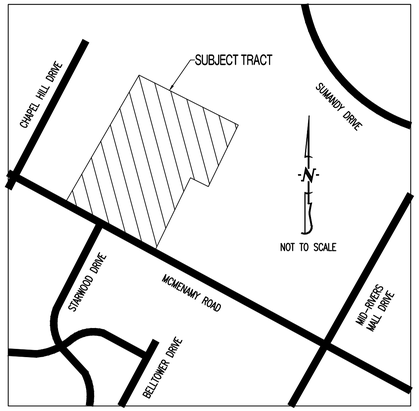
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING, AND BOCCE BALL PAVILLION

LOCATION MAP



PROJECT BENCHMARK:

TBM #1 – CHISELED MARK IN SEWER MANHOLE SOUTH OF NEW BOCCE BALL PAVILLION AND 10' EAST OF THE PROPERTY LINE BETWEEN 109 AND 155 MCMENAMY ELEVATION = 490.46

FLOOD PLAIN STATEMENT:

NO PART OF THIS TRACT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN AS PER THE ST. CHARLES COUNTY FIRM MAP #29183C0242G DATED 1/20/2016.

LEGAL DESCRIPTION:

A TRACT OF LAND BEING PART OF US SURVEY NO. 30 IN T47N, R3E AS DESCRIBED BY THE WARRANTY DEED IN BOOK 4416, PAGE 293 OF THE RECORDS OF ST. CHARLES COUNTY, MISSOURI, AND

A TRACT OF LAND BEING PART OF LOTS 2 AND 3 OF BLOCK 2 OF DEPPE & REINEKE'S ADDITION TO THE TOWN OF ST. PETERS AS RECOREDED IN PLAT BOOK 2, PAGE 19 OF THE ST. CHARLES COUNTY, MISSOURI RECORDS AND AS DESCRIBED BY THE WARRANTY DEED LOCATED IN BOOK 6068, PAGE 657 OR THE RECORDS OF ST. CHARLES COUNTY, MISSOURI

UTILITY COMPANIES:

LOCATES:

MISSOURI ONE CALL INC.
1022 B NORTHEAST DRIVE
JEFFERSON CITY, MO 65109
1-800-344-7483

TELEPHONE:

AT&T
2210 HIGHWAY K
O'FALLON, MO 63368
314-420-1973

NATURAL GAS:

SPIRE
700 MARKET STREET
ST. LOUIS, MO 63101
314-575-4831

CABLE TELEVISION:

CHARTER COMMUNICATIONS
815 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
636-387-6650

WATER:

MISSOURI AMERICAN WATER COMPANY
727 CRAIL ROAD
ST. LOUIS, MO 63141
636-922-9164

SANITARY SEWER:

CITY OF ST. PETERS
ONE ST. PETERS CENTER BLVD.
WASTEWATER DEPARTMENT
ST. PETERS, MO 63376
636-477-6600

ELECTRIC:

AMEREN MISSOURI
200 N. CALLAHAN ROAD
WENTZVILLE, MO 63385
636-639-8306

GENERAL NOTES:

ALL STREET, STORM DRAIN, AND SANITARY SEWER CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF ST. PETERS "STREET, STORM DRAIN, AND SANITARY SEWER SPECIFICATIONS AND STANDARDS" (CURRENT EDITION).

THIS PROJECT IS BEING CONSTRUCTED ON TWO TRACTS OF GROUND. THE WESTERN TRACT IS OWNED BY CENTRAL COUNTY FIRE AND RESCUE AT 109 MCMENAMY ROAD. THIS TRACT CONTAINS 1.84 ACRES AND IS ZONED C-2. THE EASTERN TRACT IS OWNED BY PROFESSIONAL FIREFIGHTERS OF EASTERN MISSOURI IAFF LOCAL 2665 AT 115 MCMENAMY ROAD. THIS TRACT CONTAINS 3.72 ACRES AND IS ZONED C-3.

THE STORM SEWER NETWORK DESIGN FOR THIS PROJECT IS BASED ON OPEN CHANNEL FLOW; THEREFORE THE HYDRAULIC GRADE LINE IS AT OR LESS THAN THE CROWN OF THE PIPE.

EXISTING UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND VERTICAL) PRIOR TO ANY EXCAVATION.

ALL EXCAVATION TO BE IN ACCORDANCE WITH SECTIONS 319.010-319.050, REVISED STATUTES OF THE STATE OF MISSOURI. SUCH COMPLIANCE SHALL NOT, HOWEVER, EXCUSE ANY PERSON MAKING ANY EXCAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR INJURY TO UNDERGROUND UTILITIES RESULTING FROM THE EXCAVATION.

A GEOTECHNICAL EVALUATION OF THE SUBSURFACE SOIL, GROUNDWATER CONDITIONS, AND A SLOPE STABILITY ANALYSIS HAS NOT BEEN PERFORMED BY THIS ENGINEER. THE OWNER SHALL SATISFY THEMSELVES OF ALL GEOTECHNICAL CONDITIONS PRIOR TO ANY CONSTRUCTION.

ALL LAND DISTURBANCE ACTIVITIES SHALL BE IN ACCORDANCE WITH CITY OF ST. PETERS CHAPTER 530 GRADING REGULATIONS

STORMWATER FACILITIES SHALL BE IN COMPLIANCE WITH THE CITY OF ST. PETERS CHAPTER 550 STORMWATER MANAGEMENT REGULATIONS.

ALL LANDSCAPING SHALL BE IN COMPLIANCE WITH THE CITY OF ST. PETERS TREE AND LANDSCAPING REGULATIONS.

REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR NARRATIVE REPORT AND BMP DESCRIPTIONS AND DETAILS.

ALL SLOPES ARE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

IT IS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MoDNR CLEAN WATER COMMISSION.

ALL DISTURBED AREAS WITHIN THE "LIMITS OF DISTURBANCE" SHALL BE FINE GRADED, SEEDED, AND MULCHED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES AND REMOVING THEM ONCE THE SITE IS STABILIZED.

ALL HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL FOR PIPE BEDDING REQUIREMENTS.

IN ORDER TO TERMINATE A STATE OPERATING PERMIT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR) REQUIRES THAT THE PERMITTEE SUBMIT A COMPLETED FORM H (INCLUDED WITH THE APPROVAL PERMIT) TO THE MDNR. A PERMIT IS ELIGIBLE FOR TERMINATION WHEN EITHER PERENNIAL VEGETATION, PAVEMENT, BUILDINGS, OR STRUCTURES USING PERMANENT MATERIALS COVER ALL AREAS THAT HAVE BEEN DISTURBED. VEGETATIVE COVER SHALL BE AT LEAST 70% OF FULLY ESTABLISHED PLANT DENSITY OVER 100% OF THE DISTURBED AREA.

LAND DISTURBANCE SITES SHOULD BE INSPECTED ON A REGULAR SCHEDULE AND WITHIN A REASONABLE TIME PERIOD (NOT TO EXCEED 48 HOURS) FOLLOWING HEAVY RAINS. REGULARLY SCHEDULED INSPECTIONS SHALL BE AT A MINIMUM OF ONCE PER WEEK. ANY DEFICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT. CONTRACTORS ARE REQUIRED TO SUBMIT TO CITY INSPECTION STAFF COPIES OF THEIR INSPECTION REPORTS REQUIRED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON A MONTHLY BASIS IF REQUESTED.

TOTAL DISTURBED AREA ON SITE = 1.44 AC.

A MISSOURI DNR LAND DISTURBANCE PERMIT NUMBER SHALL BE OBTAINED FOR THIS PROJECT.

REVISION KEY			COVER	CE 1	CE 2	CE 3	CE 4	CE 5	CE 6	CE 7	CE 8	CE 9	CE 10	CE 11	CE 12
REV #	DATE	COMMENTS													
---	09-09-2019	ORIGINAL SUBMITTAL	X	X	X	X	X	X	X	X	X	X	X	X	X

SHEET INDEX:

LEGEND OF SYMBOLS:

- EXISTING CURB
- PROPOSED CURB
- RIP RAP
- EXISTING STRUCTURE
- EXISTING TREELINE
- PROPOSED TREELINE
- EDGE OF WATERWAY
- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND CABLE TELEVISION
- EXISTING HIGH VOLTAGE ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD ELEC. & TV
- EXISTING OVERHEAD ELEC., TV & TELE.
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- 100 YEAR FLOOD PLAIN
- FLOODWAY
- ORDINARY HIGH WATER MARK
- STREAM SIDE BUFFER
- OUTER STREAM BUFFER

- FF=XXXX FINISH FLOOR OF STRUCTURE
- XXX.XX TC PROPOSED TOP OF CURB ELEVATION
- XXX.XX TP PROPOSED TOP OF PAVEMENT ELEVATION
- XXX.XX FG PROPOSED FINISH GRADE ELEVATION
- XXX.XX TW PROPOSED TOP OF WALL
- XX LOT NUMBER
- X STORM SEWER STRUCTURE LABEL
- X SANITARY SEWER STRUCTURE LABEL
- H.P. HIGH POINT
- L.P. LOW POINT
- EXISTING SIGNS
- EXISTING POWER POLE
- EXISTING GAS VALVE
- EXISTING WATER VALVE
- EXISTING GAS METER
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- MANHOLE
- EXISTING SANITARY SEWER LATERAL
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED TRACER WIRE TEST STATION BOX
- AC EXISTING AIR CONDITIONER
- EXISTING TELEPHONE PEDESTAL
- ET EXISTING ELECTRICAL TRANSFORMER
- E EXISTING ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING GUY WIRE

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

JESSE RAY STEPHENS
MO LICENSE - 2010000868

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115 MCMENAMY ROAD
ST. PETERS, MO. 63376

PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI
PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:
NOTES

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 0

EXISTING HOUSE

EXISTING PAVILLION

SCALE: 1"=10'
0 5 10 20

EXISTING ASPHALT REMOVAL AREA

EXISTING CONCRETE REMOVAL AREA

EXISTING BUILDING STRUCTURE TO BE REMOVED

LEGEND OF LABELS

(A) EXISTING HOUSE AND FOUNDATION(S) TO BE REMOVED AND ALL MATERIAL TO BE REMOVED FROM SITE. CONTRACTOR SHALL OBTAIN A CITY OF ST. PETERS DEMOLITION PERMIT AND PROVIDE AN ASSESSMENT OF ANY HAZARDOUS MATERIALS REQUIRED TO BE ABATED. SHOULD HAZARDOUS MATERIAL BE IDENTIFIED, CONTRACTOR SHALL OBTAIN A DNR PERMIT AND PERFORM ANY REQUIRED ABATEMENT PRIOR TO BUILDING DEMOLITION. CONTRACTOR SHALL EXAMINE THE HOUSE AND THE BASEMENT TO DETERMINE THE FULL EXTENTS OF THE REQUIRED REMOVALS.

(B) EXISTING CONCRETE PAVEMENT TO BE REMOVED AND DISPOSED OFF-SITE. PROVIDE A CLEAN SAW JOINT WHERE DEMOLISHED CONCRETE ABUTS ANY PAVEMENT TO REMAIN.

(C) EXISTING ASPHALT PAVEMENT TO BE REMOVED AND DISPOSED OFF-SITE. PROVIDE A CLEAN SAW JOINT WHERE DEMOLISHED CONCRETE ABUTS ANY PAVEMENT TO REMAIN.

(D) EXISTING WATER SERVICE TO HOUSE SHALL BE DISCONNECTED BACK TO METER. ROUTE NEW 1" POLY LINE AS NEEDED.

(E) COORDINATE WITH AMEREN UE FOR REMOVAL OF EXISTING DUSK TO DAWN LIGHTS THAT ARE POLE MOUNTED.

(F) COORDINATE WITH SPIRE TO REMOVE EXISTING GAS SERVICE FROM HOUSE.

(G) EXISTING A/C UNIT TO BE DECOMISSIONED IN ACCORDANCE WITH DNR STANDARDS. ALL REFRIGERANTS SHALL BE RECLAIMED PRIOR TO DEMOLITION.

