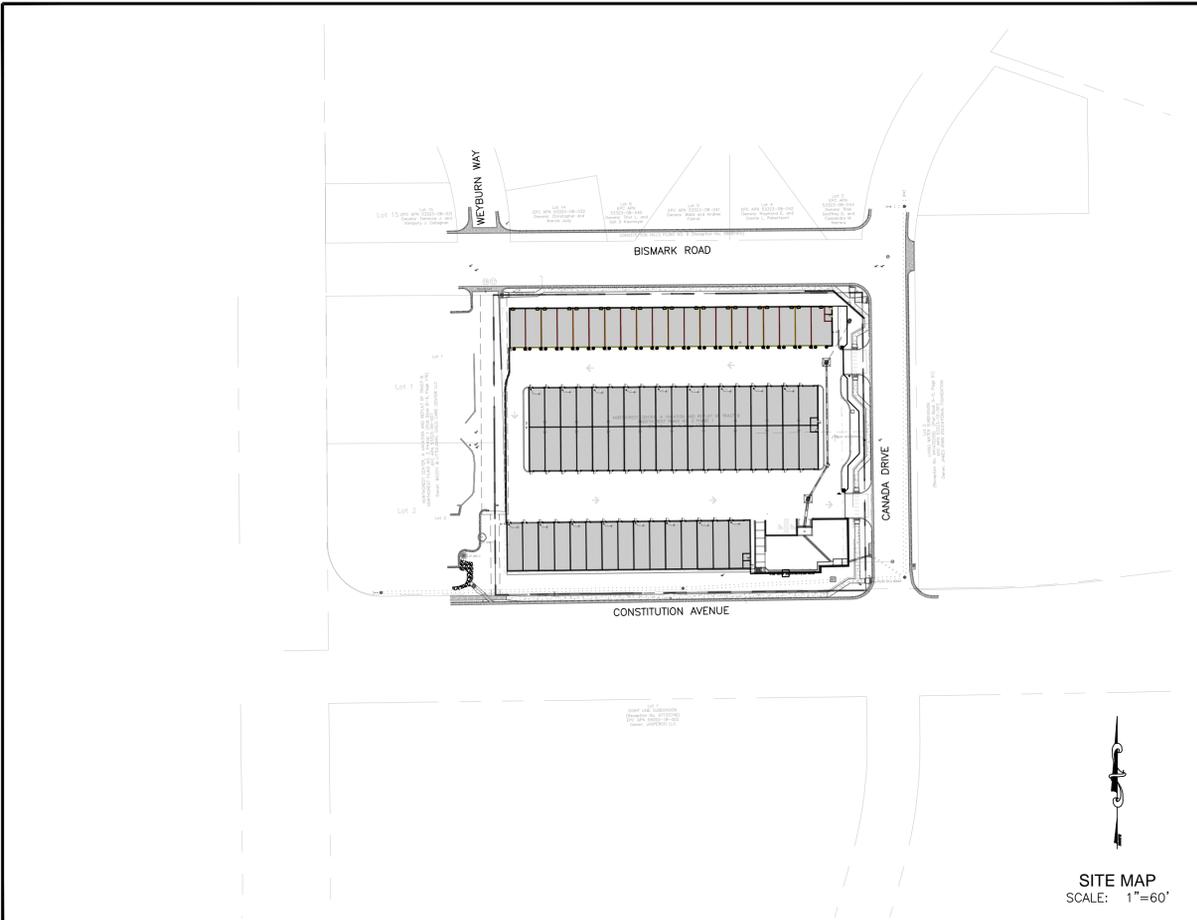
GRADING AND EROSION CONTROL PLANS

PREPARED FOR K&S DEVELOPMENT, LLC

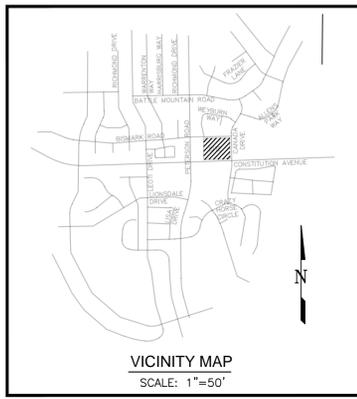
PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

- 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 (SWMP) 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 alternative 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 affect 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 infiltration and vegetation control measures must be loosened 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 has been prepared by RMG Engineers/Architects, Inc. (Dated: March 11, 2024) 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
- Base mapping was provided by Land Development Consultants. The date of the last survey update was July 27, 2021.
- Proposed Construction Schedule:
Begin Construction: Summer 2024
End Construction: Winter 2024
Total Site Area = 3.25 Acres
Area to be disturbed = 3.26 Acres.
Existing 100-year runoff coefficient = 0.37
Proposed 100-year runoff coefficient = 0.70
Existing Hydrologic Soil Groups: A
(A-1-Truck sandy loam)
- Site is currently undeveloped and covered with native grasses on moderate to steep slopes (25%-25%).
- Site is located in the West Fork Jimmy Camp Creek Drainage Basin.
- No Asphalt Batch Plants will be utilized at the site.

Sand Creek



SITE MAP
SCALE: 1"=60'



VICINITY MAP
SCALE: 1"=50'

EROSION CONTROL INSPECTION AND MAINTENANCE

A Thorough Inspection of the Erosion Control Plan/Stormwater Management System shall be performed every 14 days as well as after any rain or snowmelt event that causes Surface Erosion:

- When Silt Fences have silted up to half their height, the silt shall be removed, final grade re-established and slopes re-seeded, if necessary. Any silt fence that has shifted or decayed shall be repaired or replaced.
- Any Accumulated Trash or debris shall be removed from outlets.

An inspection and maintenance log shall be kept.

SEED MIX

SPECIES	VARIETY	plg/acre
SUDGRASS GRAMA	El Reno	3.0
WESTERN WHEAT GRASS	Native	2.0
SLENDER WHEAT GRASS	Native	2.0
LITTLE BLUESTEM	Pastura	2.0
SAND DROPSPEED	Native	0.5
SWITCH GRASS	Nebraska 28	3.0
WEeping LOVE GRASS	Morpha	1.0
		14.0 lbs

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.

INDEX OF SHEETS

C300	COVER SHEET
C301	INITIAL CONDITIONS
C302	INTERIM CONDITIONS
C303	FINAL CONDITIONS
C304	GEC DETAILS
C305	GEC DETAILS
C306	GEC DETAILS
C601	POND CONSTRUCTION
C602	POND DETAILS
C603	POND DETAILS
C604	POND DETAILS

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
VEHICLE TRACKING CONTROL	2	EA	\$3,085.00	\$6,170.00
SILT FENCE	6,320	LF	\$3.00	\$18,960.00
STRAW BALES	18	EA	\$33.00	\$594.00
INLET PROTECTION	6	EA	\$217.00	\$1,302.00
CONCRETE WASH OUT	2	EA	\$1,172.00	\$2,344.00
ROCK SOCKS	100	EA	\$24.00	\$2,400.00
SURFACE ROUGHENING	1.0	AC	\$269.00	\$269.00
TEMPORARY SEEDING AND MULCH	0.7	AC	\$1,753.00	\$1,225.00
MAINTENANCE (25% OF EROSION CONTROL)	1	LS	\$8,323.50	\$8,323.50
TOTAL				\$41,023.50

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- All drainage and roadway construction shall meet the standards and specifications of the City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes 1 and 2, and the El Paso County Engineering Criteria Manual.
- Contractor shall be responsible for the notification and field notification of all existing utilities, whether shown on the plans or not, before beginning construction. Location of existing utilities shall be verified by the contractor prior to construction. Call 811 to contact the Utility Notification Center of Colorado (UNCC).
- Contractor shall keep a copy of these approved plans, the Grading and Erosion Control Plan, the Stormwater Management Plan (SWMP), the soils and geotechnical report, and the appropriate design and construction standards and specifications at the job site at all times, including the following:
 - El Paso County Engineering Criteria Manual (ECM)
 - City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes 1 and 2
 - Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction
 - CDOT M & S Standards
- 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. Any modifications necessary to meet criteria after-the-fact will be entirely the developer's responsibility to rectify.
- It is the design engineer's responsibility to accurately show existing conditions, both onsite and offsite, on the construction plans. Any modifications necessary due to conflicts, omissions, or changed conditions will be entirely the developer's responsibility to rectify.
- Contractor shall schedule a pre-construction meeting with El Paso County Planning and Community Development (PCD) - Inspections, prior to starting construction.
- It is the contractor's responsibility to understand the requirements of all jurisdictional agencies and to obtain all required permits, including but not limited to El Paso County Erosion and Stormwater Quality Control Permit (ESQCP), Regional Building Floodplain Development Permit, U.S. Army Corps of Engineers-issued 401 and/or 404 permits, and county and state fugitive dust permits.
- Contractor shall not deviate from the plans without first obtaining written approval from the design engineer and PCD. Contractor shall notify the design engineer immediately upon discovery of any errors or inconsistencies.
- All public storm drain pipe shall be Class III RCP unless otherwise noted and approved by PCD.
- Contractor shall coordinate geotechnical testing per ECM standards. Pavement design shall be approved by El Paso County PCD prior to placement of curb and gutter and pavement.
- All construction traffic must enter/exit the site at approved construction access points.
- Signage and striping shall comply with El Paso County DOT and MUTCD criteria. [If applicable, additional signage and striping notes will be provided.]
- Contractor shall obtain any permits required by El Paso County DOT, including Work Within the Right-of-Way and Special Transport permits.
- The limits of construction shall remain within the property line unless otherwise noted. The owner/developer shall obtain written permission and easements, where required, from adjoining property owner(s) prior to any off-site disturbance, grading, or construction.

El Paso County (standalone GEC Plan):
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 Manuals 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.

County Engineer/ECM Administrator _____ Date _____
Joshua Palmer, P.E.

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 resulting from the project acts, errors or omissions on my part in preparing this plan.

Andrew W. McCord
Engineer of Record Signature _____ Date: June 17, 2024
ANDREW W. McCORD P.E. 25057

Owner's Statement:
I, the owner/developer have read and will comply with the requirements of the Grading and Erosion Control Plan.

