VERIZON
COLORADO SPRINGS NEW BUILD

LOT 1, BLOCK 1, ARROWSWEST FILING NO. 7, COLORADO SPRINGS, CO

DEVELOPMENT PLAN

A PORTION OF THE NE $\frac{1}{4}$ OF SECTION 27, TOWNSHIP 13 SOUTH, RANGE 67 WEST, OF THE SIXTH P.M., CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO

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DESIGN STANDARDS AND SPECS

1. WASTEWATER LINE EXTENSION AND SERVICE STANDARDS, COLORADO SPRINGS UTILITIES, DECEMBER, 2016.
2. WATER LINE EXTENSION AND SERVICE STANDARDS, COLORAD SPRINGS UTILITIES, JUNE, 2019.
3. DRAINAGE CRITERIA MANUAL VOLUME 1, CITY OF COLORADO SPRINGS, MAY, 2014.
4. DRAINAGE CRITERIA MANUAL VOLUME 2, CITY OF COLORADO SPRINGS, ENGINEERING DIVISION, MAY, 2014.
5. STORMWATER CONSTRUCTION MANUAL, CITY OF COLORADO SPRINGS, STORMWATER ENTERPRISE, DECEMBER, 2020.
6. STANDARD SPECIFICATIONS, CITY OF COLORADO SPRINGS, CITY ENGINEERING DIVISION, MARCH, 2005.

ZONING TABLE

ZONING SUMMARY
SCHEDULE OF AREA, YARD, AND BULK REQUIREMENTS
TOWNSHIP OF COLORADO SPRINGS, COLORADO
BASE ZONE: PIP1 (PLANNED INDUSTRIAL PARK)
OVERLAY ZONE: HILLSIDE

BULK REQUIREMENT		REQUIRED PIP1	PROPOSED	CONFORMS
MAX. BUILDING HEIGHT		45 FT	25-FT	YES
MIN. LOT AREA		1 ACRE	9.00± AC	YES
MIN. LOT WIDTH		NONE REQUIRED	-	-
YARD SETBACK	MIN. FRONT YARD	50 FT	53.3-FT	YES
	MIN. SIDE YARD	30 FT	43.7-FT	YES
	MIN. REAR YARD	100 FT	327.0-FT	YES
MAX LOT COVERAGE	TOTAL	-	37.4%	-
	STRUCTURES	30%	12.5%	YES
	IMPERVIOUS SURFACES	-	24.9%	-

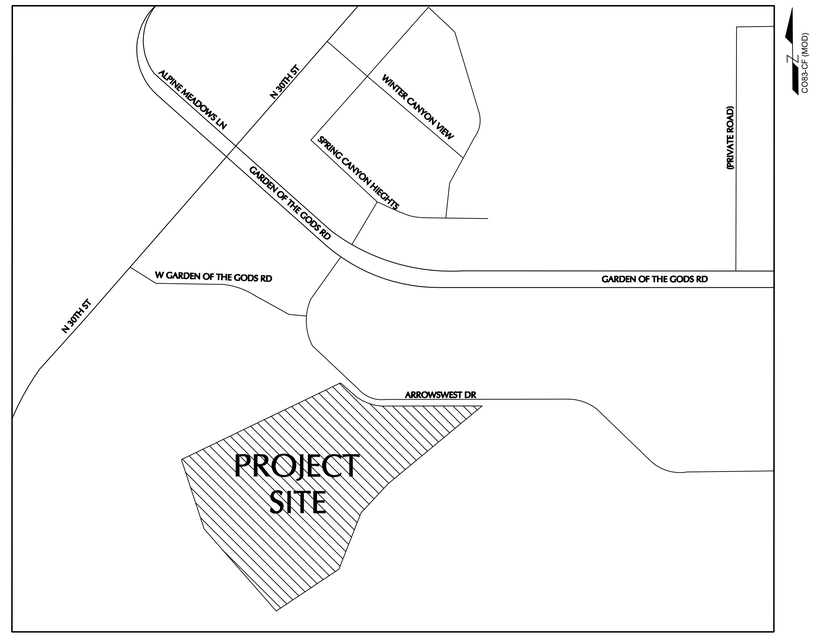
NOTES:
1. REAR YARD SETBACK IS DICTATED BY THE RESIDENTIAL ZONE BEHIND THE BUILDING
2. HILLSIDE OVERLAY ZONE DEFERS TO BASE ZONE REQUIREMENTS FOR ALL ABOVE ELEMENTS

PARKING TABLE

PARKING SUMMARY TABLE

USE	PARKING RATIO	SF OR UNITS	PARKING REQUIRED	PARKING REQUIRED FOR A SHARED LOT (1)	PARKING PROVIDED
DATA CENTER	1 SPACE PER 400 SF OF OFFICE SPACE	11,760 SF	30	24	25

1.) Required parking can be reduced by up to 20% for a shared lot. See Section 7.4.203.C of the City Code of Colorado Springs, Colorado



VICINITY MAP

250 0 125 250
SCALE: 1 INCH = 250 FEET

CIVIL SHEET INDEX			
SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	LAST REVISED
1	C001	COVER SHEET	12/15/21
2	C002	GENERAL NOTES AND LEGEND	12/15/21
3	C003	LOT CONFIGURATION PLAN	12/15/21
4	C004	OVERALL MASTER PLAN	12/15/21
5	C100	CIVIL SITE PLAN	12/15/21
6	C110	CIVIL SITE DIMENSIONS PLAN	12/15/21
7	C111	SIGHT TRIANGLES & TRUCK TURNING PLAN	12/15/21
8	C112	EMERGENCY ACCESS PLAN	12/15/21
9	C113	PAVEMENT PLAN	12/15/21
10	CD100	SITE REMOVALS PLAN	12/15/21
11	C531	SITE DETAILS 1	12/15/21
12	C532	SITE DETAILS 2	12/15/21
13	C533	SITE DETAILS 3	12/15/21
14	C130	OVERALL PRELIMINARY GRADING & DRAINAGE PLAN	12/15/21
15	C130.1	PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 1	12/15/21
16	C130.2	PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 2	12/15/21
17	C130.3	PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 3	12/15/21
18	C130.4	PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 4	12/15/21
19	C140	OVERALL PRELIMINARY UTILITY PLAN	12/15/21
20	C140.1	PARTIAL PRELIMINARY UTILITY PLAN 1	12/15/21
21	C140.2	PARTIAL PRELIMINARY UTILITY PLAN 2	12/15/21
22	C140.3	PARTIAL PRELIMINARY UTILITY PLAN 3	12/15/21
23	LP100	LANDSCAPE NOTES	01/03/22
24	LP102	LANDSCAPE PLAN	01/03/22
25	LP501	LANDSCAPE DETAILS	01/03/22
26	LL100	PHASE 1 LIGHTING PLAN	12/15/21
27	A210	BUILDING ELEVATIONS 1	12/15/21
28	BW101	SECANT PILE WALL PLAN AND ELEVATION	12/15/21
29	BW102	SECANT PILE WALL TYPICAL CROSS SECTION, DETAILS, ...	12/15/21
30	BW103	MSE WALL TYPICAL CROSS SECTION, DETAILS, AND ...	12/15/21

LEGAL DESCRIPTION

LOT 1, BLOCK 1 ARROWSWEST FILING NO. 7, COUNTY OF EL PASO, STATE OF COLORADO.

BASIS OF BEARING

NORTHERLY LINE OF LOT 1, BLOCK 1 ARROWSWEST FILING NO. 7, MONUMENTED AT THE WEST END BY A NO. 5 REBAR WITH A 1-1/4" ALUMINUM CAP, STAMPED "PLS 22673", FLUSH WITH GRADE, AND AT THE EAST END BY A NO. 5 REBAR WITH A 1-1/4" ALUMINUM CAP, ILLEGIBLE, FLUSH WITH GRADE, AS SHOWN HEREON, AND MEASURED TO BEAR N66°21'55"E, A DISTANCE OF 546.36 FEET.

BENCHMARK

NORTHERN MOST PROPERTY CORNER; NO. 5 REBAR WITH A 1-1/4" ALUMINUM CAP, ILLEGIBLE, FLUSH WITH GRADE - ELEVATION: 6474.39'

SITE DATA

SITE ADDRESS: 4225 ARROWSWEST DR, COLORADO SPRINGS, CO
TAX SCHEDULE NUMBER: 7327101002
ZONING: PIP1, HILLSIDE OVERLAY
PROPOSED LAND USE: DATA CENTER
EXISTING DEVELOPMENT PLAN: AR DP 01-354
DEVELOPMENT PLAN SIZE: 9.00 AC ± , 391,942 SF ±
BUILDING FOOTPRINT: 49,000 SF ± (PHASE 1)
BUILDING LOT COVERAGE: 12.5%± (PHASE 1)
GROSS FLOOR AREA: 49,000 SF ±
BUILDING HILLSIDE HEIGHT: 30'-1.75'
ANTICIPATED SCHEDULE OF DEVELOPMENT:
- GROUNDBREAKING: MAY 2022
- COMPLETION: TBD

GENERAL NOTES

1. THIS SITE IS NOT WITHIN A DESIGNATED F.E.M.A. FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 513 OF 1300, MAP NUMBER 08041C0513G , EFFECTIVE DATE DECEMBER 7, 2018.
2. SOIL TYPE:
   2.1. 38.0% CHASEVILLE-MIDWAY COMPLEX AS DESIGNATED BY USDA, DEFINED AS EXTREMELY GRAVELLY-LOAMY COARSE SAND.
   2.2. 62.0% MIDWAY CLAY LOAM AS DESIGNATED BY USDA, DEFINED AS SHALLOW, WELL DRAINED SOILS THAT FORMED IN RESIDUUM AND SLOPE ALLUVIUM FROM CALCAREOUS PLATY, CLAYEY SHALE.
   2.3. REFER TO THE GEOTECHNICAL SURVEY FOR THE SUBSURFACE SOIL MATERIAL AND CLASSIFICATIONS
3. THIS PROPERTY IS SUBJECT TO THE FINDINGS SUMMARY AND CONCLUSIONS OF A GEOLOGIC HAZARD REPORT PREPARED BY LANGAN, DATED AUGUST 16TH, 2021, WHICH IDENTIFIED THE FOLLOWING SPECIFIC GEOLOGIC HAZARD ON THE PROPERTY: UNSTABLE SHALLOW SOIL SLOPES ON THE SOUTHWESTERN HILLSIDE, SWELLING SOILS AND BEDROCK BENEATH THE ENTIRE SITE, RADON SOURCES BENEATH THE ENTIRE SITE. A COPY OF SAID REPORT HAS BEEN PLACED WITHIN FILE #_____ OR WITHIN THE SUBDIVISION FILE _____ OF THE CITY OF COLORADO SPRINGS PLANNING AND DEVELOPMENT TEAM. CONTACT THE PLANNING AND DEVELOPMENT TEAM, 30 SOUTH NEVADA AVENUE, SUITE 105, COLORADO SPRINGS, CO, IF YOU WOULD LIKE TO REVIEW SAID REPORT.
4. THE SITE INCLUDES A PRESERVATION EASEMENT (REC. NO. 98122055) WHICH IS A NO BUILD AREA AND LIES ALONG THE SOUTHWESTERN HILLSIDE OF THE PROPERTY. THE SITE ALSO INCLUDES 5-FT PUBLIC UTILITY EASEMENTS ALONG THE NORTHWESTERN AND SOUTHEASTERN PROPERTY LINES, AS WELL AS A 7-FT UTILITY AND DRAINAGE EASEMENT ALONG THE SOUTHWESTERN PROPERTY LINE.

PLAN REFERENCES

PLAN REFERENCES:

1. EXISTING TOPOGRAPHIC AND UTILITY INFORMATION REFERENCED FROM THE PLANS TITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY CLARK LAND SURVEYING, LLC. FOR THE VERIZON COSP PROJECT LOCATED IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO AND DATED JULY 20, 2021.
2. EXISTING BOUNDARY INFORMATION REFERENCED FROM THE PLANS TITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY CLARK LAND SURVEYING, LLC. FOR THE VERIZON COSP PROJECT LOCATED IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO AND DATED JULY 20, 2021.

Area Reserved for City of Colorado Springs City Stamp

City File Number: TBD

Date	Description	No.
Revisions		

Signature MICHAEL GOLIAS Date
PROFESSIONAL ENGINEER CO Lic. No. 0052156

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
COVER SHEET

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

C001
Sheet 1 of 30

LANGAN
Project No. 620023601

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1. DO NOT SCALE DRAWINGS:

   A. THE CONTRACTORS SHALL USE DIMENSIONS SHOWN ON THE DRAWINGS AND ACTUAL FIELD MEASUREMENT.
   B. NOTIFY THE AE PROJECT MANAGER IF ANY DISCREPANCIES ARE FOUND PRIOR TO PROCEEDING WITH WORK.

2. UTILITIES:

   A. THE WATER MAIN IS OWNED/OPERATED BY COLORADO SPRINGS UTILITIES.
   B. THE SANITARY MAIN IS OWNED/OPERATED BY COLORADO SPRINGS UTILITIES.
   C. THE STORM SEWER MAIN IS OWNED/OPERATED BY STORMWATER ENTERPRISE.
   D. THE ELECTRIC MAIN IS OWNED/OPERATED BY_____
   E. CONTRACTOR SHALL CALL COLORADO 811 AT 811 OR 800-922-1987 TO LOCATE PUBLIC UTILITIES IN ADVANCE OF ANY EXCAVATIONS.
   F. CONTRACTOR SHALL HAVE SUBSURFACE UTILITY INVESTIGATION PERFORMED IN ADVANCE OF ANY EXCAVATIONS IN AREAS POSSIBLY CONTAINING FIBER OR OTHER TELCO SERVICES ENTRANCES AND AREAS NOT COVERED BY THE PUBLIC UTILITY LOCATING SERVICE. GROUND PENETRATING RADAR IS THE PREFERRED SUBSURFACE METHOD TO BE USED. RESULTS OF THIS SUBSURFACE EXPLORATION SHALL BE SUBMITTED TO THE OWNER AND A/E FOR REVIEW AND APPROVAL PRIOR TO ANY EXCAVATIONS.
   G. HAND EXCAVATION SHALL BE PERFORMED IN THE AREAS WITHIN 10 FEET HORIZONTALLY IN ANY DIRECTION FROM POSSIBLE TELCO ENTRANCE UNDERGROUND UTILITIES. HAND EXCAVATION SHALL ALSO BE PERFORMED ELSEWHERE AS DIRECTED BY THE A/E AND/OR OWNER.
   H. COORDINATE WITH BUILDING PLUMBING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
   I. AT COMPLETION OF SEWER AND WATER CONSTRUCTION, SET ALL MANHOLES, VALVE BOXES, METERS AND APPURTENANCES FOR PROPER FINISH GRADE. NOTICEABLY STAKE AND FLAG. SITE UTILITY SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE ABOVE ITEMS UNTIL SYSTEM IS ACCEPTED BY OWNER.
   J. CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
   K. ON-SITE FIRE PROTECTION SYSTEM LAYOUTS ARE SHOWN FOR LAND DISTURBANCE PERMIT INFORMATION ONLY. PROVIDE FINAL DESIGN AND PERMIT FROM THE FIRE PROTECTION CONTRACTOR. INSTALL VAULTS, METERS, MAINS, HYDRANTS, AND APPURTENANCES ONLY AFTER FIRE DEPARTMENT APPROVAL OF THE FIRE PROTECTION CONTRACTOR'S PLANS.

3. DRAWINGS:

   A. VERIFY BUILDING DIMENSIONS FROM ARCHITECTURAL DRAWINGS FOR FIELD STAKING. CHECK ALL BUILDING DIMENSIONS AND COORDINATE WITH THE ARCHITECTURAL PLANS.
   B. DEVIATIONS FROM THESE PLANS AND NOTES WITHOUT PRIOR CONSENT OF THE OWNER OR HIS REPRESENTATIVE MAY CAUSE THE WORK TO BE UNACCEPTABLE.
   C. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER A COMPLETE PROJECT, READY TO USE. PROVIDE ALL ITEMS NECESSARY FOR A COMPLETE AND WORKABLE JOB.

4. CONSTRUCTION AND GENERAL SITE WORK:

   A. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND WAYS, MEANS AND METHODS OF CONSTRUCTION.
   B. COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND OBTAIN ALL NECESSARY LICENSES AND PERMITS.
   C. PROVIDE AND MAINTAIN OFF-STREET PARKING THROUGHOUT CONSTRUCTION IN AREAS DESIGNATED BY THE OWNER.
   D. FIELD VERIFY LOCATION AND INVERTS OF EXISTING SANITARY SEWER FOR CONNECTION TO EXISTING SEWER SYSTEM.
   E. PROVIDE SIGNING AND STRIPING ACCORDING TO LOCAL JURISDICTION SPECIFICATIONS.
   F. PERFORM ALL WORK IN A FINISHED AND WORKMANLIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
   G. THE BOUNDARY INFORMATION ON THESE PLANS WAS TAKEN FROM FIELD SURVEYS PREPARED BY CLARK LAND SURVEYING, LLC., DATED 07/21/2021. VERIFY EXISTING BOUNDARY CORNERS AND DATA PRIOR TO BEGINNING CONSTRUCTION.
   H. THE TOPOGRAPHIC INFORMATION ON THESE PLANS WAS TAKEN FROM FIELD SURVEYS PREPARED BY CLARK LAND SURVEYING, LLC., DATED 07/21/2021. VERIFY EXISTING TOPOGRAPHIC DATA, LOCATIONS OF EXISTING UTILITIES, AND ALL OTHER SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
   I. THE GEOTECHNICAL INFORMATION USED TO PREPARE THESE PLANS WAS TAKEN FROM THE GEOTECHNICAL SURVEY PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, DATED 09/09/2021.
   J. PERFORM ALL WORK IN CITY, COUNTY, STATE, AND FEDERAL RIGHTS-OF-WAY IN STRICT CONFORMANCE WITH APPLICABLE STANDARDS AND SPECIFICATIONS OF THE APPROPRIATE GOVERNING AGENCIES.
   K. PROVIDE NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY WITHIN THE RIGHT-OF-WAY FOR THE PROTECTION AND THE SAFETY OF THE PUBLIC AND MAINTAIN THROUGHOUT CONSTRUCTION.
   L. UNLESS INDICATED OTHERWSE ON THE PLANS, REMOVE AND DISPOSE OF ALL EXISTING IMPROVEMENTS, TREES AND OTHER DEBRIS, WITHIN THE LIMITS OF THE WORK, FROM THE SITE AND DISPOSE OF IN AN APPROVED LANDFILL. DO NOT BURY ANY WASTE MATERIAL ON SITE.
   M. FURNISH AND MAINTAIN ANY AND ALL NECESSARY BARRICADES AROUND THE WORK AND PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION.
   N. NOTIFY INSPECTOR 24 HOURS PRIOR TO CONSTRUCTION.
   O. INSTALL ALL APPROPRIATE TREE PROTECTION MEASURES PRIOR TO GRADING.
   P. CUT AND FILL SLOPES 2:1 OR FLATTER (SEE PLANS).
   Q. GRASS AND RIP RAP ALL OPEN DRAINAGE SWALES AS NECESSARY TO CONTROL EROSION.
   R. STRIP AND STOCKPILE TOPSOIL. SPREAD 4" OF TOPSOIL ON LANDSCAPE AREAS AND REMOVE EXCESS TOPSOIL FROM SITE. PREPARE SUB GRADE FOR PAVEMENT AND CURBS AND BACK FILL CURBS AFTER CURB CONSTRUCTION.
   S. PROVIDE SUPPLY OF TOPSOIL FOR LANDSCAPE CONTRACTOR FOR INSTALLATION IN ALL LANDSCAPE ISLANDS.
   T. PROVIDE AND INSTALL TOPSOIL IN DISTURBED AREAS TO BE GRASSED, TO INCLUDE PAVEMENT SHOULDERS AND DETENTION AREAS.
   U. CONFINE OFF-SITE ACTIVITIES TO EXISTING RIGHTS OF WAY AND EASEMENTS.
   V. INSTALL GATE VALVES IN HEAVY DUTY ROADWAY VALVE BOXES FOR ALL WATER VALVES.
   W. INSTALL HYDRANTS AND MAINS UNDER PRESSURE BEFORE ANY COMBUSTIBLE CONSTRUCTION IS STARTED.
   X. PAINT PAVEMENT MARKING, INCLUDING STANDARD HANDICAP SYMBOLS, PARKING STRIPING AND TRAFFIC ARROWS, ON PAVEMENT AT LOCATIONS SHOWN. SEE PAVEMENT MARKING DETAIL.
   Y. PROVIDE BOLLARDS AT LOCATIONS SHOWN, AND AROUND TRANSFORMERS, GAS METERS, AND OTHER UTILITIES IN VULNERABLE TRUCK AREAS.
   Z. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES PRIOR TO CLEARING GRADING AND DEMOLITION WORK. MAINTAIN ALL SEDIMENTATION AND EROSION CONTROL MEASURES UNTIL ACCEPTANCE OF THE SITE BY THE OWNER.

CITY OF COLORADO SPRINGS GENERAL NOTES FOR PRELIMINARY UTILITY PLANS

PROPERTY OWNER(S) ACKNOWLEDGE AND AGREE TO THE FOLLOWING UPON APPROVAL OF PRELIMINARY UTILITY PLAN:

1. COLORADO SPRINGS UTILITIES (SPRINGS UTILITIES) SHALL MAKE THE FINAL DETERMINATION OF THE LOCATION OF ALL WATER, WASTEWATER, ELECTRIC AND GAS FACILITIES, WHICH MAY NOT BE THE SAME LOCATION AS SHOWN ON THIS PRELIMINARY UTILITY PLAN.
2. PROPERTY OWNER(S) ('OWNER') ACKNOWLEDGES THAT THE CONNECTION AND/OR EXTENSION OF UTILITY SERVICES TO THE PROPERTY IDENTIFIED IN THIS PRELIMINARY UTILITY PLAN ("PROPERTY") SHALL BE IN ACCORD WITH ALL APPLICABLE CODES AND REGULATIONS, SPRINGS UTILITIES LINE EXTENSION & SERVICE STANDARDS ("STANDARDS"), TARIFFS, COLORADO SPRINGS CITY CODE, RESOLUTIONS, AND POLICIES, AND PIKES PEAK REGIONAL BUILDING DEPARTMENT CODES, IN EFFECT AT THE TIME OF UTILITY SERVICE CONNECTION AND/OR EXTENSION.
3. OWNER ACKNOWLEDGES RESPONSIBILITY FOR THE COSTS OF EXTENSIONS OR UTILITY SYSTEM IMPROVEMENTS THAT SPRINGS UTILITIES DETERMINES NECESSARY TO PROVIDE UTILITY SERVICES TO THE PROPERTY OR TO ENSURE TIMELY DEVELOPMENT OF INTEGRATED UTILITY SYSTEMS SERVING THE PROPERTY AND AREAS OUTSIDE THE PROPERTY (INCLUDING THE COSTS TO DESIGN AND INSTALL WATER SYSTEMS, WASTEWATER COLLECTION SYSTEMS, AND ANY GAS OR ELECTRIC LINES TO AND WITHIN THE PROPERTY). OWNER MAY BE ELIGIBLE FOR A COST RECOVERY AGREEMENT AS PROVIDED IN UTILITIES' RULES AND REGULATIONS.
4. SPRINGS UTILITIES UTILITY SERVICES ARE AVAILABLE ON A FIRST-COME, FIRST-SERVED BASIS, AND THEREFORE NO SPECIFIC LOCAL CONDITIONS OR AMOUNTS OF UTILITY SERVICES, FACILITIES, CAPACITIES OR SUPPLIES ARE RESERVED FOR THE OWNER, AND SPRINGS UTILITIES MAKES NO COMMITMENT AS TO THE AVAILABILITY OF ANY UTILITY SERVICE UNTIL SUCH TIME AS AN APPLICATION FOR PERMANENT SERVICE IS APPROVED BY SPRINGS UTILITIES.
5. THE RELOCATION OR ALTERATION OF ANY EXISTING UTILITY FACILITIES WITHIN THE PROPERTY WILL BE AT THE OWNER'S SOLE COST AND EXPENSE. IF SPRINGS UTILITIES DETERMINES THAT OWNER'S RELOCATION OR ALTERATION REQUIRES NEW OR UPDATED EASEMENTS, OWNER SHALL CONVEY THOSE EASEMENTS PRIOR TO RELOCATING OR ALTERING THE EXISTING UTILITY FACILITIES.
6. OWNER SHALL DEDICATE BY PLAT AND/OR CONVEY BY RECORDED DOCUMENT, ALL PROPERTY AND EASEMENTS THAT SPRINGS UTILITIES DETERMINES ARE REQUIRED FOR ALL UTILITY SYSTEM FACILITIESNECESSARY TO SERVE THE PROPERTY OR TO ENSURE DEVELOPMENT OF AN INTEGRATED UTILITY SYSTEM. ALL EASEMENTS GRANTED BY SEPARATE INSTRUMENT SHALL UTILIZE SPRINGS UTILITIES' THEN-CURRENT PERMANENT EASEMENT AGREEMENT FORM.
7. THE WATER SYSTEM FACILITIES MUST MEET SPRINGS UTILITIES CRITERIA FOR WATER QUALITY, RELIABILITY AND PRESSURE, INCLUDING LOOPING REQUIREMENTS (SEE SPRINGS UTILITIES LINE EXTENSION AND SERVICE STANDARDS).
8. OWNER RECOGNIZES THAT THE EXTENSION OF WATER SYSTEM FACILITIES MAY AFFECT THE QUALITY OF WATER IN THE SPRINGS UTILITIES WATER SYSTEM. WHEN WATER QUALITY IS AFFECTED, OWNER ACKNOWLEDGES RESPONSIBILITY FOR ANY COSTS THAT SPRINGS UTILITIES DETERMINES NECESSARY IN ORDER TO MAINTAIN WATER QUALITY IN ITS SYSTEM AS A RESULT OF OWNER'S WATER SYSTEM EXTENSIONS. OWNER MAY BE REQUIRED TO SUBMIT A WATER QUALITY PLAN FOR THE PROJECT.
9. OWNER MUST CONTACT SPRINGS UTILITIES FIELD ENGINEERING TO DETERMINE THE LOCATION OF ALL NATURAL GAS AND ELECTRIC METERS AND TRANSFORMERS AND TO SECURE APPROVAL OF GAS-SERVICE-LINE PRESSURES IN EXCESS OF SPRINGS UTILITIES STANDARD GAS SYSTEM PRESSURE. (CONTACT FIELD ENGINEERING NORTH 668-4985 OR SOUTH 668-5564).
10. IT SHALL NOT BE PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH WITHIN ANY SPRINGS UTILITIES EASEMENT OR RIGHTS OF WAY WITHOUT THE WRITTEN APPROVAL OF SPRINGS UTILITIES. IMPROVEMENTS, STRUCTURES AND TREES SHALL NOT BE LOCATED WITHIN UTILITY EASEMENT, SHALL NOT VIOLATE NATIONAL ELECTRIC SAFETY CODE (NESC) PROVISIONS AND CLEARANCES, AND SHALL NOT IMPAIR ACCESS OR THE ABILITY TO MAINTAIN UTILITY FACILITIES.
11. SPRINGS UTILITIES APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF SPRINGS UTILITIES TO APPLY ITS STANDARDS; AND IF THERE ARE ANY CONFLICTS BETWEEN ANY APPROVED DRAWINGS AND ANY PROVISION OF STANDARDS OR THE CITY CODE, THEN THE STANDARDS OR CITY CODE SHALL APPLY. SPRINGS UTILITIES' APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF THE CITY OF COLORADO SPRINGS OR SPRINGS UTILITIES TO ADOPT DIFFERENT ORDINANCES, RULES, REGULATIONS, RESOLUTIONS, POLICIES OR CODES WHICH CHANGE ANY OF THE PROVISIONS OF THE STANDARDS SO LONG AS THESE APPLY TO THE CITY GENERALLY AND ARE IN ACCORD WITH THE THEN-CURRENT TARIFFS, RATES AND POLICIES OF SPRINGS UTILITIES.

ADA DESIGN PROFESSIONAL STANDARD NOTES:

1. 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 THE CITY OF COLORADO SPRINGS DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS. SOLE RESPONSIBILITY FOR COMPLIANCE WITH FEDERAL AND STATE ACCESSIBILITY LAWS LIES WITH THE PROPERTY OWNER.

CITY OF COLORADO SPRINGS STANDARD GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN NOTES:

1. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME II.
2. NO CLEARING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGNOFF AND ACCEPTANCE OF THE GRADING PLAN AND EROSION AND STORMWATER QUALITY CONTROL PLAN IS RECEIVED FROM EDRD.
3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 385-5980, 48 HOURS PRIOR TO CONSTRUCTION.
4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY.
5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (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 THIRTY (30) DAYS SHALL ALSO BE MULCHED WITHIN TWENTY-ONE (21) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY EDRD SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.
8. THE PLAN SHALL NOT SUBSTANTIALLY CHANGE THE DEPTH OF COVER, OR ACCESS EXISTING UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY COLORADO SPRINGS UTILITIES EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT THEIR WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS IS THE APPLICANT'S EXPENSE.

CSU GENERAL WASTEWATER NOTES:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET *COLORADO SPRINGS UTILITIES' WASTEWATER LINE EXTENSION AND SERVICE STANDARDS* (WASTEWATER *LESS*).
2. THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION.
3. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, MANHOLES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE ENGINEER OF RECORD IMMEDIATELY.
4. NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WASTEWATER MAIN.
5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
6. ALL FIELD STAKING SHALL COMPLY WITH THE WASTEWATER STANDARDS.
7. THE CONTRACTOR SHALL MAKE THAT WASTEWATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION.
8. ALL MANHOLES LOCATED WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISH GRADE. IF MANHOLES ARE IN POOR CONDITION OR IF THE DISTANCE BETWEEN THE RING/COVER AND CONE OF THE MANHOLE EXCEEDS THE WASTEWATER STANDARDS. THE CONTRACTOR MAY BE REQUIRED TO REPLACE PART OR ALL OF THE EXISTING MANHOLES.
9. REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE COLORADO SPRINGS UTILITIES INSPECTOR.
10. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE *CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL*.