(H) CONTRACTOR SHALL EXAMINE EXISTING CONCRETE SUMP PIT AND REMOVE WITH HOUSE.

(I) REMOVE EXISTING TREES AND DISPOSE OFF-SITE.

(J) REMOVE EXISTING PLAYGROUND EQUIPMENT IN THIS AREA.

(K) REMOVE EXISTING FENCING WHERE IT CONFLICTS WITH NEW BOCCE BALL PAVILLION.

(L) REMOVE EXISTING DUMPSTER ENCLOSURE AND HAUL OFF-SITE.

(M) ABANDON EXISTING 8" STORM DRAIN. INTERCEPT AT AN APPROPRIATE LOCATION TO CONNECT NEW STORM PIPING TO.

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

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116 MOVEMENT ROAD
ST. PETERS, MO. 63376

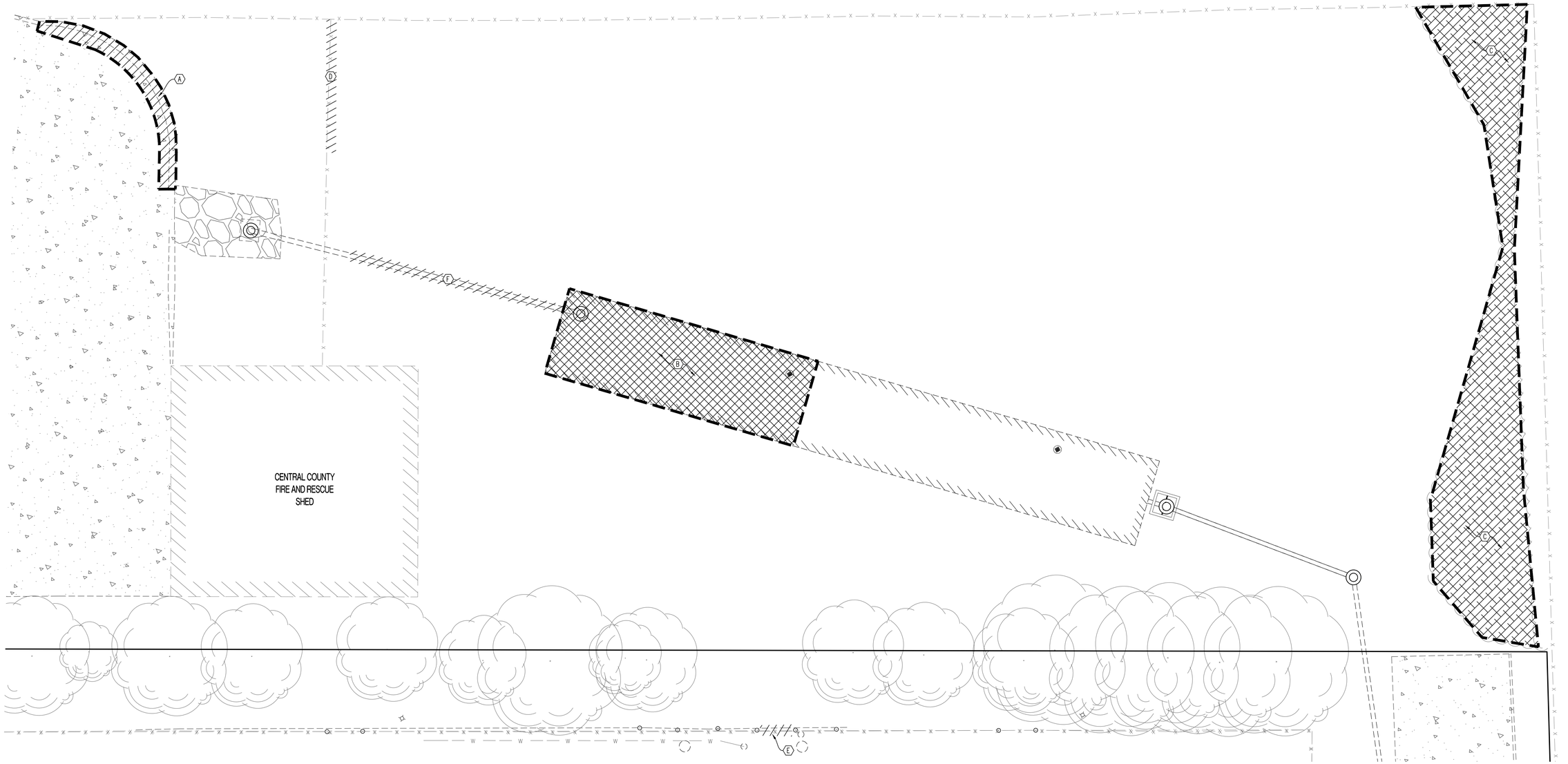
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

BOCCE BALL AREA
DEMOLITION PLAN

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 1



EXISTING TREE REMOVAL AREA

EXISTING CONCRETE REMOVAL AREA

EXISTING UNDERGROUND DETENTION SYSTEM REMOVAL AREA.

SCALE: 1"=10'

0 5 10 20

LEGEND OF LABELS

(A) EXISTING CONCRETE PAVEMENT TO BE REMOVED AND DISPOSED OFF-SITE. PROVIDE A CLEAN SAW JOINT WHERE DEMOLISHED CONCRETE ABUTS ANY PAVEMENT TO REMAIN.

(B) REMOVE PORTIONS OF EXISTING UNDERGROUND DETENTION SYSTEM. THE FIRST 6 CHAMBER ROWS SHALL BE REMOVED AND HAULED OFF-SITE. MANIFOLD PIPING AND EXISTING INLET SHALL BE SALVAGED FOR REUSE. REFER TO UNDERGROUND DETENTION DETAILS

(C) REMOVE EXISTING BRUSH AND TRIM TREES AND DISPOSE WASTE OFF-SITE.

(D) REMOVE EXISTING FENCING WHERE IT CONFLICTS WITH NEW DRIVEWAY AND GATE.

(E) REMOVE EXISTING CHAIN LINK FENCE FABRIC AND OVERHEAD WATERLINE AND INSTALL NEW GATE AND REWORK WATER LINE.

(F) REMOVE/ABANDON EXISTING 10" PVC STORM PIPING WHERE SHOWN.

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116 MONEMAY ROAD
ST. PETERS MO, 63376

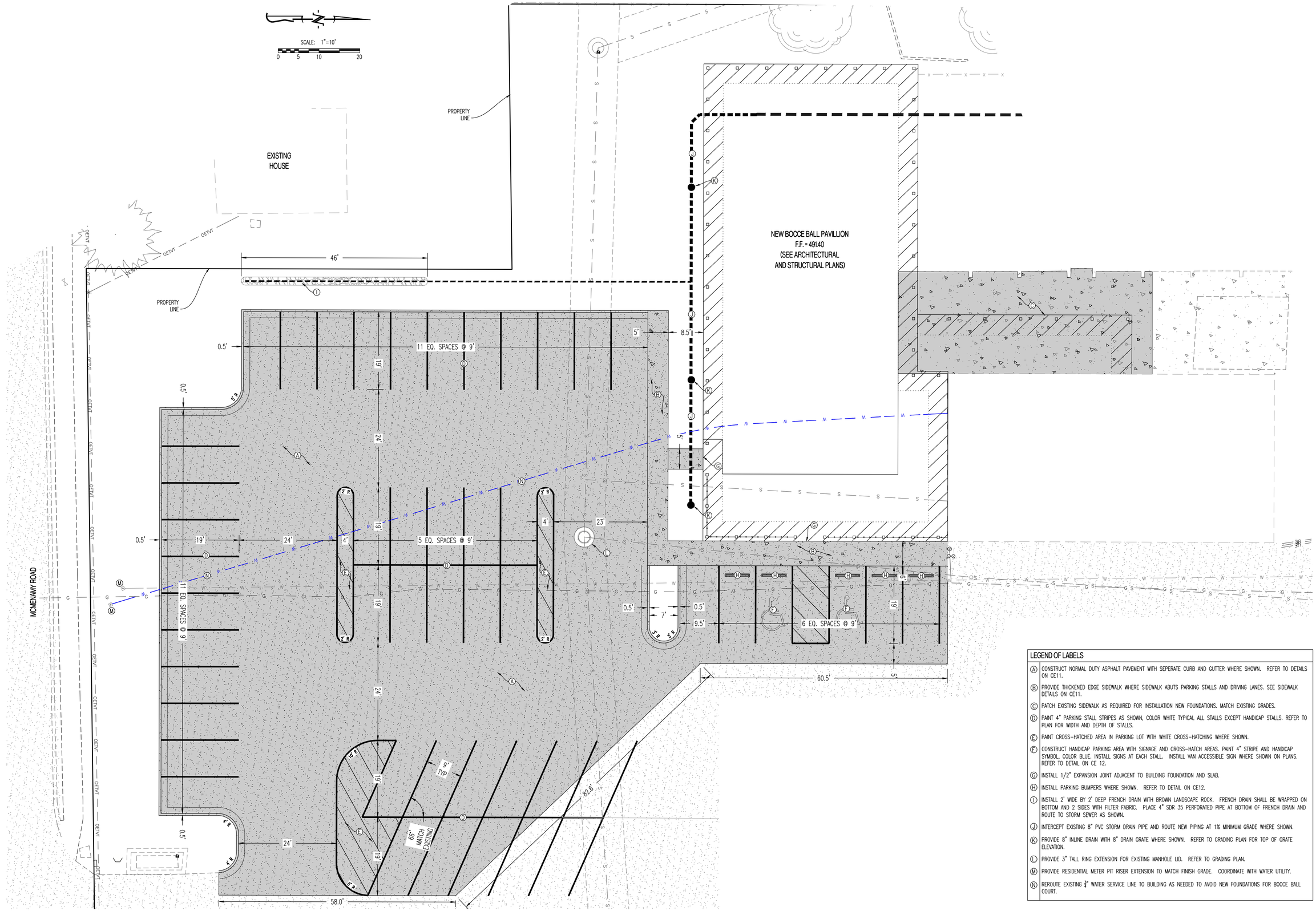
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

BOCCE BALL AREA
DEMOLITION PLAN

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 2



LEGEND OF LABELS

(A)	CONSTRUCT NORMAL DUTY ASPHALT PAVEMENT WITH SEPERATE CURB AND GUTTER WHERE SHOWN. REFER TO DETAILS ON CE11.
(B)	PROVIDE THICKENED EDGE SIDEWALK WHERE SIDEWALK ABUTS PARKING STALLS AND DRIVING LANES. SEE SIDEWALK DETAILS ON CE11.
(C)	PATCH EXISTING SIDEWALK AS REQUIRED FOR INSTALLATION NEW FOUNDATIONS. MATCH EXISTING GRADES.
(D)	PAINT 4" PARKING STALL STRIPES AS SHOWN, COLOR WHITE TYPICAL ALL STALLS EXCEPT HANDICAP STALLS. REFER TO PLAN FOR WIDTH AND DEPTH OF STALLS.
(E)	PAINT CROSS-HATCHED AREA IN PARKING LOT WITH WHITE CROSS-HATCHING WHERE SHOWN.
(F)	CONSTRUCT HANDICAP PARKING AREA WITH SIGNAGE AND CROSS-HATCH AREAS. PAINT 4" STRIPE AND HANDICAP SYMBOL, COLOR BLUE. INSTALL SIGNS AT EACH STALL. INSTALL VAN ACCESSIBLE SIGN WHERE SHOWN ON PLANS. REFER TO DETAIL ON CE 12.
(G)	INSTALL 1/2" EXPANSION JOINT ADJACENT TO BUILDING FOUNDATION AND SLAB.
(H)	INSTALL PARKING BUMPERS WHERE SHOWN. REFER TO DETAIL ON CE12.
(I)	INSTALL 2' WIDE BY 2' DEEP FRENCH DRAIN WITH BROWN LANDSCAPE ROCK. FRENCH DRAIN SHALL BE WRAPPED ON BOTTOM AND 2 SIDES WITH FILTER FABRIC. PLACE 4" SDR 35 PERFORATED PIPE AT BOTTOM OF FRENCH DRAIN AND ROUTE TO STORM SEWER AS SHOWN.
(J)	INTERCEPT EXISTING 8" PVC STORM DRAIN PIPE AND ROUTE NEW PIPING AT 1% MINIMUM GRADE WHERE SHOWN.
(K)	PROVIDE 8" INLINE DRAIN WITH 8" DRAIN GRATE WHERE SHOWN. REFER TO GRADING PLAN FOR TOP OF GRATE ELEVATION.
(L)	PROVIDE 3" TALL RING EXTENSION FOR EXISTING MANHOLE LID. REFER TO GRADING PLAN.
(M)	PROVIDE RESIDENTIAL METER PIT RISER EXTENSION TO MATCH FINISH GRADE. COORDINATE WITH WATER UTILITY.
(N)	REROUTE EXISTING ¾" WATER SERVICE LINE TO BUILDING AS NEEDED TO AVOID NEW FOUNDATIONS FOR BOCCE BALL COURT.