SZ Edwards, Pres.
Owner Signature _____ Date: 6-18-24
Sean Edwards, President
ADDRESS: LEISURE CONSTRUCTION
3442 Tampa Road, Suite B
Palm Harbor, FL 34684

DEVELOPER:
Leisure Construction, LLC
3442 Tampa Road, Suite B
Palm Harbor, FL 34684
(727) 242-5121

PREPARED BY:
Kiowa
Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

"A.G.A./A.P.W.A. STANDARD UTILITY MARKING COLOR CODE

NATURAL GAS	YELLOW
ELECTRIC	RED
WATER	BLUE
WASTEWATER	GREEN

CALL BEFORE YOU DIG...
48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND WASTEWATER

1-800-922-1987

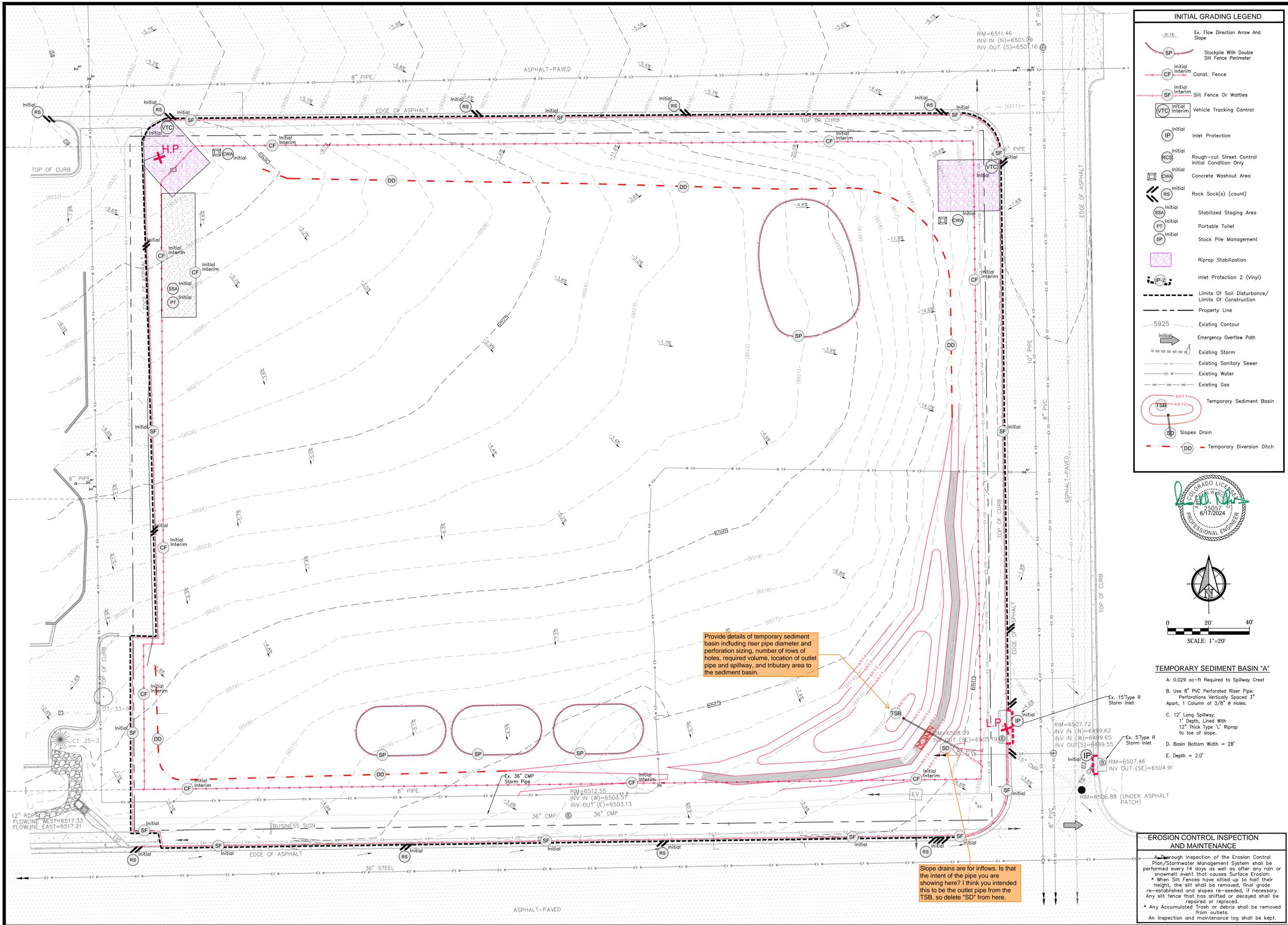
PCD File PPR2412

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Colorado Springs, Colorado 80904
(719) 630-7342

My Garage @ Northcrest
Grading Erosion Control Plan
COVER SHEET
El Paso County, Colorado

Project No.: 23049
Date: 06/17/2024
Design: MKK
Drawn: MKK
Check: AMCC
Revisions:

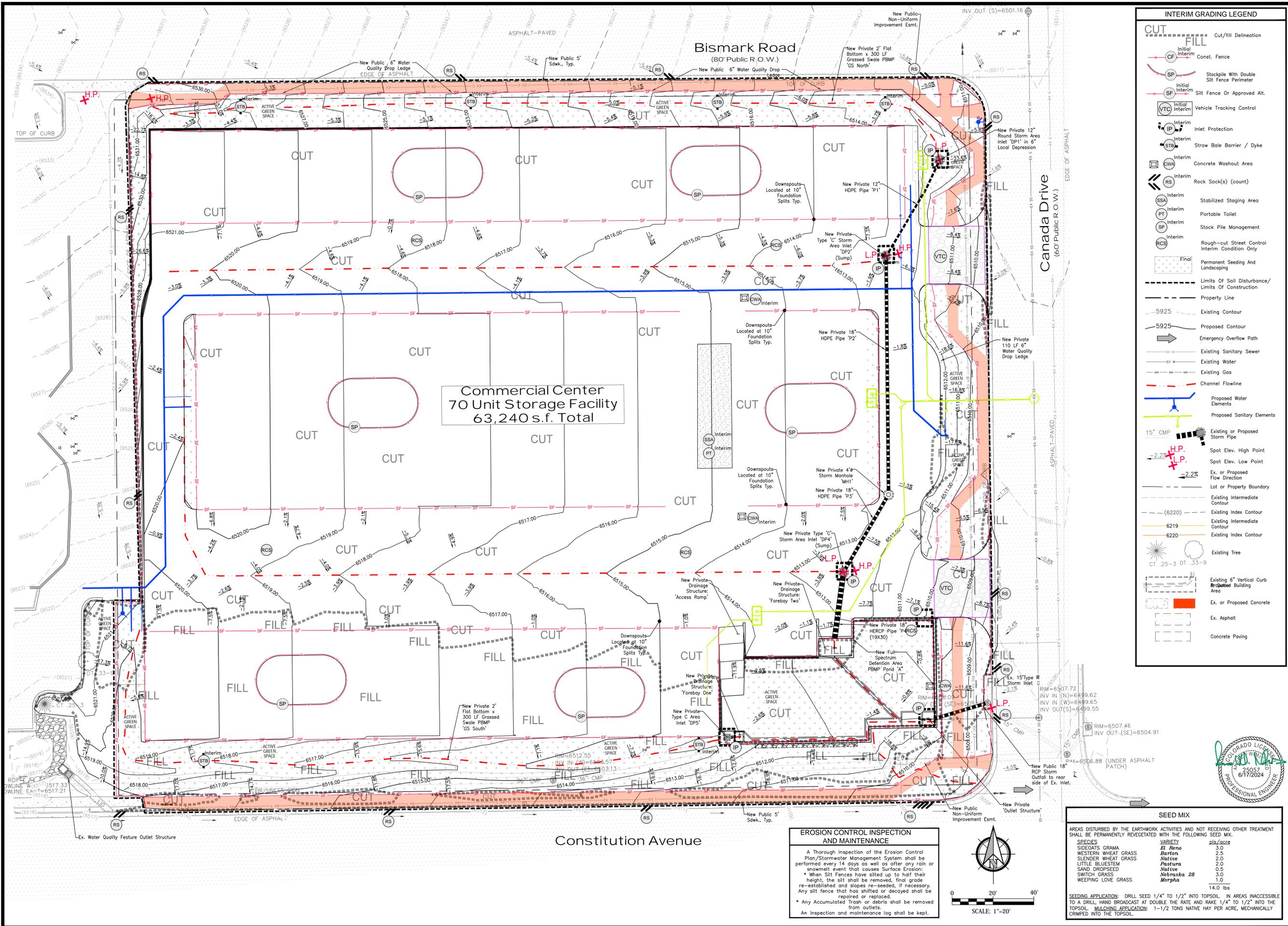
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C300
2 of 21 Sheets



My Garage @ Northcrest
Grading Erosion Control Plan
Initial Conditions Plan
El Paso County, Colorado



Project No.:	23049
Date:	06/14/2024
Design:	MJK
Drawn:	MJK
Check:	AMcC
Revisions:	



INTERIM GRADING LEGEND

CUT --- Cut/fill Delineation
FILL --- Cut/fill Delineation

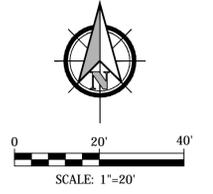
- CF Initial Interim Const. Fence
- SP Stockpile With Double Silt Fence Perimeter
- SF Initial Interim Silt Fence Or Approved Alt.
- VTC Initial Interim Vehicle Tracking Control
- IP Initial Interim Inlet Protection
- STB Initial Interim Straw Bale Barrier / Dyke
- CWA Initial Interim Concrete Washout Area
- RS Initial Interim Rock Sock(s) (count)
- SSA Initial Interim Stabilized Staging Area
- PT Initial Interim Portable Toilet
- SP Initial Interim Stock Pile Management
- RCS Initial Interim Rough-cut Street Control Interim Condition Only
- Final Permanent Seeding And Landscaping
- Limits Of Soil Disturbance/ Limits Of Construction
- Property Line
- 5925 Existing Contour
- 5925 Proposed Contour
- Emergency Overflow Path
- Existing Sanitary Sewer
- Existing Water
- Existing Gas
- Channel Flowline
- Proposed Water Elements
- Proposed Sanitary Elements
- 15" CMP Existing or Proposed Storm Pipe
- Spot Elev. High Point
- Spot Elev. Low Point
- Ex. or Proposed Flow Direction
- Lot or Property Boundary
- Existing Intermediate Contour
- Existing Index Contour
- Existing Intermediate Contour
- Existing Index Contour
- Existing Tree
- Existing 6" Vertical Curb
- Proposed Building Area
- Ex. or Proposed Concrete
- Ex. Asphalt
- Concrete Paving

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- Any silt fence that has shifted or decayed shall be repaired or replaced.
- Any Accumulated Trash or debris shall be removed from outlets.