CSU GENERAL WATER PLAN NOTES:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET *COLORADO SPRINGS UTILITIES' WATER LINE EXTENSION AND SERVICE STANDARDS* (*WATER LESS*).
2. THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION.
3. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, HYDRANTS, VALVES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE ENGINEER OF RECORD IMMEDIATELY.
4. NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WATER MAIN.
5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
6. ALL FIELD STAKING SHALL COMPLY WITH THE *WATER LESS*.
7. THE CONTRACTOR SHALL MAKE THEIR BEST EFFORT TO ENSURE THAT WATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION.
8. CORROSION PROTECTION MEASURES SHALL COMPLY WITH THE *WATER LESS*.
9. NO SERVICE TAPS WILL BE ALLOWED UNTIL THE MAIN IS EXTENDED TO THE NEXT MAIN-LINE VALVE.
10. NO SERVICE TAPS SHALL BE MADE UNTIL AUTHORIZATION HAS BEEN GRANTED BY THE COLORADO SPRINGS UTILITIES' INSPECTOR.
11. ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION AND THE STATIONING ON THE FIELD STAKES SHALL MATCH THE STATIONING ON THE PLANS.
12. FIELD MODIFICATIONS TO A FIRE SERVICE LINE OR FIRE HYDRANT DESIGN OR LOCATION MAY NEED TO BE APPROVED BY THE DESIGN ENGINEER, COLORADO SPRINGS FIRE DEPARTMENT AND COLORADO SPRINGS UTILITIES, AS REQUIRED BY THE INSPECTOR.
13. REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE COLORADO SPRINGS UTILITIES INSPECTOR.
14. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE *CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL*.
15. ALL WATER SERVICE LINES SHOULD ENTER THE BUILDING WITHIN 3 FEET OF AN EXTERIOR WALL. EXPOSED WATER PLUMBING SHALL BE MINIMIZED INSIDE THE BUILDING PRIOR TO THE WATER METER AND/OR APPROVED BACKFLOW PREVENTION ASSEMBLY OR METHOD.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
BUILDING LINE		
CONCRETE CURB		
DOOR		
CONCRETE SIDEWALK		
ADA DETECTABLE WARNING SURFACE		
NO PARKING STRIPING		
PARKING COUNT		15
DIRECTIONAL ARROWS		
DIRECTIONAL SIGN		
SANITARY MANHOLE	SS	
STORM MANHOLE	ST	
STORM INLET		
WATER FIRE HYDRANT		
STORM LINE	ST	
SANITARY LINE	SS	
WATER LINE	WL	W
GAS LINE	UG	
ELECTRIC LINE	UE	E
FIBEROPTIC LINE	FO	T
BARBWIRE FENCE	X X	
HAND RAIL		
LIGHT POLE		
ELECTRIC MANHOLE	E	
ELECTRIC TRANSFORMER		
ELECTRIC VAULT	EVL	
FIBEROPTIC MARKER	FO	
FIBEROPTIC VAULT	FVL	
CABLE TV VAULT	CVL	
TELEPHONE PEDESTAL	T	
TELEPHONE MARKER	T	
UNKNOWN MANHOLE	MH	
LANDSCAPED AREA	LS	
BOLLARD		
CONTOUR	6470	6470
SPOT ELEVATION		x EL: 6470.00 x TW: 6470.00
FOUND MONUMENT		
SET MONUMENT #5 REBAR W/ 1-1/4" GREEN PLASTIC CAP, PLS 38245, FLUSH		
CALCULATED BEARING AND/OR DISTANCE.	(C)	
MEASURED BEARING AND/OR DISTANCE.	(M)	
RECORD BEARING AND/OR DISTANCE.	(R)	
LOD BOUNDARY		
REMOVE		
REMOVE ITEM		
CLEARING AND GRUBBING		

ABBREVIATIONS

APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR
BLDG	BUILDING
BW	FG EL. AT BOTTOM OF WALL
EL.	ELEVATION
ESMT	EASEMENT
FC	FACE OF CURB
FDC	FIRE DEPARTMENT CONNECTION
FES	FLARED END SECTION
IN	INCH OR INCHES
INV.	INVERT ELEVATION
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
STA	STATION
TC	TOP FACE OF CURB
TW	FG EL. AT TOP OF WALL
W/	WITH

Date	Description	No.

Revisions

Signature Date
MICHAEL GOLIAS
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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
GENERAL NOTES & LEGEND

Area Reserved for City of Colorado Springs City Stamp
City File Number: TBD

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JE

C002
Sheet 2 of 30

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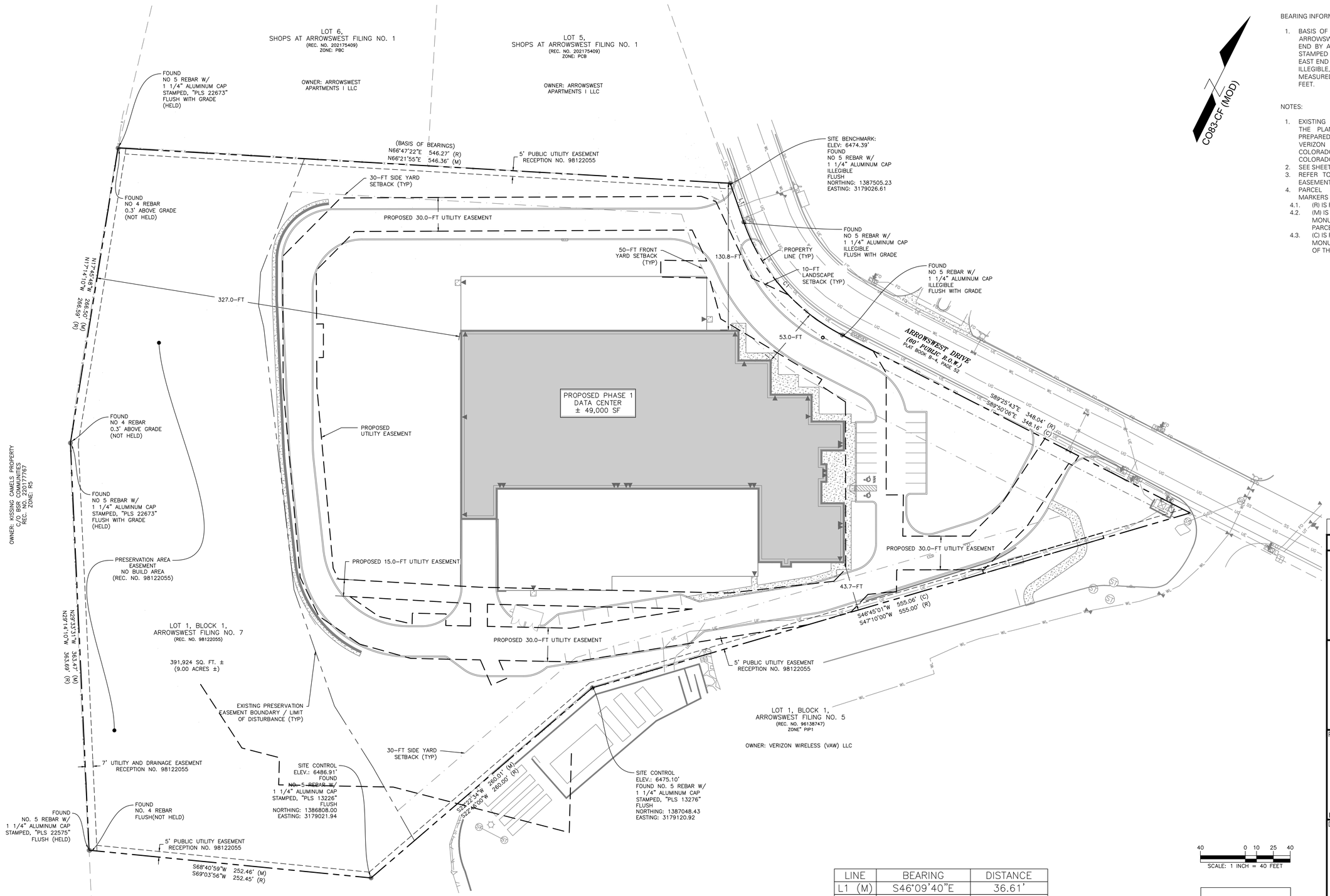

BEARING INFORMATION

1. BASIS OF BEARING: NORTHERLY LINE OF LOT 1, BLOCK 1 ARROWSWEST FILING NO. 7, MONUMENTED AT THE WEST END BY A NO. 5 REBAR WITH A 1-1/4" ALUMINUM CAP, STAMPED "PLS 22673", FLUSH WITH GRADE, AND AT THE EAST END BY A NO. 5 REBAR WITH A 1-1/4" ALUMINUM CAP, ILLEGIBLE, FLUSH WITH GRADE, AS SHOWN HEREON, AND MEASURED TO BEAR N66°21'55"E, A DISTANCE OF 546.36 FEET.

NOTES:

1. EXISTING BOUNDARY INFORMATION REFERENCED FROM THE PLANS TITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY CLARK LAND SURVEYING, LLC. FOR THE VERIZON COSP PROJECT LOCATED IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO AND DATED JULY 20, 2021.
2. SEE SHEET C002 FOR LEGEND.
3. REFER TO EL PASO COUNTY REC. NO. 098122055 FOR EASEMENT MAINTENANCE INFORMATION.
4. PARCEL LINE CALLOUTS INCLUDE THE FOLLOWING MARKERS PER THE ALTA/NSPS LAND TITLE SURVEY:
   - 4.1. (R) IS FOR A RECORD PARCEL LINE.
   - 4.2. (M) IS FOR A MEASURED PARCEL LINE, FOR WHICH MONUMENTS WERE FOUND ON BOTH ENDS OF THE PARCEL LINE.
   - 4.3. (C) IS FOR A CALCULATED PARCEL LINE, FOR WHICH MONUMENTS WERE FOUND ON ONE END OR NO END OF THE PARCEL LINE.

LINE	BEARING	DISTANCE
L1 (M)	S46°09'40"E	36.61'
L1 (R)	S45°43'59"E	36.45'

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	RADIAL BEARING
C1 (M)	180.00'	137.00'	43°36'33"	N43°48'58"E
C1 (R)	180.00'	137.27'	43°41'59"	N44°15'40"E

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

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Date	Description	No.
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Signature MICHAEL GOLIAS Date
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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
LOT CONFIGURATION PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JE

C003

Sheet 3 of 30

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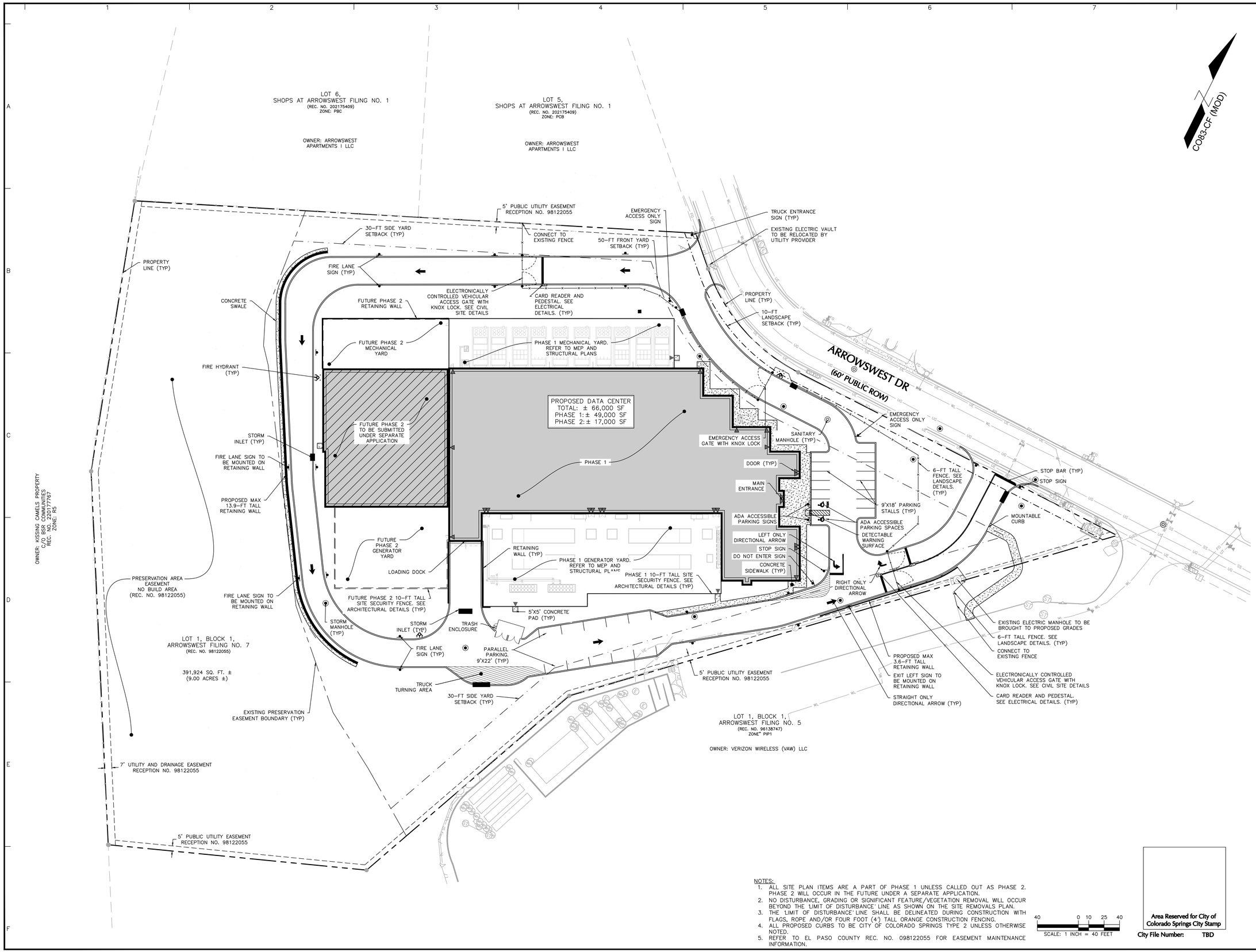

NOTES:

1. ALL SITE PLAN ITEMS ARE A PART OF PHASE 1 UNLESS CALLED OUT AS PHASE 2. PHASE 2 WILL OCCUR IN THE FUTURE UNDER A SEPARATE APPLICATION.
2. NO DISTURBANCE, GRADING OR SIGNIFICANT FEATURE/VEGETATION REMOVAL WILL OCCUR BEYOND THE 'LIMIT OF DISTURBANCE' LINE AS SHOWN ON THE SITE REMOVALS PLAN.
3. THE 'LIMIT OF DISTURBANCE' LINE SHALL BE DELINEATED DURING CONSTRUCTION WITH FLAGS, ROPE AND/OR FOUR FOOT (4') TALL ORANGE CONSTRUCTION FENCING.
4. ALL PROPOSED CURBS TO BE CITY OF COLORADO SPRINGS TYPE 2 UNLESS OTHERWISE NOTED.
5. REFER TO EL PASO COUNTY REC. NO. 098122055 FOR EASEMENT MAINTENANCE INFORMATION.

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
OVERALL MASTER PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JE

C004
Sheet 4 of 30

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Project No. 620023601

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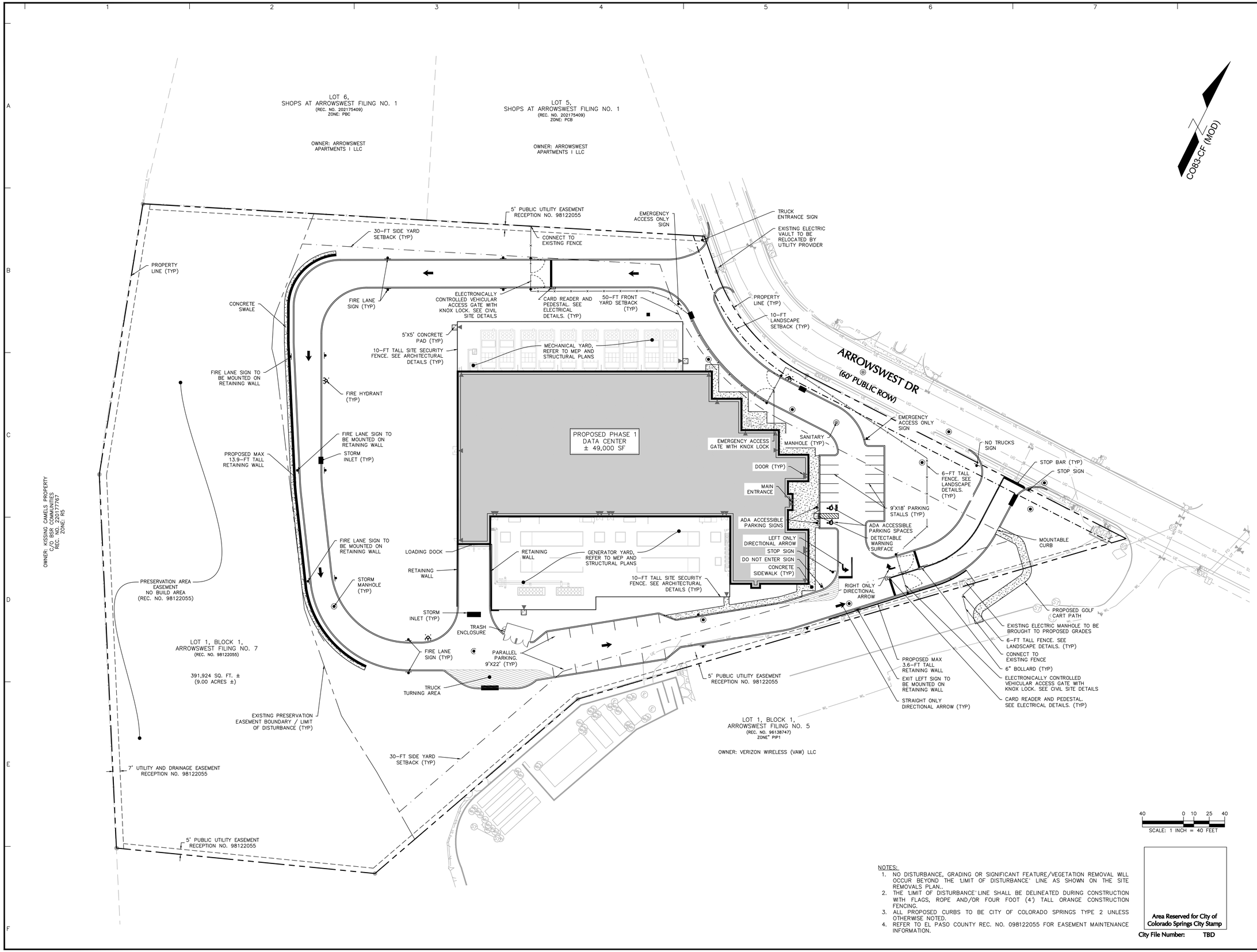

NOTES:

1. NO DISTURBANCE, GRADING OR SIGNIFICANT FEATURE/VEGETATION REMOVAL WILL OCCUR BEYOND THE 'LIMIT OF DISTURBANCE' LINE AS SHOWN ON THE SITE REMOVALS PLAN..
2. THE 'LIMIT OF DISTURBANCE' LINE SHALL BE DELINEATED DURING CONSTRUCTION WITH FLAGS, ROPE AND/OR FOUR FOOT (4') TALL ORANGE CONSTRUCTION FENCING.
3. ALL PROPOSED CURBS TO BE CITY OF COLORADO SPRINGS TYPE 2 UNLESS OTHERWISE NOTED.
4. REFER TO EL PASO COUNTY REC. NO. 098122055 FOR EASEMENT MAINTENANCE INFORMATION.

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Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

CIVIL SITE PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JE

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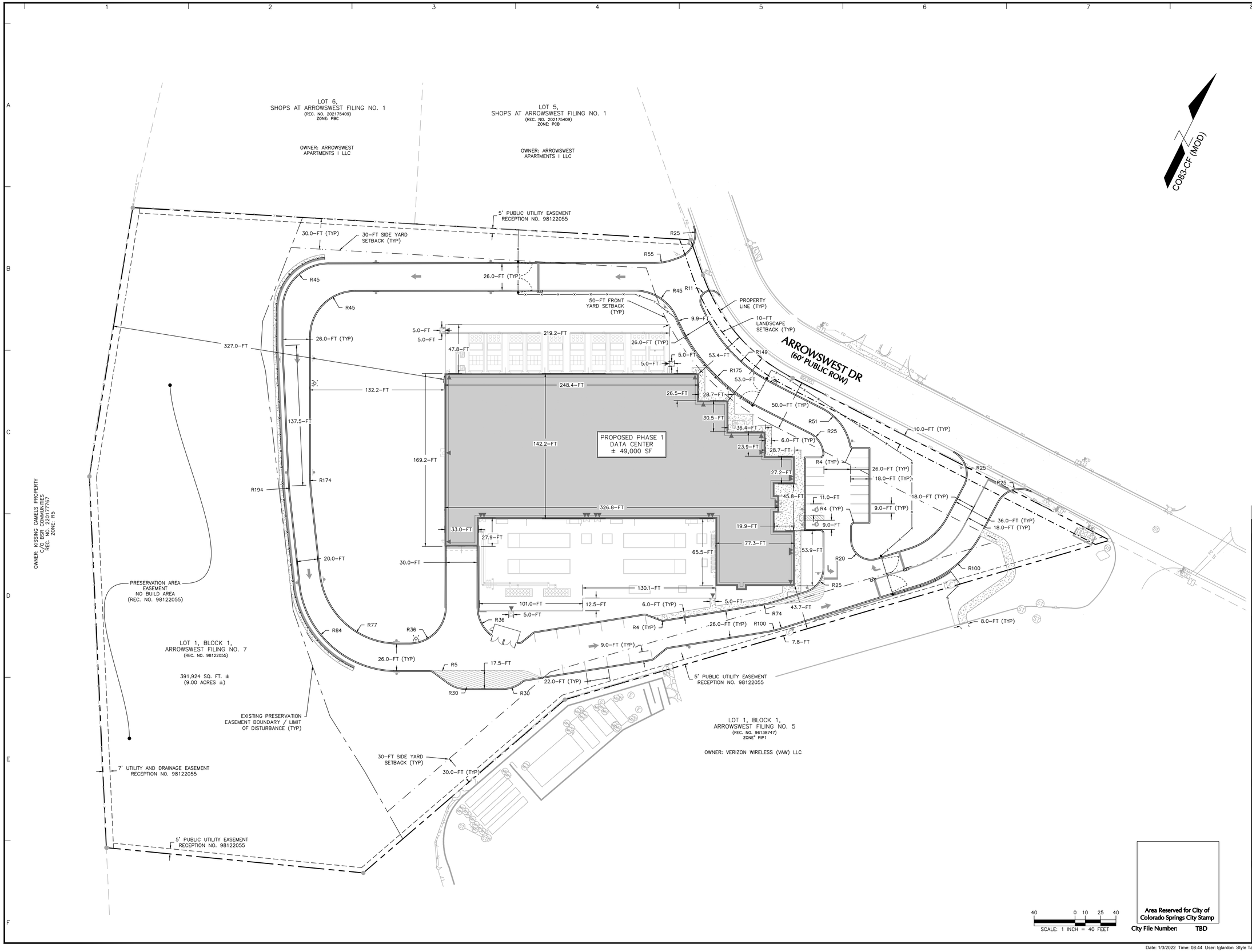

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Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

CIVIL DIMENSIONS PLAN

Project No. 620023601

Date 1/3/2022

Drawn By MEW

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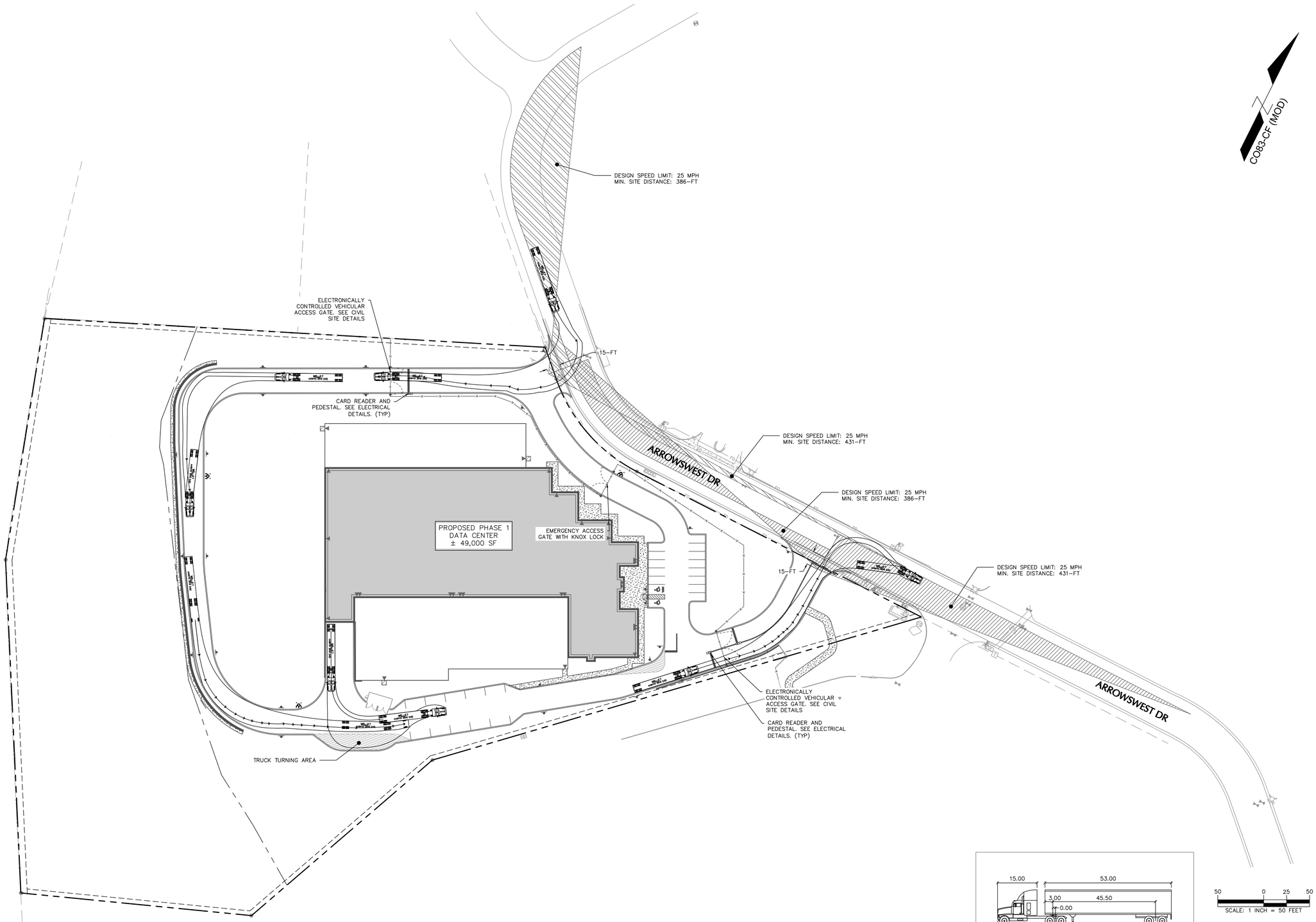

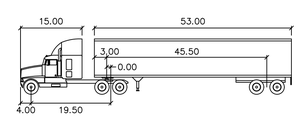

WB-67

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

VEHICLE PROFILE

NOT TO SCALE

50 0 25 50

SCALE: 1 INCH = 50 FEET

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Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

SIGHT TRIANGLES & TRUCK TURNING PLAN

Project No. 620023601

Date 1/3/2022

Drawn By MEW

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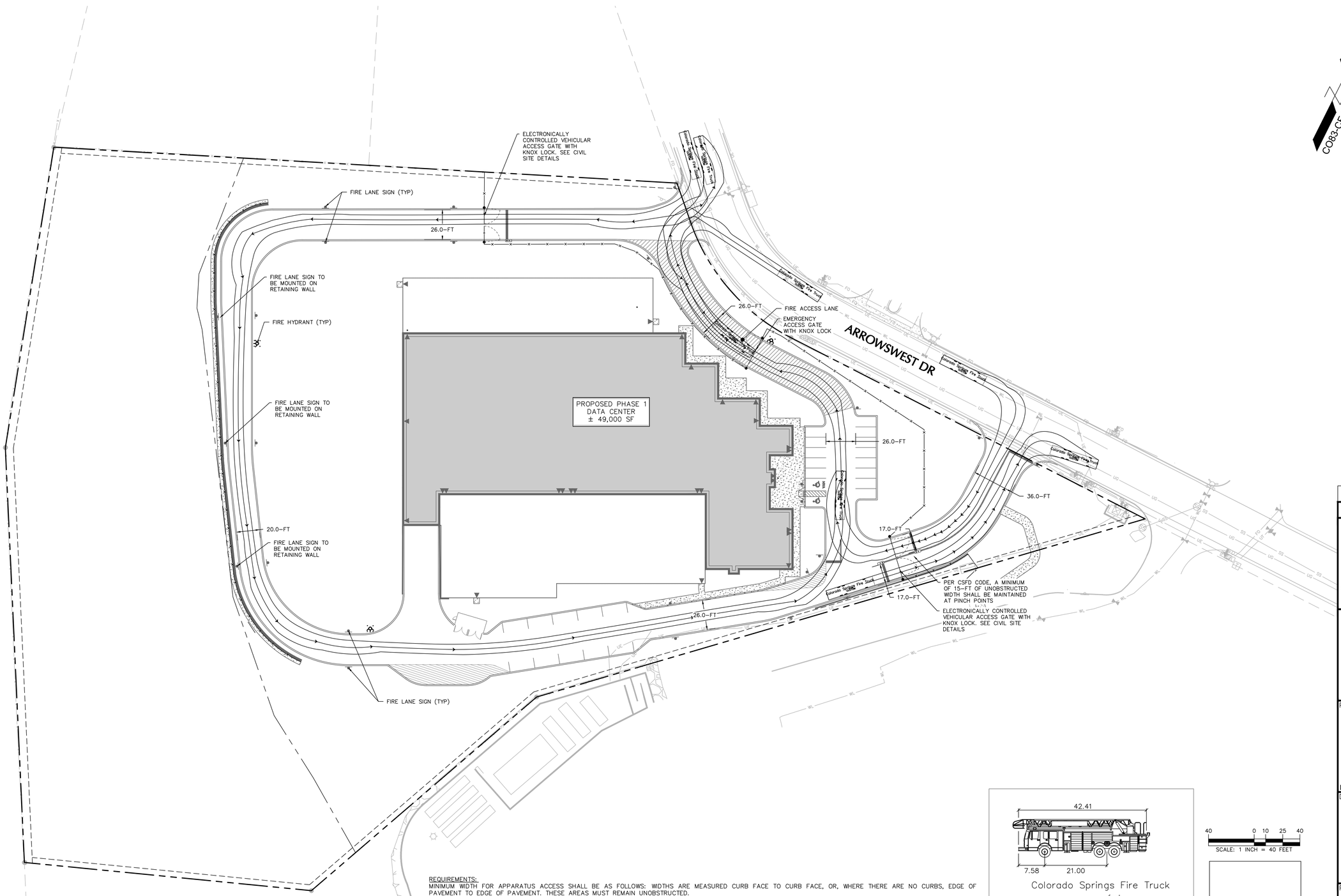

REQUIREMENTS:
MINIMUM WIDTH FOR APPARATUS ACCESS SHALL BE AS FOLLOWS: WIDTHS ARE MEASURED CURB FACE TO CURB FACE, OR, WHERE THERE ARE NO CURBS, EDGE OF PAVEMENT TO EDGE OF PAVEMENT. THESE AREAS MUST REMAIN UNOBSTRUCTED.