REVISIONS:

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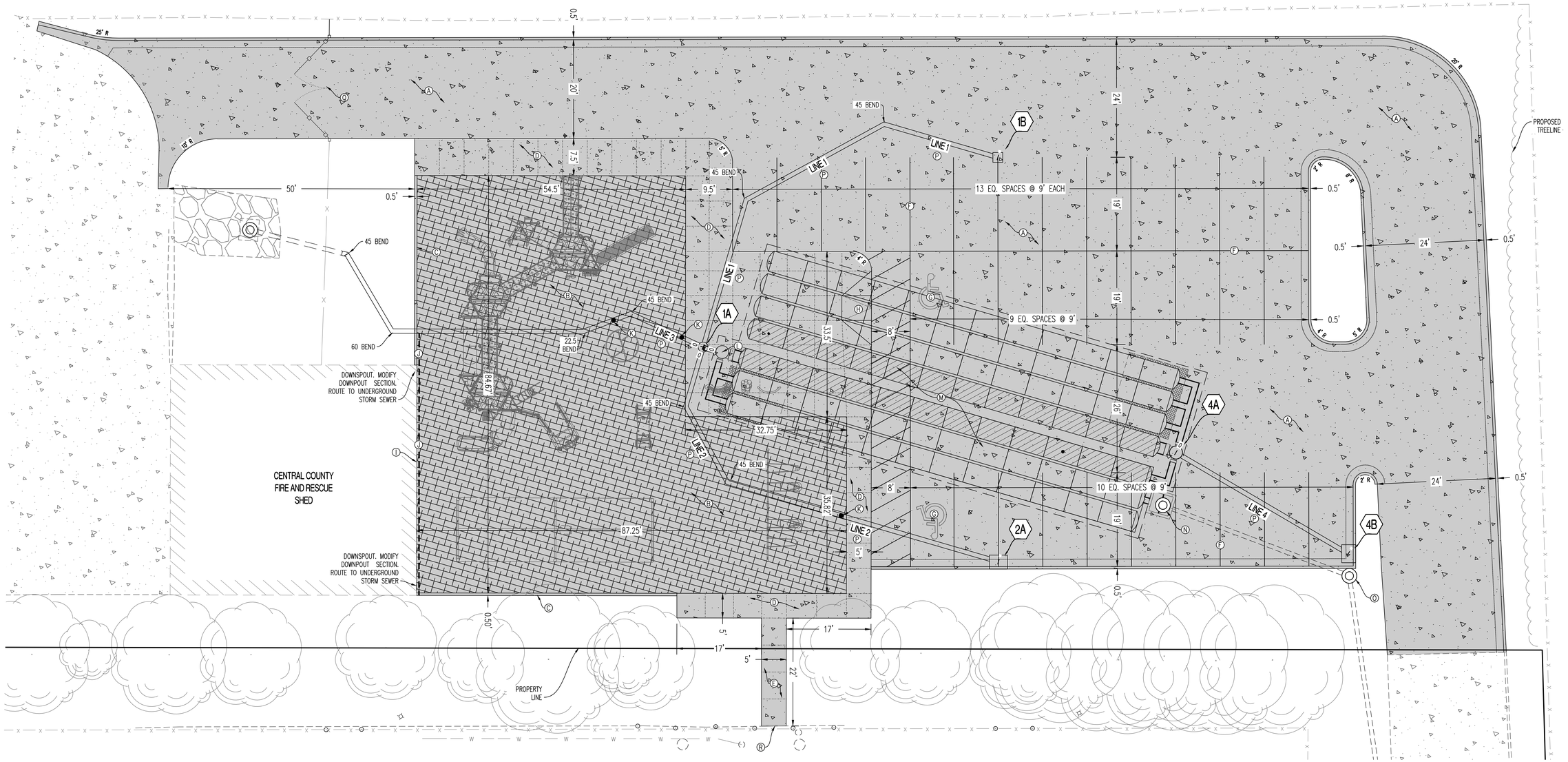
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

BOCCE BALL AREA
SITE PLAN

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 3



SCALE: 1"=10'

0 5 10 20

LEGEND OF LABELS

(A)	CONSTRUCT NORMAL DUTY CONCRETE PAVEMENT IN PARKING AREA. REFER TO DETAILS ON CE11.
(B)	CONSTRUCT CONCRETE PAVEMENT BENEATH PLAYGROUND AREA PER NORMAL DUTY CONCRETE PAVEMENT DETAIL (PROVIDE WOVEN WIRE MESH IN THIS AREA). COORDINATE FOUNDATIONS OF PLAYGROUND EQUIPMENT WITH MANUFACTURER. REFER TO SUBSURFACE CONCRETE PREPARATION REQUIREMENTS FOR SOFT SURFACE ON CE 12. NOTE THAT CONCRETE SHALL BE RECESSED 4.25" PER MANUFACTURERS REQUIREMENTS.
(C)	INSTALL 6" WIDE CONCRETE CURB ADJACENT TO SOFT SURFACE MATERIAL.
(D)	PROVIDE THICKENED EDGE SIDEWALK WHERE SIDEWALK ABUTS PARKING STALLS, DRIVING LANES, AND PLAYGROUND SOFT SURFACE MATERIAL. SEE SIDEWALK DETAILS ON CE11.
(E)	NON-THICKENED EDGE SIDEWALK. REFER TO DETAIL ON CE 11.
(F)	PAINT 4" PARKING STALL STRIPES AS SHOWN, COLOR YELLOW TYPICAL ALL STALLS EXCEPT HANDICAP STALLS. REFER TO PLAN FOR WIDTH AND DEPTH OF STALLS.
(G)	CONSTRUCT HANDICAP PARKING AREA WITH SIGNAGE AND CROSS-HATCH AREAS. PAINT 4" STRIPE AND HANDICAP SYMBOL, COLOR BLUE. INSTALL SIGNS AT EACH STALL. INSTALL VAN ACCESSIBLE SIGN WHERE SHOWN ON PLANS. REFER TO DETAIL ON CE 12.
(H)	INSTALL MIDBLOCK SIDEWALK RAMP. SEE DETAIL ON CE12.
(I)	INSTALL 1/2" EXPANSION JOINT ADJACENT TO BUILDING FOUNDATION AND SLAB.
(J)	ROUTE 6" SDR 35 STORM COLLECTOR AT 1% MINIMUM PIPE SLOPE TO EACH OF 2 DOWNSPOUTS ON THE NORTH SIDE OF THE FIRE STATION SHED. REWORK EXISTING DOWNSPOUTS TO PIPE BELOW GRADE. REFER TO DOWNSPOUT DETAIL ON CE10.
(K)	PROVIDE A 6" RISER EXTENSION AND TEE FROM STORM DRAIN UP TO TOP OF CONCRETE BENEATH PLAYGROUND SOFT SURFACE. PROVE 6" BRASS INLINE DRAIN GRATE FLUSH WITH CONCRETE.
(L)	REUSE EXISTING 30" NYLOPLAST INLET AND GRATE. THIS SHALL BE RELOCATED FROM ITS EXISTING LOCATION. PROVIDE A RISER EXTENSION AS NEEDED TO MATCH PROPOSED GRADES.
(M)	REFER TO CE9 AND CE10 FOR UNDERGROUND DETENTION SYSTEM INSTALLATION REQUIREMENTS. NOTE THAT PORTIONS OF THE SYSTEM ARE EXISTING AND SHALL BE PROTECTED DURING CONSTRUCTION.
(N)	EXISTING OUTFALL STRUCTURE LID SHALL BE PROVIDED WITH A RISER EXTENSION TO MATCH PROPOSED GRADE. REFER TO THE GRADING PLAN.
(O)	EXISTING STORM STRUCTURE SHALL BE PROVIDED WITH A RISER EXTENSION TO MATCH PROPOSED GRADE. REFER TO THE GRADING PLAN.
(P)	REFER TO STORM PROFILES FOR STORM LINE REQUIREMENTS.
(Q)	REWORK EXISTING FENCE AND INSTALL NEW GATE IN THIS LOCATION. MATCH EXISTING FENCE STYLE.
(R)	REWORK EXISTING CHAIN-LINK FENCING AND EXPOSED WATERLINE TO ALLOW FOR A NEW WALK GATE IN THIS LOCATION.

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

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116 MONUMENT ROAD
ST. PETERS, MO. 63376

PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

BOCCE BALL AREA
SITE PLAN

DESIGNED: JRS
DRAWN: JRS
PROJECT NO.: 180345

SHEET:
CE 4

SCALE: 1"=10'
0 5 10 20

EXISTING HOUSE

NEW BOCCE BALL PAVILLION
F.F.= 491.40
(SEE STRUCTURAL PLAN FOR GRADES INSIDE BUILDING FOOTPRINT)

MCMENAMY ROAD

491.50 +/- EXISTING FG @ TOP OF FRENCH DRAIN
491.50 +/- EXISTING FG @ TOP OF FRENCH DRAIN
491.01 FG @ INLET
491.00 FG @ INLET
491.00 FG @ INLET
491.60 TP @ MH LID (PROVIDE 3" RISER EXTENSION)
490.83 TP MATCH EXISTING
490.84 TP MATCH EXISTING

LEGEND OF SYMBOLS:

XXX	EXISTING MINOR CONTOUR
XXX	EXISTING MAJOR CONTOUR
XXX	PROPOSED MINOR CONTOUR
XXX	PROPOSED MAJOR CONTOUR
FF=XXX.X	FINISHED FLOOR OF STRUCTURE
XXX.XX TC	PROPOSED TOP OF CURB ELEVATION TC = (TP+6") UNLESS NOTED OTHERWISE
XXX.XX TP	PROPOSED TOP OF PAVEMENT ELEVATION
XXX.XX FG	PROPOSED FINISH GRADE ELEVATION
XXX.XX FF	PROPOSED FINISH FLOOR AT DOOR
XXX.XX TW	PROPOSED FINISH GRADE AT TOP OF WALL

GENERAL NOTES:

1) GRADING CONTRACTOR SHALL STRIP AND STOCKPILE ANY VEGETATION OR SOD/TOPSOIL FROM THE SITE BEFORE PROCEEDING WITH CUT AND FILL OPERATIONS. IF NO ROOM EXISTS FOR STOCKPILING, PORTIONS OF THE TOPSOIL MAY NEED TO BE HAULED OFF-SITE. NO GEOTECHNICAL REPORT HAS BEEN CONDUCTED. THE CONTRACTOR MAY PERFORM TEST PITS AT THEIR DISCRETION OUTSIDE OF THE UNDERGROUND DETENTION AREA FOR BIDDING PURPOSES.

2) CONTRACTOR SHALL REMOVE ANY UNSUITABLE SUBGRADE MATERIALS FROM BELOW THE BUILDING AND PARKING FOOTPRINT. SUBGRADES BENEATH THE BUILDING AND PAVEMENT SHALL BE THOUROUGHLY PROOF-ROLLED PRIOR TO ANY FILL PLACEMENT. ALL FILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY FOR THE COMPACTED MATERIAL. MOISTURE CONTENT SHALL BE PLUS OR MINUS 2% OF OPTIMUM MOISTURE CONTENT.