An inspection and maintenance log shall be kept.



SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	lbs/acre
SIDEOTS GRAMA	El Reno	3.0
WESTERN WHEAT GRASS	Barton	2.5
SLENDER WHEAT GRASS	Native	2.0
LITTLE BLUESTEM	Pastura	2.0
SAND DROPSEED	Native	0.5
SWITCH GRASS	Nebraska 28	3.0
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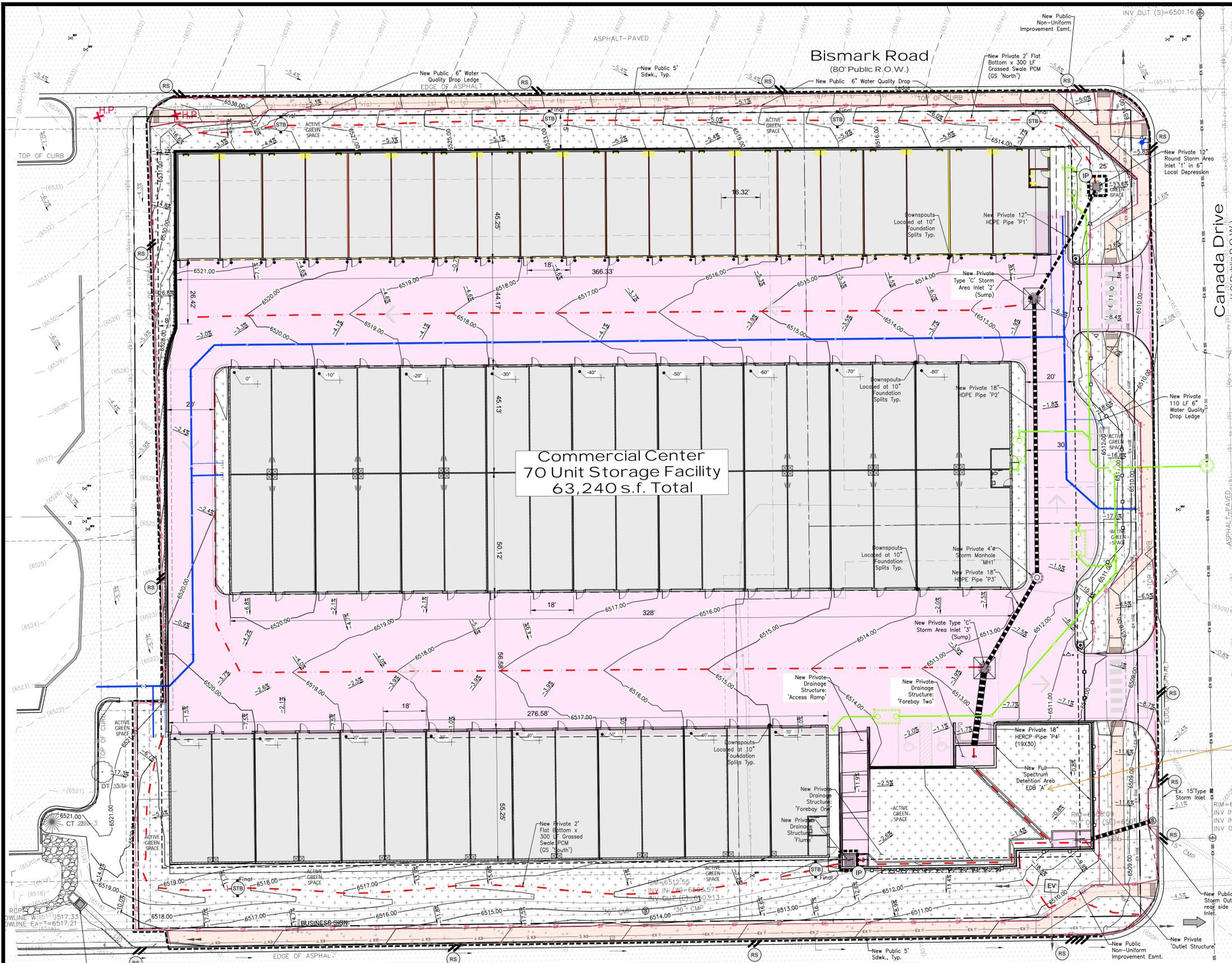
My Garage @ Northcrest Grading Erosion Control Plan Interim Conditions Plan El Paso County, Colorado

Project No.: 23049
 Date: 06/14/2024
 Design: MKJ
 Drawn: MKJ
 Check: AMcC
 Revisions:

Sheet
C302
 4 of 21 Sheets



23049-ERC-Interim_C302.dwg/Jan 17, 2024



Commercial Center
70 Unit Storage Facility
63,240 s.f. Total

FINAL GRADING LEGEND

- IP Interim/Final Inlet Protection
- RS Interim/Final Rock Sock(s) (count)
- STB Interim/Final Straw Bale Barrier / Dyke
- Final Permanent Seeding And Landscaping
- Limits Of Soil Disturbance/ Limits Of Construction
- - - Property Line
- 5925 Existing Contour
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- 15" CMP Existing or Proposed Storm Pipe
- Spot Elev. High Point
- Spot Elev. Low Point
- Flow Direction
- - - Lot or Property Boundary
- - - Existing Intermediate Contour
- (6220) Existing Index Contour
- 6219 Existing Intermediate Contour
- 6220 Existing Index Contour
- Existing Tree
- CT .25-3 DT .33-9
- Existing 6" Vertical Curb & Gutter
- Proposed Building Area
- Ex. or Proposed Conc Sdkw
- Concrete Paving
- Seeding & Mulching

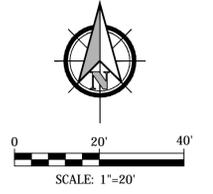
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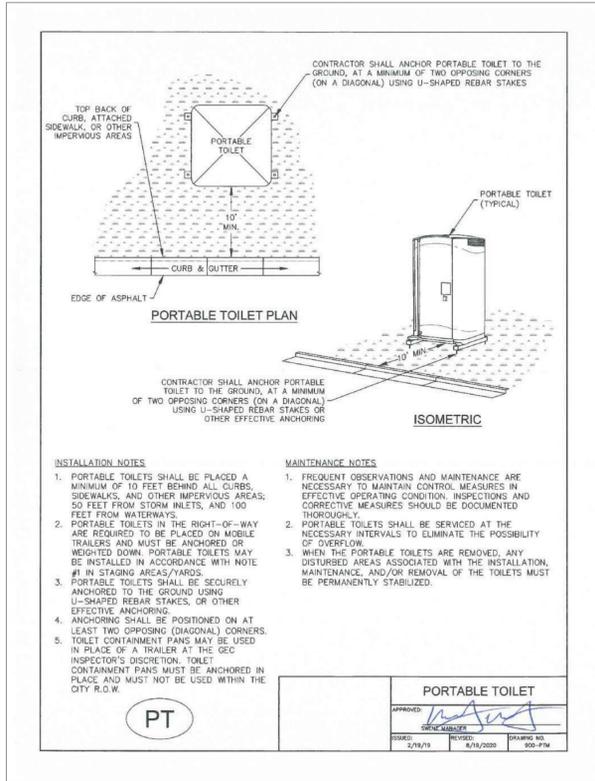


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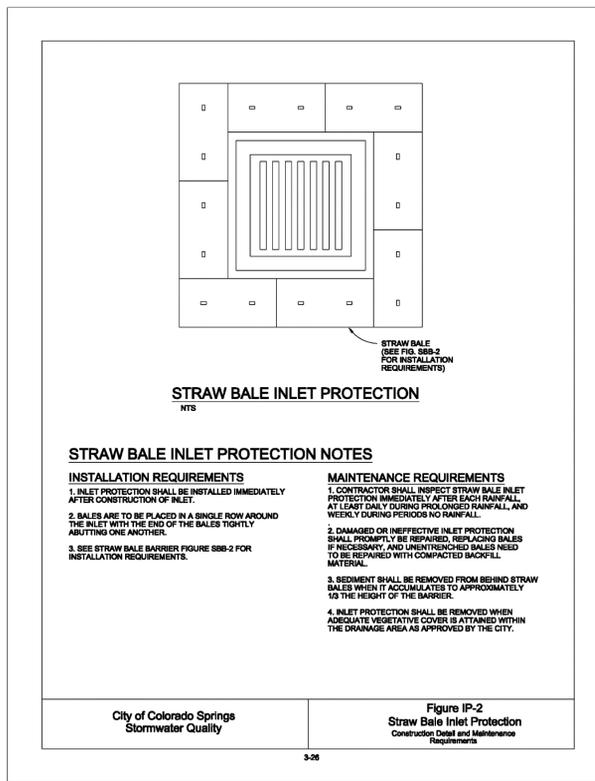
My Garage @ Northcrest
Grading Erosion Control Plan
Final Conditions Plan
El Paso County, Colorado

Project No.: 23049
Date: 05/27/2024
Design: MJK
Drawn: MJK
Check: AMcC
Revisions:

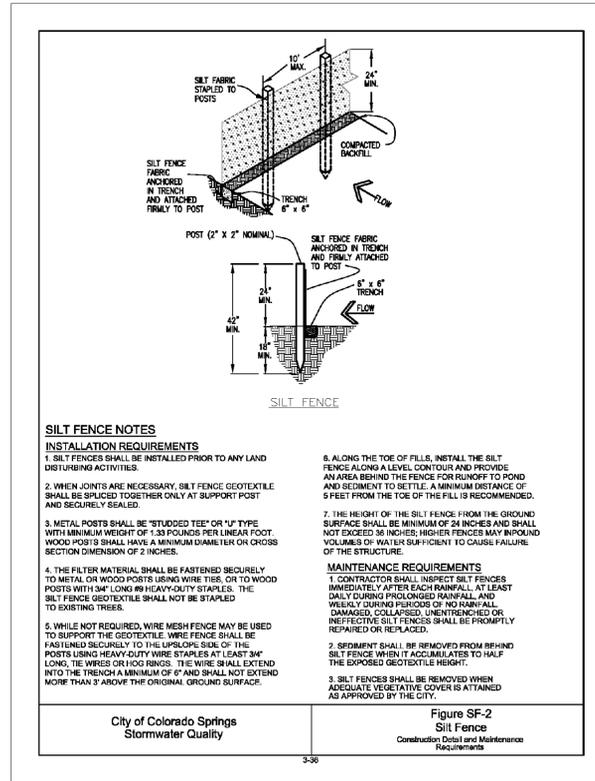
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C303
4 of 6 Sheets



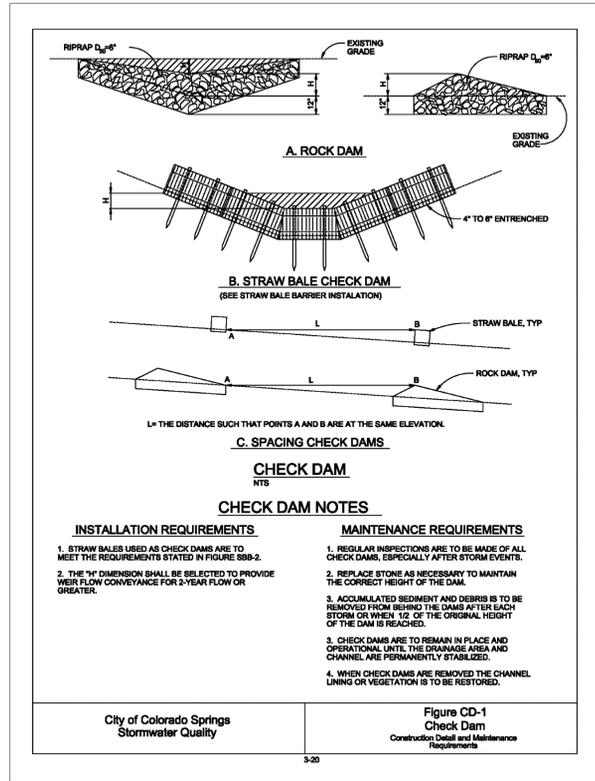
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NOT TO SCALE



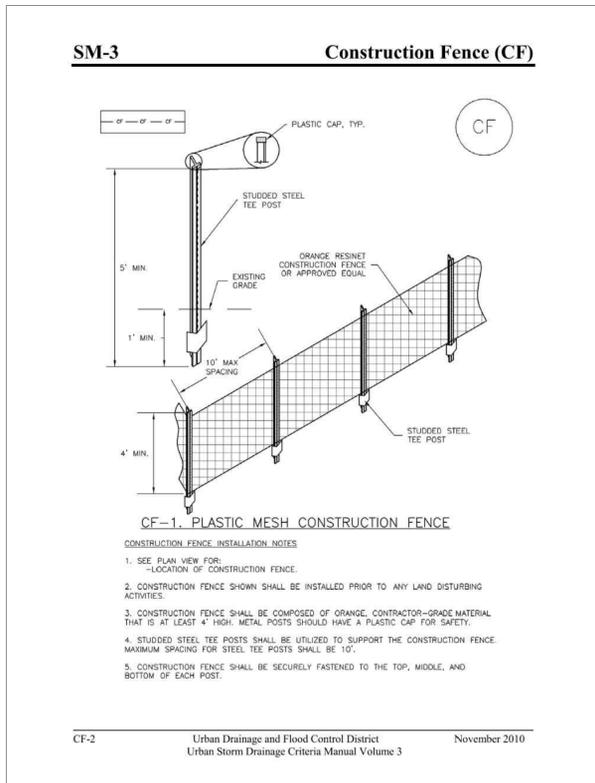
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NOT TO SCALE



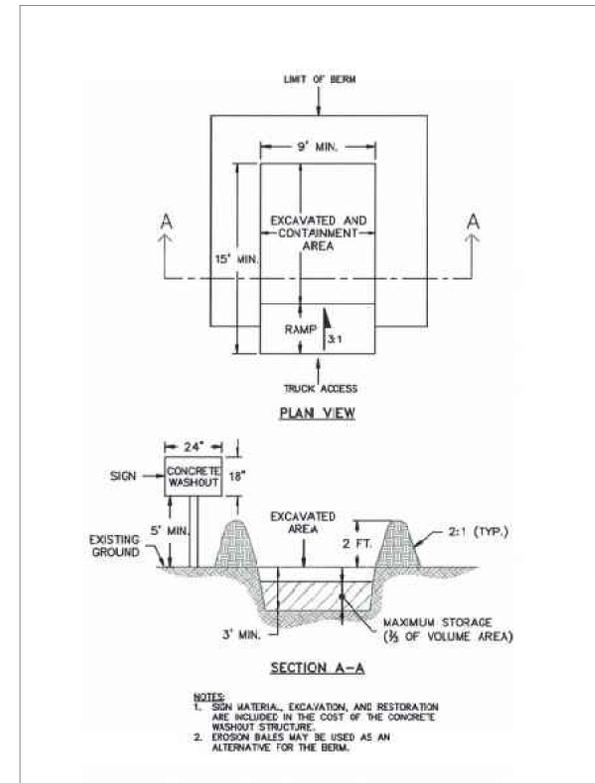
SILT FENCE (SF)
NOT TO SCALE



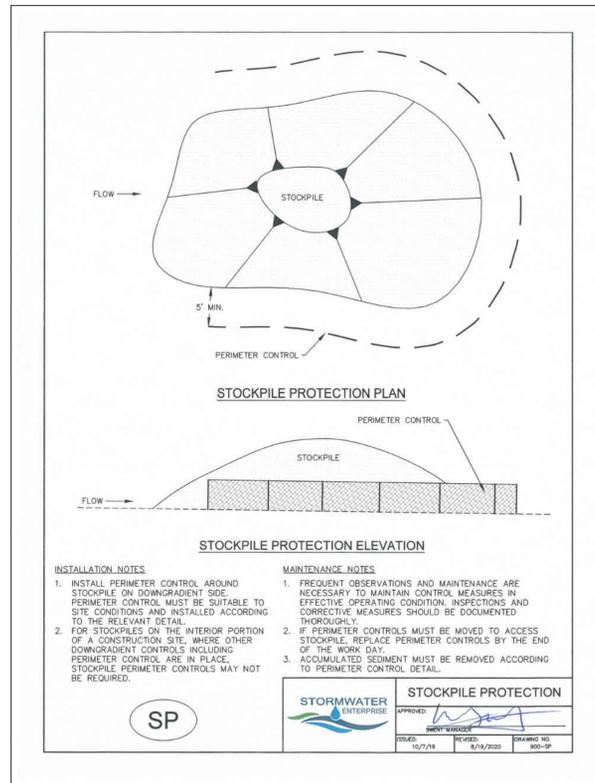
CHECK DAM (CD1)
NOT TO SCALE



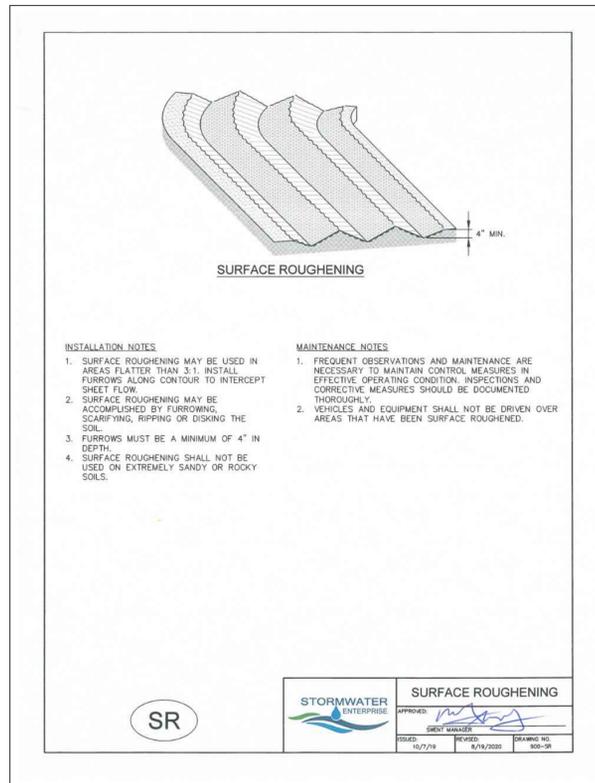
CONSTRUCTION FENCE (CF)
NOT TO SCALE



CONCRETE WASHOUT AREA (CWA)
NOT TO SCALE



STOCKPILE PROTECTION (SP)
NOT TO SCALE

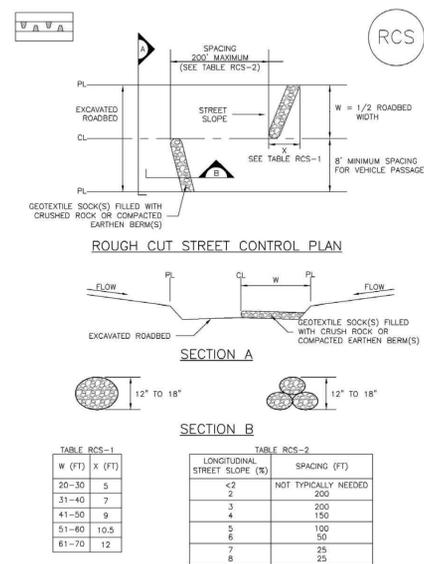


SURFACE ROUGHENING (SR)
NOT TO SCALE

Project No.:	23049
Date:	06/14/2024
Design:	MJK
Drawn:	MJK
Check:	AMcC
Revisions:	



EC-9 Rough Cut Street Control (RCS)



RCS-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

ROUGH-CUT STREET CONTROL (RCS)
NOT TO SCALE

Rough Cut Street Control (RCS) EC-9

ROUGH CUT STREET CONTROL INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION OF ROUGH CUT STREET CONTROL MEASURES.
- ROUGH CUT STREET CONTROL SHALL BE INSTALLED AFTER A ROAD HAS BEEN CUT IN AND WILL NOT BE PAVED FOR MORE THAN 14 DAYS OR FOR TEMPORARY CONSTRUCTION ROADS THAT HAVE NOT RECEIVED ROAD BASE.