1. ACCESS ROADWAYS WITH A WIDTH OF 34 FEET OR MORE DO NOT REQUIRE FIRE LANE SIGNS. PARKING IS ALLOWED ON BOTH SIDES OF THE ROADWAY.
2. ACCESS ROADWAY WIDTHS MAY BE REDUCED TO A MINIMUM OF 28 FEET. ROADWAYS 28 TO 34 FEET WIDE SHALL HAVE FIRE LANE SIGNS POSTED OR PAINTED ON ONE SIDE OF THE ROADWAY. PARKING IS ALLOWED ON ONLY ONE SIDE OF THE STREET.
3. ACCESS ROADWAYS IN PARKING LOTS MAY BE REDUCED TO A MINIMUM OF 24 FEET WHERE PARKING SPACES ARE DESIGNED BACK TO BACK. WE ACKNOWLEDGE THAT THE ZONING ORDINANCE ALLOWS REDUCTION IN AISLE WIDTH; HOWEVER, THOSE NEEDED FOR FIRE DEPARTMENT ACCESS SHALL BE PAINTED AT THE 24–FOOT MINIMUM. AS REQUIRED BY THIS STANDARD. WHERE PARKING IS DESIGNED BACK TO CURB, A MINIMUM OF 28 FEET SHALL BE PROVIDED WITHOUT FIRE LANE POSTING.
4. ROADWAYS WITH FEATURES, SUCH AS LANDSCAPE ISLANDS, TRAFFIC CALMING DEVICES, ETC. THAT CAUSE A ONE–WAY OR REDUCTION IN WIDTH; ROADWAY SHALL BE A MINIMUM OF 20 FEET IN WIDTH AND NO LONGER THAN 200 FEET IN LENGTH AND SHALL HAVE FIRE LANE SIGNS POSTED OR PAINTED ON BOTH SIDES.

Colorado Springs Fire Truck

	feet
Width	: 8.42
Track	: 8.17
Lock to Lock Time	: 5.0
Steering Angle	: 44.0

VEHICLE PROFILE
NOT TO SCALE

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

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City File Number: TBD

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
EMERGENCY ACCESS PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JE

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Sheet 8 of 30

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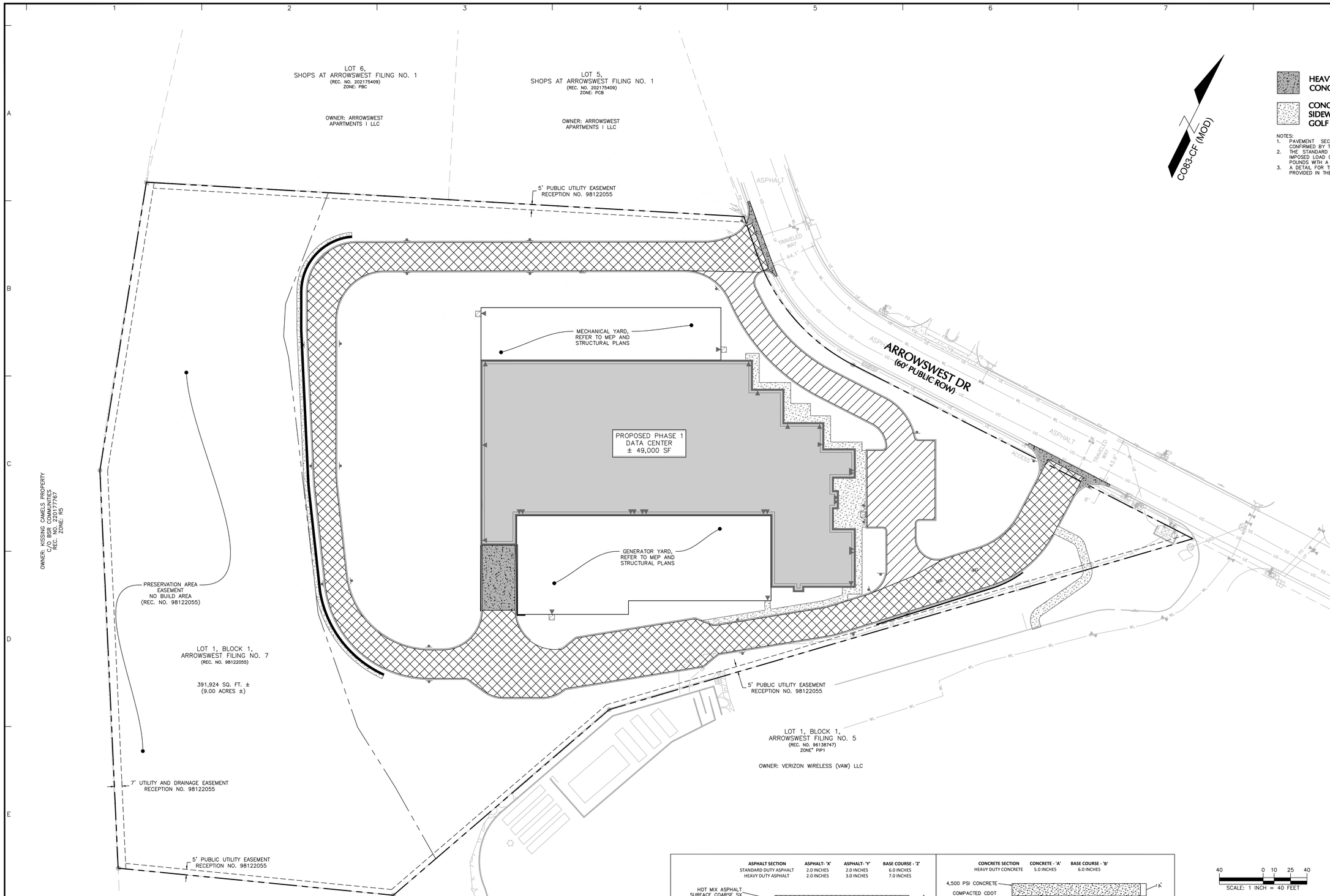
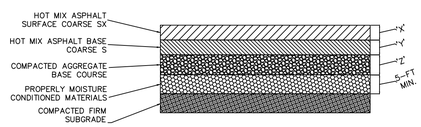


PAVING LEGEND

- HEAVY DUTY CONCRETE
- STANDARD DUTY ASPHALT
- CONCRETE SIDEWALK & GOLF CART PATH
- HEAVY DUTY ASPHALT

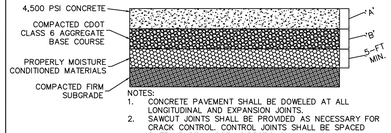
NOTES:
1. PAVEMENT SECTIONS ARE PRELIMINARY AND NEED TO BE CONFIRMED BY THE GEOTECHNICAL ENGINEER OF RECORD.
2. THE STANDARD DUTY ASPHALT IS ADEQUATE TO SUPPORT THE IMPOSED LOAD OF A FIRE APPARATUS WEIGHING AT LEAST 75,000 POUNDS WITH A MINIMUM SINGLE AXLE WEIGHT OF 27,000 POUNDS.
3. A DETAIL FOR THE CONCRETE WALKWAY CROSS SECTION HAS BEEN PROVIDED IN THE SITE DETAIL SHEETS.

ASPHALT SECTION	ASPHALT- 'X'	ASPHALT- 'Y'	BASE COURSE - 'Z'
STANDARD DUTY ASPHALT	2.0 INCHES	2.0 INCHES	6.0 INCHES
HEAVY DUTY ASPHALT	2.0 INCHES	3.0 INCHES	7.0 INCHES



ON-SITE ASPHALT PAVEMENT SECTIONS

CONCRETE SECTION	CONCRETE - 'A'	BASE COURSE - 'B'
HEAVY DUTY CONCRETE	5.0 INCHES	6.0 INCHES



NOTES:
1. CONCRETE PAVEMENT SHALL BE DOWELED AT ALL LONGITUDINAL AND EXPANSION JOINTS.
2. SAWCUT JOINTS SHALL BE PROVIDED AS NECESSARY FOR CRACK CONTROL. CONTROL JOINTS SHALL BE SPACED 8-FT APART IN BOTH DIRECTIONS.

ON-SITE CONCRETE PAVEMENT SECTIONS

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

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Date	Description	No.

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
PAVEMENT PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

C113

Sheet 9 of 30

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Project No. 620023601

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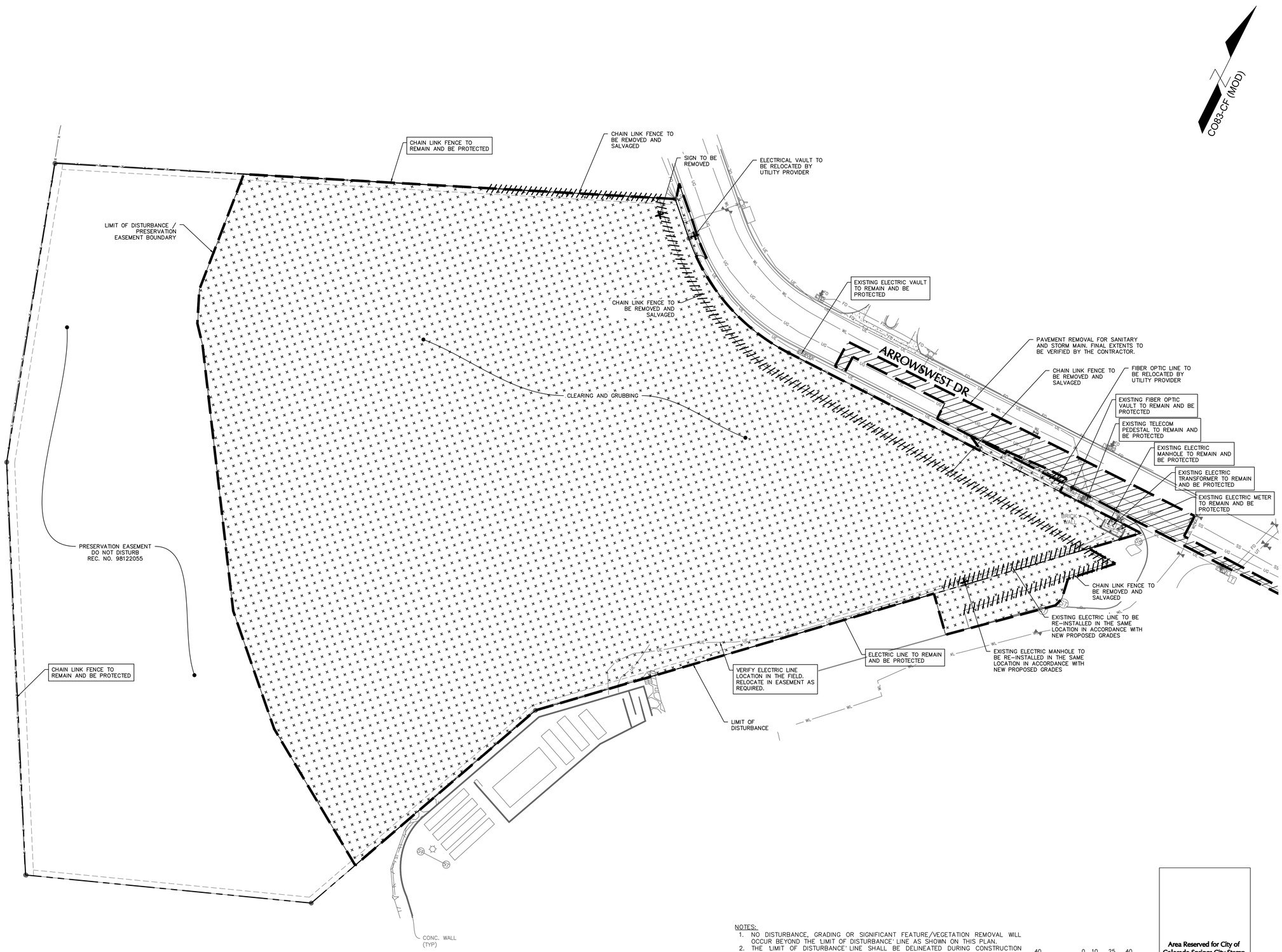

NOTES:

1. NO DISTURBANCE, GRADING OR SIGNIFICANT FEATURE/VEGETATION REMOVAL WILL OCCUR BEYOND THE 'LIMIT OF DISTURBANCE' LINE AS SHOWN ON THIS PLAN.
2. THE 'LIMIT OF DISTURBANCE' LINE SHALL BE DELINEATED DURING CONSTRUCTION WITH FLAGS, ROPE AND/OR FOUR FOOT (4') TALL ORANGE CONSTRUCTION FENCING.
3. SEE LEGEND ON SHEET C002

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Area Reserved for City of Colorado Springs City Stamp

City File Number: TBD

Date	Description	No.

Revisions

Signature MICHAEL GOLIAS Date
PROFESSIONAL ENGINEER CO Lic. No. 0052156

LANGAN
Langan Engineering and Environmental Services, Inc.
300 Union Boulevard, Suite 405
Lakewood, CO 80228
T: 303.262.2600 F: 303.262.2001 www.langan.com

Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

SITE REMOVALS PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JE

Drawing No. CD100

Sheet 10 of 30

LANGAN
Project No. 620023601

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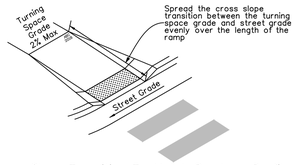
General Notes

1. All work shall be done in accordance with the current City of Colorado Springs Engineering Division (the City) Standard Specifications.
2. The Contractor shall obtain all required permits and notify City Engineering by 1500 hours the business day before inspection is required.
3. Concrete shall have a minimum compressive strength of 4,000 psi and use a City-approved concrete mix.
4. A broom finish, with sweeps perpendicular to the direction of pedestrian traffic, shall be applied to all ramp surfaces.
5. The Contractor shall stamp their company name and construction date at the top right corner of the ramp as viewed from the street.
6. Detectable warnings shall be installed at sidewalk to street transitions and shall consist of prefabricated truncated dome panels approved by the City. The detectable warning panels shall be set into the wet concrete. The domes shall be in a square grid pattern and aligned with pedestrian traffic.
7. All detectable warning surfaces at the base of ramps shall start a minimum of 6 inches from the flowline of the curb and not be more than 8 inches from any point on the flowline of the curb, with the exception for ramps that are constructed within the curved portion of the return as approved by the City.
8. Ramp and detectable warning running slope shall be 8.3% or flatter except on long ramps as specified by Note 14.
9. Drainage structures, traffic signal equipment, or other obstructions shall not be installed in the ramp or turning space areas.
10. If a traffic signal pedestrian push button cannot be mounted within 10 inches horizontally of the pedestrian path or is obstructed from reach then a separate pedestrian push button post assembly shall be installed. Push buttons shall meet the requirements of MUTCD Chapter 4 for pedestrian detectors.
11. Diagonal ramps on the apex are not allowed in new construction. A single diagonal ramp on the apex may be permitted during reconstruction or alteration where physical or site constraints prevent two ramps from being installed and shall require approval from the City on a case-by-case basis.
12. Ramps, excluding flared sides or blended transitions, shall be wholly contained within the width of the crosswalk and/or the pedestrian street crossing that they serve.
13. All ramp joints and grade breaks shall be flush (0"±1/8"). The joint between the roadway surface and gutter pan shall be flush.
14. In retrofit applications, to avoid chasing grade indefinitely on steep streets, ramp length is not required to exceed 15 feet.
15. The counter slope of the gutter or road at the foot of a ramp, turning space, or blended transition shall not exceed 5.0%.
16. Flared side slopes may exceed 10% only where they abut a non-walkable surface (landscaping or domed surface) or the adjacent circulation path is blocked such that it is unlikely for a pedestrian to walk across the flared side slope.
17. The minimum turning space for new construction is 5 feet by 5 feet. The minimum turning space allowed for retrofit applications is 4 feet by 4 feet. In all types of construction where the turning space is constrained by an element taller than 2 inches such as curb, the turning space shall be 5 feet by 5 feet.
18. Contact the City Forestry Division if it is necessary to disturb trees or roots.
19. All curb ramps shall have a minimum concrete thickness of 6 inches.
20. All sidewalks and turning spaces shall have a cross slope between 0.5% and 2.0%.
21. Ramps shall align with each other across the street.

Slope Table

The table below is intended to be used to convert between the percent (rise/run) and ratio (run:rise) methods of expressing the magnitude of a slope:

PERCENT SLOPE	0.5%	1.0%	2.0%	5.0%	7.1%	8.3%	10.0%
RATIO SLOPE	200:1	100:1	50:1	20:1	14:1	12:1	10:1



Ramp Cross Slope Transition To Match Roadway Profile

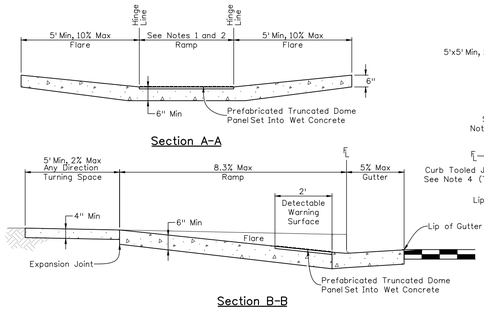
Ramp cross slopes and turning spaces shall be:
A. 2% max when a yield or stop control is present.
B. Permitted to equal the street grade when there is no yield or stop control, when a traffic signal is present, at a mid block crossing location, or in retrofit applications.

COLORADO SPRINGS OLYMPIC CITY USA

SIDEWALK CURB RAMPS GENERAL NOTES AND DETAILS

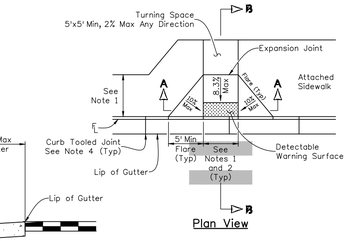
APPROVED: CITY ENGINEER

ISSUED: 3/28/2019 REVISED: DRAWING NO. D-8A

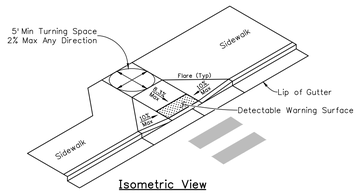


Section A-A

Section B-B



Plan View



Isometric View

Notes

1. Attached sidewalk shall be 6 feet wide minimum. Detached sidewalk shall be 5 feet wide minimum. Sidewalk width may be reduced to 4 feet in retrofit applications.
2. Ramp width shall be the same as the approaching sidewalk or turning space but not less than 4 feet. Ramp cross slope shall evenly transition between turning space grade and street grade.
3. Sidewalk cross slope shall be 2% maximum measured perpendicular to the direction of walk for detached sidewalk and perpendicular to the curb for attached sidewalk.
4. Curb tooled joints shall be laid out so that at least one joint occurs within the width of each ramp.

COLORADO SPRINGS OLYMPIC CITY USA

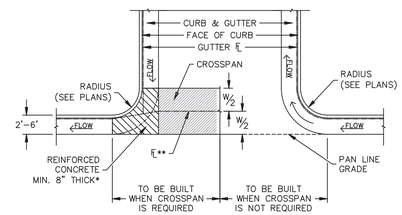
SIDEWALK CURB RAMPS TYPE 2 CURB RAMP

APPROVED: CITY ENGINEER

ISSUED: 3/28/2019 REVISED: DRAWING NO. D-8D

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT CITY OF COLORADO SPRINGS ENGINEERING DIVISION (THE CITY) STANDARD SPECIFICATIONS.
2. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS. FOR CITY PERMITS CONTRACTORS SHALL USE THE ACCELA ON-LINE PERMIT SYSTEM. ONCE CITY PERMITS ARE APPROVED AND PAID, THEN APPROPRIATE SCHEDULING AND NOTIFICATIONS SHALL BE IN ACCELA.
3. PRIOR TO OPENING TO TRAFFIC, CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,200 PSI AS DEMONSTRATED BY FIELD CURE CYLINDERS, AND USE A CITY APPROVED CONCRETE MIX.
4. 1-INCH DEEP TOOL JOINTS SHALL BE INSTALLED AT 10-FOOT SPACING.
5. A BROOM FINISH, WITH SWEEPS IN THE DIRECTION OF FLOW SHALL BE APPLIED TO ALL GUTTER PANS.
6. THE CONTRACTOR SHALL STAMP THEIR COMPANY NAME AND CONSTRUCTION DATE A MINIMUM EVERY 100-FEET OR FRACTION THEREOF ON FRONT FACE OF CURB.
7. NEW ASPHALT SHALL NOT BE PLACED AGAINST FRESHLY POURED CONCRETE. CONCRETE SHALL BE 5-DAYS OLD OR HAVE A COMPRESSIVE STRENGTH OF 3,200 PSI AS DEMONSTRATED BY FIELD CURE CYLINDERS.
8. ALL CURB TRANSITIONS (ONE TYPE TO ANOTHER) WILL BE 10-FOOT UNLESS OTHERWISE NOTED.
9. CONTACT THE CITY FORESTRY DIVISION, PRIOR TO STARTING WORK, IF IT IS NECESSARY TO DISTURB TREES OR ROOTS.
10. WHITE CURE SHALL BE PLACED WITH 100% COVERAGE, AND MEET THE SPECIFICATION OF SECTION 500.
11. GUTTER IN/OUT SLOPES AT CURB CUTS FOR CURB RAMPS SHALL BE LESS THAN 5% AND BE A.D.A. COMPLIANT (SEE CURB RAMP DETAILS).
12. CURB ENDINGS SHALL BE PLACED WHERE CURB AND GUTTER DEAD-ENDS.
13. CURB CUTS FOR DRIVEWAYS ARE SHOWN ON THE DRIVEWAY DETAILS.



*THIS AREA SHALL BE POURED MONOLITHICALLY WITH CURB AND GUTTER AND PAID FOR AS REINFORCED CONCRETE 8".

**FLOW LINE IN CROSSPAN ESTABLISHED BY W/2.

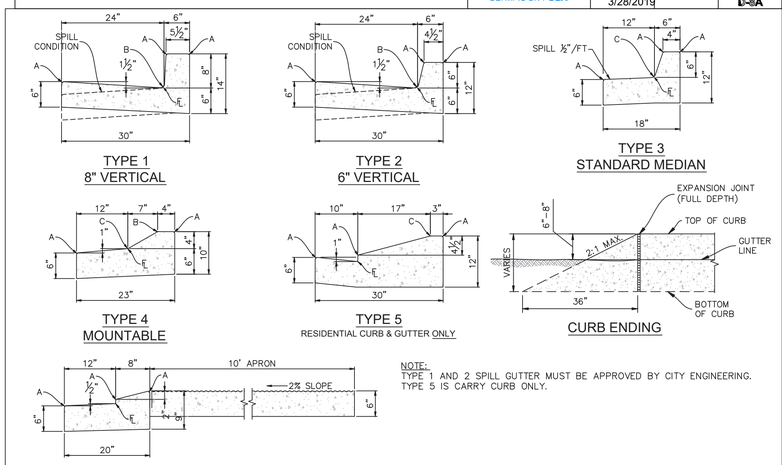
CONSTRUCTION OF CONCRETE GUTTERS AT INTERSECTION

COLORADO SPRINGS OLYMPIC CITY USA

CURB & GUTTER GENERAL NOTES & DETAILS

APPROVED: CITY ENGINEER

ISSUED: 2/26/20 REVISED: DRAWING NO. 6A



NOTE:
TYPE 1 AND 2 SPILL GUTTER MUST BE APPROVED BY CITY ENGINEERING.
TYPE 5 IS CARRY CURB ONLY.

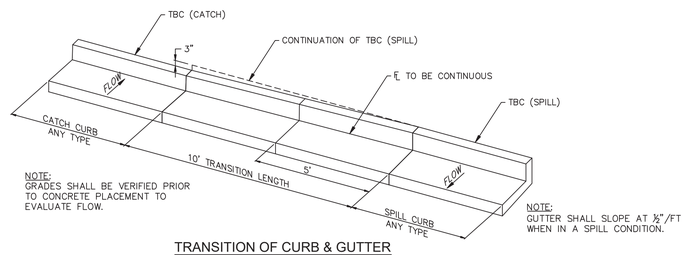
RADII LEGEND	
A	¼"-½"
B	1½"
C	1½"-2"

COLORADO SPRINGS OLYMPIC CITY USA

CURB & GUTTER DETAILS

APPROVED: CITY ENGINEER

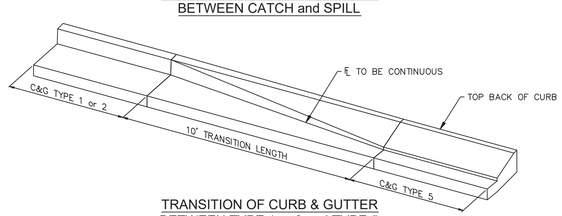
ISSUED: 2/26/20 REVISED: DRAWING NO. 6B



NOTE:
GRADES SHALL BE VERIFIED PRIOR TO CONCRETE PLACEMENT TO EVALUATE FLOW.

NOTE:
GUTTER SHALL SLOPE AT ½"/FT WHEN IN A SPILL CONDITION.

TRANSITION OF CURB & GUTTER BETWEEN CATCH and SPILL



TRANSITION OF CURB & GUTTER BETWEEN TYPE 1 or 2 and TYPE 5

COLORADO SPRINGS OLYMPIC CITY USA

CURB & GUTTER TRANSITIONS

APPROVED: CITY ENGINEER

ISSUED: 2/26/20 REVISED: DRAWING NO. 6C

Date	Description	No.

Revisions

Signature Date
MICHAEL GOLIAS
PROFESSIONAL ENGINEER CO Lic. No. 0052156

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
SITE DETAILS 1

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

C530.1

Sheet 11 of 30

Area Reserved for City of Colorado Springs City Stamp

City File Number: TBD

Project No. 620023601

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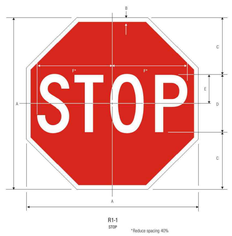


STOP SIGN
30" x 30" (FOR ONE LANE)
MUTCD: R1–1

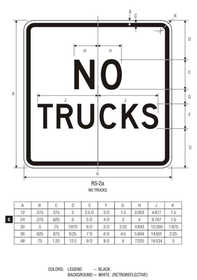
ADA PARKING SIGN
12" x 18"
MUTCD: R7–8

ADA PARKING SIGN –
VAN ACCESSIBLE
12" x 18"
MUTCD: R7–8A

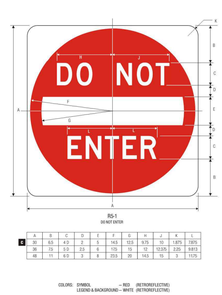
TRUCK ENTRANCE SIGN
18" x 24"

EXIT LEFT SIGN
12" x 18"

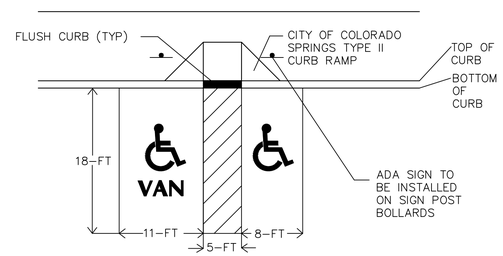
EMERGENCY ACCESS ONLY SIGN
24" x 30"



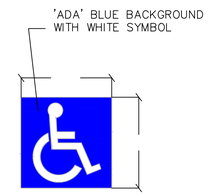
NO TRUCKS SIGN
MUTCD R5–2A



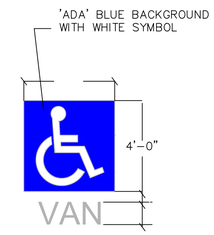
DO NOT ENTER SIGN
MUTCD R5–1



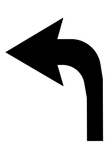
TYPICAL ADA STALL DETAIL



ADA PARKING STRIPING
USE AT ALL ACCESSIBLE
PARKING SPACES.