3) CONTRACTOR IS CAUTIONED THAT THE EXISTING HOUSE TO BE REMOVED HAS A BASEMENT AND THE BASEMENT SHALL BE FILLED WITH SUITABLE STRUCTURAL FILL AND COMPACTED AS DESCRIBED BY GENERAL NOTE #2 ABOVE.

LEGEND OF LABELS:

- (A) FINE GRADE AS SHOWN BY PROPOSED CONTOURS. PLACE MINIMUM OF 6" TOP SOIL. SEED AND MULCH ALL DISTURBED AREAS.
- (B) GRADE ACCESSIBLE PARKING STALLS AND ROUTES AS SHOWN. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS. ALL ACCESSIBLE ELEMENTS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
- (C) NOT USED
- (D) LIMITS OF DISTURBANCE. APPROXIMATELY 0.77 ACRES.
- (E) POST LAMINATED COPY OF DNR LAND DISTURBANCE PERMIT AT PROJECT ENTRANCE. TO BE VISIBLE FROM EITHER MOTHERHEAD ROAD OR HWY N.
- (F) INSTALL 3" CRUSHED STONE FOR CONSTRUCTION EXIT (12" THICK x 24'W x 50'L). ALL CONSTRUCTION TRAFFIC SHALL LEAVE THE SITE VIA ONE OF THESE EXITS. REFER TO MAINTENANCE PROCEDURES IN PROJECT SWPPP. NO MUD SHALL BE ALLOWED TO TRACK ON TO PUBLIC STREETS. REFER TO DETAIL ESC-4 ON CE 7.
- (G) 20' X 30' X 3' MIN CONCRETE WASHOUT FACILITY. THE WASHOUT FACILITY IS TO BE LINED WITH A PLASTIC LINING MATERIAL (10 MIL POLYETHYLENE SHEETING MIN.) FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COULD COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL. A SIGN SHALL BE INSTALLED ADJACENT TO FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. REFER TO MAINTENANCE PROJECDURES IN PROJECT SWPPP.
- (H) INSTALL PERIMETER SILT FENCE AS SHOWN PRIOR TO LAND DISTURBANCE. REFER TO DETAIL ESC-5 ON CE7.
- (I) PROVIDE INLET PROTECTION AT INLET AS SHOWN BY EITHER DETAIL ESC-14 OR ESC-15 ON CE7. ONCE PAVING IS INSTALLED AND PRIOR TO FINAL STABILIZATION, AREA INLETS IN PAVING SHALL BE PROTECTED AS SHOWN BY DETAIL ESC-17 ON CE6.

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

JESSE RAY STEPHENS
MO LICENSE - 2010000868

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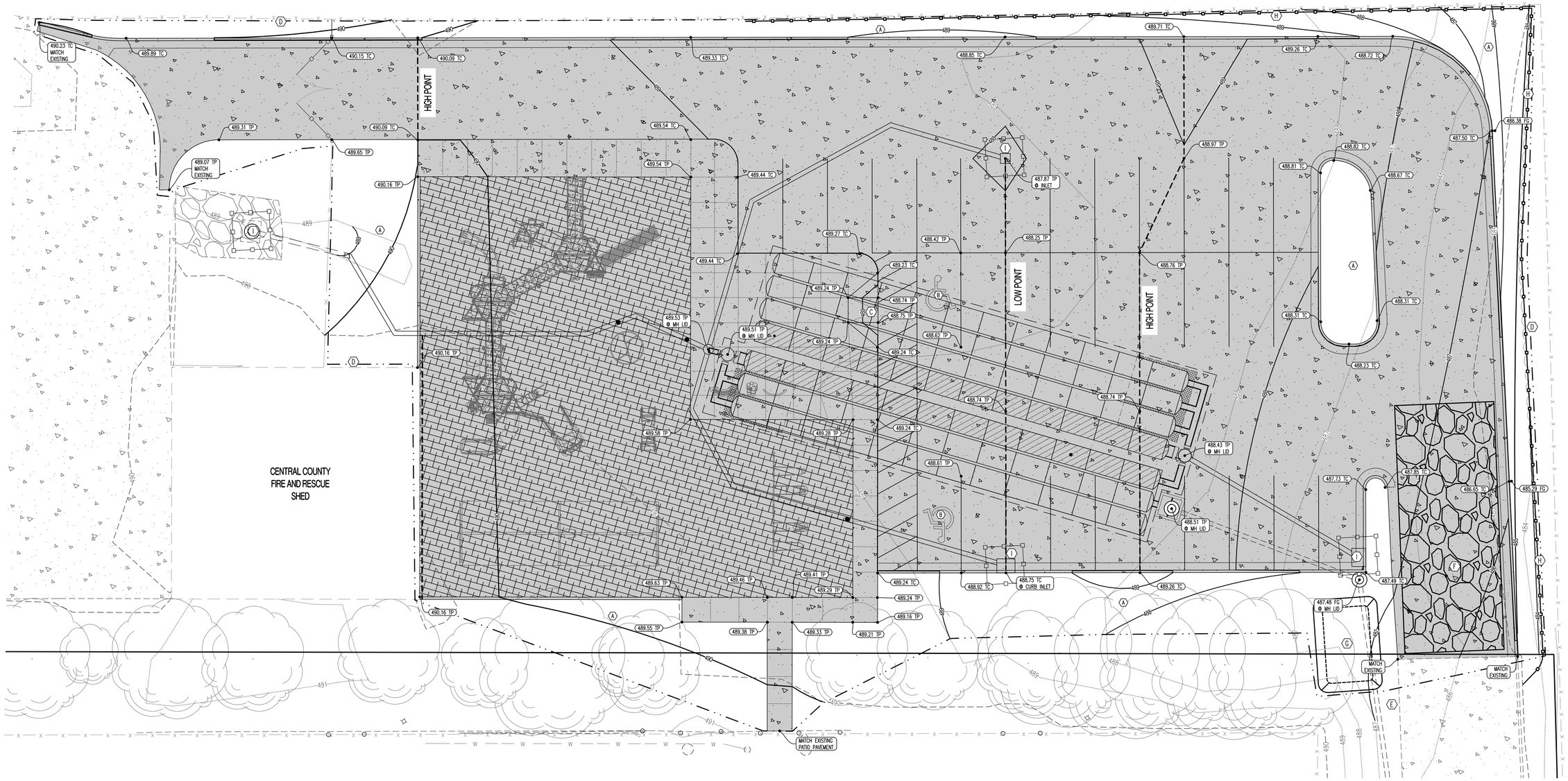
&
PROFESSIONAL FIRE FIGHTERS OF EASTERN MO
116 MCMENAMY ROAD
ST. PETERS, MO. 63376

PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:
BOCCE BALL AREA GRADING AND EROSION CONTROL PLAN

DESIGNED: JRS
DRAWN: JRS
PROJECT NO.: 180345

SHEET: CE 5



SCALE: 1"=10'

0 5 10 20

GENERAL NOTES:

1) GRADING CONTRACTOR SHALL STRIP AND STOCKPILE ANY VEGETATION OR SOD/TOPSOIL FROM THE SITE BEFORE PROCEEDING WITH CUT AND FILL OPERATIONS. IF NO ROOM EXISTS FOR STOCKPILING, PORTIONS OF THE TOPSOIL MAY NEED TO BE HAULED OFF-SITE. NO GEOTECHNICAL REPORT HAS BEEN CONDUCTED. THE CONTRACTOR MAY PERFORM TEST PITS AT THEIR DISCRETION OUTSIDE OF THE UNDERGROUND DETENTION AREA FOR BIDDING PURPOSES.

2) CONTRACTOR SHALL REMOVE ANY UNSUITABLE SUBGRADE MATERIALS FROM BELOW THE PLAYGROUND AND PARKING FOOTPRINT. SUBGRADES BENEATH THE PLAYGROUND AND PAVEMENT SHALL BE THOUROUGHLY PROOF-ROLLED (EXCEPT WHERE RESTRICTED BY STORMTECH CHAMBERS) PRIOR TO ANY FILL PLACEMENT. ALL FILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY FOR THE COMPACTED MATERIAL. MOISTURE CONTENT SHALL BE PLUS OR MINUS 2% OF OPTIMUM MOISTURE CONTENT.

3) PORTIONS OF THE EXISTING UNDERGROUND DETENTION SYSTEM ARE TO BE REMOVED PER THE DEMOLITION PLAN. THE EXCAVATED AREAS SHALL BE REPLACED WITH SUITABLE STRUCTURAL FILL COMPACTED AS DESCRIBED IN GENERAL NOTE #2 ABOVE.

4) THE CONTRACTOR IS CAUTIONED THAT STORMTECH HAS STRICT REQUIREMENTS AND RESTRICTIONS FOR MACHINERY TRACKING OVER UNDERGROUND DETENTION CHAMBERS. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH STORMTECH INSTALLATION REQUIREMENTS BEFORE DRIVING OVER ANY EXISTING OR PROPOSED CHAMBERS WITH MACHINERY.

LEGEND OF LABELS:

(A) FINE GRADE AS SHOWN BY PROPOSED CONTOURS. PLACE MINIMUM OF 6" TOP SOIL. SEED AND MULCH ALL DISTURBED AREAS.

(B) GRADE ACCESSIBLE PARKING STALLS AND ROUTES AS SHOWN. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS. ALL ACCESSIBLE ELEMENTS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.

(C) INSTALL MIDBLOCK SIDEWALK RAMP. RAMP SHALL HAVE NO MORE THAN 6" OF RISE IN 6' OF RUN. CROSS-SLOPE SHALL BE LESS THAN 2% LIMITS OF DISTURBANCE.

(D) LIMITS OF DISTURBANCE. APPROXIMATELY 0.73 ACRES.

(E) POST LAMINATED COPY OF DNR LAND DISTURBANCE PERMIT AT PROJECT ENTRANCE. TO BE VISIBLE FROM EITHER MOTHERHEAD ROAD OR HWY N.

(F) INSTALL 3" CRUSHED STONE FOR CONSTRUCTION EXIT (12" THICK x 24'W x 50'L). ALL CONSTRUCTION TRAFFIC SHALL LEAVE THE SITE VIA ONE OF THESE EXITS. REFER TO MAINTENANCE PROCEDURES IN PROJECT SWPPP. NO MUD SHALL BE ALLOWED TO TRACK ON TO PUBLIC STREETS. REFER TO DETAIL ESC-4 ON CE 7.

(G) 20' X 30' X 3' MIN CONCRETE WASHOUT FACILITY.
THE WASHOUT FACILITY IS TO BE LINED WITH A PLASTIC LINING MATERIAL (10 MIL POLYETHYLENE SHEETING MIN.) FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COULD COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL. A SIGN SHALL BE INSTALLED ADJACENT TO FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. REFER TO MAINTENANCE PROJECDURES IN PROJECT SWPPP.

(H) INSTALL PERIMETER SILT FENCE AS SHOWN PRIOR TO LAND DISTURBANCE. REFER TO DETAIL ESC-5 ON CE7.

(I) PROVIDE INLET PROTECTION AT INLET AS SHOWN BY EITHER DETAIL ESC-14 OR ESC-15 ON CE7. ONCE PAVING IS INSTALLED AND PRIOR TO FINAL STABILIZATION, AREA INLETS IN PAVING SHALL BE PROTECTED AS SHOWN BY DETAIL ESC-17 ON CE6.