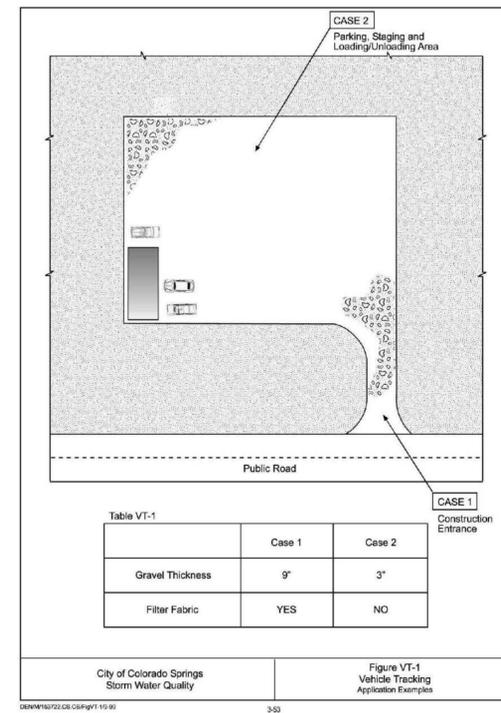
ROUGH CUT STREET CONTROL INSPECTION AND MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

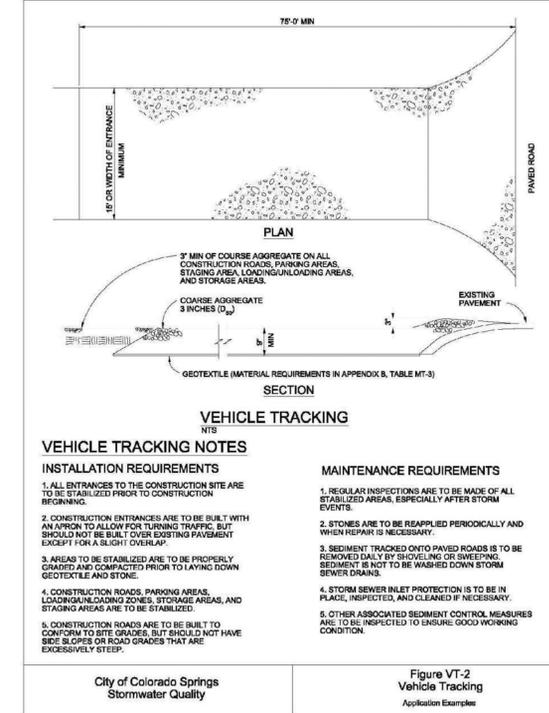
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RCS-3



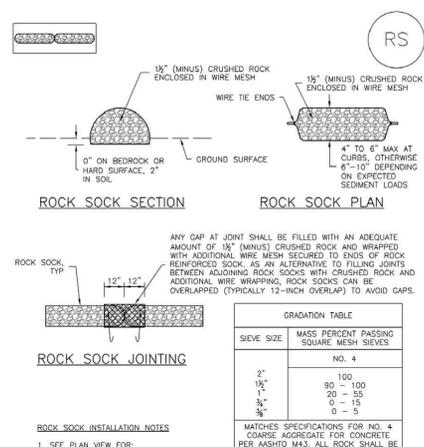
City of Colorado Springs Storm Water Quality Figure VT-1 Vehicle Tracking Application Examples

VEHICLE TRACKING CONTROL (VTC)
NOT TO SCALE



City of Colorado Springs Stormwater Quality Figure VT-2 Vehicle Tracking Application Examples

SC-5 Rock Sock (RS)



RS-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Rock Sock (RS) SC-5

ROCK SOCK MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
- SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

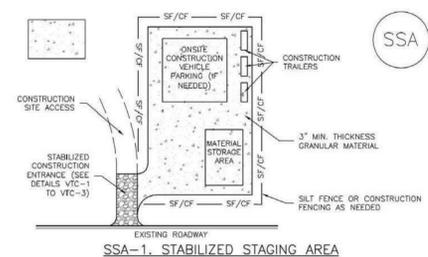
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RS-3

ROCK SOCK (RS)
NOT TO SCALE

Stabilized Staging Area (SSA) SM-6



STABILIZED STAGING AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION OF STAGING AREA(S). CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SSA-3

STABILIZED STAGING AREA (SSA)
NOT TO SCALE

SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
- THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

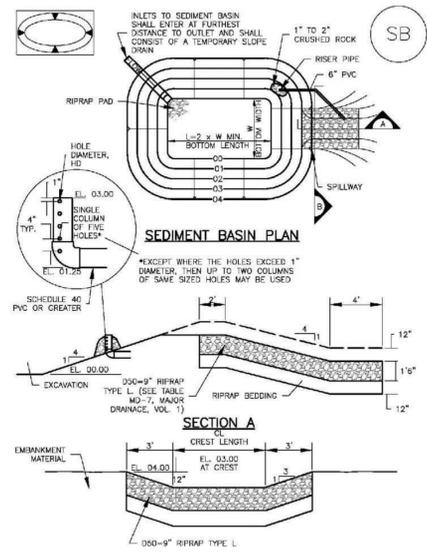
SSA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Project No.: 23049
Date: 06/14/2024
Design: MJK
Drawn: MJK
Check: AMcC
Revisions:



Sediment Basin (SB)

SC-7



August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SD-5

SC-7

Sediment Basin (SB)

TABLE SB-1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	3/8
2	21	3	1/2
3	28	4	3/4
4	33 1/2	5	7/8
5	38 1/2	6	1
6	43	7	1 1/8
7	47 1/2	8	1 1/4
8	51	9	1 1/2
9	55	10	1 5/8
10	58 1/2	11	1 3/4
11	61	12	1 7/8
12	64	13	2
13	67 1/2	14	2 1/8
14	70 1/2	15	2 1/4
15	73 1/2	16	2 3/8

- SEDIMENT BASIN INSTALLATION NOTES
- SEE PLAN VIEW FOR:
 - LOCATION OF SEDIMENT BASIN.
 - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
 - FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
 - FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.
 - FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
 - SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON GN BASINS AS A STORMWATER CONTROL.
 - EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
 - EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
 - PIPE SCH 40 OR GREATER SHALL BE USED.
 - THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASINS FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASINS THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SB-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

TEMPORARY SEDIMENT BASIN (TSB) NOT TO SCALE

Sediment Basin (SB)

SC-7

- SEDIMENT BASIN MAINTENANCE NOTES
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHEN BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E. TWO FEET BELOW THE SPILLWAY CREST).
 - SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
 - WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-7

SEEDING & MULCHING

- ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.
- SOIL PREPARATION
- IN AREAS TO BE SEEDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRABLE CONDITION. LESS THAN 80% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
 - AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
 - THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
 - TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.
- SEEDING
- ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
 - SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE.
 - SEED DEPTH MUST BE 3/8 TO 3/4 INCHES WHEN DRILL-SEEDED IS USED.
 - BROADCAST SEEDING OR HYDRO-SEEDED WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
 - SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLIANT DRILL OR HYDRO-SEEDED.
 - BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.
- MULCHING
- MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
 - MULCHING REQUIREMENTS INCLUDE:
 - HAY OR STRAW MULCH
 - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
 - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
 - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
 - HYDRAULIC MULCHING
 - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
 - IF HYDRO-SEEDED IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
 - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
 - EROSION CONTROL BLANKET
 - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

SEEDING & MULCHING (SM) NOT TO SCALE

My Garage @ Northcrest
Grading Erosion Control Plan
Details
El Paso County, Colorado

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Project No.:	23049
Date:	06/14/2024
Design:	MJK
Drawn:	MJK
Check:	AMcC
Revisions:	