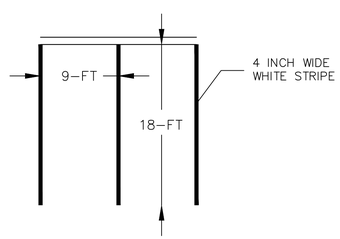
ADA PARKING STRIPING – VAN
USE AT ALL VAN ACCESSIBLE
PARKING SPACES.



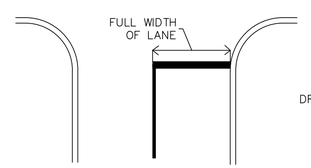
LEFT TURN ONLY
DIRECTIONAL ARROW
WHITE PAVEMENT GRAPHIC
APPROX. 8' X 8'

RIGHT TURN ONLY
DIRECTIONAL ARROW
WHITE PAVEMENT GRAPHIC
APPROX. 8' X 8'

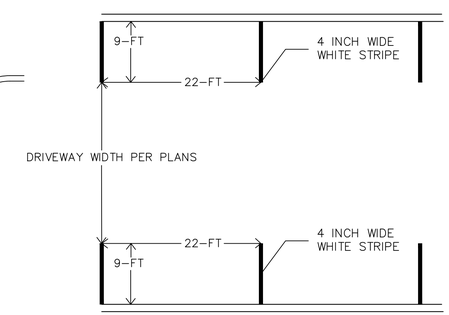
STRAIGHT ONLY
DIRECTIONAL ARROW
WHITE PAVEMENT GRAPHIC
APPROX. 8' X 8'



TYPICAL CAR PARKING DETAIL
9'X18'



STOP BAR
FULL WIDTH OF LANE X 2'
SOLID WHITE LINE



PARALLEL PARKING DETAIL
9'X22'

Area Reserved for City of
Colorado Springs City Stamp

City File Number: TBD

Date	Description	No.

Revisions

Signature Date
MICHAEL GOLIAS
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Project
VERIZON COLORADO
SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
SITE DETAILS
2

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

C530.2

Sheet 12 of 30

Project No. 620023601

LANGAN

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SwingRiser™

Unique two-axis movement to clear ground obstacles

Unique hydraulic swing gate operator with smooth lift and swing action to clear obstacles such as snow, curbs, or road inclines.

Features:

Weight limit: Move up to 3,000 lb/ 16 ft leaf

Movement: Raises gate leaf a full 12 inches during the gate open cycle

Reliable: UPS models retain full functionality during an AC power outage

Programmable: Easy to configure. Program operation to site specific requirements

Design: Low-profile operator concealed within gate posts

Connected: Real time security alerts with optional HyNet Gateway

Applications: Dual gate, sally port or sequenced integration

Troubleshooting: Easy system troubleshooting with onboard event log

Made in USA: Designed, tested and built with global materials

SwingRiser

Industrial and High Security

powered by **SmartTouch**

Technical Specifications

Model	SwingRiser 14	SwingRiser 14-Twin	SwingRiser 19	SwingRiser 19-Twin	SwingRiser 30	SwingRiser 30-Twin
Part #	HRG 220-A ST	HRG 222-A ST	HRG 220-B ST	HRG 222-B ST	HRG 220-C ST	HRG 222-C ST
Duty Cycle	Continuous					
Horsepower	1 hp	2 hp	1 hp	2 hp	1 hp	2 hp
Drive	Hydraulic					
Gate Length Max.*	up to 9 ft (3 m)	up to 9 ft (3 m) each leaf	up to 16 ft (5 m)	up to 16 ft (5 m) each leaf	up to 16 ft (5 m)	up to 16 ft (5 m) each leaf
Gate Weight Max.*	1,000 lb (453 kg)	1,000 lb (453 kg) / leaf	1,600 lb (726 kg)	1,600 lb (726 kg) / leaf	3,000 lb (1,361 kg)	3,000 lb (1,361 kg) / leaf
Open/Close Time	14 seconds		19 seconds		30 seconds	
Temperature Rating	-40º to 158º F (-40º to 70º C)					
1 Phase Power	115/208/230V 60Hz 110/220V 50Hz **	208/230V 60Hz 220V 50Hz **	115/208/230V 60Hz 110/220V 50Hz **	208/230V 60Hz 220V 50Hz **	115/208/230V 60Hz 110/220V 50Hz **	208/230V 60Hz 220V 50Hz **
3 Phase Power	208/230/460V 60Hz, 220/380/440V 50Hz					
Communication	RS-232, RS-485, Ethernet/fiber using optional HyNet™ Gateway accessory					
User Controls	Smart Touch Controller with 70+ configurable settings, programmed via the keypad and display or a PC using S.T.A.R.T. software.					
Relay	Three configurable user relays: one 30VDC, 3A solid state and two 250VAC, 10A electromechanical; Optional HySRelay™ for 8 additional relay outputs					
Finish	Zinc flame sprayed					
Enclosure	HydraSupply: Type 3R, 30w x 42h x 12d inch (76w x 107h x 30.5d cm)					
ETL Listed (UL 325)	Usage Class I, II, III, IV					
Warranty	5 year w/product registration					
UPS Battery Backup Power Options						
DC Power Supply with HyCharger DC †	SwingRiser 14 UPS	SwingRiser 14-Twin UPS	SwingRiser 19 UPS	SwingRiser 19-Twin UPS	SwingRiser 30 UPS	SwingRiser 30-Twin UPS
AC Power Supply with HyInverter AC^	SwingRiser 14 with HyInverter AC	—	SwingRiser 19 with HyInverter AC	—	SwingRiser 30 with HyInverter AC	—

* The operator's normal duty cycle and the actual number of gate cycles available from battery depends upon gate resistance to travel, cycle length, battery size, state of charge and health, ambient temperature, accessory power draw and frequency of gate cycles during power outage.
** Dual voltage 115/230V models are ready for all 50Hz voltages, which are special order.
† 115V requires a 30A branch circuit. Choose voltage with care as chargers are not field convertible.
To enable fully automatic operation, all SWING gate operators require a minimum of ONE monitored external entrapment protection sensor to protect entrapment zones in either the open or close direction of travel. However, an additional monitored sensor is required if there is a risk of entrapment in both directions of gate travel. Visit hysecurity.com/gatesafety for more information on UL 325 standards and gate safety.

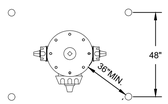
Optional Accessories - See website for complete list

Hy5B™ Vehicle Detector | Hy8Relay™ Module | HyNet™ Gateway Integration | Photo Eye Kits | Radio Receivers & Transmitters | ASO Edge Sensors | Heater Kit

HySecurity a Nice company

Contact HySecurity for an operator/parts distributor near you.
Phone 253-867-3700 | 800-321-9947
hysecurity.com | sales@hysecurity.com

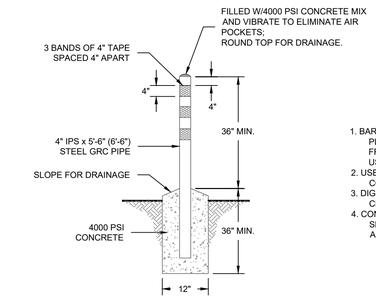
D0541 121820



BOLLARD PLACEMENT (TOP VIEW)

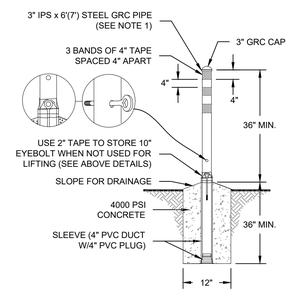
REFERENCE PROTECTION OF EQUIPMENT FROM VEHICULAR DAMAGE INFORMATION PACKET (COLORADO SPRINGS FIRE DEPARTMENT)

BOLLARDS ARE NECESSARY WHERE FIRE HYDRANTS ARE SUBJECT TO DAMAGE FROM VEHICULAR MOVEMENT.



CONCRETE FILLED POST

1. BARRICADE POSTS SHALL BE INSTALLED PLUMB AND LEVEL ACROSS THE TOPS FROM ONE TO ANOTHER WHEN TWO ARE USED.
2. USE 4" GRC PIPE AND PAINT WITH TWO COATS OF SILVER PAINT.
3. DIG 12" X 36" HOLE - CONDUIT TO BE CENTERED IN HOLE.
4. CONCRETE FOR ANCHORING POSTS SHALL BE 4000PSI MIX #2, APPROXIMATELY 8.3 CU.FT./POLE



REMOVABLE CAPPED - PIPE POST (WITH APPROVAL OF CSFD)

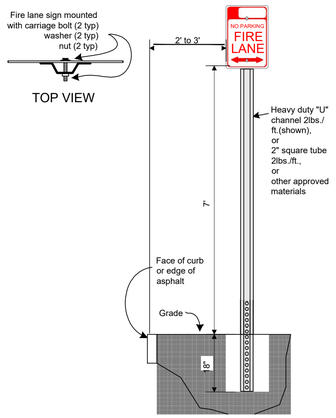
1. POST, REMOVABLE, AND ASSEMBLE WITH SCRAP 4" PVC DUCT SLEEVE, 10" X 1/2" EYEBOLT, 4" PVC PIPE PLUG, 2" BLACK TAPE AND 4" ORANGE REFLECTIVE TAPE AS SHOWN.
2. USE BANDS OF REFLECTIVE TAPE ON TOP OF POSTS TO WARN MOTORISTS, CYCLISTS, ETC. THE FIRST BAND SHOULD BE NO LOWER THAN 4" FROM THE TOP OF THE POST.
3. INTERMEDIATE POSTS ACROSS AT LEAST ONE SIDE (PREFERABLY THE FRONT) OF THE APPARATUS SHALL BE OF THE REMOVABLE TYPE; ALL OTHERS CAN BE PERMANENT.

Colorado Springs Utilities — It's how we're all connected

FIRE HYDRANT PROTECTION POSTS (BOLLARDS)

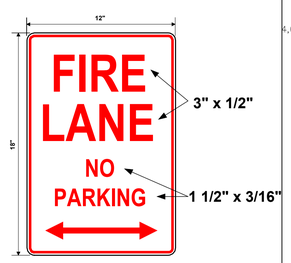
A5-4

DATED 03/2014



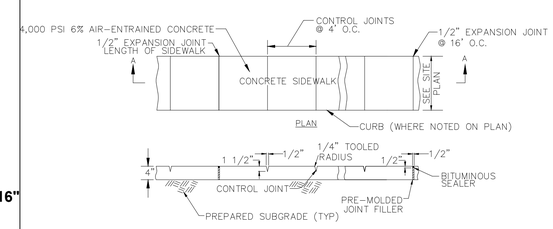
TYPICAL FIRE LANE SIGN INSTALLATION. TO BE INSTALLED APPROXIMATELY EVERY 100–FT

N.T.S.



CSFD APPROVED FIRE LANE SIGN 12" X 18"

CSFD FIRE LANE SIGN



SECTION A–A

NOTES:
1) ALL SIDEWALKS SHALL BE FLOATED, TOOLED, AND MEDIUM–BROOM BRUSHED.
2) SIDEWALKS SHALL BE INSTALLED OVER 6 INCHES OF STONE ON AN APPROVED, COMPACTED SUBGRADE.
3) SIDEWALK TO BE REINFORCED WITH #3 BARS SPACED AT 18 IN. O.C. EACH WAY
4) MAXIMUM CROSS SLOPE FOR SIDEWALK SHALL BE 2%

N.T.S.

CONCRETE SIDEWALK

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MICHAEL GOLIAS
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Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

SITE DETAILS 3

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

C530.3

Sheet 13 of 30

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Project No. 620023601

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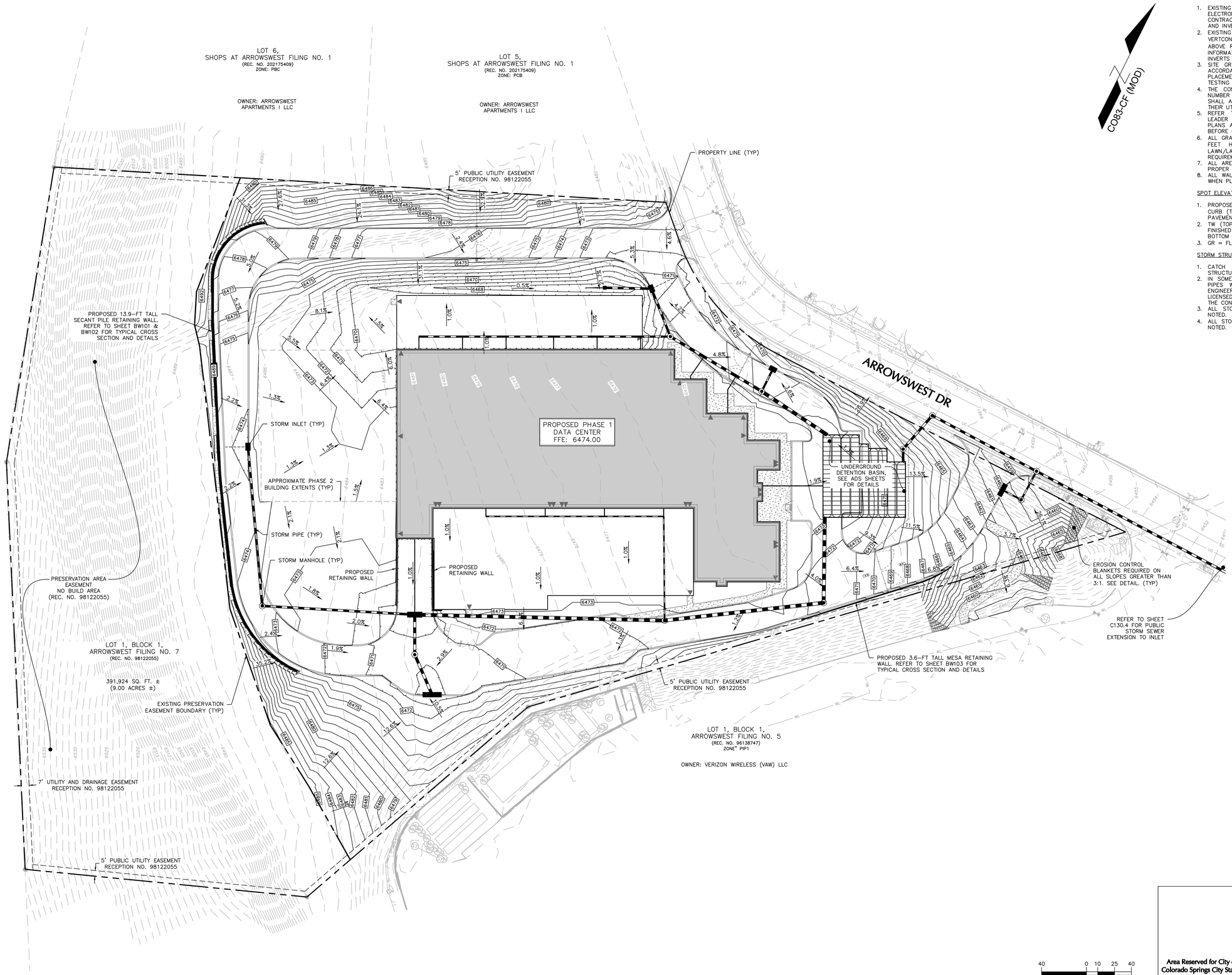

GENERAL GRADING AND DRAINAGE NOTES:

1. EXISTING TOPOGRAPHY AND UTILITY INFORMATION FROM CAD FILES RECEIVED ELECTRONICALLY FROM CLARK LAND SURVEYING, LLC. ON JULY 20TH, 2021. CONTRACTOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY, TIE IN ELEVATIONS, AND INVERTS PRIOR TO STARTING CONSTRUCTION.
2. EXISTING CONTOURS/INVERTS ARE SHOWN BASED ON NGVD 29 DATUM VIA VERTCON FROM (NAVD 88) FIMS MONUMENT G0G1, AS REPRESENTED ON THE ABOVE REFERENCED SURVEY. LANGAN CLAIMS NO RESPONSIBILITY FOR THIS INFORMATION. CONTRACTOR SHALL FIELD VERIFY TIE IN ELEVATIONS AND INVERTS PRIOR TO STARTING CONSTRUCTION.
3. SITE GRADING AND ALL REQUIRED UNDERCUTS SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE FILL MATERIAL, PLACEMENT OF FILL, COMPACTION REQUIREMENTS AND THE COMPACTION TESTING REQUIREMENTS ARE DEFINED IN THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
5. REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR EXACT ROOF LEADER CONNECTION LOCATIONS. WHERE CONFLICTS EXIST BETWEEN THESE PLANS AND ARCHITECTURAL PLANS, CONTRACTOR TO NOTIFY THE ENGINEER BEFORE CONSTRUCTION.
6. ALL GRADING SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF THREE (3) FEET HORIZONTALLY TO ONE (1) FOOT VERTICALLY ACROSS ALL LAWN/LANDSCAPE AREAS UNLESS REQUIRED BY ADA OR BARRIER FREE REQUIREMENTS.
7. ALL AREAS SHALL BE WELL GRADED TO MINIMIZE FLAT AREAS, TO PROVIDE PROPER DRAINAGE, AND TO PREVENT LOCALIZED PONDING.
8. ALL WALKS SHALL BE SLOPED AT 1.5% AND SLOPE AWAY FROM BUILDINGS WHEN PLACED ADJACENT TO THE BUILDING.

SPOT ELEVATION NOTES:

1. PROPOSED SPOT ELEVATIONS REFER TO THE BOTTOM OF THE FACE OF THE CURB (TC=BC+0.5 FT) AND/OR BOTTOM OF DITCH/SWALE AND/OR TOP OF PAVEMENT SURFACE UNLESS OTHERWISE NOTED.
2. TW (TOP OF WALL) AND BW (BOTTOM OF WALL) ELEVATIONS REPRESENT FINISHED GRADES ADJACENT TO THE RETAINING WALL. ACTUAL TOP AND BOTTOM OF WALL ELEVATIONS SHALL BE DETERMINED BY WALL DESIGNER.
3. GR = FLOW LINE OR TOP OF INLET LIP (BOTTOM OF CURB)

STORM STRUCTURE NOTES:

1. CATCH BASIN GRATE TYPES ARE LISTED WITH THE NAME OF EACH STRUCTURE.
2. IN SOME CASES THE STRUCTURE SIZE REQUIRED TO FACILITATE PROPOSED PIPES WILL BE LARGER THAN THE STANDARD CDOT STRUCTURE SIZE. ENGINEERED SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN COLORADO SHALL BE SUBMITTED FOR THESE STRUCTURES BY THE CONTRACTOR FOR REVIEW AND APPROVAL.
3. ALL STORM SEWERS SHALL BE CONSIDERED PRIVATE UNLESS OTHERWISE NOTED.
4. ALL STORM SEWER MANHOLES SHALL BE "CDOT TYPE I" UNLESS OTHERWISE NOTED.

Date	Description	No.
Revisions		

Signature MICHAEL GOLIAS Date
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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
OVERALL PRELIMINARY GRADING & DRAINAGE PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

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Sheet 14 of 30

SCALE: 1 INCH = 40 FEET

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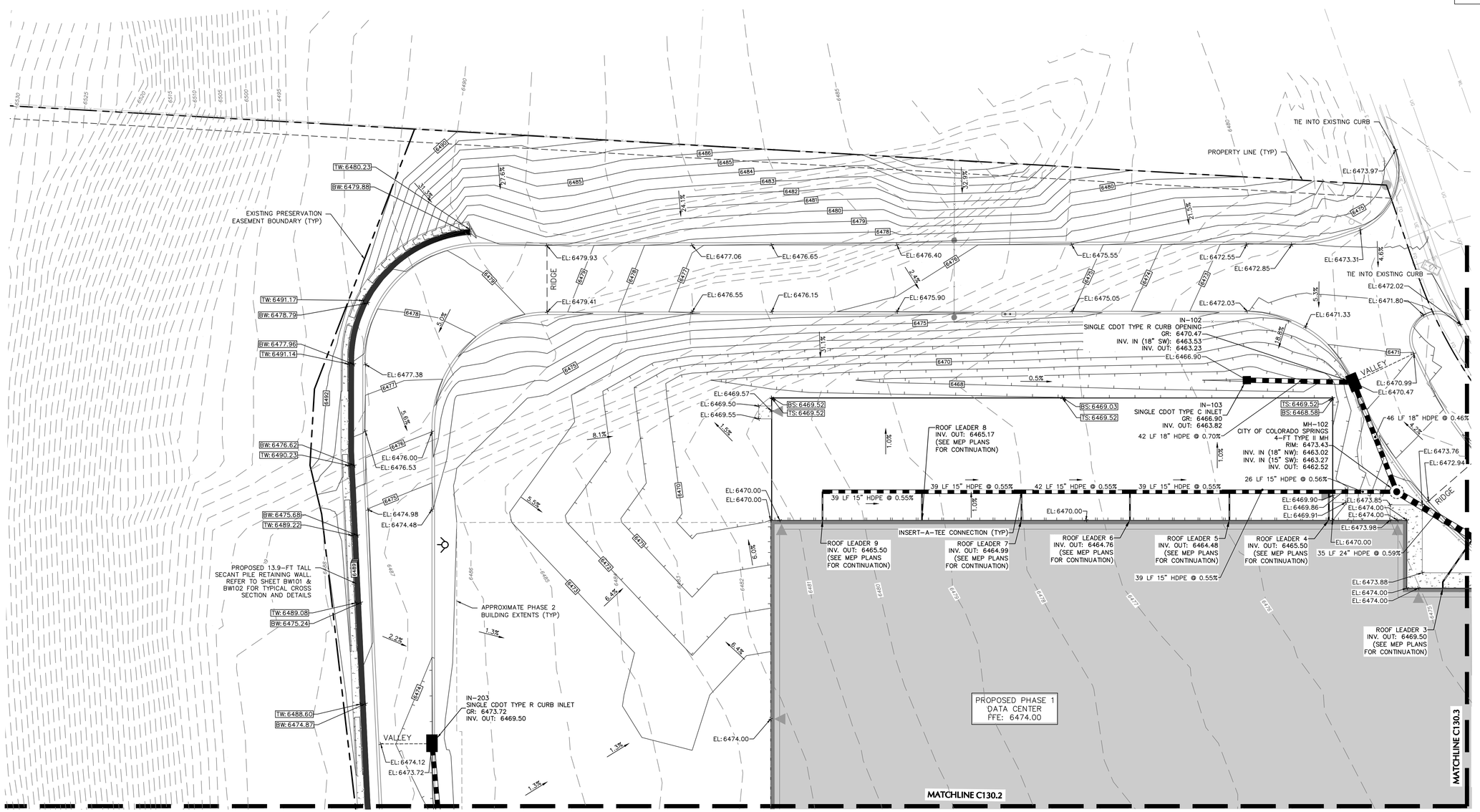

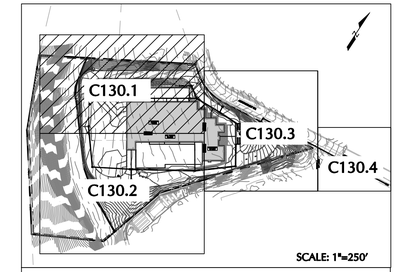

KEYMAP

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SCALE: 1 INCH = 20 FEET

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Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 1

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

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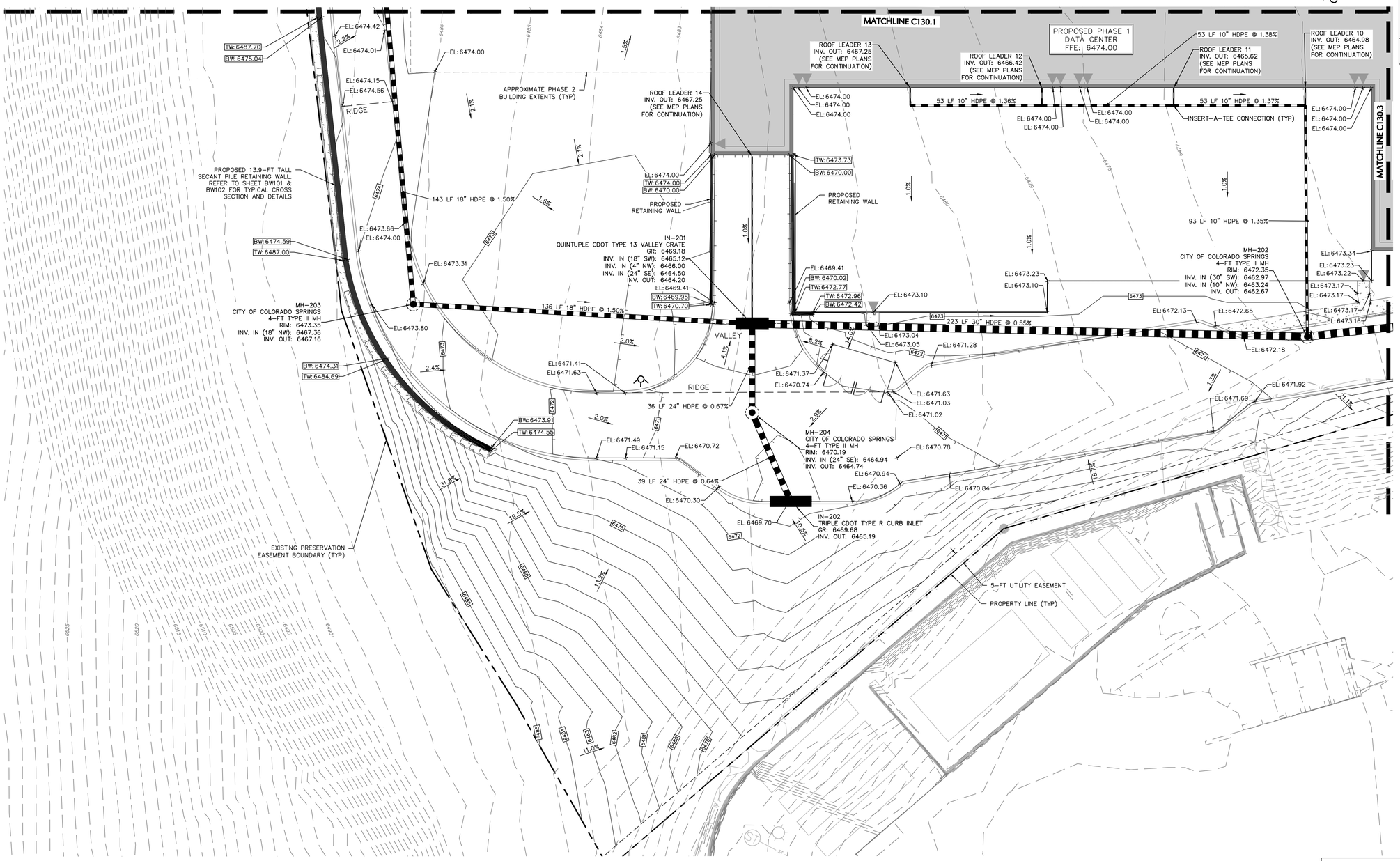

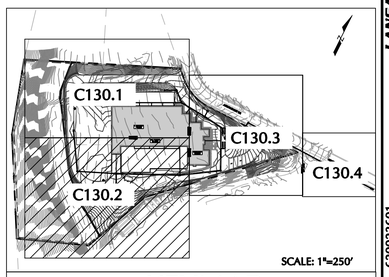

KEYMAP

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Drawing Title

PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 2

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Project No. 620023601

Date 1/3/2022

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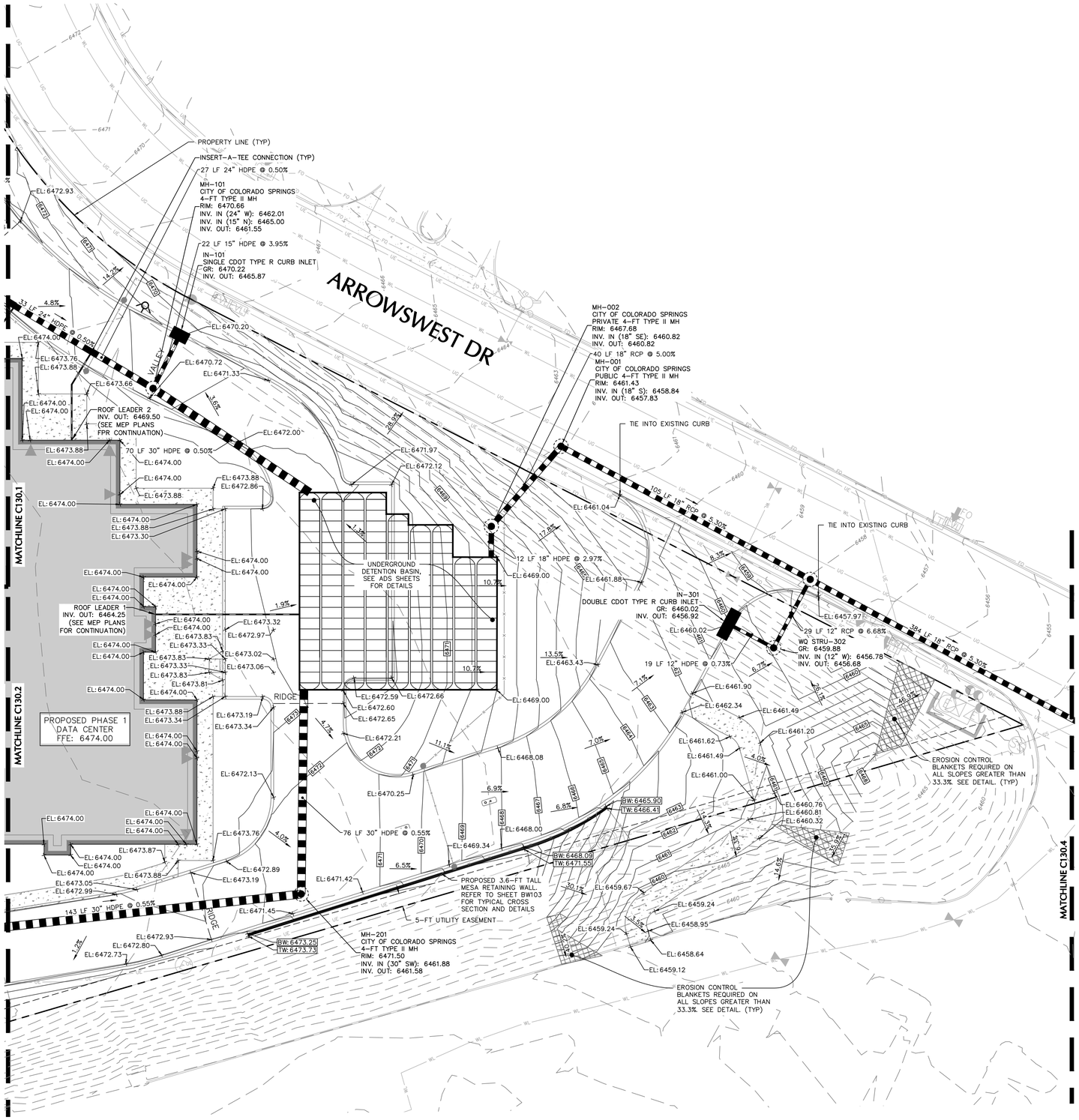