LEGEND OF SYMBOLS:

XXX	EXISTING MINOR CONTOUR
XXX	EXISTING MAJOR CONTOUR
XXX	PROPOSED MINOR CONTOUR
XXX	PROPOSED MAJOR CONTOUR
FF=XXX.X	FINISHED FLOOR OF STRUCTURE
XXX.XX TC	PROPOSED TOP OF CURB ELEVATION TC = (TP+6") UNLESS NOTED OTHERWISE
XXX.XX TP	PROPOSED TOP OF PAVEMENT ELEVATION
XXX.XX FG	PROPOSED FINISH GRADE ELEVATION
XXX.XX FF	PROPOSED FINISH FLOOR AT DOOR
XXX.XX TW	PROPOSED FINISH GRADE AT TOP OF WALL

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

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MO LICENSE - 2010000868

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116 MOVEMENT ROAD
ST. PETERS, MO. 63376

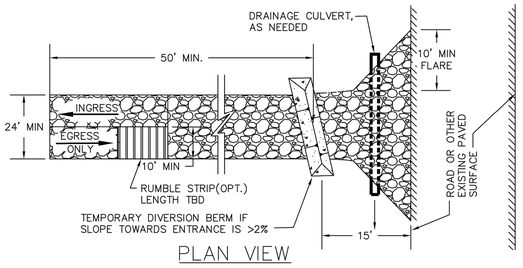
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

PLAYGROUND
GRADING & EROSION
CONTROL PLAN

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

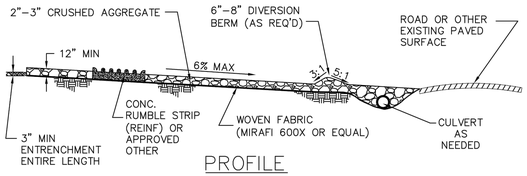
SHEET:
CE 6



PLAN VIEW

NOTE:
A SPECIAL USE PERMIT IS REQ'D FOR THE ENTRANCE.

RUMBLE STRIP
(OPTIONAL)



PROFILE

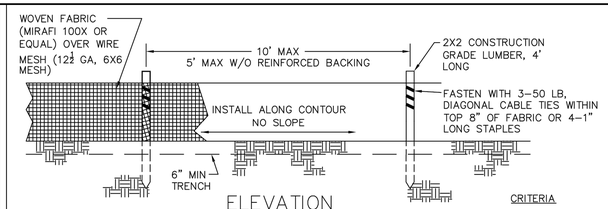
DESIGN NOTES

1. DIVERT ALL RUNOFF TO A SEDIMENTATION CONTROL DEVICE.
2. PROVIDE WATER SUPPLY FOR WASHDOWN.

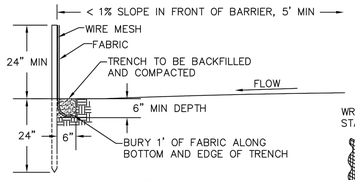
St. Charles County
Erosion & Sediment Controls
Standard Drawings

CONSTRUCTION TRAFFIC WASH-OFF PAD

DATE:	DRAWING
APRIL 2008	**ESC-4**



ELEVATION



SECTION

CRITERIA

1. SILT FENCE SHALL BE 30 INCHES HIGH.
2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.

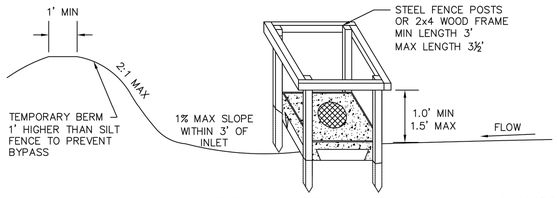
NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.

JOINING SECTIONS OF SILT FENCE

St. Charles County
Erosion & Sediment Controls
Standard Drawings

SILT FENCE INSTALLATION
SHEET FLOW (ONLY)

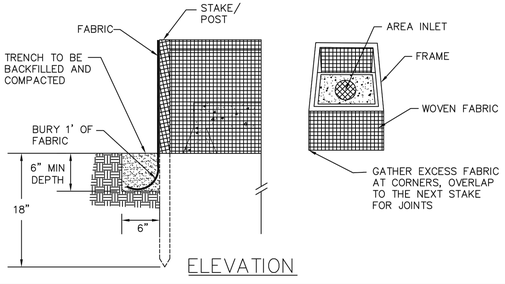
DATE:	DRAWING
MAY 2005	**ESC-5**



PERSPECTIVE

DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA – 1 ACRE.
2. PEAK RUNOFF SHALL NOT EXCEED 2 CFS BASED ON A 6–MONTH STORM EVENT.
3. OTHER SEDIMENT PROTECTION PRODUCTS MAY BE USED, SUCH AS FiltR FENCE™.

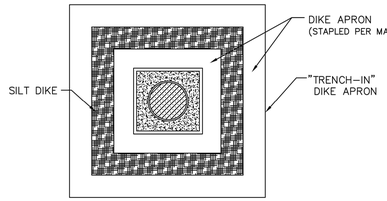


ELEVATION

St. Charles County
Erosion & Sediment Controls
Standard Drawings

AREA INLET PROTECTION FABRIC DROP

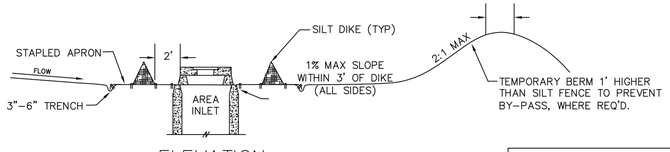
DATE:	DRAWING
MARCH 2008	**ESC-14**



PLAN VIEW

DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA – 1 ACRE.
2. SEVERAL PRODUCTS ON THE MARKET CAN BE APPROVED FOR THIS USE, SUCH AS FiltR FENCE™.

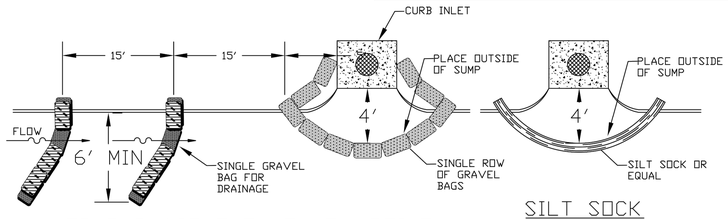


ELEVATION

St. Charles County
Erosion & Sediment Controls
Standard Drawings

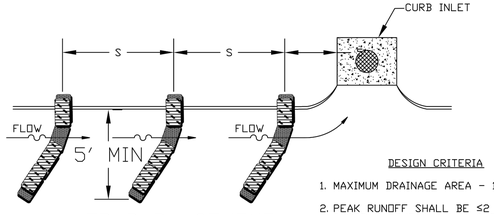
AREA INLET PROTECTION SILT DIKE

DATE:	DRAWING
MARCH 2008	**ESC-15**



TRAP PLACEMENT AT LOW POINT

SILT SOCK
(ALTERNATIVE)



TRAP PLACEMENT AT INTERMEDIATE INLET

SPACING OF TRAPS

GUTTER SLOPE	S
LOW PT	15'
1%	20'
2%	15'
3% MAX.	10'

DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA – 1 ACRE.
2. PEAK RUNOFF SHALL BE ≤2 CFS BASED ON THE 6–MONTH STORM.
3. STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

St. Charles County
Erosion & Sediment Controls
Standard Drawings

CURB INLET PROTECTION

DATE:	DRAWING
MARCH 2008	**ESC-17**

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

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JESSE RAY STEPHENS
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PROFESSIONAL FIRE FIGHTERS OF EASTERN MO
116 MONUMENT ROAD
ST. PETERS, MO. 63376

PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

EROSION CONTROL DETAILS

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

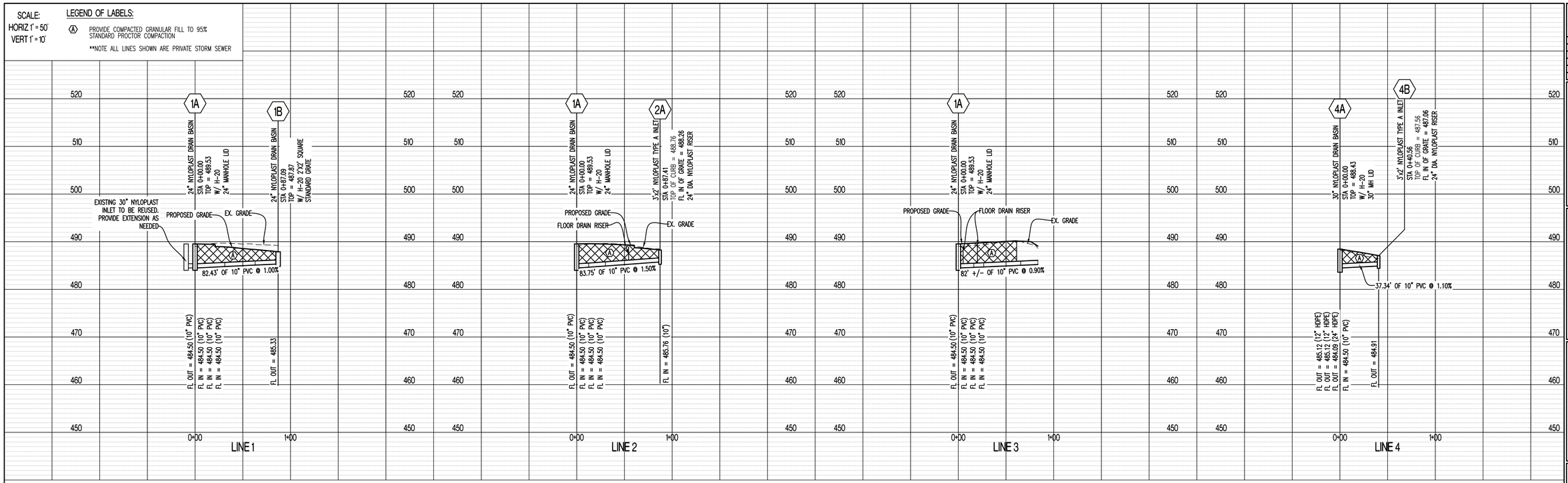
SHEET:
CE 7

SCALE:
HORIZ 1" = 50'
VERT 1" = 10'

LEGEND OF LABELS:

(A) PROVIDE COMPACTED GRANULAR FILL TO 95% STANDARD PROCTOR COMPACTION

**NOTE ALL LINES SHOWN ARE PRIVATE STORM SEWER



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PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

STORM SEWER PROFILES

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 8

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	CRAIG DAHLGREN 314-296-1595 CRAIG.DAHLGREN@ADS-PIPE.COM
ADS SALES REP:	BRIAN SNELSON 618-593-6135 BRIAN.SNELSON@ADS-PIPE.COM
PROJECT NO:	S147474

ADVANCED DRAINAGE SYSTEMS, INC.