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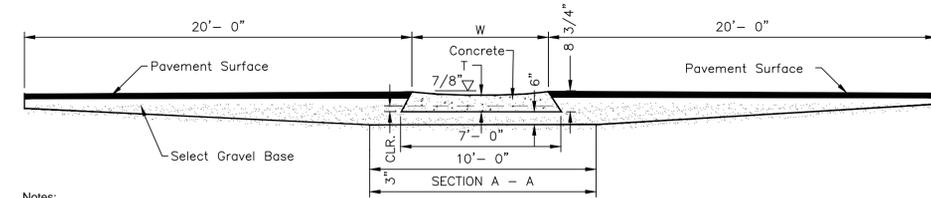
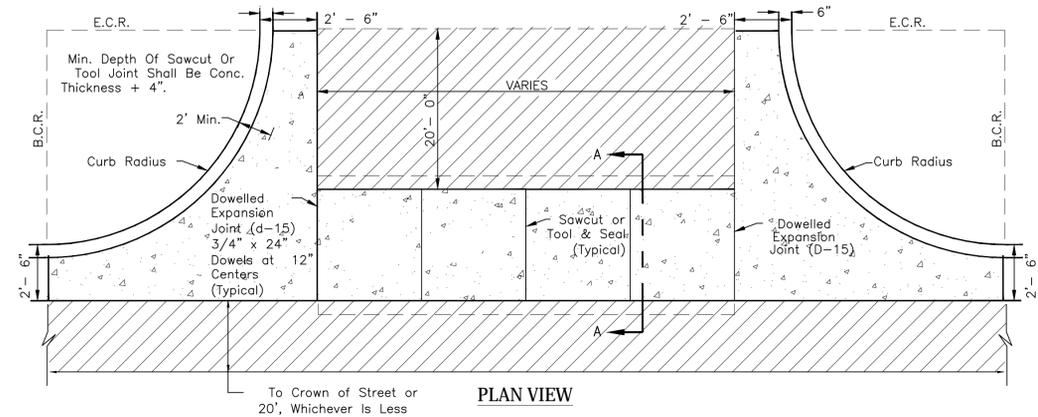
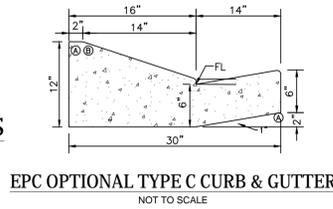
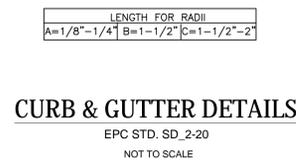
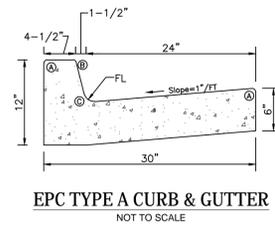
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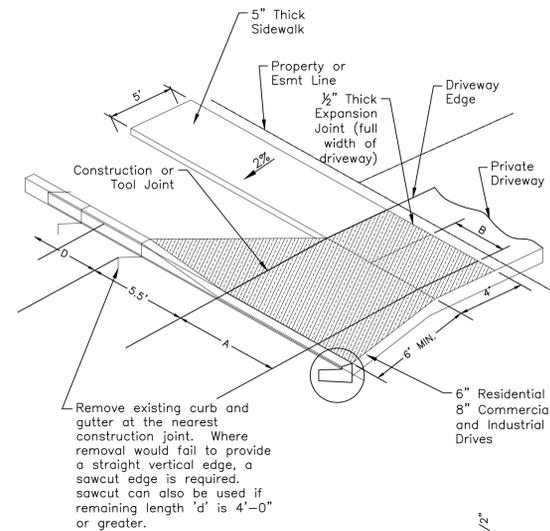


GENERAL NOTES

- All work shall be done in accordance with current Engineering Manual and ADA requirements.
- Contractor to notify Engineering Division inspection staff 48 hours prior to concrete placement.
- Pedestrian ramp construction shall be a minimum 4,500 psi concrete, minimum 4" thick, non-colored, non-scored, coarse broom finish.
- Ramp location and length may require modification to maintain the 12:1 maximum running ramp slope and 20:1 detectable warning area due to street intersection grades and / or alignment.
- Detectable warning area shall start a minimum of 6" but not more than 8" from the flow line of the curb at any point.
- Detectable warning area shall be prefabricated reddish integrally colored truncated-dome surfaced thermoplastic.
- The detectable warning area shall be 24" in length and the full width of the ramp.
- Ramp width required is the same as approaching sidewalk, 4' minimum.
- all ramps will be perpendicular to traffic with the exception of mid-block or terminal ramps which may be parallel subject to approval.
- Avoid palcing drainage structures, traffic signal / signage, utilities / junction boxes, or other obstructions within proposed ramp areas.
- Where the 1'-6" flared side(s) of a perpendicular curb ramp is (are) contiguous with a pedestrian or hard surface area, the flare width shall be increased to 8" minimum and the maximum flare slope shall not exceed 10:1.
- Pedestrian walkway and / or location of existing or future pedestrian ramps on opposite corners shall be reviewed before construction new ramps. New ramps shall align with existing ramps and pedestrian walkway.
- At marked pedestrian crossings, the bottom of the ramps, exclusive of the flare sides, shall be totally contained within the markings.
- Sidewalk cross-slope: 1/4"/ft.
- Concrete mix design shall conform to the requirements of the color admixture manufacturer and the following:
 - 28-day compressive strength = 4,500 PSI (min.)
 - Water/cement ratio = 0.45 (max.)
 - Cement content = 6-1/2 sacks/C.Y. (min.) (Type II cement)
 - Maximum aggregate size = 3/4"
 - Entrained air content = 6% - 10%
 - Slump = 1 inch (min.) - 4 inches (max.)



- Notes:**
- W - Width shall be 6' for local, 8' for collectors, And 10' for Arterial Roads.
 - T - Squared-off Return to be poured Monolithic 8" P.C.C. Minimum with 6x6 - 4.4 W.W.F. Or #4 @ 18" E.W.
 - = 3" minimum asphalt depth (2 lifts).
 - Design to specify elevations at pi and pcr
 - Flow Capture Depth (Depression) shall be 7/8" for Local, 1-1/8" for Collectors, And 1-1/2" for arterial roads.
 - Flowline Grade shall be minimum 0.5%
- CROSS PAN DETAIL**
EPC STD. SD. 2-26
NOT TO SCALE

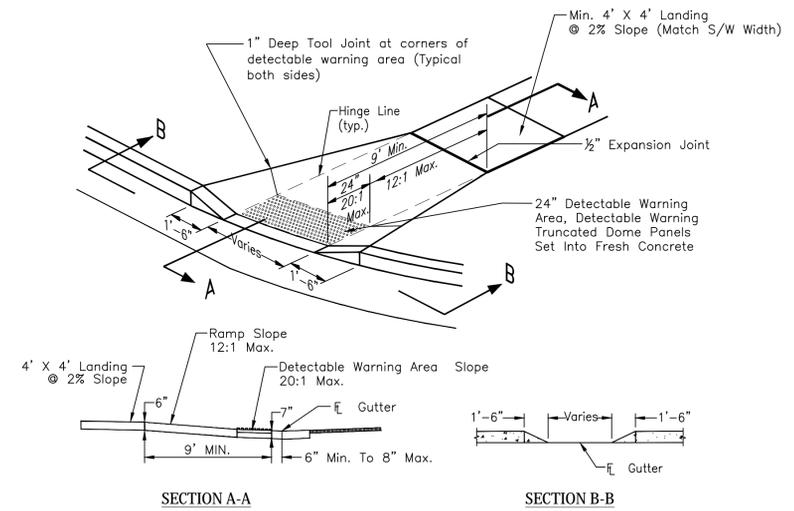


DRIVEWAY WIDTH	A	B
12'	6'	3'
14'	7'	3'-6"
16'	8'	4'
18'	9'	4'-6"
20'	10'	5'
22'	11'	5'-6"
24'	8'	4'
26'	8'-8"	4'-4"
28'	9'-4"	4'-8"
30'	10'	5'

- Notes:**
- Provide Centerline Construction or tool joint when driveway width (edge to edge) is 14' or greater.
 - All Tool Joints shall be a minimum of 1-1/2" deep.
 - When replacing existing curb and gutter with new driveway, entire curb and gutter section shall be removed and replaced with curb and gutter (variable-curb-height) as shown. Do not break curb from gutter section.
 - Flared portion of driveway shall be poured monolithic with main rectangular portion of driveway.
 - Where there is more than one driveway on a lot, the spacing of the driveways shall meet requirements in ECM.
 - Where an existing sidewalk is in place, and its thickness is less than 6" (residential) or 8" (commercial and industrial) the sidewalk through the driveway shall be removed and replaced with Portland Cement Concrete at the required thickness.
 - When a driveway is to be taken out of service, the entire length of curb and gutter shall be removed and replaced with new curb and gutter matching the abutting sections.
 - All Provisions in the Land Development Code shall be met, with regard to minimum setback from intersection and side property lines, minimum spacing, maximum width, etc.

GENERAL NOTES:

- Expansion Joints shall be installed when abutting existing concrete or fixed structure. Expansion Joint Material shall be 1/2" thick and shall extend the full depth of contact surface.
- Concrete Shall be per El Paso County Engineering Division Specifications.

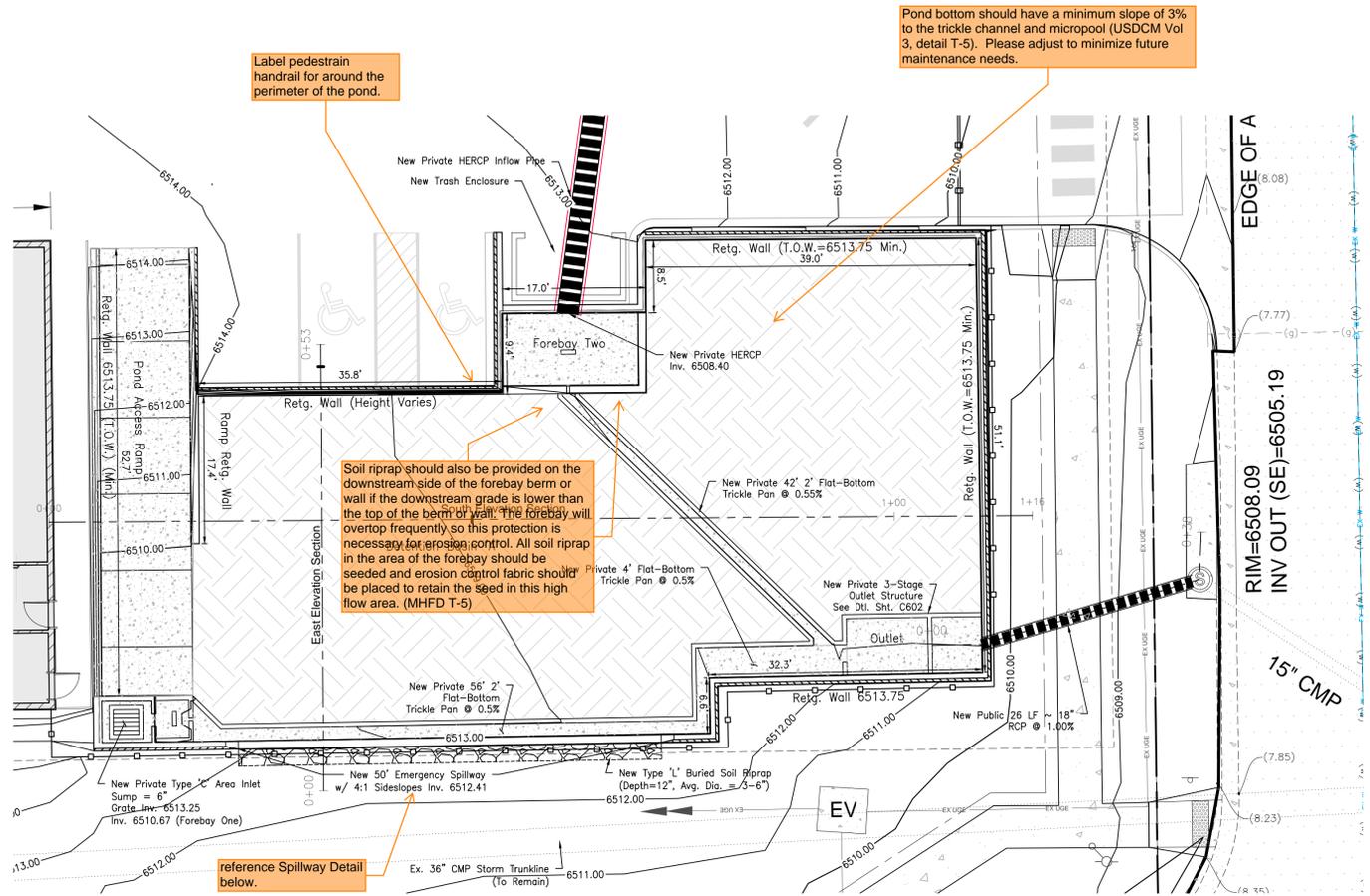
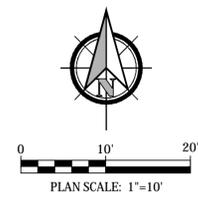