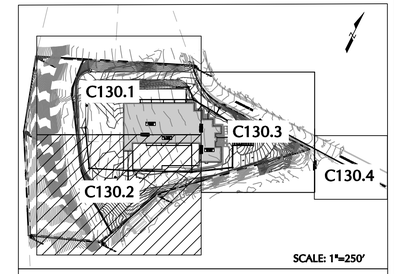

KEYMAP

SCALE: 1 INCH = 20 FEET

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Drawing Title

PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 3

Project No. 620023601
Date 1/3/2022
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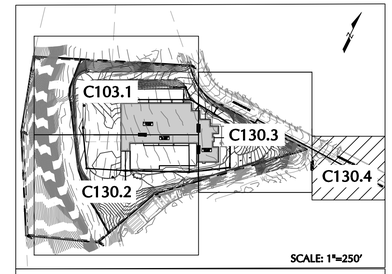

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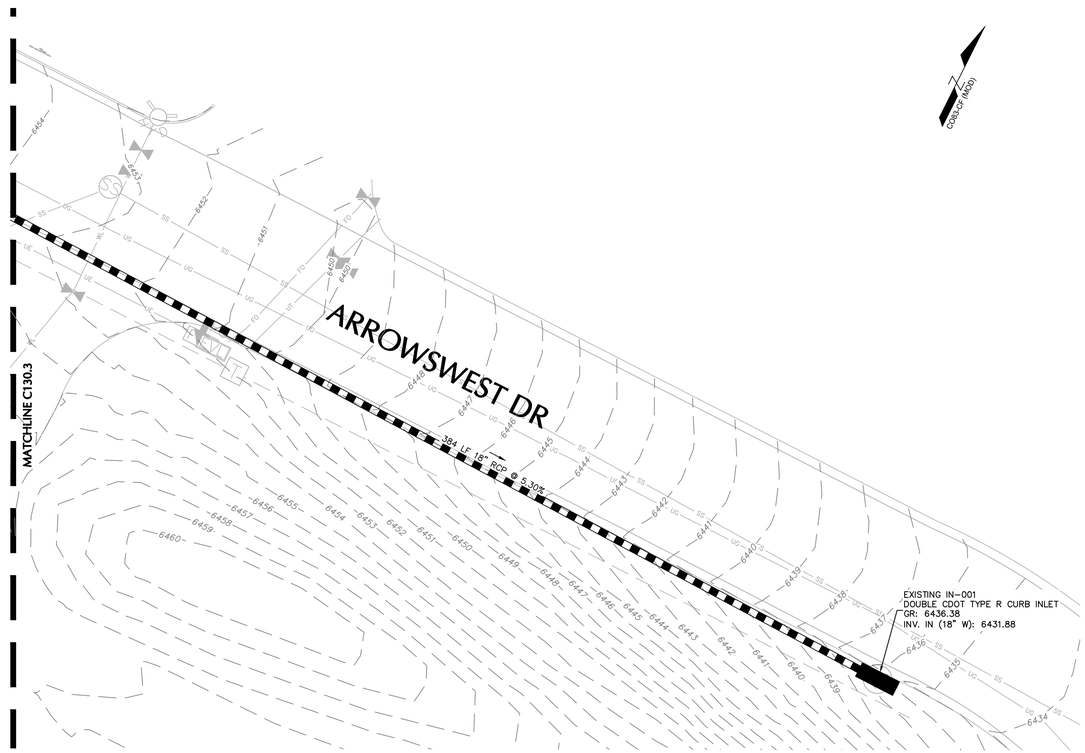

NOTES:

1. EXISTING BOUNDARY, TOPOGRAPHIC, AND UTILITY INFORMATION REFERENCED FROM THE PLANS TITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY CLARK LAND SURVEYING, LLC. FOR THE VERIZON COSP PROJECT LOCATED AT 4225 ARROWSWEST DR IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO AND DATED JULY 20, 2021.
2. EXISTING TOPOGRAPHIC AND UTILITY INFORMATION FOR THE OFFSITE STORM SEWER EXTENSION REFERENCED FROM THE PLANS TITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY CLARK LAND SURVEYING, LLC. FOR THE ADJACENT VERIZON PROJECT LOCATED AT 4323 ARROWSWEST DR IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO AND DATED SEPTEMBER 17, 2019.

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Project
VERIZON COLORADO SPRINGS NEW BUILD
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EL PASO COUNTY COLORADO

Drawing Title
PARTIAL PRELIMINARY GRADING & DRAINAGE PLAN 4

Project No. 620023601
Date 1/3/2022
Drawn By MEW
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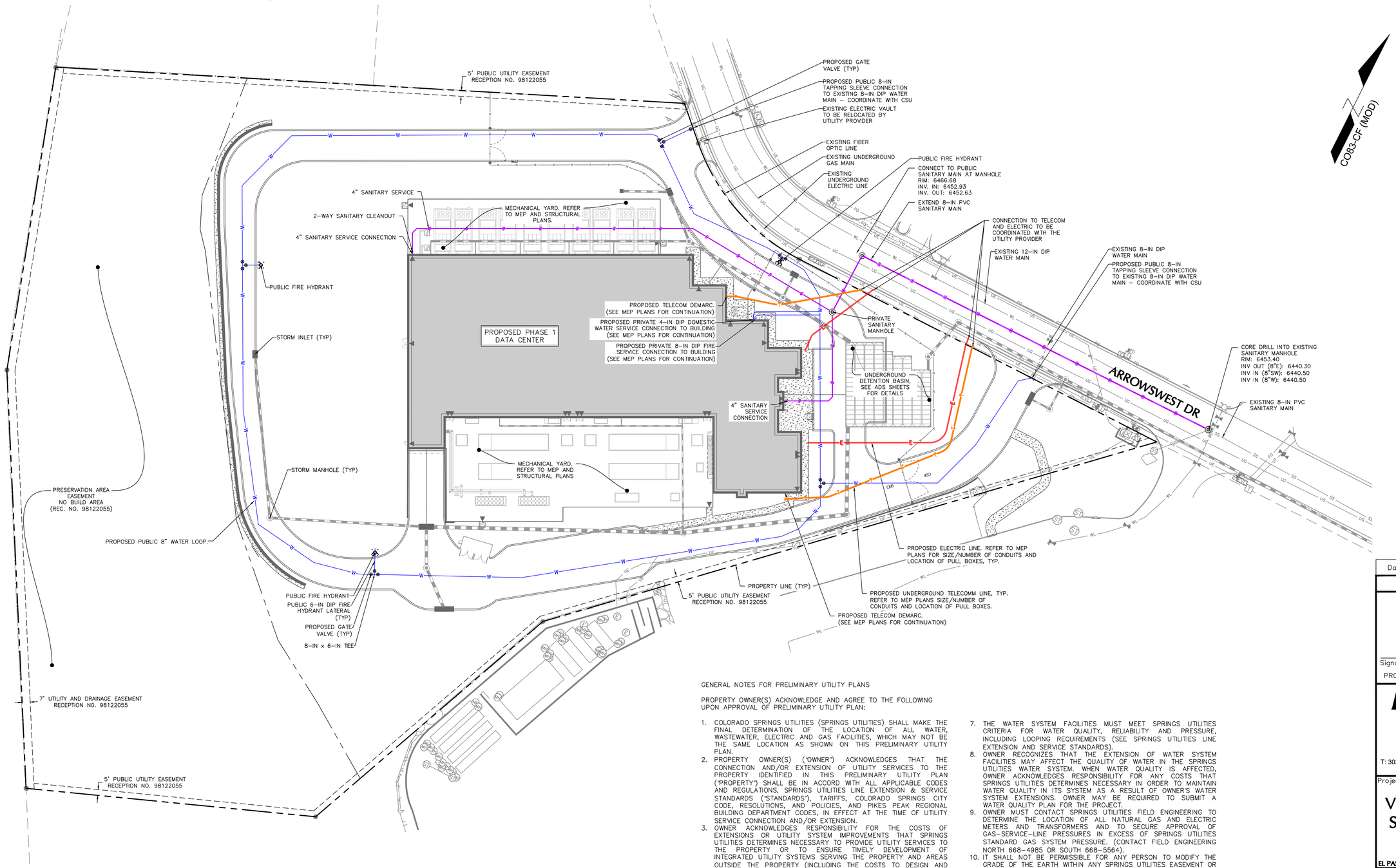

GENERAL NOTES FOR PRELIMINARY UTILITY PLANS

PROPERTY OWNER(S) ACKNOWLEDGE AND AGREE TO THE FOLLOWING UPON APPROVAL OF PRELIMINARY UTILITY PLAN:

1. COLORADO SPRINGS UTILITIES (SPRINGS UTILITIES) SHALL MAKE THE FINAL DETERMINATION OF THE LOCATION OF ALL WATER, WASTEWATER, ELECTRIC AND GAS FACILITIES, WHICH MAY NOT BE THE SAME LOCATION AS SHOWN ON THIS PRELIMINARY UTILITY PLAN.
2. PROPERTY OWNER(S) ("OWNER") ACKNOWLEDGES THAT THE CONNECTION AND/OR EXTENSION OF UTILITY SERVICES TO THE PROPERTY IDENTIFIED IN THIS PRELIMINARY UTILITY PLAN ("PROPERTY") SHALL BE IN ACCORD WITH ALL APPLICABLE CODES AND REGULATIONS, SPRINGS UTILITIES LINE EXTENSION & SERVICE STANDARDS ("STANDARDS"), TARIFFS, COLORADO SPRINGS CITY CODE, RESOLUTIONS, AND POLICIES, AND PIKES PEAK REGIONAL BUILDING DEPARTMENT CODES, IN EFFECT AT THE TIME OF UTILITY SERVICE CONNECTION AND/OR EXTENSION.
3. OWNER ACKNOWLEDGES RESPONSIBILITY FOR THE COSTS OF EXTENSIONS OR UTILITY SYSTEM IMPROVEMENTS THAT SPRINGS UTILITIES DETERMINES NECESSARY TO PROVIDE UTILITY SERVICES TO THE PROPERTY OR TO ENSURE TIMELY DEVELOPMENT OF INTEGRATED UTILITY SYSTEMS SERVING THE PROPERTY AND AREAS OUTSIDE THE PROPERTY (INCLUDING THE COSTS TO DESIGN AND INSTALL WATER SYSTEMS, WASTEWATER COLLECTION SYSTEMS, AND ANY GAS OR ELECTRIC LINES TO AND WITHIN THE PROPERTY). OWNER MAY BE ELIGIBLE FOR A COST RECOVERY AGREEMENT AS PROVIDED IN UTILITIES' RULES AND REGULATIONS.
4. SPRINGS UTILITIES UTILITY SERVICES ARE AVAILABLE ON A "FIRST-COME, FIRST-SERVED" BASIS, AND THEREFORE NO SPECIFIC ALLOCATIONS OR AMOUNTS OF UTILITY SERVICES, FACILITIES, CAPACITIES OR SUPPLIES ARE RESERVED FOR THE OWNER, AND SPRINGS UTILITIES MAKES NO COMMITMENT AS TO THE AVAILABILITY OF ANY UTILITY SERVICE UNTIL SUCH TIME AS AN APPLICATION FOR PERMANENT SERVICE IS APPROVED BY SPRINGS UTILITIES.
5. THE RELOCATION OR ALTERATION OF ANY EXISTING UTILITY FACILITIES WITHIN THE PROPERTY WILL BE AT THE OWNER'S SOLE COST AND EXPENSE. IF SPRINGS UTILITIES DETERMINES THAT OWNER'S RELOCATION OR ALTERATION REQUIRES NEW OR UPDATED EASEMENTS, OWNER SHALL CONVEY THOSE EASEMENTS PRIOR TO RELOCATING OR ALTERING THE EXISTING UTILITY FACILITIES.
6. OWNER SHALL DEDICATE BY PLAT AND/OR CONVEY BY RECORDED DOCUMENT, ALL PROPERTY AND EASEMENTS THAT SPRINGS UTILITIES DETERMINES ARE REQUIRED FOR ALL UTILITY SYSTEM FACILITIESNECESSARY TO SERVE THE PROPERTY OR TO ENSURE DEVELOPMENT OF AN INTEGRATED UTILITY SYSTEM. ALL EASEMENTS GRANTED BY SEPARATE INSTRUMENT SHALL UTILIZE SPRINGS UTILITIES' THEN-CURRENT PERMANENT EASEMENT AGREEMENT FORM.
7. THE WATER SYSTEM FACILITIES MUST MEET SPRINGS UTILITIES CRITERIA FOR WATER QUALITY, RELIABILITY AND PRESSURE, INCLUDING LOOPING REQUIREMENTS (SEE SPRINGS UTILITIES LINE EXTENSION AND SERVICE STANDARDS).
8. OWNER RECOGNIZES THAT THE EXTENSION OF WATER SYSTEM FACILITIES MAY AFFECT THE QUALITY OF WATER IN THE SPRINGS UTILITIES WATER SYSTEM. WHEN WATER QUALITY IS AFFECTED, OWNER ACKNOWLEDGES RESPONSIBILITY FOR ANY COSTS THAT SPRINGS UTILITIES DETERMINES NECESSARY IN ORDER TO MAINTAIN WATER QUALITY IN ITS SYSTEM AS A RESULT OF OWNER'S WATER SYSTEM EXTENSIONS. OWNER MAY BE REQUIRED TO SUBMIT A WATER QUALITY PLAN FOR THE PROJECT.
9. OWNER MUST CONTACT SPRINGS UTILITIES FIELD ENGINEERING TO DETERMINE THE LOCATION OF ALL NATURAL GAS AND ELECTRIC METERS AND TRANSFORMERS AND TO SECURE APPROVAL OF GAS-SERVICE-LINE PRESSURES IN EXCESS OF SPRINGS UTILITIES STANDARD GAS SYSTEM PRESSURE. (CONTACT FIELD ENGINEERING NORTH 668-4985 OR SOUTH 668-5564).
10. IT SHALL NOT BE PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH WITHIN ANY SPRINGS UTILITIES EASEMENT OR RIGHTS OF WAY WITHOUT THE WRITTEN APPROVAL OF SPRINGS UTILITIES. IMPROVEMENTS, STRUCTURES AND TREES SHALL NOT BE LOCATED WITHIN UTILITY EASEMENT, SHALL NOT VIOLATE NATIONAL ELECTRIC SAFETY CODE (NESC) PROVISIONS AND CLEARANCES, AND SHALL NOT IMPAIR ACCESS OR THE ABILITY TO MAINTAIN UTILITY FACILITIES.
11. SPRINGS UTILITIES APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF SPRINGS UTILITIES TO APPLY ITS STANDARDS; AND IF THERE ARE ANY CONFLICTS BETWEEN ANY APPROVED DRAWINGS AND ANY PROVISION OF STANDARDS OR THE CITY CODE, THEN THE STANDARDS OR CITY CODE SHALL APPLY. SPRINGS UTILITIES' APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF THE CITY OF COLORADO SPRINGS OR SPRINGS UTILITIES TO ADOPT DIFFERENT ORDINANCES, RULES, REGULATIONS, RESOLUTIONS, POLICIES OR CODES WHICH CHANGE ANY OF THE PROVISIONS OF THE STANDARDS SO LONG AS THESE APPLY TO THE CITY GENERALLY AND ARE IN ACCORD WITH THE THEN-CURRENT TARIFFS, RATES AND POLICIES OF SPRINGS UTILITIES.

LANDSCAPE NOTES:

1. NO TREES TO BE PLACED WITHIN 15' OF WATER OR WASTEWATER MAINS; OR WITHIN 6' OF ELECTRIC AND GAS DISTRIBUTION LINES.

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City File Number: TBD

Date	Description	No.
Revisions		

Signature MICHAEL GOLIAS Date
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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
OVERALL PRELIMINARY UTILITY PLAN

Project No. 620023601
Date 1/3/2022
Drawn By MEW
Checked By JWE

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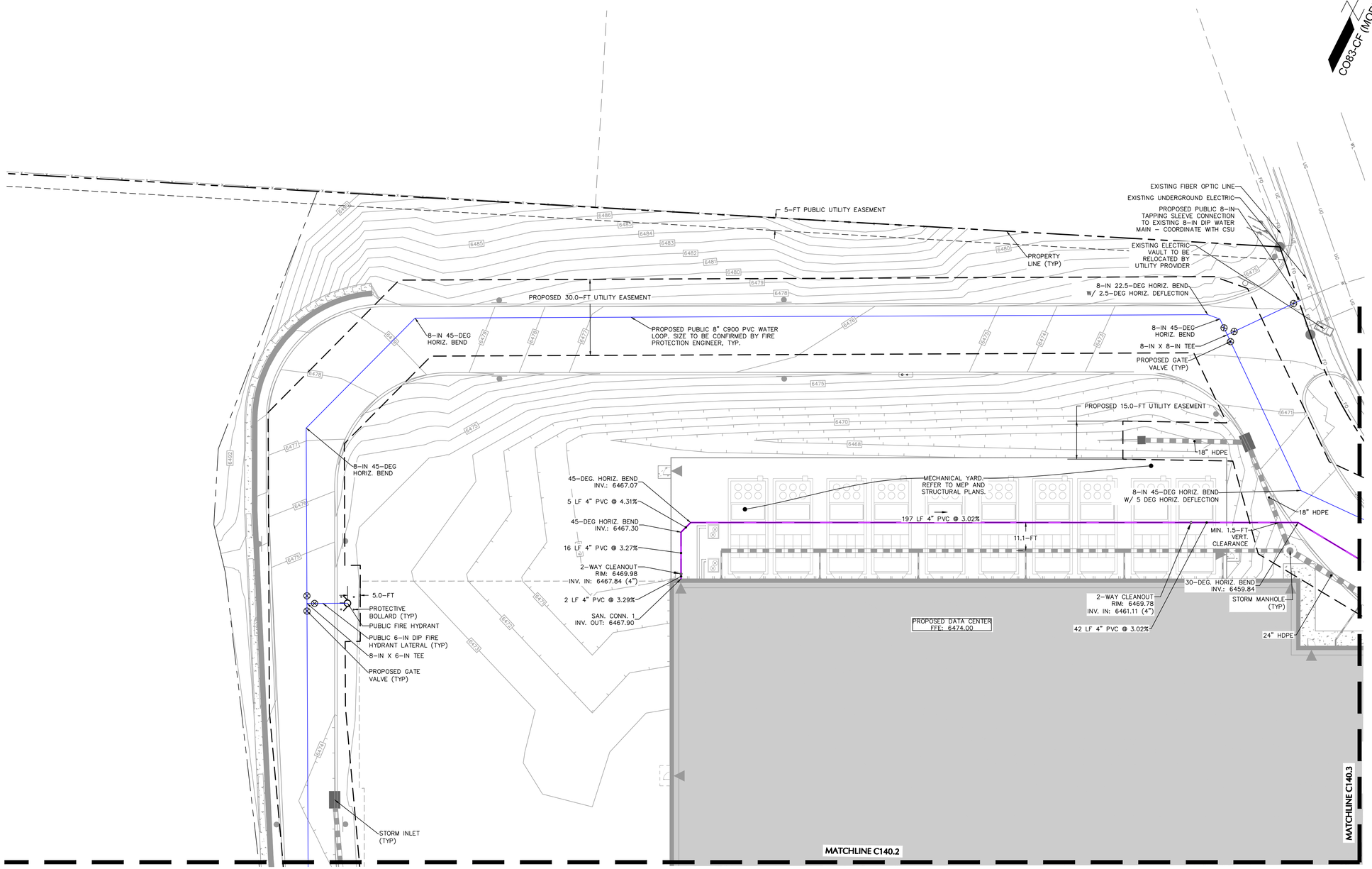

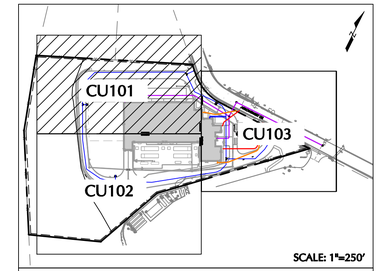

KEYMAP

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SCALE: 1 INCH = 20 FEET

LANDSCAPE NOTES:
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Project
VERIZON COLORADO SPRINGS NEW BUILD
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Drawing Title
PARTIAL PRELIMINARY UTILITY PLAN 1

Project No. 620023601
Date 1/3/2022
Drawn By MEW
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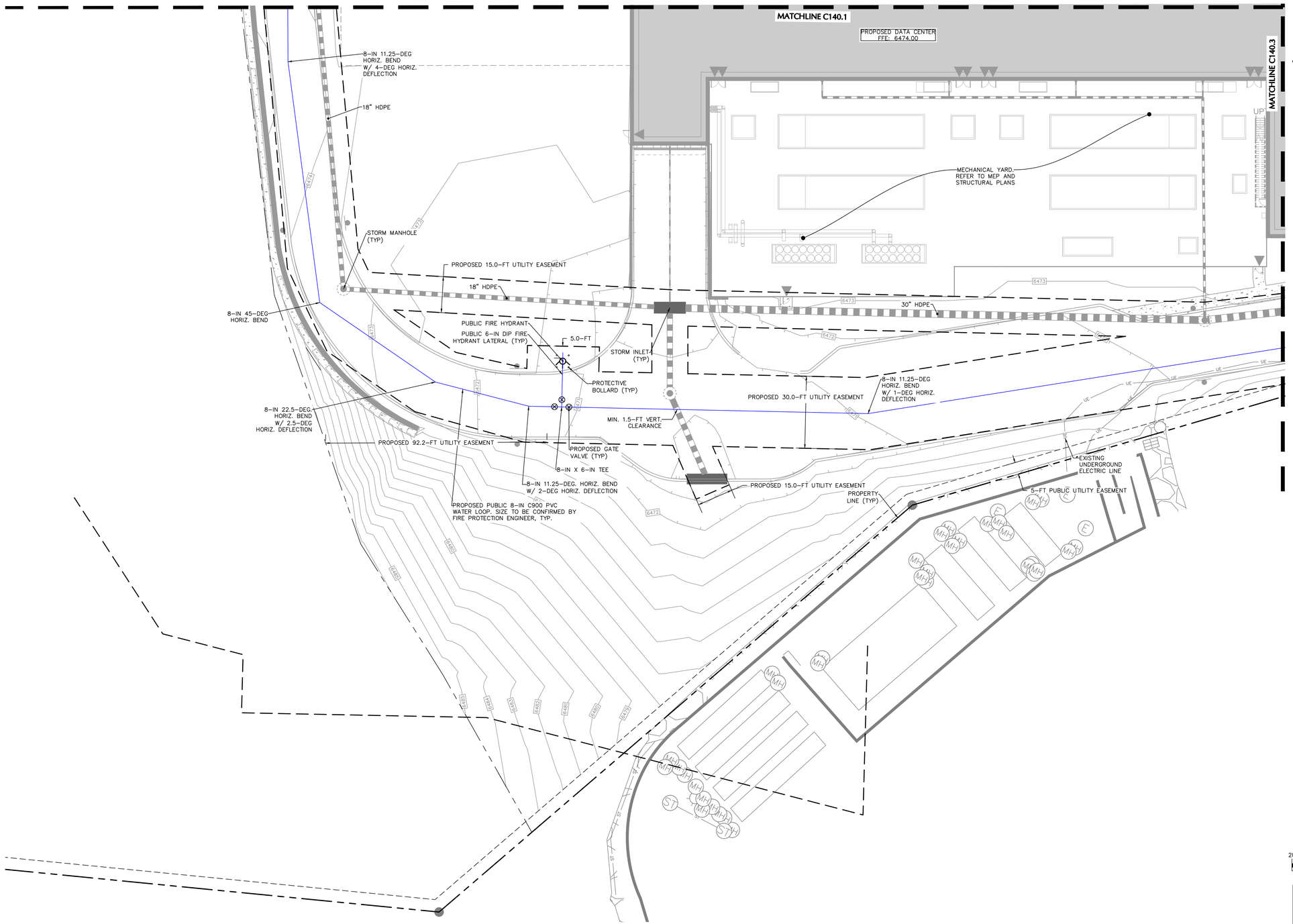

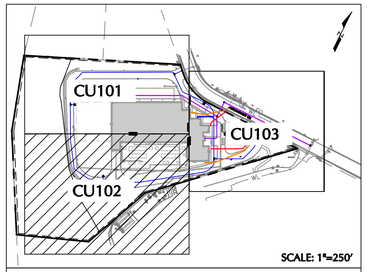

KEYMAP

LANDSCAPE NOTES:
1. NO TREES TO BE PLACED WITHIN 15' OF WATER OR WASTEWATER MAINS; OR WITHIN 6' OF ELECTRIC AND GAS DISTRIBUTION LINES.