SiteASSIST by StormTech
FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

CENTRAL COUNTY FIRE

ST PETERS, MO

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

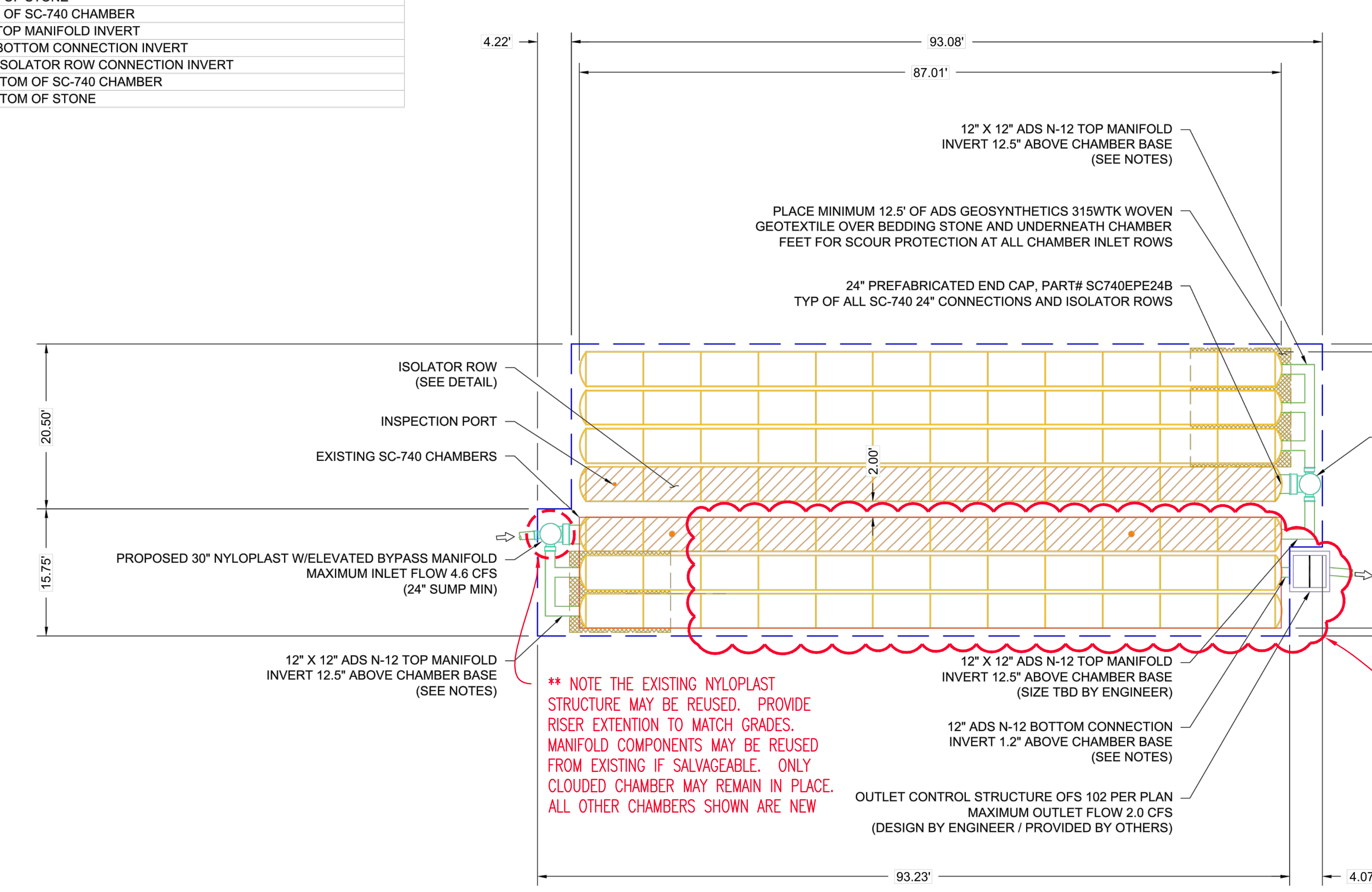
84	STORMTECH SC-740 CHAMBERS
14	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
7070	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
3396	SYSTEM AREA (ft²)
267	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS

494.58	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
488.58	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
488.08	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
488.08	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
488.08	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
487.08	TOP OF STONE
486.58	TOP OF SC-740 CHAMBER
485.12	12" TOP MANIFOLD INVERT
484.18	12" BOTTOM CONNECTION INVERT
484.09	24" ISOLATOR ROW CONNECTION INVERT
484.08	BOTTOM OF SC-740 CHAMBER
483.58	BOTTOM OF STONE

NOTES

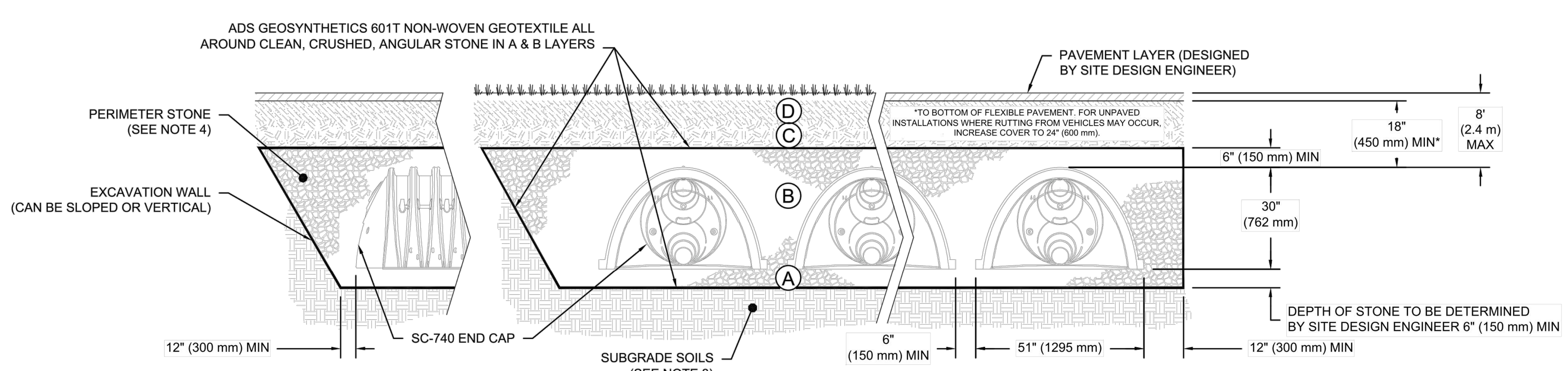
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.



ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

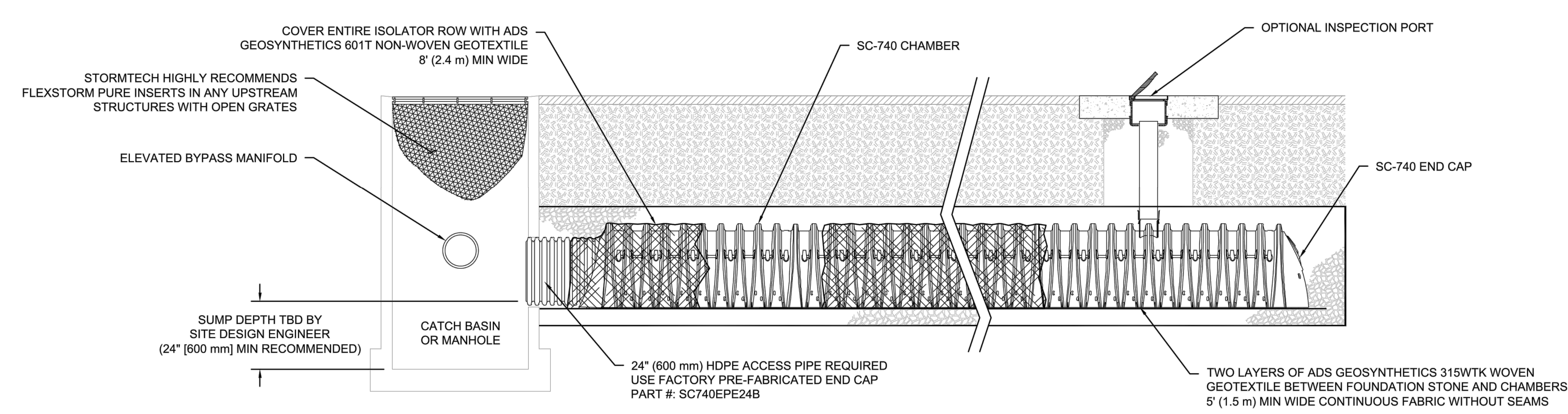
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



SC-740 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

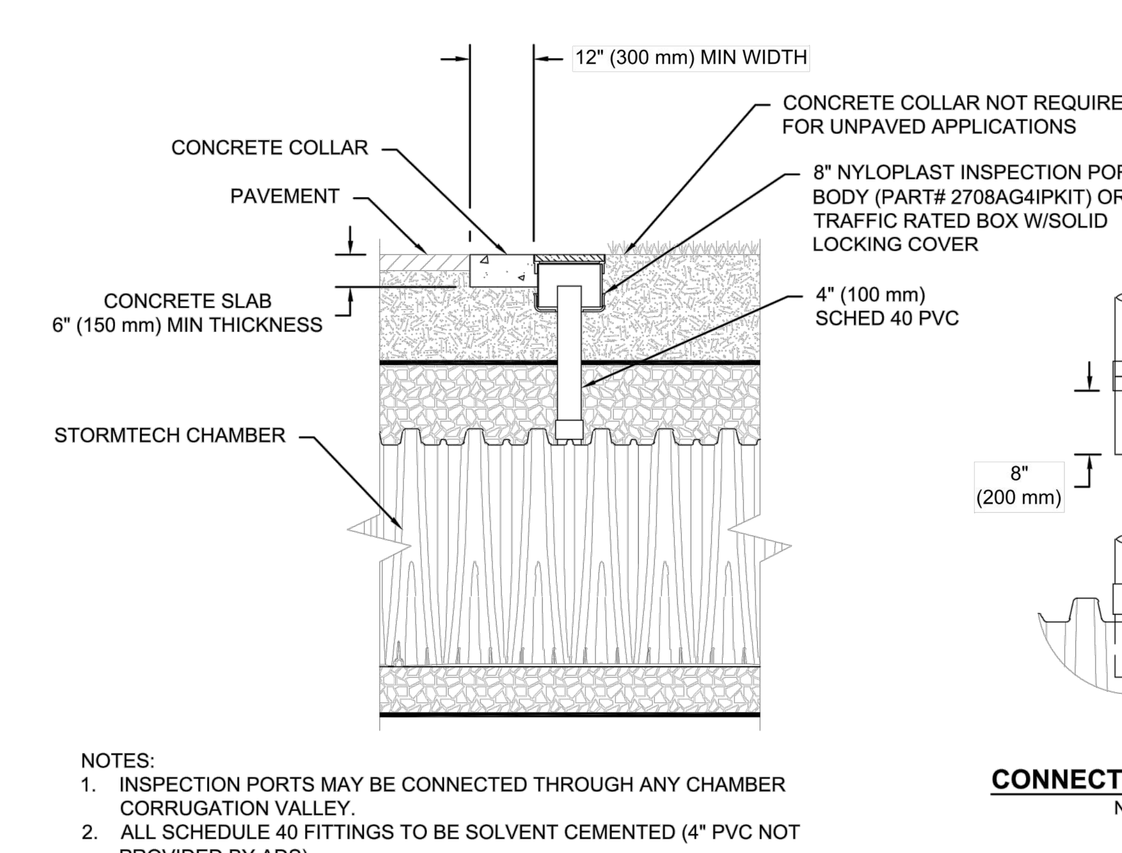
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

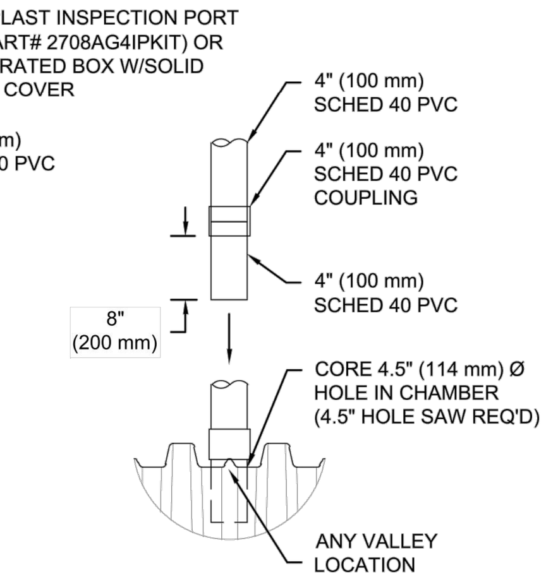
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4" PVC NOT PROVIDED BY ADS).