My Garage @ Northcrest
Site Detail Plan
Site Details
El Paso County, Colorado

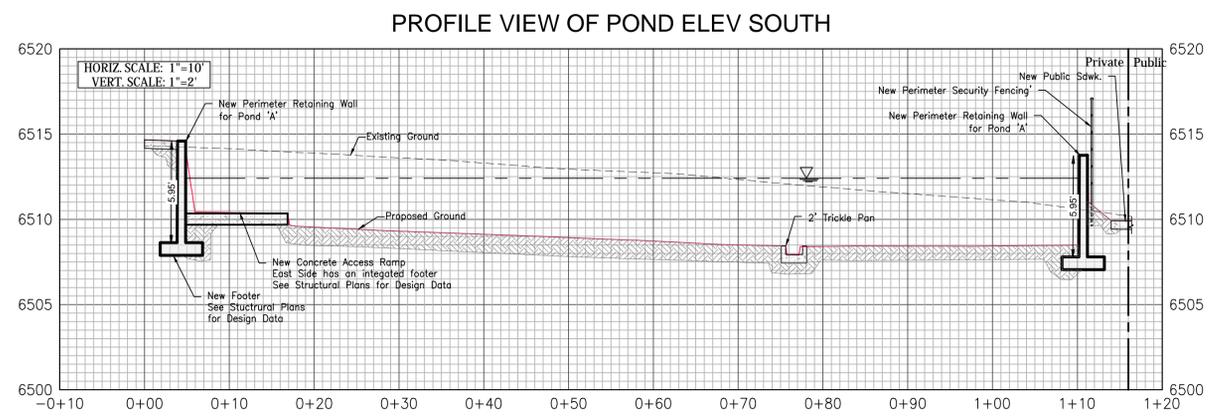
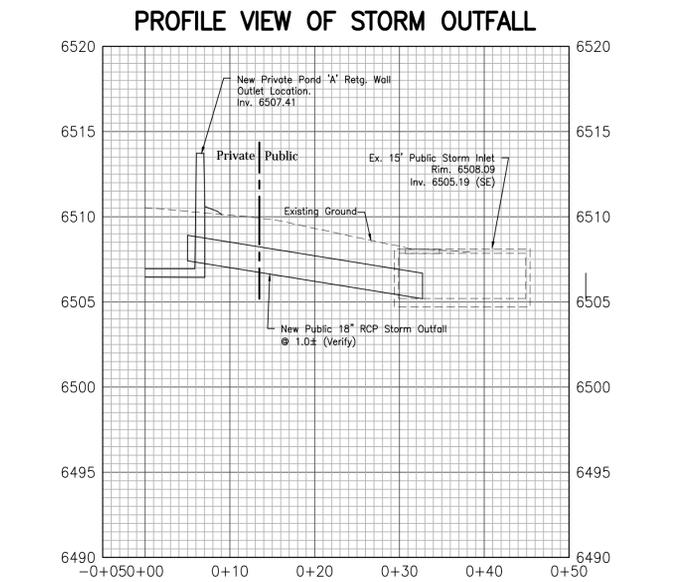
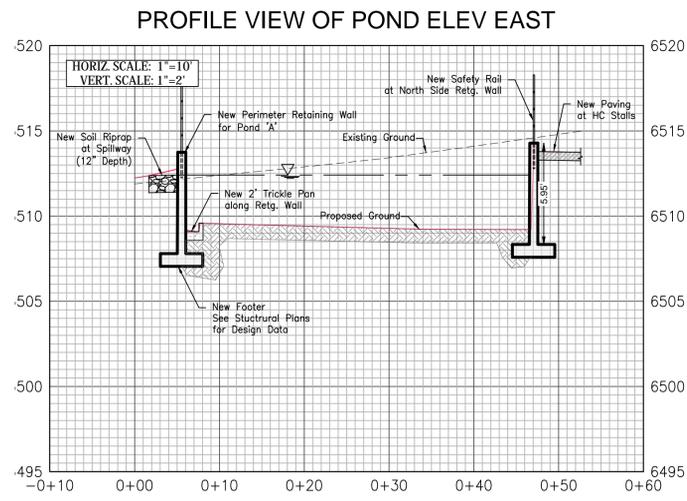
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Revisions:

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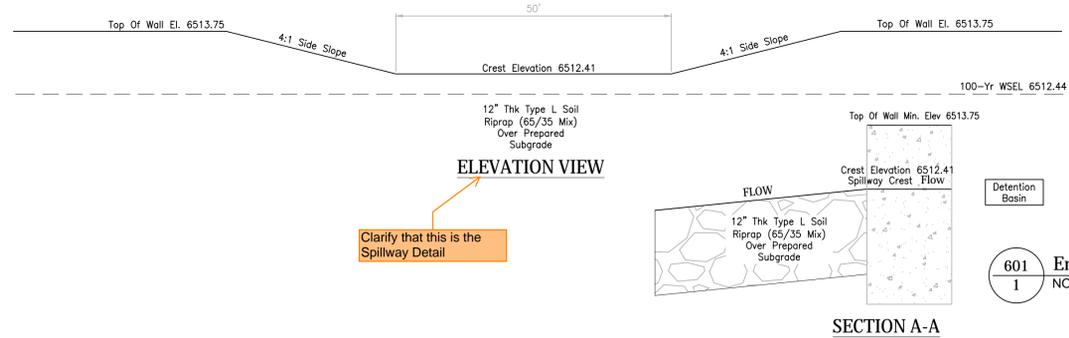




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C601 Detention Basin Cross Sections
NOT TO SCALE

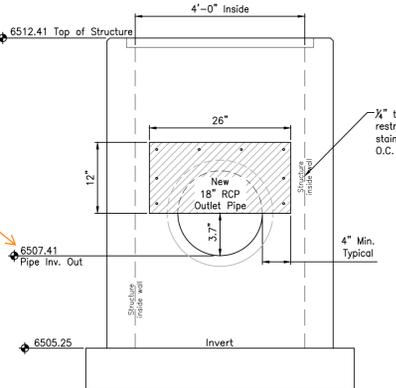
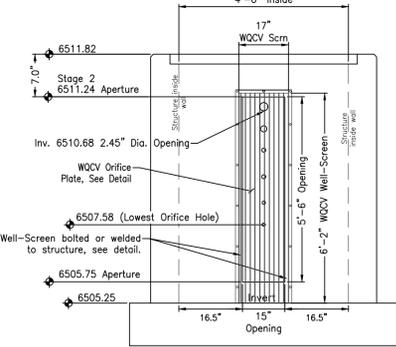
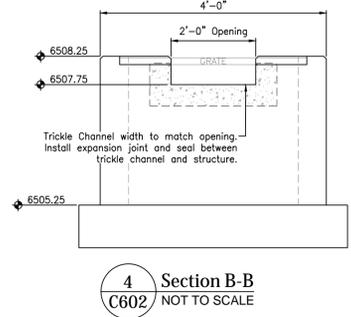
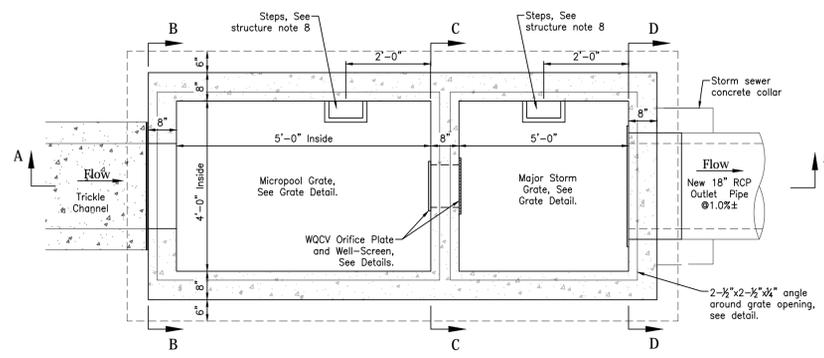


1
C601 PROFILE VIEW OF POND ELEV SOUTH
NOT TO SCALE



601
I Emergency Spillway
NOT TO SCALE





CLASSIFICATION AND GRADATION OF RIPRAP		
Riprap Designation	% Smaller than Given Size by Weight	Intermediate Rock Dimension (Inches)
Type VL	70-100	12
	50-70	9
	35-50	6
Type L	70-100	15
	50-70	12
	35-50	9
Type M	70-100	21
	50-70	18
	35-50	12