20 0 5 10 20
SCALE: 1 INCH = 20 FEET

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
PARTIAL PRELIMINARY UTILITY PLAN 2

Project No. 620023601
Date 1/3/2022
Drawn By MEW
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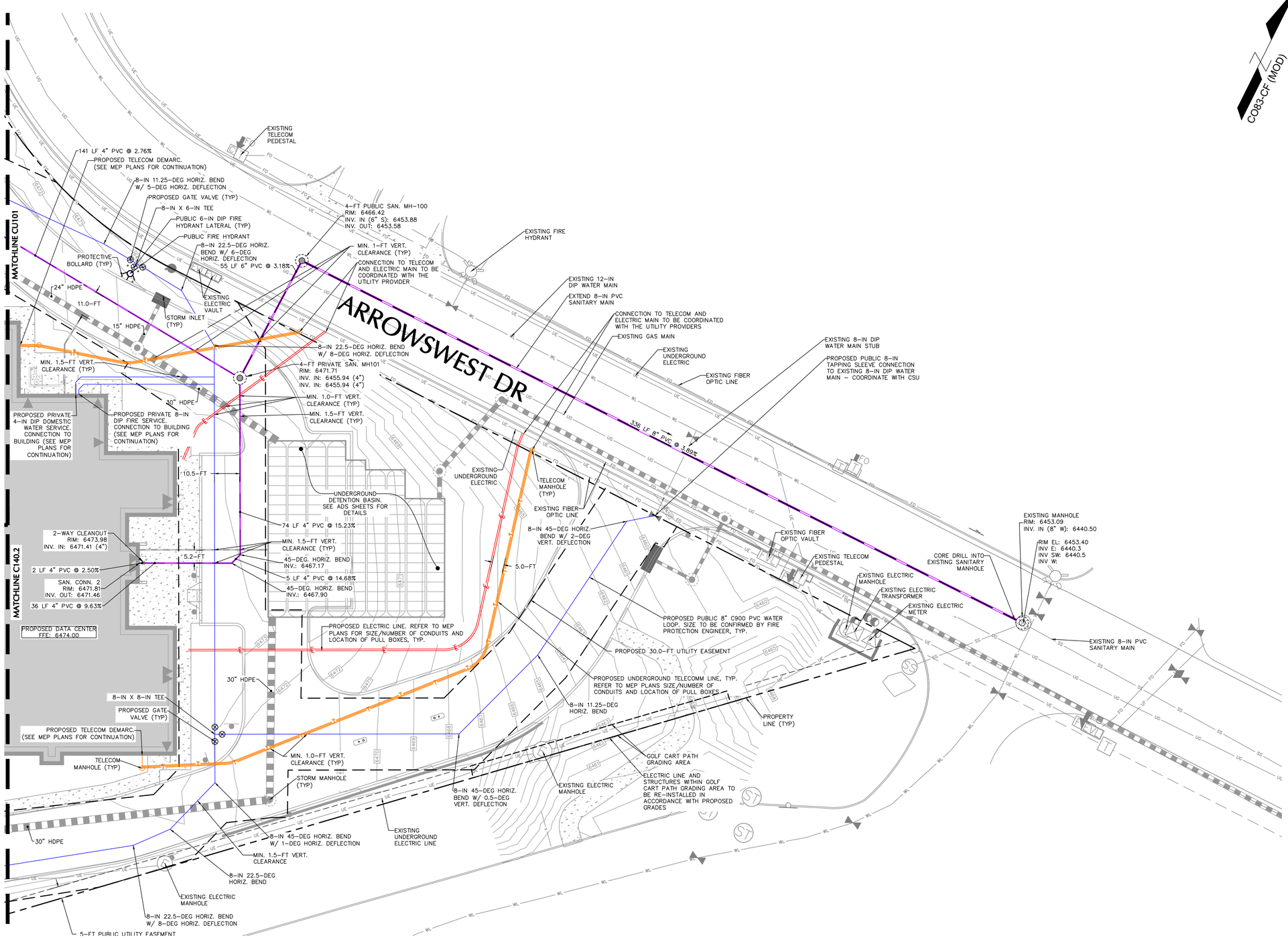

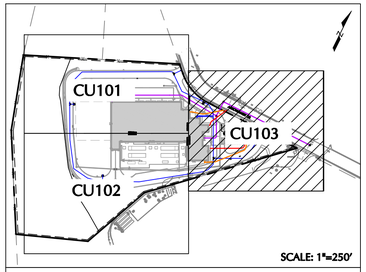

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Drawing Title
PARTIAL PRELIMINARY UTILITY PLAN 3

Project No. 620023601
Date 1/3/2022
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Checked By JWE

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SITE CATAGORY CALCULATIONS

Required by Policy 312

LANDSCAPE SETBACKS (or Double Frontage Lot Streetscape)

(See Code Section/Policy 320 & 317)

STREET NAME ZONED BOUNDARY (ELEV.)	STREET CLASIFICATION	WIDTH (FT.) REQUIRED	WIDTH (FT.) PROVIDED	LINEAR FOOTAGE	TREE/FEET REQUIRED	NUMBER OF TREES REQUIRED	NUMBER OF TREES PROVIDED
ARROWSWEST DRIVE	NON ARTERIAL	10	10	416'	1/30	14	14
NORTH BOUNDARY	N/A	6	24	380*	1/30	13	13
WEST BOUNDARY	N/A	6	6	643	1/30	21	21
EAST BOUNDARY	N/A	6	7.5	764*	1/30	25	25

SHRUB SUBSTITUTES REQUIRED	SHRUB SUBSTITUTES PROVIDED	ORNAMENTAL GRASSES REQUIRED	ORNAMENTAL GRASSES PROVIDED	SETBACK PLANT ABBR. DENOTED ON PLAN	PERCENT GROUND PLANE REQUIRED	PERCENT GROUND PLANE PROVIDED
0	0	0	0	(b)	75%	100%
0	0	0	0	(b)	75%	100%
0	0	0	0	(b)	75%	100%
0	0	0	0	(b)	75%	97%

* DOES NOT INCLUDE THE PRESERVATION EASEMENT

MOTOR VEHICLE LOTS

(See Code Section/Policy 321 & 317)

NUMBER OF PARKING SPACES PROVIDED	SHADE TREES 1 PER 15 SPACES REQUIRED	SHADE TREES 1 PER 15 SPACES PROVIDED	VEHICLE LOT FRONTAGES	LENGTH OF FRONTAGE (FT.) (EXCLUDING DRIVEWAYS)	2/3 LENGTH OF FRONTAGE (FT.)
27	2	2	ARROWSWEST DRIVE	94'	63'

MINIMUM 3' SCREENING PLANTS REQUIRED	MINIMUM 3' SCREENING PLANTS PROVIDED	EVERGREEN PLANTS (50%) REQUIRED	EVERGREEN PLANTS (50%) PROVIDED	LENGTH OF SCREENING WALL OR BERM PROVIDED	VEHICLE LOT PLANT ABBR. ON PLAN	VEG. PERCENT GROUND PLANE REQUIRED	VEG. PERCENT GROUND PLANE PROVIDED
10	10	11	11		(v)	100%	97%

INTERNAL LANDSCAPING

(See Code Section/Policy 322 & 317)

NET SITE AREA (LESS PUBLIC R.O.W.)	PERCENT MINIMUM INTERNAL AREA (%)	INTERNAL AREA (S.F.) REQUIRED	INTERNAL AREA (S.F.) PROVIDED	INTERNAL TREES (1/500 S.F.) REQUIRED	INTERNAL TREES (1/500 S.F.) PROVIDED	** 16 TREES SUBSTITUTED FOR 108 SHRUBS AND 107 ORNAMENTAL GRASSES
267,352 s.f.*	5%	13,368	124,766	27	11**	

SHRUB SUBSTITUTES REQUIRED	SHRUB SUBSTITUTES PROVIDED	ORNAMENTAL GRASSES REQUIRED	ORNAMENTAL GRASSES PROVIDED	INTERNAL PLANT ABBR. DENOTED ON PLAN	PERCENT GROUND PLANE REQUIRED	PERCENT GROUND PLANE PROVIDED
0	108**	0	107**	(i)	75%	96%

* DOES NOT INCLUDE THE PRESERVATION EASEMENT

LOT COVERAGE

TOTAL AREA: 391,942 s.f. (9.00 acres)
DISTURBED AREA: 290,545 s.f. (6.67 acres)

PERVIOUS AREA:
- –LANDSCAPE: 120,766 s.f.
- –PRESERVATION EASEMENT: 124,590 s.f.

TOTAL PERVIOUS: 245,356 s.f.

IMPERVIOUS AREA:
- –ASPHALT: 58,358 s.f.
- –CONC DRIVES: 2,650 s.f.
- –CONC WALKS: 5,264 s.f.

TOTAL IMPERVIOUS: 146,586 s.f.

TOTAL PERCENT IMPERVIOUS COVERAGE 37.4%

PARKING

TOTAL SPACES PROVIDED: 27 (2 HC)

MOTORCYCLE SPACES PROVIDED: N/A

TOTAL SPACES REQUIRED: 24

GROUNDCOVER AREAS*

IRRIGATED SOD	2,301 S.F.
IRRIGATED SEED	17,009 S.F.
NON–IRRIGATED SEED	81,348 S.F.
NON–IRRIGATED POND SEED	2,549 S.F.
3/4" CRUSHED GRANITE ROCK MULCH	6,708 S.F.

* LOCATED WITHIN THE PROPERTY LINES

R.O.W. IRRIGATED SEED	2,883 S.F.

PLANT LIST

ABBR.		COMMON NAME/ BOTANIC NAME	KEY FROM APPENDIX B	MATURE WIDTH	PLANTING SIZE	REMARKS
	21	DECIDUOUS SHADE TREES				
SH	2	Shademaster Honeylocust Gleditsia triacanthos in. 'Shademaster'	4SA	30'	2–1/2" cal.	Specimen quality, full crown, B&B, staked
CO	4	Chinkapin Oak Quercus muehlenbergii	4S	45'	2–1/2" cal.	Specimen quality, full crown, B&B, staked
EO	3	English Oak Quercus robur	S	40'	2–1/2" cal.	Specimen quality, full crown, B&B, staked
AE	2	Accolade Elm Ulmus 'Accolade'	457DA	35'	2–1/2" cal.	Specimen quality, full crown, B&B, staked
ABM	1	Autumn Blaze Maple Acer x freemanii	S	30'	2–1/2" cal.	Specimen quality, full crown, B&B, staked
CH	9	Chicagoland Hackberry Celtis occidentilis 'Chicagoland'	3457DA	45'	2–1/2" cal.	Specimen quality, full crown, B&B, staked
	33	ORNAMENTAL TREES				
PCC	4	Chanticleer Pear Pyrus calleryana 'Chanticleer'	A	15'	2" cal.	Specimen quality, full
TCH	3	Thornless Cockspur Hawthorn Malus sp. 'Spring Snow'	235AD	25'	2" cal.	Specimen quality, full crown, B&B, staked
RC	3	Radiant Crabapple Malus sp. 'Radiant'	467S	25'	2" cal.	Specimen quality, full crown, B&B, staked
FAM	2	Flame Amur Maple Acer ginnala 'Flame'	457A	25'	6' ht.	Specimen quality, clump form, B&B, staked
SSC	9	Spring Snow Crabapple Malus 'Spring Snow'	467S	25'	2" cal.	Specimen quality, full crown, B&B, staked
BC	12	Black Chokecherry Prunus virginiana	1245678SA	15'	6' ht.	Specimen quality, full crown, B&B, staked
	32	EVERGREEN TREES				
AP	14	Austrian Pine Pinus nigra	25678A	25'	8' ht.	Specimen quality, full form, B&B, guyed
PP	18	Pinon Pine Pinus edulis	1256D	25'	8' ht.	Specimen quality, full form, B&B, guyed
		% SIGNATURE TREES – 100% (60% minimum – Policy 311.3k)	**SIGNATURE TREES 86 TOTAL NO. OF TREES 86**			
	118	DECIDUOUS SHRUBS				
LDN	10	Little Devil Ninebark Physocarpus opulifolius 'Little Devil'	568SA	4'	5 gal.	container, 5 canes min. plant 3' o.c.
AWS	28	Anthony Waterer Spirea Spiraea 'Anthony Waterer'	SA	4'	5 gal.	container, 5 canes min. plant 3' o.c.
WR	11	Winnepeg Parks Shrub Rose Rosa 'Winnepeg Parks'	45678SA	4'	5 gal.	container, 5 canes min. plant 3' o.c.
SR	18	Morden Sunrise Shrub Rose Rosa 'Morden Sunrise'	45678SA	3'	5 gal.	container, 5 canes min. plant 3' o.c.
DKL	4	Dwarf Korean Lilac Syringa meyeri palibin	568A	5'	5 gal.	container, 5 canes min. plant 4' o.c.
RS	10	Russian Sage Perovskia atriplicifolia	12D	4'	5 gal.	container, 5 canes min. plant 4' o.c.
PBS	14	Pawnee Buttes Sandcherry Prunus besseyi	1345A	5'	5 gal.	container, 5 canes min. plant 4' o.c.
AAS	18	Autumn Amber Sumac Rhus triloba 'Autumn Amber'	23456DA	5'	5 gal.	container, 5 canes min. plant 4' o.c.
FS	5	Fragrant Sumac Rhus aromatica	23456DA	5'	5 gal.	container, 5 canes min. plant 4' o.c.
	11	EVERGREEN SHRUBS				
BCJ	11	Blue Chip Juniper Juniperus horizontalis 'Blue Chip'	2568A	8'	5 gal.	container, 18"–24" spread plant 4' o.c.
		% SIGNATURE SHRUBS – 70% (60% minimum – Policy 311.3k)	**SIGNATURE SHRUBS 90 TOTAL NO. OF SHRUBS 129**			
	107	ORNAMENTAL GRASSES				
DFG	41	Dwarf Fountain Grass Pennisetum alopecuroides 'Hameln'	A	24"	1 gal.	container, plant 24" o.c.
FRG	27	Feather Reed Grass Calamagrostis acut. 'Karl Foerster'	A	24–30"	1 gal.	container, plant 30" o.c.
BGG	30	Blonde Ambition Blue Grama Bouteloua gracilis 'Blonde Ambition'	1235D	24–30"	1 gal.	container, plant 30" o.c.
AMG	9	Adagio Maiden Grass Miscanthus sinensis 'Adagio'	DA	36"	1 gal.	container, plant 36" o.c.

SCHEMATIC LANDSCAPE DIAGRAM

Submitted in conformance with Policy 311

NAME OF PROJECT:
PROJECT ACADEMY
DATE:
JANUARY 7, 2021

CLIMATE ZONE
(from Figure 4 of Landscape Policy Manual) – circle one:

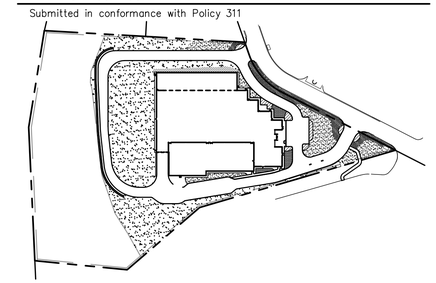
FOOTHILLS FOOTHILLS & PLAINS PLAINS

PLANT COMMUNITITES
(to be labeled by number(s) on diagram:)
1 -- Semi–arid Shrublands
2 -- Pinon–Juniper Woodlands
3 -- Prarie
4 -- Lower Elevation Riparian
5 -- Foothill Shrublands
6 -- Ponderosa Pine Forest
7 -- Upper Elevation Riparian
8 -- Douglas–Fir Forest

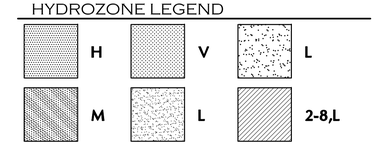
HYDROZONES
(supplimental water – to be labeled by letter(s) on diagram)
V – Very Low (0 to 7 inches per year)
L – Low (7 to 15 inches per year)
M – Moderate (15 to 25 inches per year)
H – High (more than 25 inches per year)

HYDROZONE MAP

Submitted in conformance with Policy 311



HYDROZONE LEGEND



LANDSCAPE NOTES

1. ALL TREES TO BE STAKED OR GUYED AS PER PLANT LIST. ALL TREE STAKES AND GUYS SHALL BE REMOVED AFTER THE SECOND GROWING SEASON.
2. ALL SHRUB BEDS SHALL BE MULCHED WITH 3"" DEPTH 3/4" CRUSHED GRANITE ROCK MULCH OVER SPECIFIED FILTER FABRIC. REFER TO PLAN FOR SHRUB BED LOCATIONS.
3. THE MULCH AREAS ADJACENT TO ALL RETAINING WALLS AND FENCE SHALL BE 3" DEPTH 3/4" CRUSHED GRANITE ROCK MULCH OVER SPECIFIED FILTER FABRIC.
4. ALL SHRUB BEDS AND MULCH AREAS ARE TO BE CONTAINED WITH STEEL EDGER (NOT REQUIRED AT CURB, WALKS OR BUILDING). STEEL EDGER SHALL BE PLACED BETWEEN ROCK AND WOOD MULCHS IN THE SHRUB BEDS.
5. ALL IRRIGATED LANDSCAPE AREAS INCLUDING THE IRRIGATED NATIVE SEED MIX WILL BE WATERED WITH AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM. ALL TURF AREAS LESS THAN 25 FEET WILL HAVE A POP–UP SPRAY SYSTEM AND ALL TURF AREAS GREATER THAN 25 FEET WILL HAVE A ROTARY POP–UP SYSTEM PROVIDING HEAD TO HEAD COVERAGE. ALL SHRUB BEDS WILL HAVE FULL COVERAGE WITH DRIP IRRIGATION. AUTOMATIC RAIN SENSORS WILL BE PROVIDED TO THE IRRIGATION SYSTEM. ALL TREES IN IRRIGATED SOD AND SEED AREAS SHALL HAVE A SEPARATELY ZONED DRIP SYSTEM. ALL IIRRIGATED SEED AREAS SHALL BE ZONED SEPARATELY FROM THE IRRIGATED SOD AREAS
6. THE IRRIGATED SOD AND STREET FRONTAGE SEEDED AREAS SHALL BE ROTOTILLED WITH A–1 ORGANICS "BIOCOMP" COMPOST AT A RATE OF 4 CUBIC YARDS PER 1,000 SQUARE FEET. THIS PREPARATION SHALL BE THOROUGHLY INCORPORATED INTO THE TOP 6" OF SOIL.
7. ALL NATIVE SHORT GRASS AND POND SEED SHALL BE ROTOTILLED WITH A–1 ORGANICS "BIOCOMP" COMPOST AT A RATE OF 2 CUBIC YARDS PER 1,000 SQUARE FEET. THIS PREPARATION SHALL BE THOROUGHLY INCORPORATED INTO THE TOP 6" OF SOIL.
8. TREE AND SHRUB PLANTING SOIL AMENDMENTS SHALL INCLUDE A–1 ORGANICS "BIOCOMP" COMPOST MIXED WITH ON–SITE SOIL AT A RATE OF 1:4. REFER TO SPECIFICATIONS.
9. THE LANDSCAPE CONTRACTOR SHALL COORDINATE FINE GRADING (LID) SHALLOW SWALE LOCATIONS AT ALL PLANTINGS WITHIN THE NATIVE GRASS AREAS WITH THE GRADING CONTRACTOR. SEE GRADING PLANS.
10. ALL PLANTINGS ADJACENT TO THE PROPOSED FIRE HYDRANTS SHALL BE LESS THAN 24" MATURE HEIGHT AND PLANTED 36" MINIMUM CLEARANCE FROM THE HYDRANT.

MAINTENANCE NOTES

1. THE TENANT OF THE PROPERTY SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL ON–SITE LANDSCAPING MATERIALS SHOWN ON THE APPROVED LANDSCAPE PLAN WITHIN THE PROPERTY LIMITS. ALL MAINTENANCE, INSTALLATION, AND FUTURE REPLACEMENT OF STREET TREES SHALL BE THE RESPONSIBILITY OF THE OWNER.
2. STREET TREES, STREETSCAPE IMPROVEMENTS, AND VEGETATION WITH–IN THE CITY ROW SHALL BE MAINTAINED BY THE ABUTTING PROPERTY OWNER.

SOIL ANALYSIS

The required Soil Analysis Report is required to be submitted and approved with the Irrigation Plan submittal and before any landscape construction. This would include completing the soil sampling and submitting the samples to a soils lab for testing. A separate lab test report and soil preparation recommendations (amendment/fertilizer amounts and application rates) for each type of proposed landscaping (Shrub beds/Sod/Native Seed) will need to be provided to City Staff for review and approval.

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City File Number: TBD

Date	Description	No.

REVISIONS

SIGNATURE DATE SIGNED
KERRY T. SMMEESTER
LANDSCAPE ARCHITECT CO Lic. No. 412

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E: jeckersley@langan.com

Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
LANDSCAPE NOTES

Project No. 21125
Date 12/30/2021
Drawn By kts
Checked By kts
Drawing No. LP101
Sheet 23 of 30

LANGAN
Project No. 21125

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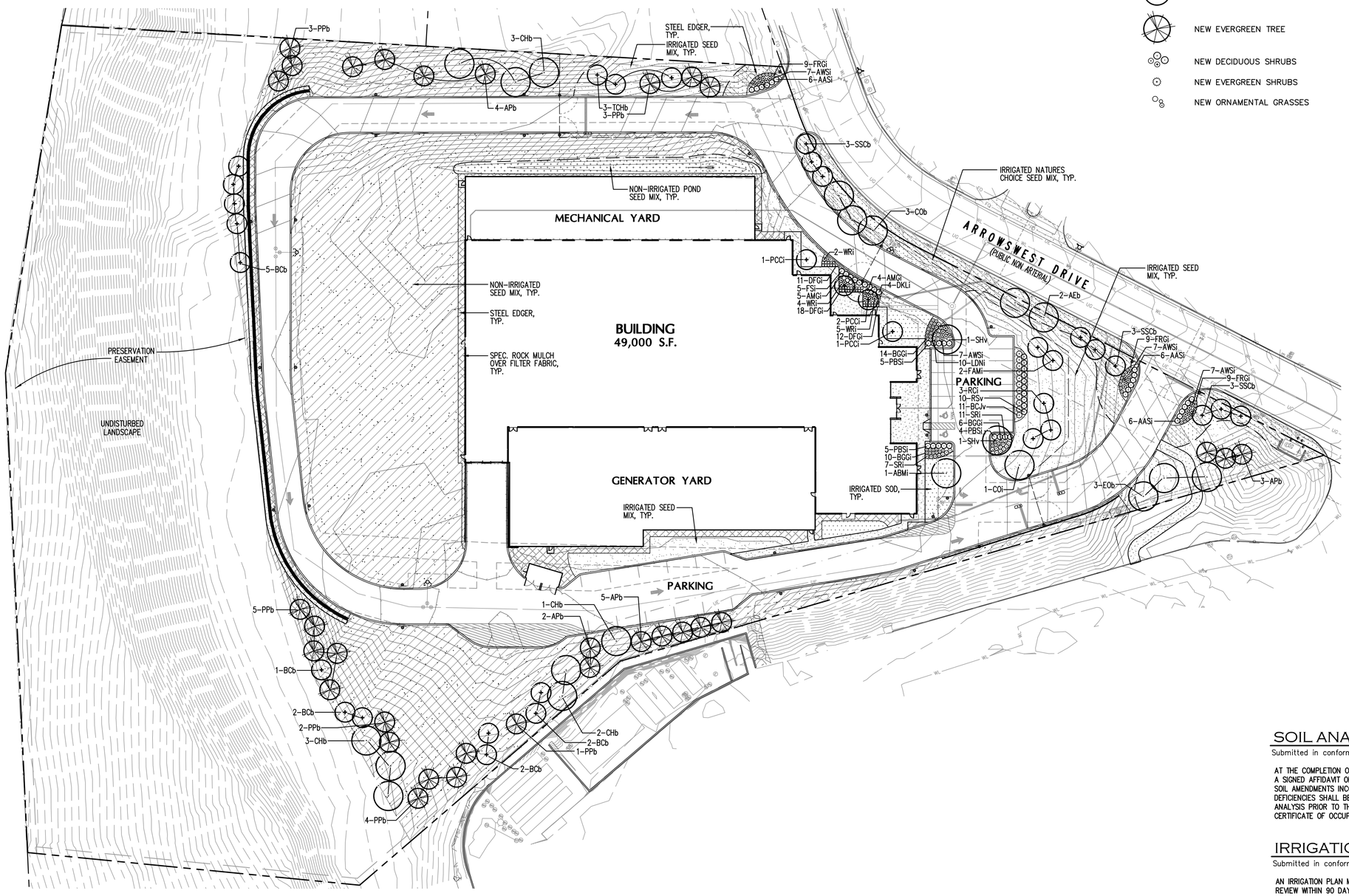

LANDSCAPE LEGEND

- NEW DECIDUOUS SHADE TREE
- NEW DECIDUOUS ORNAMENTAL TREE
- NEW EVERGREEN TREE
- NEW DECIDUOUS SHRUBS
- NEW EVERGREEN SHRUBS
- NEW ORNAMENTAL GRASSES

GROUNDCOVER LEGEND

IRRIGATED SOD

TEXAS HYBRID 'THERMAL BLUE'

IRRIGATED 'NATURE'S CHOICE' SEED MIX

	%	RATE*
WESTERN WHEATGRASS	70%	3.5
SHEEPS FESCUE	15%	0.75
TURF TYPE PERENNIAL RYEGRASS	10%	0.5
KENTUCKY BLUEGRASS	5%	0.25

APPLICATION RATE: 5.0 PLS/1,000 S.F.

IRRIGATED SEED MIX

	%	RATE*
BUFFALOGRASS	25%	9.6
BLUE GRAMA 'HACHITA'	20%	10.8
SIDEOATS GRAMA 'VAUGHN'	29%	5.6
GREEN NEEDLEGRASS 'LODORM'	5%	3.2
WESTERN WHEATGRASS 'ARRIBA'	20%	12.0
SAND DROPSEED	1%	0.8

APPLICATION RATE: 42.0 PLS/ACRE

NON-IRRIGATED SEED MIX

	%	RATE*
BUFFALOGRASS	25%	9.6
BLUE GRAMA 'HACHITA'	20%	10.8
SIDEOATS GRAMA 'VAUGHN'	29%	5.6
GREEN NEEDLEGRASS 'LODORM'	5%	3.2
WESTERN WHEATGRASS 'ARRIBA'	20%	12.0
SAND DROPSEED	1%	0.8

APPLICATION RATE: 42.0 PLS/ACRE

NON-IRRIGATED POND SEED MIX

	%	RATE*
BIG BLUESTEM	20%	2.2
BLUE GRAMA 'HACHITA'	10%	0.25
GREEN NEEDLEGRASS 'LODORM'	10%	1.0
WESTERN WHEATGRASS 'ARRIBA'	20%	3.2
SIDEOATS GRAMA 'VAUGHN'	10%	1.0
SWITCHGRASS 'NEBRASKA'	10%	0.4
PRAIRIE SANDREED	10%	0.6
YELLOW INDIANGRASS 'LLANO'	10%	1.0

APPLICATION RATE: 9.7 PLS/ACRE

SPECIFIED 3/4" CRUSHED GRANITE MULCH OVER SPECIFIED FILTER FABRIC

SOIL ANALYSIS

Submitted in conformance with Policy 315

AT THE COMPLETION OF LANDSCAPE WORK. A SIGNED AFFIDAVIT OF ATTESTING TO THE SOIL AMENDMENTS INCORPORATED TO CORRECT DEFICIENCIES SHALL BE INCLUDED WITH THE SOIL ANALYSIS PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

IRRIGATION

Submitted in conformance with Policy 315

AN IRRIGATION PLAN MUST BE SUBMITTED FOR REVIEW WITHIN 90 DAYS SUBSEQUANT TO RECEIVING A BUILDING PERMIT. THE PLAN MUST BE APPROVED PRIOR TO THE INSTALLATION OF ANY IRRIGATION COMPONENTS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

REFER TO SHEET LP101 FOR LANDSCAPE CALCULATIONS, NOTES AND PLANT LIST

REFER TO SHEET LP501 FOR LANDSCAPE DETAILS

NORTH

0 20 40 80'

SCALE: 1"=40'-0"

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landscape architecture
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303.512.0549 www.meuran.com

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City File Number: TBD

Date	Description	No.

REVISIONS

SIGNATURE DATE SIGNED

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LANDSCAPE ARCHITECT CO Lic. No. 412

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Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

LANDSCAPE PLAN

Project No. 21125

Date 12/30/2021

Drawn By kts

Checked By kts

Drawing No. LP102

Sheet 24 of 30

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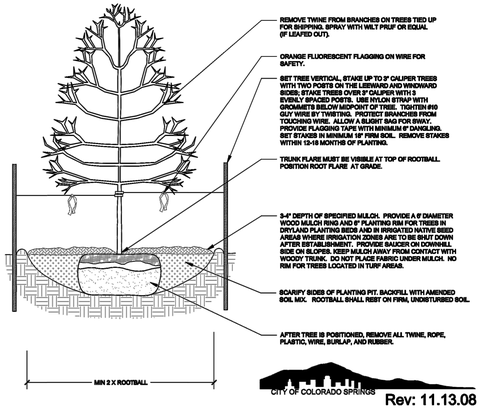
LANGAN Project No. 21125

NOTES:
1. MARK THE NORTH SIDE OF TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHENEVER POSSIBLE.
2. AT TIME OF PLANTING, DO NOT REMOVE OR CUT LEADER AND PRUNE ONLY DEAD OR BROKEN BRANCHES, CROSS OVER BRANCHES, AND WEAK OR NARROW CROTCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED. HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
3. STRUCTURAL PRUNING SHOULD NOT BEGIN UNTIL AFTER ESTABLISHMENT PERIOD, USUALLY TWO GROWING SEASONS.
4. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
5. DO NOT FERTILIZE FOR AT LEAST ONE GROWING SEASON.
6. AMENDED BACKFILL SHALL BE 1/3 COMPOST (PREFERABLY CLASSIFIED) AND 2/3 NATIVE AND/OR IMPORTED TOPSOIL.
7. WRAP TRUNK ON EXPOSED SITES AND SPECIES WITH THIN BARK. USE ELECTRICAL OR DUCT TAPE, NOT TWINE.
8. COORDINATE WITH CITY FORESTRY FOR CURRENT INSECT AND DISEASE RECOMMENDATIONS PRIOR TO PLANTING.
9. DEEP WATER ALL PLANTS AT TIME OF PLANTING.

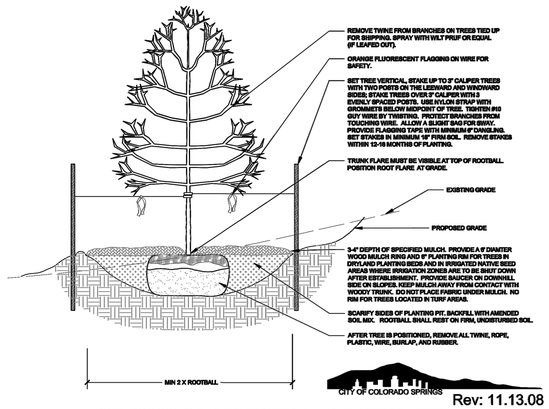


Disclaimer: These planting details are for City review and approval process only and shall not be used for construction or bidding purposes.

DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE — SECTION

NOTES:
1. MARK THE NORTH SIDE OF TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHENEVER POSSIBLE.
2. AT TIME OF PLANTING, DO NOT REMOVE OR CUT LEADER AND PRUNE ONLY DEAD OR BROKEN BRANCHES, CROSS OVER BRANCHES, AND WEAK OR NARROW CROTCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED. HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
3. STRUCTURAL PRUNING SHOULD NOT BEGIN UNTIL AFTER ESTABLISHMENT PERIOD, USUALLY TWO GROWING SEASONS.
4. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
5. DO NOT FERTILIZE FOR AT LEAST ONE GROWING SEASON.
6. AMENDED BACKFILL SHALL BE 1/3 COMPOST (PREFERABLY CLASSIFIED) AND 2/3 NATIVE AND/OR IMPORTED TOPSOIL.
7. WRAP TRUNK ON EXPOSED SITES AND SPECIES WITH THIN BARK. USE ELECTRICAL OR DUCT TAPE, NOT TWINE. OCTOBER 31 AND REMOVE MARCH 31 FOR THE PIKES PEAK REGION.
8. COORDINATE WITH CITY FORESTRY FOR CURRENT INSECT AND DISEASE RECOMMENDATIONS PRIOR TO PLANTING.
9. DEEP WATER ALL PLANTS AT TIME OF PLANTING.

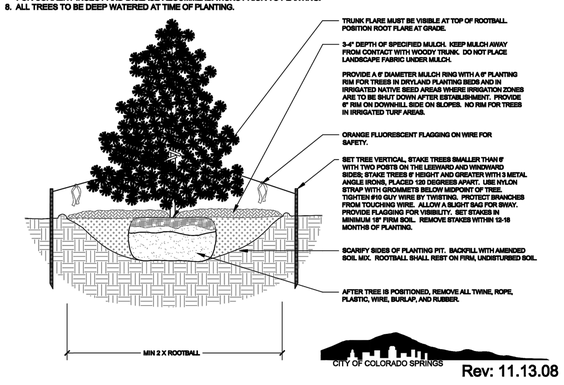


Disclaimer: These planting details are for City review and approval process only and shall not be used for construction or bidding purposes.