4" PVC INSPECTION PORT DETAIL
NTS



CONNECTION DETAIL
NTS

CENTRAL COUNTY FIRE
ST PETERS, MO
DATE: 12/09/13 DRAWN: DL
PROJECT #: S147474 CHECKED: GFI

4640 TRUEMAN BLVD
HILLIARD, OH 43026

StormTech
Detention • Retention • Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

DATE	DRWN	CHKD	DESCRIPTION
08/28/19	SVO	KLJ	EXP. BED
01/13/14	GFI		ENGINEERS COMMENTS
01/10/14	GFI		ENGINEERS COMMENTS
12/26/13	GFI	----	INLETS ADDED

SHEET 2 OF 5 | SHEET 3 OF 5 | SHEET 4 OF 5

REVISIONS:	
NO.	DATE
ORIGINAL	09/09/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

JESSE RAY STEPHENS
MO LICENSE - 2010000868

PREPARED BY:
CROCKETT ENGINEERING CONSULTANTS
2608 N. Stadium Blvd.
Columbia, Missouri 65202
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2000151301

OWNER:
CENTRAL COUNTY FIRE & RESCUE
1220 CAVE SPRINGS BLVD.
ST. PETERS, MO 63376
&
PROFESSIONAL FIRE FIGHTERS OF EASTERN MO
115 MCMENAMY ROAD
ST. PETERS, MO 63376

PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

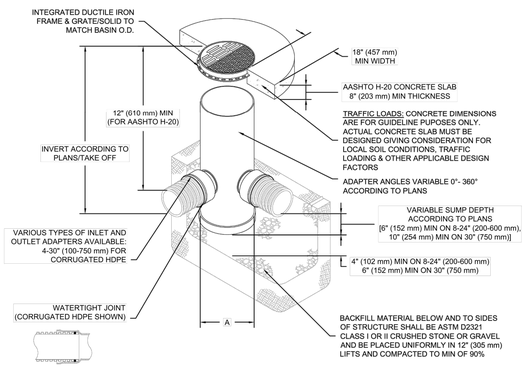
DRAWING INCLUDES:
UNDERGROUND DETENTION DETAILS

DESIGNED: JRS
DRAWN: JRS
PROJECT NO: 180345

SHEET:
CE 9

NYLOPLAST DRAIN BASIN

NTS



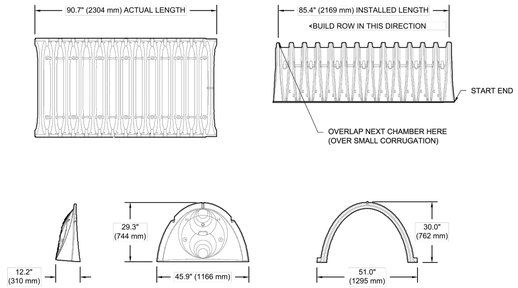
NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

SC-740 TECHNICAL SPECIFICATION

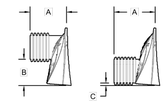
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



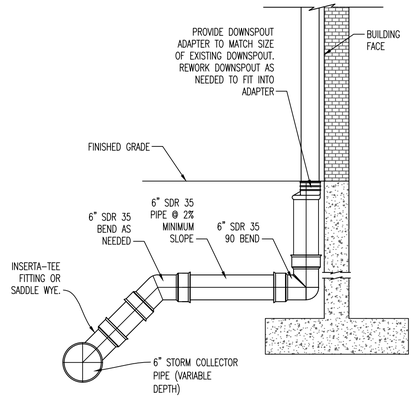
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

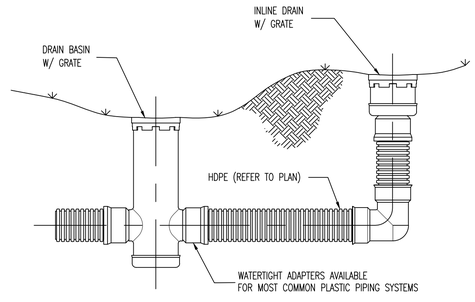
ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL



ROOF DRAIN DETAIL



TYPICAL INSTALLATION OF NYLOPLAST DRAIN BASIN AND INLINE DRAIN

CENTRAL COUNTY FIRE
ST PETERS, MO
DATE: 12/09/13 DRAWN: DL
PROJECT #: S147474 CHECKED: GFI

DATE	DRWN	CHKD	DESCRIPTION
09/09/19	RJJ	EOF, BED	ENGINEERS COMMENTS
01/13/14	SVO	GFI	ENGINEERS COMMENTS
01/10/14	GFI	GFI	PLOTTED SCALE
12/09/13	DL	GFI	ISSUED FOR BIDS

3135 VERONA AVE
BUFORD, GA 30518
PH# (770) 932-3443
FAX# (770) 932-3454
www.nyloplast-us.com

Nyloplast

4640 TRUEMAN BLVD
HILLIARD, OH 43026

ADS
ADVANCED DRAINAGE SYSTEMS, INC.

5 SHEET OF 5

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

JESSE RAY STEPHENS
MO LICENSE - 2010000868

PREPARED BY:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Wing Blvd., Bldg 1
Columbia, MO 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006013501

OWNER:
CENTRAL COUNTY FIRE & RESCUE
1220 CAVE SPRINGS BLVD.
ST. PETERS, MO 63376
&
PROFESSIONAL PRE FIGHTERS OF EASTERN MO
116 MONUMENT ROAD
ST. PETERS, MO. 63376

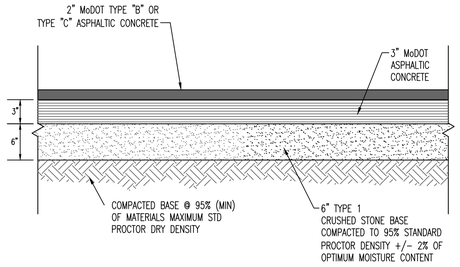
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:
UNDERGROUND DETENTION AND STORM SEWER DETAILS

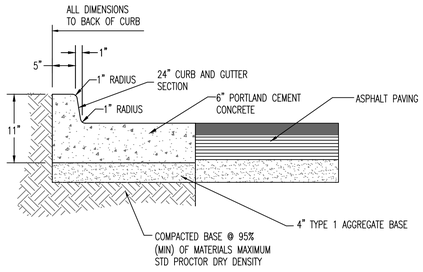
DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 10

ASPHALT DETAILS

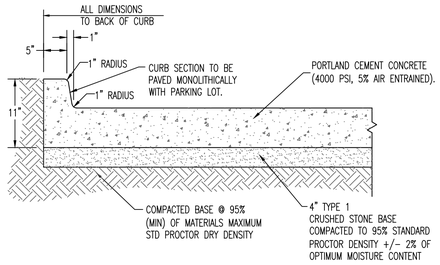


NORMAL DUTY ASPHALT PAVING CROSS-SECTION

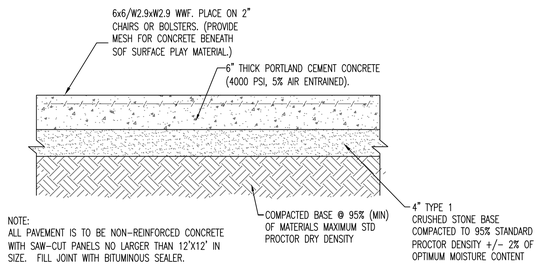


6" x 24" BARRIER CURB ABUTTING ASPHALT

CONCRETE PAVING DETAILS

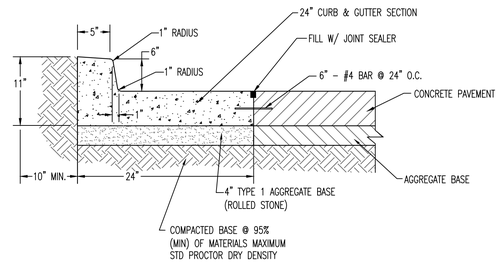


6" BARRIER CURB CROSS-SECTION - CONCRETE

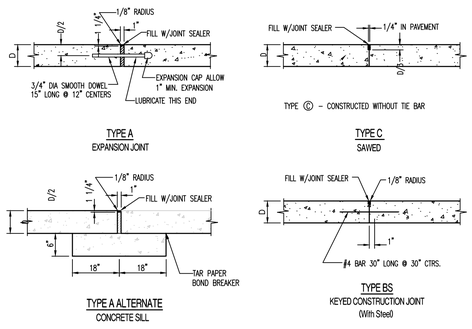


NOTE:
ALL PAVEMENT IS TO BE NON-REINFORCED CONCRETE WITH SAW-CUT PANELS NO LARGER THAN 12'X12' IN SIZE. FILL JOINT WITH BITUMINOUS SEALER.

TYPICAL CONCRETE PAVEMENT CROSS-SECTION (NORMAL DUTY)

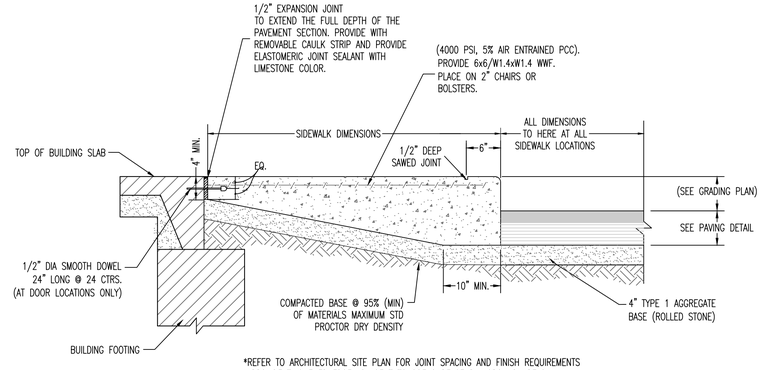


6" x 24" BARRIER CURB ABUTTING CONCRETE



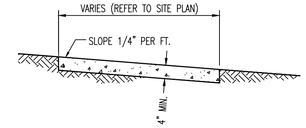
CONCRETE PAVEMENT JOINT DETAILS

SIDEWALK DETAILS

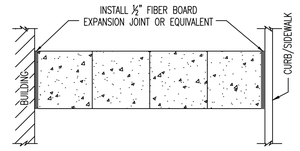


*REFER TO ARCHITECTURAL SITE PLAN FOR JOINT SPACING AND FINISH REQUIREMENTS
**PROVIDE THICKENED EDGE ADJACENT TO SOF SURFACE PLAYGROUND AREAS

THICKENED EDGE SIDEWALK ABUTTING PAVEMENT



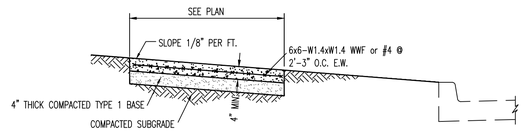
CROSS SECTION



TYPICAL LOCATION OF EXPANSION JOINT AT BUILDING/CURB

NOTE:
1. SIDEWALK SHALL BE 4" THICK CLASS A CONCRETE.
2. INSTALL 1/2" EXPANSION JOINTS AT INTERSECTIONS, RAMPS, STRUCTURES, AND DRIVEWAY APPROACHES. MAX. EXPANSION JOINT SPACING = 150'
3. INSTALL TRANSVERSE SAW JOINTS AT SPACING = SIDEWALK WIDTH.

SIDEWALK TRANSITION TO PAVEMENT/BUILDING



NOTE:
1. SIDEWALK SHALL BE 4" THICK (4000 PSI CONCRETE W/ AIR ENTRAINMENT)
2. INSTALL 1/2" EXPANSION JOINTS AT INTERSECTIONS, RAMPS, STRUCTURES, DRIVEWAY APPROACHES, OR EVERY 150'.
3. INSTALL TRANSVERSE SAW JOINTS AT SPACING EQUAL TO SIDEWALK WIDTH.
4. NO STEEL TO BE PLACED THROUGH EXPANSION JOINT.
5. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.00%.

SIDEWALK DETAIL

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

JESSE RAY STEPHENS
MO LICENSE - 2010000868

PREPARED BY:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Wing Blvd., Bldg 1
Columbia, Missouri 65203
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Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
2006013501

OWNER:
CENTRAL COUNTY FIRE & RESCUE
1220 CAVE SPRINGS BLVD.
ST. PETERS, MO 63376
&
PROFESSIONAL FIRE FIGHTERS OF EASTERN MO
116 MONUMENT ROAD
ST. PETERS, MO. 63376

PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:
PAVEMENT DETAILS

DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 11

Sub-Surface Preparation - Concrete

When planning to install SofTILE over a concrete surface it is important to keep the following guidelines and requirements in mind for the preparation of the sub-surfacing and curbing.