* d_{50} = Mean Particle Size (Intermediate Dimension) by weight. 1.25**
 ** Mix VL, L AND M Riprap with 35% Topsoil (by Volume) and bury with 4-6 Inches of Topsoil, all vibration compacted & revegetate. (Table MD-7: Classification and Gradation of Ordinary Riprap. UDFCD, Drainage Criteria Manual, Vol. 1)

2 Outlet Structure Detail C602 PLAN VIEW NOT TO SCALE

4 Section B-B C602 NOT TO SCALE

5 Section C-C C602 NOT TO SCALE

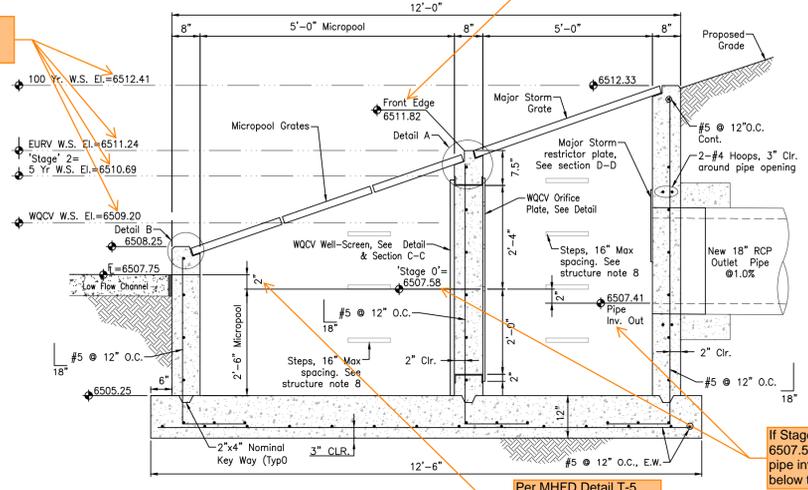
6 Section D-D C602 NOT TO SCALE

revise all of these per MHFD calcs output table.

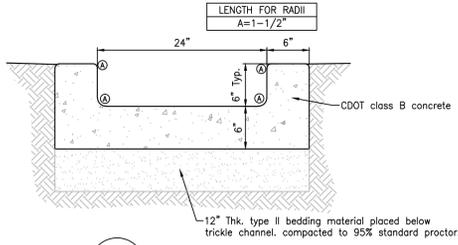
should be 3.73' above Stage=0ft, so 6511.31

If Stage=0ft is at 6507.58, then the outlet pipe inv should be 0.33 below that at 6507.25

Per MHFD Detail T-5, the depth of initial surcharge volume is supposed to be 4"



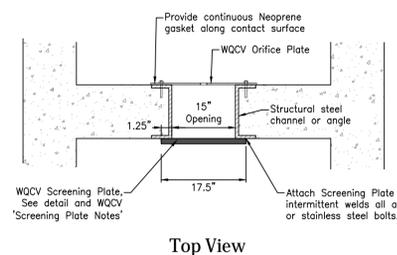
3 Section A-A C602 NOT TO SCALE



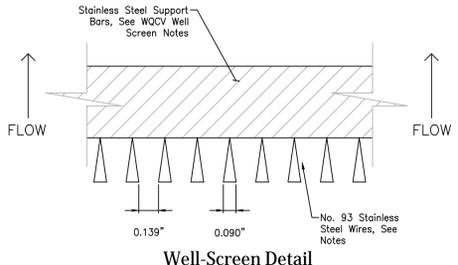
1 Trickle Channel C602 NOT TO SCALE

Consider having control joints every -10ft.

- WQCV Well-Screen Notes:**
- Well-Screen shall be stainless steel and attached by intermittent welds or stainless steel bolts along edge of the mounting frame.
 - WQCV well screen
 - Type of Screen: Stainless Steel #93 Vee Wire (Johnson Vee Wire TM Stainless Steel Screen or equivalent with 60% Open Area)
 - Screen Slot Opening Dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" Angle



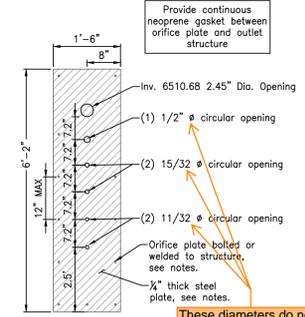
7 WQCV Orifice Plate and Screening Plate C602 NOT TO SCALE



8 WQCV Well-Screen C602 NOT TO SCALE

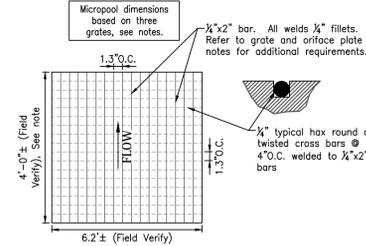
- STRUCTURE NOTES:**
- Prior to construction, Contractor to provide Shop Drawings for all components of the outlet structure.
 - Grade 60 reinforcing steel required. See table for the minimum lap splice length for reinforcing bars. All reinforcing steel shall have 2-inch minimum clearance from edge of concrete and 3-inch min. clearance to the edge of concrete placed against soil, unless otherwise noted.

Bar Size	#4	#5	#6
Min. Splice Length	1'-3"	1'-7"	2'-0"
 - Concrete for the outlet structure and forebays shall be CDOT Class B Concrete.
 - Expansion joint material shall meet AASHTO specification M-213. Expansion joint material shall be 1/2" thick, shall extend the full depth of contact surface and the joint shall be sealed, refer to details.
 - All exposed concrete corners shall have a 1/4" chamfer, unless otherwise noted.
 - Backfilling against walls shall not commence until concrete has obtained its full seven day strength.
 - Subgrade to be 12" thick clean fill compacted to 95% Standard Proctor Density per ASTM M698 under structures.
 - Outlet structure steps shall conform to AASHTO M199.
 - Forebay: Construction joints shall be installed at 10' O.C. maximum. The joints shall be sealed with a joint sealant.

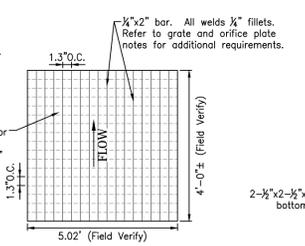


9 WQCV Orifice Plate C602 NOT TO SCALE

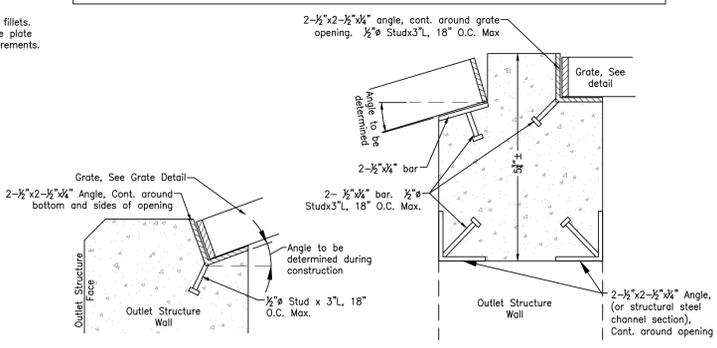
These diameters do not match the required areas shown on the MHFD-Detention calcs.



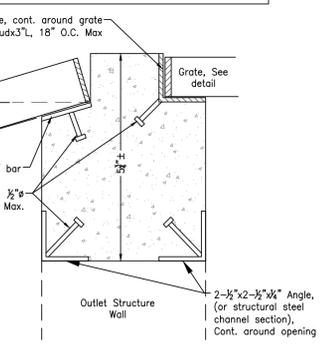
10 Micropool Grates Detail C602 NOT TO SCALE



11 Major Storm Grate Detail C602 NOT TO SCALE



12 Detail B C602 NOT TO SCALE



13 Detail A C602 NOT TO SCALE

- SOIL RIPRAP:**
- The soil material shall be native or topsoil and mixed with Sixty-Five Percent (65%) riprap and Thirty-Five Percent (35%) soil by volume. Soil Riprap shall consist of a uniform mixture of soil and riprap without voids.
 - Contractor shall cooperate with Engineer in obtaining and providing samples of all specified materials.
 - Contractor shall submit certified laboratory test certificates for all items required for Soil Riprap.
 - Riprap used shall be the type designated on the drawings and shall conform to the Table shown.
 - The riprap designation and total thickness of riprap shall be as shown on the drawings. The maximum stone size shall not be larger than the thickness of the riprap.
 - Neither width nor thickness of a single stone of riprap shall be less than One-Third (1/3) of its length.
 - The specific gravity of the riprap shall be two and one-half (2.5) or greater.
 - Minimum density for acceptable riprap shall be One-Hundred and Sixty-Five (165) pounds per cubic foot.
 - Riprap specific gravity shall be according to the Bulk-Saturated, Surface-Dry basis, in accordance with AASHTO T85.
 - The riprap shall have a percentage loss of not more than Forty Percent (40%) after Five-Hundred (500) revolutions when tested in accordance with AASHTO T96.
 - The riprap shall have a percentage loss of not more than Ten (10%) after Five (5) cycles when tested in accordance with AASHTO T104 for Ledge rock using sodium sulfate.
 - The riprap shall have a percentage loss of not more than Ten Percent (10%) after Twelve (12) cycles of freezing and thawing when tested in accordance with AASHTO T103 for Ledge rock, Procedure A. Rock shall be free from calcite intrusions.
 - Gradation: Each load of riprap shall be reasonably well-graded from the smallest to the largest size specified.
 - Stones smaller than the Two to Ten Percent (2%-10%) size will not be permitted in an amount exceeding Ten Percent (10%) by weight of each load.
 - Control of gradation shall be by visual inspection. However in the event the Engineer determines the riprap to be unacceptable, he Engineer shall pick Two (2) random truckloads to be dumped and checked for gradation. Mechanical equipment and labor needed to assist in checking gradation shall be provided by the Contractor at no additional cost.

Project No.:	23049
Date:	06/14/2024
Design:	MJK
Drawn:	MJK
Check:	AMC
Revisions:	