DECIDUOUS TREE PLANTING ON SLOPES DETAIL

NOT TO SCALE — SECTION

NOTES:
1. DO NOT REMOVE OR CUT LEADER.
2. PRUNE ONLY DEAD OR BROKEN BRANCHES IMMEDIATELY PRIOR TO PLANTING.
3. DO NOT REMOVE ANY DOUBLE LEADER, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.
4. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
5. AMENDED BACKFILL SHALL BE 1/3 COMPOST (PREFERABLY CLASSIFIED) AND 2/3 NATIVE AND/OR IMPORTED TOPSOIL.
6. MARK THE NORTH SIDE OF TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHENEVER POSSIBLE.
7. PINE AND SPRUCE TREES TO BE SPRAYED FOR IPS BARK BEETLE PRIOR TO PLANTING. COORDINATE WITH CITY FORESTRY FOR CURRENT INSECT AND DISEASE RECOMMENDATIONS PRIOR TO PLANTING.
8. ALL TREES TO BE DEEP WATERED AT TIME OF PLANTING.

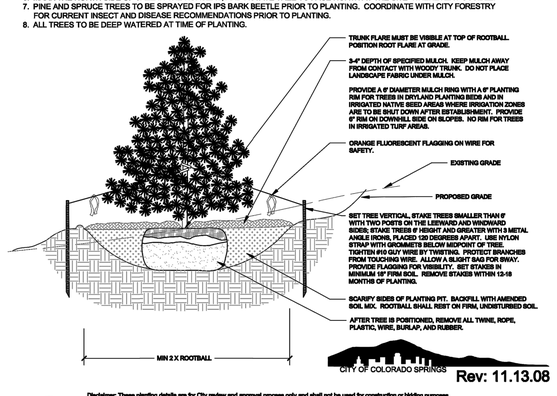


Disclaimer: These planting details are for City review and approval process only and shall not be used for construction or bidding purposes.

EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE — SECTION

NOTES:
1. DO NOT REMOVE OR CUT LEADER.
2. PRUNE ONLY DEAD OR BROKEN BRANCHES IMMEDIATELY PRIOR TO PLANTING.
3. DO NOT REMOVE ANY DOUBLE LEADER, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.
4. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
5. AMENDED BACKFILL SHALL BE 1/3 COMPOST (PREFERABLY CLASSIFIED) AND 2/3 NATIVE AND/OR IMPORTED TOPSOIL.
6. MARK THE NORTH SIDE OF TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHENEVER POSSIBLE.
7. PINE AND SPRUCE TREES TO BE SPRAYED FOR IPS BARK BEETLE PRIOR TO PLANTING. COORDINATE WITH CITY FORESTRY FOR CURRENT INSECT AND DISEASE RECOMMENDATIONS PRIOR TO PLANTING.
8. ALL TREES TO BE DEEP WATERED AT TIME OF PLANTING.



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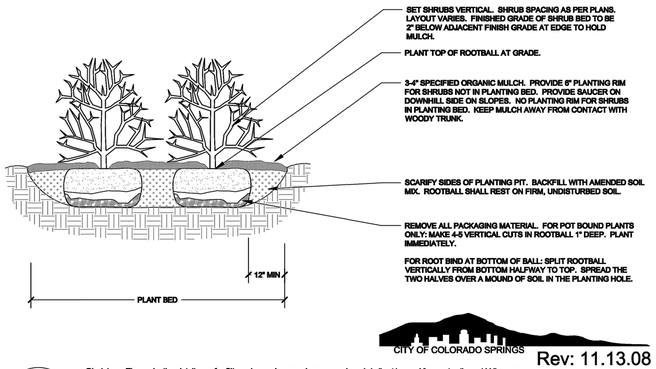
EVERGREEN TREE PLANTING ON SLOPES DETAIL

NOT TO SCALE — SECTION

NOTES:
1. PRUNE ONLY DEAD OR BROKEN BRANCHES AND WEAK OR NARROW CROTCHES.
2. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
3. DO NOT FERTILIZE FOR AT LEAST ONE GROWING SEASON.
4. AMENDED BACKFILL SHALL BE 1/3 COMPOST (PREFERABLY CLASSIFIED) AND 2/3 NATIVE AND/OR IMPORTED TOPSOIL.
5. ALL SHRUBS IN ROCK AREAS TO RECEIVE SHREDDED MULCH RINGS.
6. DEEP WATER ALL PLANTS AT TIME OF PLANTING.

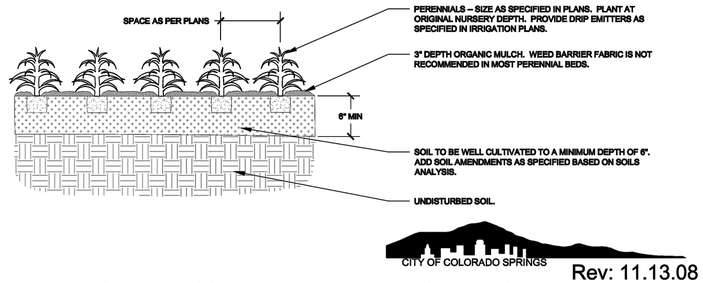


Disclaimer: These planting details are for City review and approval process only and shall not be used for construction or bidding purposes.

SHRUB PLANTING DETAIL

NOT TO SCALE — SECTION

NOTES:
1. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
2. PLANT GROUND COVERS AND PERENNIALS LEVEL AND AT GRADE.
3. PRUNE ALL DEAD OR BROKEN PARTS PRIOR TO PLANTING.
4. AMENDED BACKFILL SHALL BE 1/3 COMPOST (PREFERABLY CLASSIFIED) AND 2/3 NATIVE AND/OR IMPORTED TOPSOIL.
5. ALL PERENNIALS PLANTED IN ROCK MULCH AREAS TO HAVE ORGANIC MULCH RINGS AROUND THE BASE OF THE PLANT.



Disclaimer: These planting details are for City review and approval process only and shall not be used for construction or bidding purposes.

PERENNIAL/GROUNDCOVER PLANTING DETAIL

NOT TO SCALE — SECTION

meuran designgroup
site design
landscape architecture
site planning
700 colorado blvd, suite 131
denver, colorado 80206
303.512.0549 www.meuran.com

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City File Number: TBD

Date	Description	No.

REVISIONS

SIGNATURE DATE SIGNED

KERRY T. SMMEESTER
LANDSCAPE ARCHITECT CO Lic. No. 412

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Lakewood, CO 80228
T: 303.262.2600 F: 303.262.2001 www.langan.com
E: jeckersley@langan.com

Project

VERIZON COLORADO SPRINGS NEW BUILD

COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title

LANDSCAPE DETAILS

Project No. 21125
Date 12/30/2021
Drawing No. LP501
Drawn By kts
Checked By kts
Sheet 25 of 30

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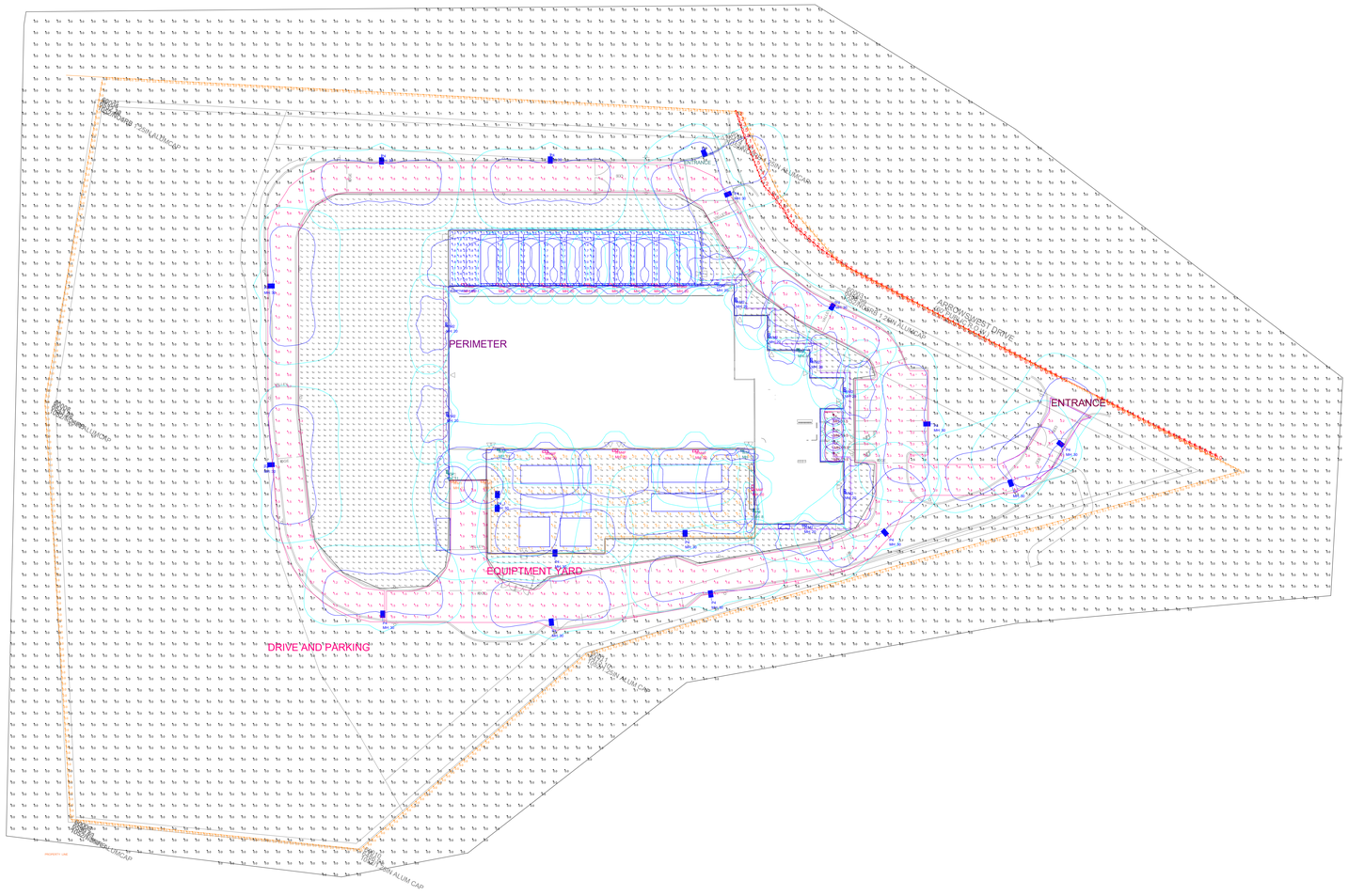
LANGAN Project No. 21125



LUMINAIRE SCHEDULE **REFER TO LIGHTING FIXTURE CUTSHEETS FOR COMPLETE CATALOG NUMBERS**													
Symbol	Qty	Arrangement	Fixture Type	Description	Manufacturer	[LUMCAT]	<Unknown>	LLF	Total Watts	Delivered Lumens	Mounting Height	<Unknown>	Filename
	4	Single	DL	4 INCH RECESSED DOWNLIGHT	PRESCOLITE	LTR-4RD-H-SL06L-DM1/LTR-4RD-T-SL35K8WDS		0.900	7.8	664	13.5		LTR-4RD-H-SL06L-DM1 LTR-4RD-T-SL35K8WDS.ies
	16	SINGLE	P4	AREA LIGHT TYPE 4W, MOUNTED TO 30' POLE	HUBBELL OUTDOOR	RAR2-320L-110-4K7-4W	4000K	0.900	100.3	15211	30		RAR2-320L-110-4K7-4W.ies
	1	Back-Back	P4_1	AREA LIGHT TYPE 4W, MOUNTED TO 30' POLE	HUBBELL OUTDOOR	RAR2-320L-110-4K7-4W	4000K	0.900	200.6	30422	30		RAR2-320L-110-4K7-4W.ies
	5	Single	WM	WALLPACK SMALL ENTRANCES, TYPE 2	Hubbell Outdoor	LNC-5LU-4K-2	4000K	0.900	12.9	1052	8, 11		LNC-5LU-4K-2.ies
	2	Single	WM1	WALLPACK SMALL FORWARD THROW DIFFUSE FOR LOADING DOCK	KIM LIGHTING	WDS-D-24L-40-4K7-FTD	4000k	0.900	42	3915	11		WDS-D-24L-40-4K7-FTD.ies
	9	Single	WM2	WALLPACK SMALL, TYPE 3	KIM LIGHTING	WDS-D-24L-40-4K7-3	4000k	0.900	42	4582	20		WDS-D-24L-40-4K7-3.ies
	14	Single	WM4F	WALL PACK LARGE TYPE 4F, 6937 LUMENS	KIM LIGHTING	WDM-D-48L-55-4K7-4F	4000k	0.900	54.11	6937	20		WDM-D-48L-55-4K7-4F.IES

CALCULATION SUMMARY									
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
AROUND BUILDING OUT TO ZERO	Illuminance	Fc	1.3	7.1	0.0	N.A.	N.A.	5	5
DRIVE AND PARKING	Illuminance	Fc	1.7	9.1	0.5	3.3	18.2	10	10
EQUIPTMENT YARD	Illuminance	Fc	2.1	5.8	0.0	N.A.	N.A.	10	10
EQUIPTMENT YARD 2	Illuminance	Fc	2.5	6.8	0.5	5.0	13.6	5	5
PERIMETER	Illuminance	Fc	1.3	2.0	0.7	1.9	2.9	5	N.A.
PERIMETER 2	Illuminance	Fc	2.7	5.2	1.1	2.4	4.7	5	N.A.
PROPERTY LINE	Illuminance	Fc	0.1	1.4	0.0	N.A.	N.A.	5	N.A.
PROPERTY LINE	Illuminance	Fc	0.4	1.5	0.0	N.A.	N.A.	5	N.A.
SITE TO ZERO	Illuminance	Fc	0.1	2.7	0.0	N.A.	N.A.	10	10
ENTRANCE	Illuminance	Fc	2.4	3.0	1.7	1.4	1.8		
ENTRANCE _1	Illuminance	Fc	2.3	3.0	1.4	1.6	2.1		
MAIN ENT	Illuminance	Fc	3.6	5.2	1.2	3.0	4.3		

GENERAL NOTES:
1. MH: IS THE LIGHTING FIXTURE MOUNTING HEIGHT
2. REFLECTANCES OF 80/50/20 ARE USED UNLESS OTHERWISE NOTED
3. CALCULATION POINTS ON THE WORKPLANE ARE AT 2.5' UNLESS OTHERWISE NOTED

VERIZON WIRELESS
COLORADO SPRINGS DATA CENTER
SITE
PHIL21-177964

DESIGNER
JEDAVIS
DATE
12/9/2021
SCALE
1"=50'

NOT FOR CONSTRUCTION
FOR REFERENCE ONLY

Calculations have been performed according to IESNA & CE standards and good practice.

Some differences between measured values and calculated results may occur due to changes in the provided information and tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations.

Input data used to generate the calculation such as room dimensions, reflectance, furniture and architectural elements significantly affect the lighting calculation. If real environment conditions do not match the input data, differences will occur between measured values and calculated values.

DRAWING NAME
PHASE 1
LIGHTING PLAN

SHEET NAME
LL100

Diversified

EXTERIOR MATERIALS LEGEND

ARCHITECTURAL TILT-UP CONCRETE - ATC

ATC-01
ARCHITECTURAL TILT-UP CONCRETE
COLOR: TBD
FINISH: SMOOTH W/ REVEALS

ATC-02
ARCHITECTURAL TILT-UP CONCRETE W/ FORMLINER
COLOR: TBD
FINISH: SMOOTH
PATTERN A: FLUTED RIB (VERTICAL)

ATC-03
ARCHITECTURAL TILT-UP CONCRETE W/ FORMLINER
COLOR: TBD
FINISH: SMOOTH
PATTERN B: FLUTED RIB (HORIZONTAL)

COMPOSITE METAL WALL PANEL - CMWP

CMWP-01
BASIS OF DESIGN: TBD
COLOR: MATCH AMF-02
LOCATION: CANOPY

COMPOSITE METAL WALL PANEL - CMWP

CMWP-02
BASIS OF DESIGN: TBD
COLOR: MATCH AMF-06
LOCATION: EQUIPMENT SCREEN WALL

EXTERIOR GLAZING - GL

GL-01
1" INSULATED / LOW-E VISION GLASS
GLASS SELECTION: TBD
LOCATION: ENTRY

GL-02
1" INSULATED / LOW-E SPANDREL GLASS
GLASS SELECTION: TBD
LOCATION: ENTRY

ARCHITECTURE METAL FINISH - AMF

AMF-01
BASIS OF DESIGN: TBD
COLOR: TBD
LOCATION: CURTAIN WALL + WINDOW WALL MULLIONS

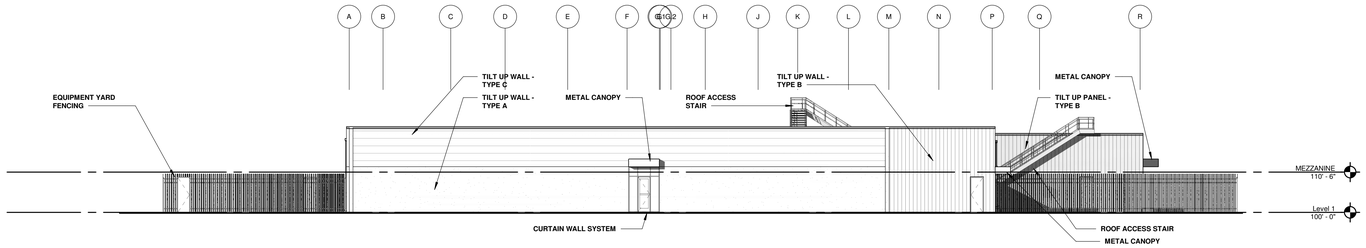
AMF-02
BASIS OF DESIGN: TBD
COLOR: TBD
LOCATION: SOFFITS & CANOPY

AMF-03
BASIS OF DESIGN: TBD
COLOR: MATCH AMF-01
LOCATION: SLAB EDGE COVER AT WINDOW WALL

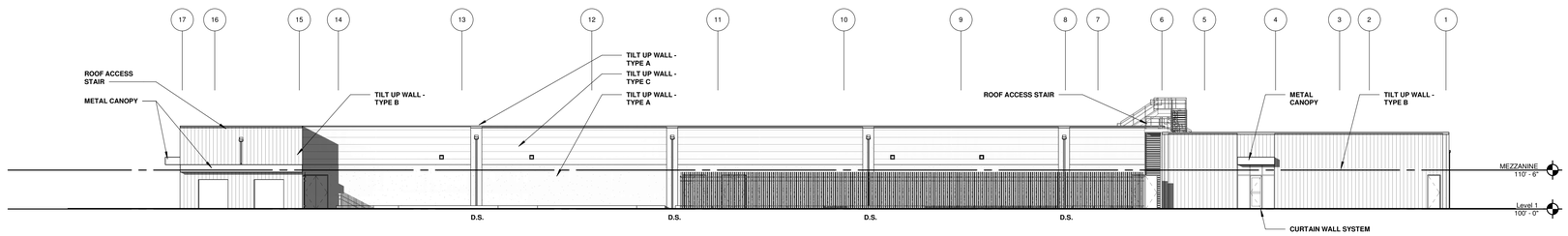
AMF-04
BASIS OF DESIGN: TBD
COLOR: MATCH AMF-01
LOCATION: METAL COPING SYSTEM

AMF-05
BASIS OF DESIGN: TBD
COLOR: MATCH AMF-01
LOCATION: METAL LOUVER SYSTEM

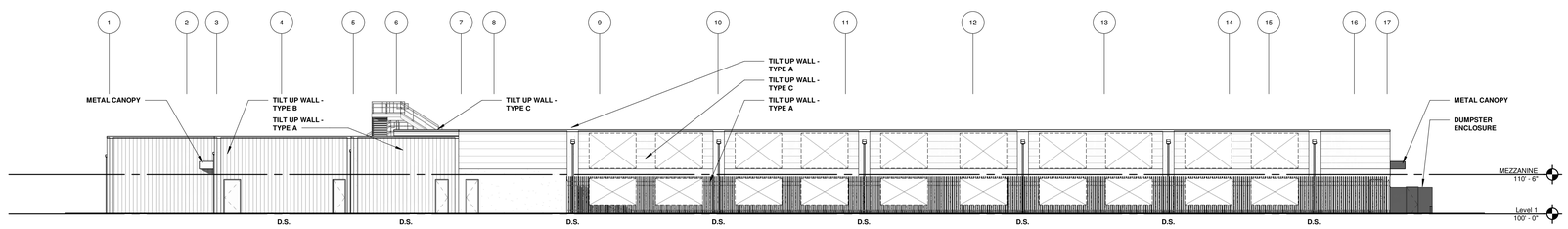
AMF-06
BASIS OF DESIGN: TBD
COLOR: TBD
LOCATION: METAL SCREEN WALL SYSTEM



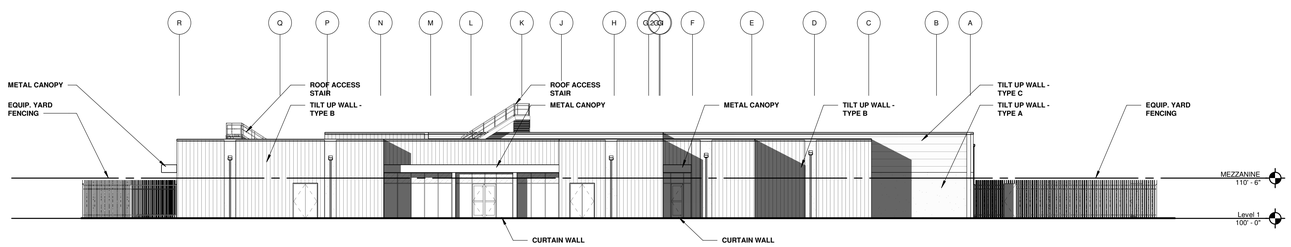
04 OVERALL BUILDING ELEVATION - WEST
1/16" = 1'-0"



03 OVERALL BUILDING ELEVATION - SOUTH
1/16" = 1'-0"



02 OVERALL BUILDING ELEVATION - NORTH
1/16" = 1'-0"



01 OVERALL BUILDING ELEVATION - EAST
1/16" = 1'-0"

verizon
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WICK FISHER WHITE
Federal Reserve Bank Building
100 North Independence Mall West
Suite 5 SE - Philadelphia, PA 19106
215-627-0200 - wickfisherwhite.com
Project No. 210030

HKS
HKS, INC.
350 N SAINT PAUL STREET #100
DALLAS, TX 75201

LANGAN
300 Union Boulevard
Suite 405
Lakewood, CO 80228

verizon
COLORADO SPRINGS NEW BUILD
ARROWSWEST DRIVE

REV	DESCRIPTION	DATE

NETWORK COMPLIANCE SUBMITTALS	DATE
PRELIMINARY SUBMISSION	06/03/21
30% SUBMISSION	05/21/21
60% SUBMISSION	10/22/21
90% SUBMISSION	
100% SUBMISSION	
CONSTRUCTION DESIGN SUBMISSION	
RECORD SET (AS-BUILTS)	

PROJECT NO: 24502.000
CAD DWG FILE:
DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
COPYRIGHT:

STAMP
INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: MATTHEW LAMONT
Arch. Reg. No.:
Date: 10/22/2021

SHEET TITLE
OVERALL BUILDING ELEVATIONS

SHEET NUMBER
A210

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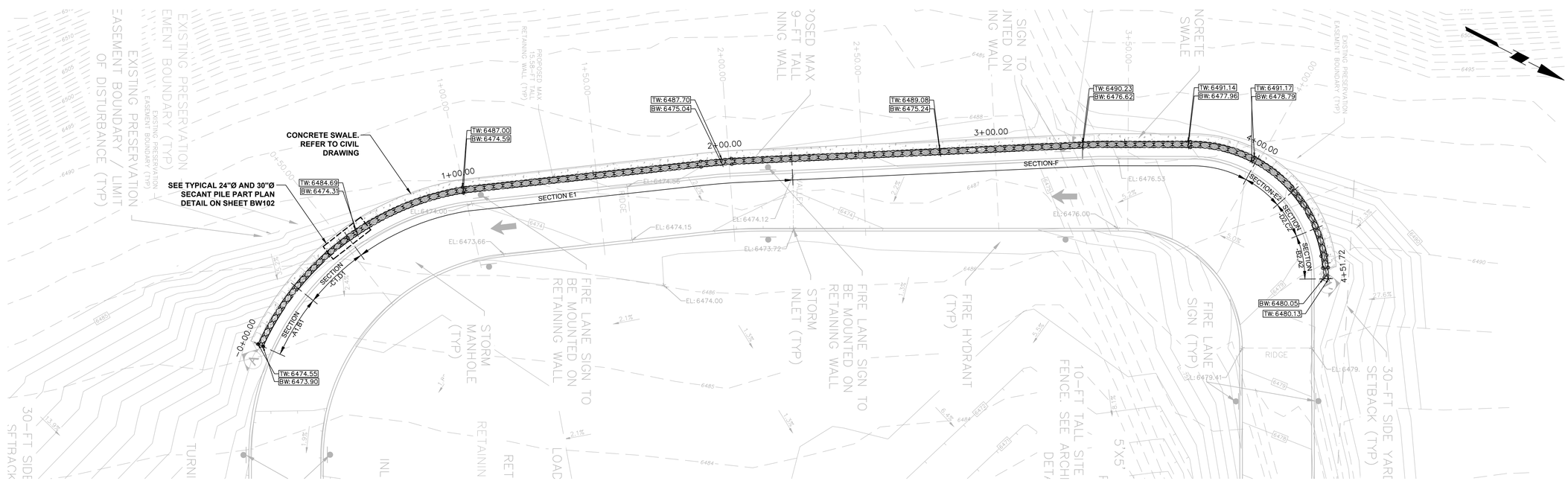
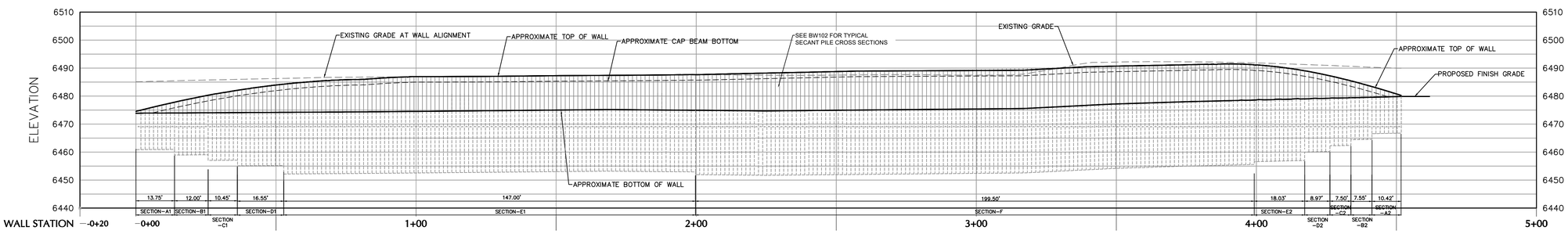
12/10/2021 2:53:08 PM



SECANT PILE WALL - PLAN VIEW

20 0 5 10 20
SCALE: 1 INCH = 20 FEET



SECANT PILE WALL ELEVATION VIEW

20 0 5 10 20
SCALE: 1 INCH = 20 FEET

SECANT PILE WALL DIMENSIONS AND REINFORCEMENT SCHEDULE

SECTION	STATION	SECANT PILE WALL HEIGHT, H (FEET)	SECANT PILE WALL DIAMETER, W (INCH)	SECANT PILE SPACING, S (INCH)	SECANT PILE EMBEDMENT DEPTH, D (FEET)	PRIMARY PILE REINFORCING STEEL	SECONDARY PILE REINFORCING BEAM
SECTION–A1 SECTION–A2	0+00.00 TO 0+13.75 4+41.30 TO 4+51.72	0 TO 4	24	18	13	8 # 11	W14X82
SECTION–B1 SECTION–B2	0+13.75 TO 0+25.75 4+33.75 TO 4+41.30	4 TO 6	24	18	15	8 # 11	W14X82
SECTION–C1 SECTION–C2	0+25.75 TO 0+36.20 4+26.25 TO 4+33.75	6 TO 8	24	18	17	8 # 11	W14X132
SECTION–D1 SECTION–D2	0+36.20 TO 0+52.75 4+17.28 TO 4+26.25	8 TO 10	30	21	19	8 # 11	W18X143
SECTION–E1 SECTION–E2	0+52.75 TO 1+99.75 3+99.25 TO 4+17.28	10 TO 12.5	30	21	22	8 # 11	W18X175
SECTION–F	1+99.75 TO 3+99.25	12.5 TO 13.9	30	21	23	8 # 11	W18X211

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City File Number: TBD

Date	Description	No.

Revisions

Signature MARK SEEL Date
PROFESSIONAL ENGINEER CO Lic. No. PE.0052624

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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
SECANT PILE WALL PLAN AND ELEVATION

Project No. 620023601
Date 12/07/2021
Drawn By ARK
Checked By NJ
Drawing No. BW101
Sheet 28 of 30

LANGAN
Project No. 620023601

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SECANT PILE WALL GENERAL NOTES:

1. THE FOLLOWING CODES AND STANDARDS SHALL APPLY TO THE DESIGN, CONSTRUCTION, AND QUALITY CONTROL OF WORK SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS:
   1.1. THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC).
   1.2. LRFD BRIDGE DESIGN SPECIFICATIONS, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 8TH EDITION 2017.
   1.3. AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318.
   1.4. AMERICAN CONCRETE INSTITUTE "SPECIFICATION FOR SHOTCRETE" ACI 506.2-13 (18).
   1.5. AMERICAN CONCRETE INSTITUTE "GUIDE TO SHOTCRETE" ACI 506 R-16.
   1.6. WHERE PROVISIONS OF ABOVE STANDARD CONFLICT WITH BUILDING REGULATIONS IN EFFECT FOR THIS PROJECT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
2. THE CONTRACTOR SHALL READ, EXAMINE AND REVIEW THE "GEOLOGIC HAZARDS REPORT FOR COLORADO SPRINGS (COSP) NEW BUILDING DESIGN" ISSUED BY LANGAN ON AUGUST 16 2021, AND THE "GEOTECHNICAL ENGINEERING STUDY FOR COLORADO SPRINGS (COSP) NEW BUILDING DESIGN" ISSUED BY LANGAN ON AUGUST 16 2021.
3. THE CONTRACTOR SHALL CONSTRUCT THE SECANT PILE RETAINING WALL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, IN THE CASE OF ANY DISCREPANCY, THE CONTRACTOR SHALL INFORM THE DESIGN TEAM IMMEDIATELY AND SEEK DIRECTIONS.
4. WHERE APPLICABLE, THE SUITABILITY OF IMPORTED FILL SHALL BE EVALUATED BY THE OWNER'S GEOTECHNICAL ENGINEERS BEFORE DELIVERY TO THE SITE.
5. THE SECANT PILE WALL DESIGN ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CHANGES, REVISIONS, OR AMENDMENTS TO THE GRADING PLANS TO ASSESS IMPACTS TO THE DESIGN.
5. SHOULD FIELD CONDITIONS CONFLICT WITH THOSE INDICATED ON THESE DRAWINGS, THE SECANT PILE WALL DESIGN ENGINEER OF RECORD SHALL BE IMMEDIATELY NOTIFIED, SO ANY IMPACTS TO THE DESIGN CAN BE ASSESSED AND THE REQUIRED DESIGN CHANGES CAN BE MADE.
6. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING ON-SITE AND OFF-SITE UTILITIES. EXISTING UTILITIES IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE RELOCATED AS NECESSARY AND PROTECTED AT ALL TIMES. ANY IMPACTED UTILITIES SHALL BE RESTORED, AS NECESSARY, TO THE FULL SATISFACTION OF THE UTILITY OWNER FOLLOWING COMPLETION OF WORK NEAR THE UTILITY.
7. CONTRACTOR SHALL PROTECT ALL EARTH SLOPES FROM EROSION. FACIAL INSTABILITY AND WATER RUN-OFF.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING THE SECANT PILE WALLS TO LINES, GRADES, AND SECTIONS SHOWN ON THESE DRAWINGS, AND SHALL FOLLOW APPLICABLE PROVISIONS OF THE MATERIAL MANUFACTURER AND SUPPLIER'S DELIVERY, STORAGE, HANDLING, AND INSTALLATION INSTRUCTIONS AND TECHNICAL SPECIFICATIONS.
5. CONTRACTOR'S WORKERS' SAFETY AND SITE LOGISTICS ARE BEYOND THE SCOPE OF THESE DRAWINGS AND ARE NOT ADDRESSED HEREIN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THESE ITEMS.

DESIGN ASSUMPTIONS:

1. SURCHARGE LOADS:
   1.1. SNOW LOAD: 45 PSF
   1.2. SWELL PRESSURE AT MSE WALL BASE: 1,500 PSF
2. HYDROSTATIC PRESSURE: 0 PSF.
3. SOIL DESIGN PARAMETERS:
   3.1. PIERRE SHALE : FRICTION ANGLE (ϕ) = 38°, UNIT WEIGHT = 150 PCF.
   3.2. SOIL/WALL FRICTION: (δ) = 15°.

MATERIALS:

1. ALL CONCRETE AND SHOTCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST VERSIONS OF ACI CODE 318 AND 506, AND ASTM STANDARDS.
2. UNLESS NOTED ON THE PLANS OTHERWISE, MINIMUM CONCRETE/SHOTCRETE COVER MEASURED FROM THE FACE OF CONCRETE/SHOTCRETE TO THE FACE OF REINFORCING BARS OR STEEL ELEMENT SHALL BE 3 INCHES FOR THE FACING EXPOSED TO SOILS, AND 2 INCHES ELSEWHERE.
3. REINFORCING STEEL: DEFORMED REBAR, ASTM GRADE 60.
4. CEMENT TYPE SHALL BE TYPE V CONFORM TO ASTM C150.
5. WELDED WIRE MESH: ASTM GRADE 60.
6. REINFORCING BAR LAP SPLICES SHALL BE CLASS B CONFORM TO ACI-318.

SECANT PILE WALL CONSTRUCTION:

1. SECANT PILE WALL CONSTRUCTION SHALL BE PERFORMED AS GENERALLY INDICATED BELOW AND AS SPECIFIED IN THE PROJECT TECHNICAL SPECIFICATIONS.

2. CONSTRUCTOR SHALL PROPERLY DESIGN AND CONSTRUCT A TEMPORARY GUIDE WALL TO SATISFACTORILY INSTALL SECANT PILE WALLS.

3. AFTER GUIDE WALL CONSTRUCTION IS COMPLETE, THE PRIMARY SECANT PILES SHALL BE CONSTRUCTED THROUGH THE GUIDE WALLS AT THE LOCATIONS INDICATED ON THE PLAN VIEW. CONCURRENT CONSTRUCTION SHALL BE LIMITED TO EVERY FOURTH SECANT PILE ON THE SAME DAY. THE PRIMARY SECANT PILES IN-BETWEEN SHALL BE CONSTRUCTED ONLY AFTER THE CONCRETE IN THE IMMEDIATELY ADJACENT TWO PRIMARY SECANT PILES HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 300 PSI. SECANT PILES SHALL BE CONSTRUCTED AS FOLLOWS:

3.1. IF TEMPORARY CASING IS NEEDED, TEMPORARY CASING HAVING AN INNER DIAMETER GREATER THAN OR EQUAL TO THE PROPOSED SECANT PILE DIAMETER SHALL BE ADVANCED TO THE MINIMUM TIP ELEVATIONS SHOWN ON THE ELEVATION DRAWING. CASING INSTALLATION SHALL BE PERFORMED ONLY USING INTERNAL LIQUID FLUID FLUSH DUPLEX DRILLING TECHNIQUES.

3.2. THE CASING SHALL THEN BE CLEANED COMPLETELY AND THE REQUIRED REINFORCEMENT SHALL BE INSTALLED AND PROPERLY CENTRALIZED IN THE SECANT PILE.

3.3. CONCRETE SHALL BE PLACED USING TREMIE TECHNIQUE FROM THE BOTTOM OF THE SOCKET UNTIL UNCONTAMINATED CONCRETE IS OBSERVED AT THE SURFACE. THE CASING SHALL BE SIMULTANEOUSLY REMOVED DURING CONCRETE PLACEMENT. A RUBBER PLUG SHALL BE USED AT THE TIP OF THE TREMIE PIPE TO AVOID MIXING OF THE CONCRETE WITH WATER PRIOR TO PUMPING. THE TIP OF THE TREMIE PIPE AND THE BOTTOM OF THE CASING SHALL BE KEPT AT LEAST 15 FEET BELOW THE SURFACE OF FRESH CONCRETE AT ALL TIMES DURING CONCRETING AND CASING WITHDRAWAL. REFER TO THE SECANT PILE WALL DETAILS ON THESE DRAWINGS FOR MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH REQUIREMENTS.

4. ONCE TWO ADJACENT PRIMARY SECANT PILES HAVE BEEN CONSTRUCTED AND THE CONCRETE IN THESE SECANT PILES HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 300 PSI, THE REINFORCED SECONDARY SECANT PILES IN-BETWEEN SHALL BE CONSTRUCTED. CONCURRENT ELEMENT CONSTRUCTION SHALL BE LIMITED TO EVERY OTHER SECONDARY SECANT PILE. THE SECONDARY REINFORCED CONCRETE SECANT PILES SHALL BE INSTALLED THROUGH THE GUIDE WALL, BETWEEN AND INTERSECTING THE PRIMARY PILES, AT THE LOCATIONS INDICATED ON THESE SHEETS.

4.1. CASING INSTALLATION SHALL BE PERFORMED SIMILAR TO THE PRIMARY PILES.

4.2. THE CASING SHALL THEN BE CLEANED COMPLETELY AND THE REQUIRED REINFORCEMENT SHALL BE INSTALLED AND CENTRALIZED WITHIN THE SECANT PILE.

4.3. CONCRETE PLACEMENT AND CASING REMOVAL SHALL BE PERFORMED SIMILAR TO THAT PERFORMED FOR THE PRIMARY PILES; REFER TO THE SECANT PILE WALL DETAILS ON THESE DRAWINGS FOR MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH REQUIREMENTS.

5. THE SECANT PILES SHALL BE INSTALLED AT THE REQUIRED LOCATIONS AND IN VERTICAL ALIGNMENT TO CREATE THE REQUIRED AMOUNT OF OVERLAP BETWEEN THE ADJACENT ELEMENTS THROUGHOUT THEIR LENGTHS AS INDICATED ON THESE DRAWINGS

6. AFTER THE PRIMARY AND SECONDARY PILES HAVE BEEN INSTALLED AND THE CONCRETE HAS ATTAINED THE REQUIRED STRENGTH, THE GUIDE WALL SHALL BE CAREFULLY REMOVED.

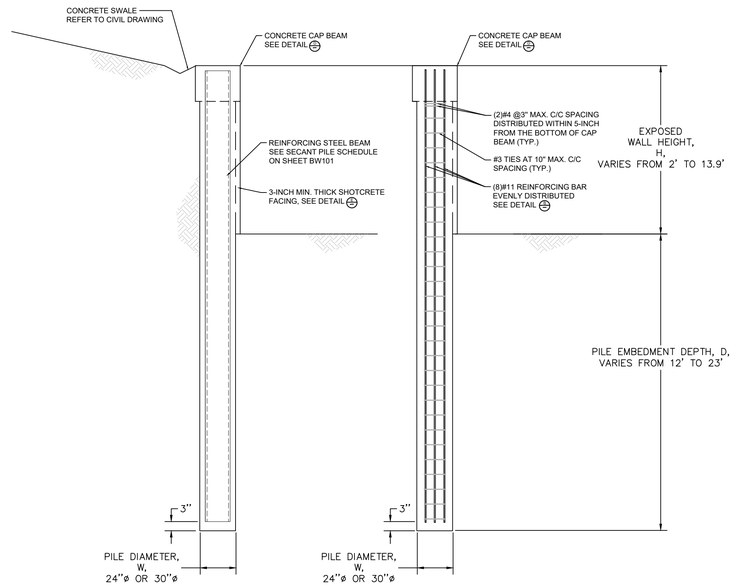
7. THE MEANS AND METHODS OF SECANT PILE CONSTRUCTION SHALL BE SELECTED BY THE CONTRACTOR BASED ON SUBSURFACE CONDITIONS. THE CONTRACTOR'S MEANS AND METHODS SHALL BE SUCH THAT NO LOSS OF GROUND OR ADVERSE IMPACTS TO THE NEIGHBORING/BORDERING STRUCTURES, STREETS, SIDEWALKS, AND UTILITIES RESULT.

8. EXCAVATION SHALL NOT BE CONDUCTED UNTIL THE 28-DAY CONCRETE COMPRESSIVE STRENGTH HAS BEEN REACHED. EXCAVATION SHALL BE PERFORMED IN MAXIMUM 5-FOOT VERTICAL LIFTS AT A TIME. ONCE EACH LIFT IS EXCAVATED, THE ENGINEER SHALL INSPECT THE CONDITIONS OF THE EXPOSED SECANT PILE WALL. CONTRACTOR SHALL PUMP PERCHED AND/OR GROUND WATER AS NEEDED TO FACILITATE EXCAVATION AND FOUNDATION CONSTRUCTION WORK AT THE SITE IN THE DRY.

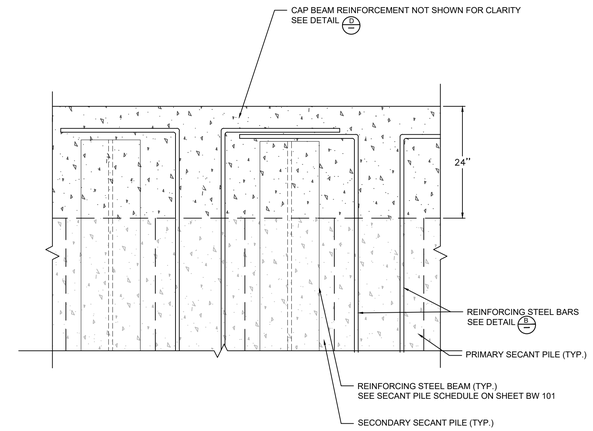
9. DURING EXCAVATION, IF ANY VOIDS OR DEFECTS ARE OBSERVED IN THE SECANT PILES, SUCH THAT THE STRUCTURAL INTEGRITY OR WATER-TIGHTNESS OF THE WALL CAN BE COMPROMISED, THE CONTRACTOR SHALL IMMEDIATELY HALT FURTHER EXCAVATION AND REPAIR SUCH IMPERFECTIONS, SO THE SECANT PILE WALL CAN PERFORM PER THE DESIGN INTENT. SUCH REPAIR MEASURES MAY CONSIST OF INJECTION GROUTING OR EXCAVATION AND PATCHING, JET GROUTING BEHIND THE SECANT PILE WALL, OR ANOTHER METHOD APPROVED BY THE DESIGN ENGINEER OF RECORD. THE CONTRACTOR SHALL REMEDIATE ANY VOIDS OR DEFECTS AT NO ADDITIONAL COST TO THE OWNER.

10. ANCHORAGE OF REINFORCING STEEL TO SECANT PILES SHALL CONFORM TO SPECIFICATIONS OF HILTI HIT-HY 200 ADHESIVE SYSTEM.

11. PRIOR PLACEMENT OF WELDED WIRE MESH AND SHOTCRETE FACING, CLEAN ALL SURFACES TO BE SHOTCRETED OF ALL LOOSE AND DELETERIOUS MATERIAL.



A TYPICAL SECANT PILE CROSS SECTIONS AND REINFORCING
SCALE: N.T.S.



C TYPICAL SECANT PILE TO CAP BEAM CONNECTION DETAIL
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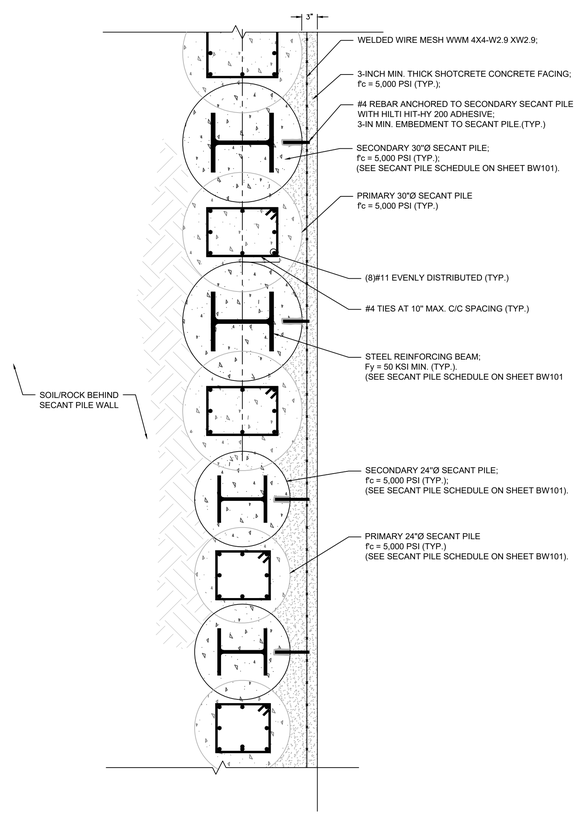
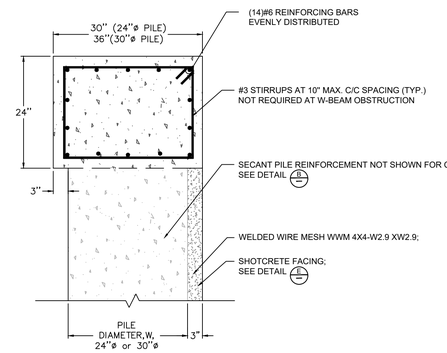
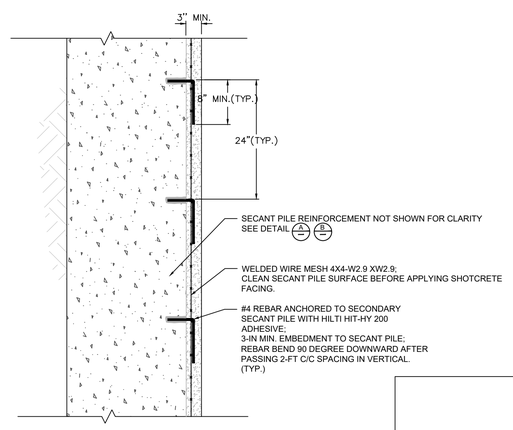


B TYPICAL 24"Ø AND 30"Ø SECANT PILE PART PLAN DETAIL
SCALE: N.T.S.



D TYPICAL CAP BEAM DETAIL
SCALE: N.T.S.



D TYPICAL SHOTCRETE FACING DETAIL
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Date	Description	No.

Revisions

Signature Date
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Project
VERIZON COLORADO SPRINGS NEW BUILD
COLORADO SPRINGS
EL PASO COUNTY COLORADO

Drawing Title
SECANT PILE WALL TYPICAL CROSS SECTION, DETAILS AND GENERAL NOTES

Project No. 620023601
Date 12/07/2021
Drawn By AC
Checked By NJ

BW102
Sheet 29 of 30

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Project No. 620023601

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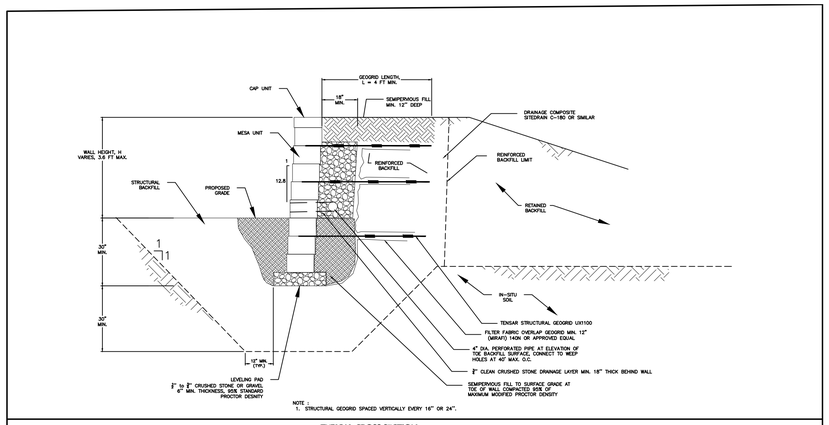


TYPICAL CROSS SECTION

MECHANICALLY STABILIZED EARTH (MSE) WALL CROSS SECTION

SCALE: N.T.S.

MECHANICALLY STABILIZED EARTH (MSE) WALL GENERAL NOTES

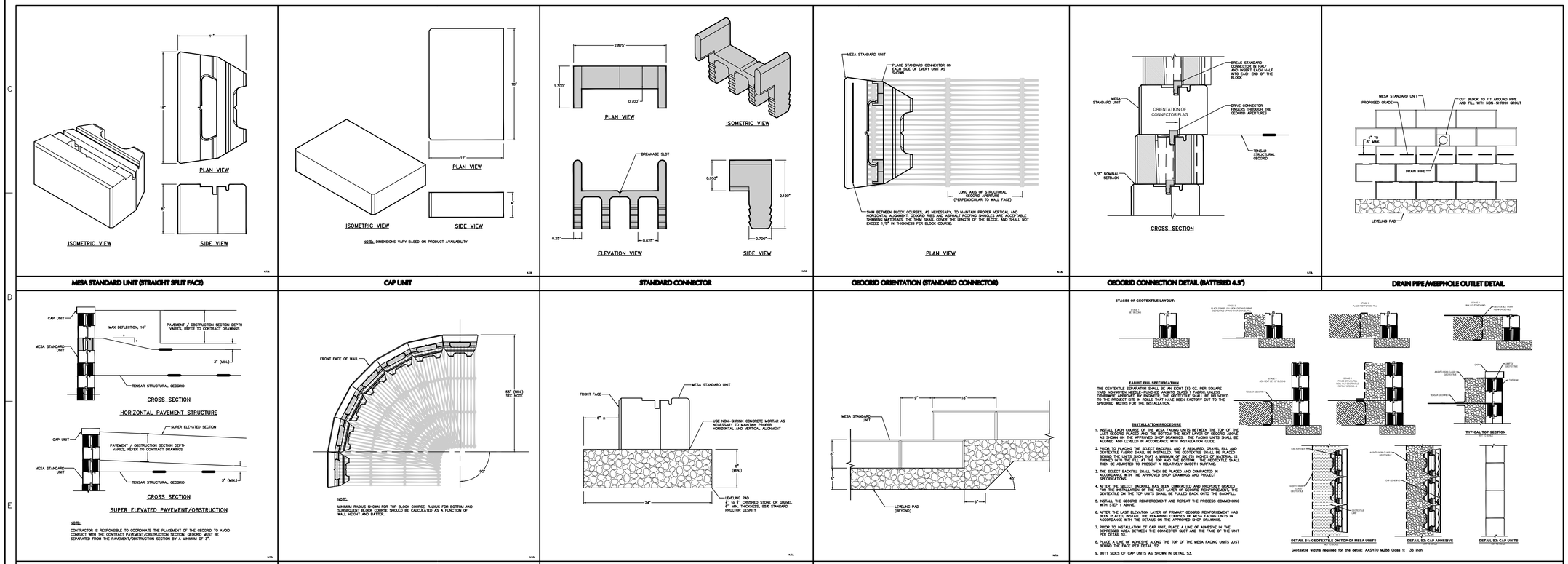
1. THE FOLLOWING CODES AND STANDARDS SHALL APPLY TO THE DESIGN, CONSTRUCTION, AND QUALITY CONTROL OF WORK SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS:
   - 1.1. LRFD BRIDGE DESIGN SPECIFICATIONS, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 8TH EDITION 2017.
   - 1.2. DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALL AND REINFORCED SLOIL SLOPES, U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHVAY ADMINISTRATION (FHVA), FHWA-NHI-10-024.
   - 1.3. THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC).
2. THE CONTRACTOR SHALL READ, EXAMINE AND REVIEW THE 'GEOLOGIC HAZARDS REPORT FOR COLORADO SPRINGS (COSP) NEW BUILDING DESIGN' ISSUED BY LANGAN ON AUGUST 16 2021, AND THE 'GEOTECHNICAL ENGINEERING STUDY FOR COLORADO SPRINGS (COSP) NEW BUILDING DESIGN' ISSUED BY LANGAN ON AUGUST 16 2021.
3. THE CONTRACTOR SHALL CONSTRUCT THE MSE WALL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, IN THE CASE OF ANY DISCREPANCY, THE CONTRACTOR SHALL INFORM THE DESIGN TEAM IMMEDIATELY AND SEEK DIRECTIONS.
4. THE MESA® RETAINING WALL SYSTEM WAS USED IN THIS DESIGN. THE GEOGRID LENGTHS SHOWN ON THE ELEVATION VIEW ARE MEASURED FROM THE REAR FACE OF THE MSE WALL AND ARE NOMINAL LENGTHS REQUIRED BY THE DESIGN CALCULATIONS.
5. REINFORCED AND STRUCTURAL BACKFILL FOR THE MSE WALL SHALL BE GRANULAR MATERIAL CONFORMING TO THE FOLLOWING SPECIFICATIONS OR AS OTHERWISE APPROVED BY THE GEOTECHNICAL ENGINEER:
   - 5.1. THE GRADATION SHALL CONFORM TO THE SPECIFICATION BELOW:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
¾ INCH	75-100
NO.4	40-70
NO.40	15-60
NO.200	0-15

   - 5.1. THE SOILS PASSING THE NO. 200 SHALL HAVE A MAXIMUM LIQUID LIMIT OF 30%, A MAXIMUM PLASTICITY INDEX OF 15, AND A MAXIMUM EXPANSIVE POTENTIAL OF 0.5%.
   - 5.2. REINFORCED AND STRUCTURAL BACKFILL SHALL BE SUBSTANTIALLY FREE OF SHALE OR OTHER SOFT, POOR DURABILITY PARTICLES AND SHALL HAVE A MAGNESIUM SULFATE SOUNDNESS LOSS OF LESS THAN 30 PERCENT AFTER FOUR CYCLES (OR A SODIUM SULFATE VALUE LESS THAN 15 PERCENT AFTER FIVE CYCLES).
   - 5.3. THE SUITABILITY OF IMPORTED FILL SHALL BE EVALUATED BY THE OWNER'S GEOTECHNICAL ENGINEERS BEFORE DELIVERY TO THE SITE.
6. RETAINED BACKFILL SHALL BE IMPORTED FILL OR MOISTURE-CONDITIONED SITE SOIL. IMPORTED FILL SHALL CONSIST OF WELL-GRADED MIXTURE OF SAND AND GRAVEL WITH NO MORE THAN 15 PERCENT FINES PASSING THE NO. 200 SIEVE. THE REUSED SITE SOIL SHALL BE MOISTURE-CONDITIONED TO REACH MOISTURE CONTENTS TO BETWEEN 1 PERCENT AND 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D1557).
7. SEMIPERVIOUS BACKFILL SHALL CONSIST OF MATERIAL HAVING 100% FINER THAN 2 INCHES IN DIAMETER AND A MINIMUM OF 35% PASSING THE NO. 200, AND SHALL BE PLACED IN 6" LOOSE LIFTS WITHIN A RANGE OF 2% ABOVE TO 2% BELOW THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO 95% OF THE MAXIMUM MODIFIED PROCTOR DENSITY AS DETERMINED BY ASTM D1557.
8. REINFORCED BACKFILL SHALL BE PLACED IN MAXIMUM LIFT OF 9 INCHES THICK LOOSE LIFTS COMPACTED TO 95 PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D1557). HAND-OPERATED COMPACTION EQUIPMENT SHALL BE USED WITHIN 5 FEET OF THE WALL SO AS NOT TO OVERSTRESS THE WALL. LARGE ROLLERS, DUMP TRUCKS, LARGE EXCAVATORS, ETC. SHALL BE KEPT OFF THE GEOGRID-REINFORCED ZONE.
9. RETAINED BACKFILL SHALL BE PLACED IN MAXIMUM LIFT OF 12 INCHES THICK LOOSE LIFTS COMPACTED TO 95 PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D1557).
10. WALL LEVELING PAD SUBGRADE SHALL HAVE A MINIMUM BEARING CAPACITY OF 2,000 PSF. SOIL SUBGRADE SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER TO CONFIRM THE REQUIRED BEARING CAPACITY. IF THE EXPOSED SOIL SUBGRADE IS SOFT OR CONTAINS UNSUITABLE DELETERIOUS MATERIALS AS DETERMINED BY THE INSPECTING GEOTECHNICAL ENGINEER, THE CONTRACTOR SHALL OVER-EXCAVATE THE SOFT/UNSUITABLE SOILS TO A DEPTH AS DETERMINED BY THE GEOTECHNICAL ENGINEER AND REPLACE THE EXCAVATED MATERIAL WITH APPROVED COMPACTED FILL. APPROVED COMPACTED FILL FOR OVER-EXCAVATIONS AND BACKFILL AND FILL PLACEMENT WITHIN REINFORCED ZONE SHALL BE PLACED IN MAXIMUM 9 INCH THICK LOOSE LIFTS COMPACTED TO 95 PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D1557) WITH A MOISTURE CONTENT WITHIN 3 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT.
11. ALL EXCAVATIONS SHALL BE BENCHED AND SLOPED CONFORM TO OSHA GUIDELINES.
12. THE CONTRACTOR SHALL PREPARE AND SUBMIT MATERIAL SUBMITTALS AND CONSTRUCTION PLANS INCLUDING SEGMENTAL BLOCKS, EXCAVATION, GEOGRIDS, LEVELING PAD, AND BACKFILL.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING THE MSE WALLS AS AS SHOWN ON THESE DRAWINGS, AND SHALL FOLLOW APPLICABLE PROVISIONS OF THE MATERIAL MANUFACTURER AND SUPPLIER'S DELIVERY, STORAGE, HANDLING, AND INSTALLATION INSTRUCTIONS AND SPECIFICATION.

DESIGN ASSUMPTIONS

1. SURCHARGE LOADS:
   - 1.1. SNOW LOAD: 45 PSF
   - 1.2. SWELL PRESSURE AT MSE WALL BASE: 60 PSF
2. SOIL DESIGN PARAMETERS:
   - 2.1. REINFORCED BACKFILL:
     - FRICTION ANGLE (ϕ) = 34°, UNIT WEIGHT = 125 PCF.
   - 2.2. RETAINED BACKFILL:
     - FRICTION ANGLE (ϕ) = 32°, UNIT WEIGHT = 125 PCF.
   - 2.3. IN-SITU SOIL:
     - FRICTION ANGLE (ϕ) = 30°; UNIT WEIGHT = 125 PCF.
4. THE M.S.E. WALL HAVE BEEN DESIGNED FOR A 75 YEARS SERVICE LIFE.



MECHANICALLY STABILIZED EARTH (MSE) WALL DETAILS

SCALE: N.T.S.

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VERIZON COLORADO SPRINGS NEW BUILD
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EL PASO COUNTY COLORADO

Drawing Title
MSE WALL TYPICAL CROSS SECTION, DETAILS AND GENERAL NOTES

Project No. 620023601
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Drawn By AC & NJ
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