- The intent of any sub-surface for the tiles is that the surface needs to be firm and smooth.
- Typically sloped 1% to allow for water runoff and still meet ADA requirements. Sloping usually occurs from the middle of the site towards the outside edge.
- The use of height or grade stakes set every 8 feet to assist with the screeding are helpful in achieving a consistent surface.
- It is critical that the concrete surface is smooth (fine to medium broom finish) with minimal undulations.
- Any imperfections in the sub-surface show through on the tile surface either immediately or over time. For areas or undulations deeper than ¼ inch and larger than an inch it is recommended to use a concrete or cement type patching material.
- The concrete surface specification and drainage requirements will be provided to you by the architect or civil engineer for your project:
  1. *They should have designed the concrete based on loading, area of the country, the sub-surface, freezing temperatures, etc.*
  2. *The base pad requires 7 to 10 days curing to allow for moisture to dissipate. Adhesive does not stick well to moisture.*
     a) *The SofTILE installer should be advised when the concrete pour has been completed and a photo sent showing completion.*
- Site should be clean and ready when the tile installer arrives.
- Make sure no concrete residue is left on the equipment posts. Posts to be clean prior to arrival of the installer and the tile installation.
- When using curbs or sidewalks:
  1. *They have to be designed around the thickness of tile and they need to be consistent in height and width with no greater than a 1/8 inch variance in height. We do not trim the pedestals as that affects fall height protection.*
  2. *The top of the curb needs to be parallel to the sub-surface for a distance of 12 inches from the curb.*
  3. *The curb edge against the tile should have a maximum rounded edge of 0 inch (as square as possible).*
  4. *The edge of the concrete curb or sidewalk should be poured at 90 degrees to the surface. The concrete curb should not be wider at the base where it meets the pad.*
- Drainage on the concrete pad is required:
  1. *The water needs to be able to run away if under the tiles.*
  2. *Surface drainage if site is sloped will allow water on top of the tiles to run away.*
- If post holes are drilled on previously installed concrete, or holes are left for posts, the concrete needs to be poured so that a level surface is created. SEE attached photo(s) example of what NOT to do.
- Set equipment so the tiles can run under the equipment panels, ramps, etc as it will save considerable time in the tile installation and provides a much nicer finish. This is especially true for rock walls.
- Tiles are installed to a 24 inch dimension so it is important that curbing and edging are installed in measurements no greater than 24 inches.

Please forward this information to those who are installing the equipment, the asphalt and the curbs or sidewalks.

If you have any questions please feel free to call our office.

SofSURFACES *Leaders in Fall Protection*

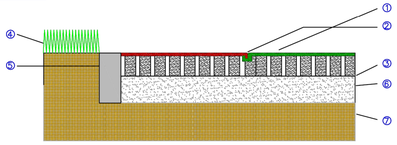
4393 Discovery Line, P.O. Box 239, Petrolia, ON N0N 1R0 T: 800 263 2363 F: 519 882 2697 E: info@sofsurfaces.com **www.sofsurfaces.com**

CONCRETE PREPARATION REQUIREMENTS BENEATH PLAYGROUND

duraSAFE™ RUBBER PLAYGROUND TILES

DuraSAFE Series

Over Concrete Contained by Curb



LEGEND:

① DuraSAFE® (See Specifications for Depth and Color).
② 1/2" Diameter Continuous Bead of DuraSAFE® Adhesive at Each KrosLOCK Joint.
③ 1.0% Slope – 1/8" / 12" (3mm / 300mm).
④ Sod
⑤ Containing Sidewalk/Curb/Timber
⑥ Concrete Sub-base
⑦ Compacted Subgrade.

NOTES:

1. Consult with a local Civil Engineer to find out what drainage system is best for your application.
2. Ensure concrete drains towards drainage system.
3. Review Most Recent Installation Manual and Sub Surface Guide

MATERIAL THICKNESS FOR THIS PROJECT

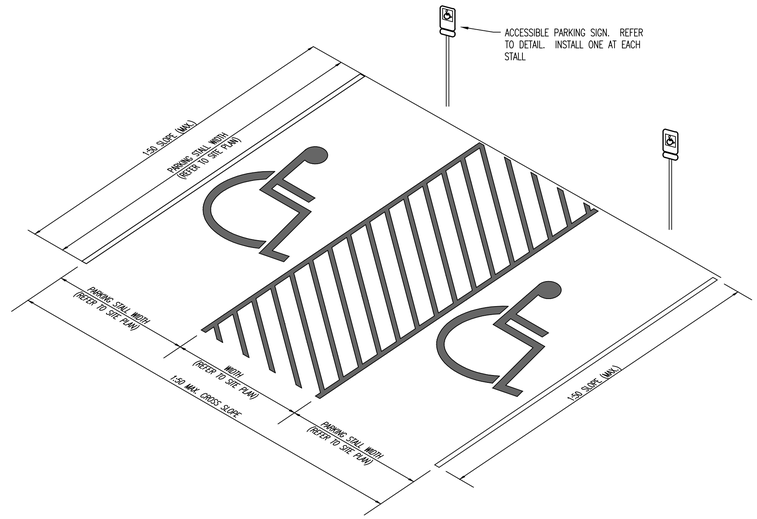
DuraSAFE Thickness	Critical Fall Height (FT)
2.00"	3'
2.25"	4'
2.75"	5'
3.25"	6'
3.75"	7'
4.25"	8'
4.75"	9'
5.00"	10'
5.25"	12'

FILE NAME	Over Concrete Contained by Curb	PREPARED BY	B. GOSS
REV	DESCRIPTION	DATE	
0	ORIGINAL ISSUE	08/16/2016	
1	ALTERNATE	03/14/17	
SIZE A	SCALE N/A	DWG NO. 2017-022	REV 1

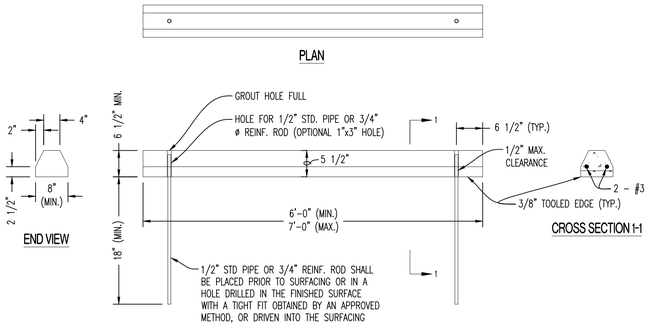
sofSURFACES RUBBER TILE SOLUTIONS

4393 DISCOVERY LINE
PETROLIA, ONTARIO
N0N 1R0
PHONE: (800) 263-2363
PHONE: (519) 882-8799
FAX: (519) 882-2697
EMAIL: info@sofsurfaces.com

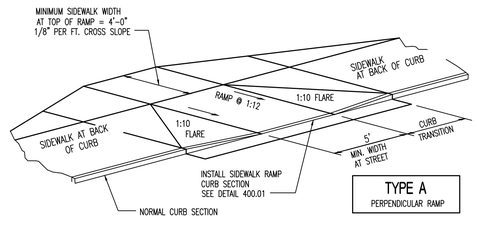
SOF SURFACES DETAIL FOR PLAYGROUND AREA



ACCESSIBLE PARKING AREA DETAIL

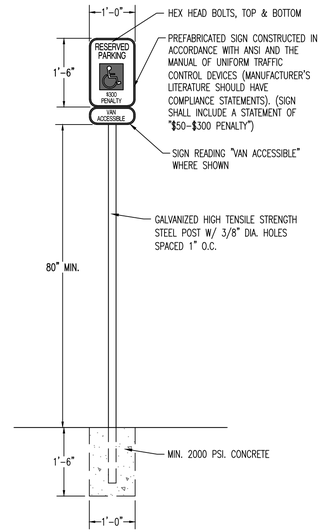


PRECAST CONCRETE WHEEL STOP DETAILS



NOTE:
1. RAMP SHALL BE A MINIMUM OF 4" THICK CLASS A CONCRETE REINFORCED SAME AS SIDEWALK.
2. EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
3. MAXIMUM RAMP CROSS SLOPE IS 2.00%.
4. ALL SLOPES ARE MEASURED FROM THE HORIZONTAL.
5. RAMP LENGTH IS DEPENDENT ON 1:12 MAX. SLOPE. USE FLATTER WHEN POSSIBLE.
6. LANDING AREA SHALL BE 4'-0" MIN WIDTH, CROSS SLOPE OF LANDING SHALL NOT EXCEED 2.00%.
7. 1:10 FLARES ARE REQUIRED ON TYPE "A" RAMPS.

MIDBLOCK SIDEWALK RAMP DETAIL



ACCESSIBLE PARKING SIGN

REVISIONS:

NO.	DATE
ORIGINAL	09/09/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

JESSE RAY STEPHENS
MO LICENSE - 2010000868

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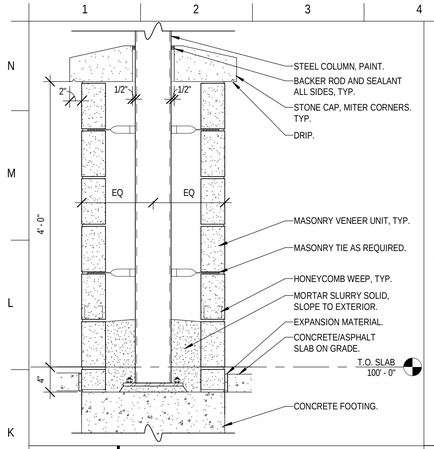
PROFESSIONAL FIRE FIGHTERS OF EASTERN MISSOURI PLAYGROUND, PARKING AND BOCCE BALL PAVILLION

DRAWING INCLUDES:

SITE CONSTRUCTION DETAILS

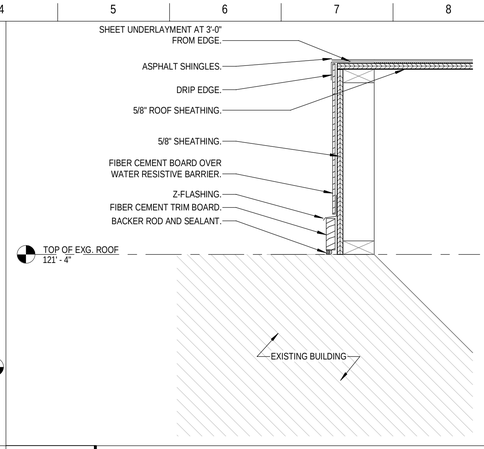
DESIGNED:	JRS
DRAWN:	JRS
PROJECT NO.:	180345

SHEET:
CE 12



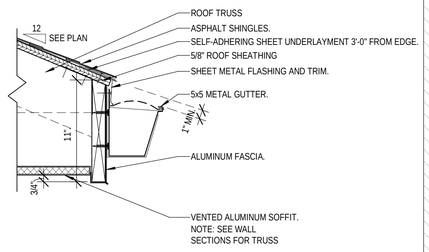
K1 MASONRY PIER SECTION

1" = 1'-0"



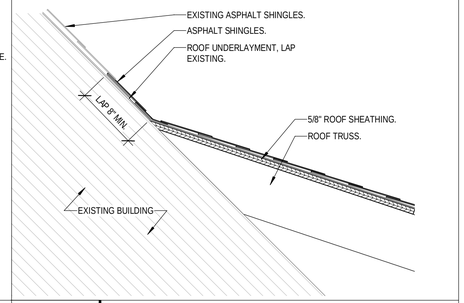
K4 ROOF DETAIL

1 1/2" = 1'-0"



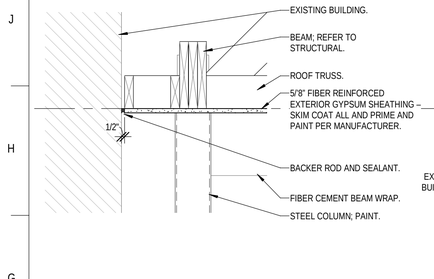
L9 GUTTER EDGE DETAIL

1 1/2" = 1'-0"



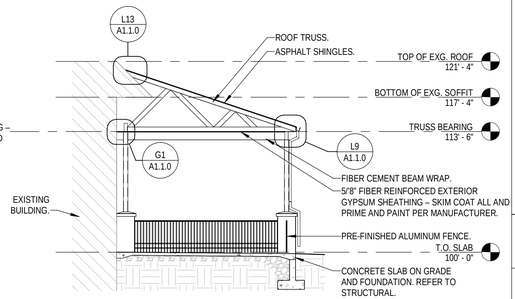
L13 ROOF DETAIL

1 1/2" = 1'-0"



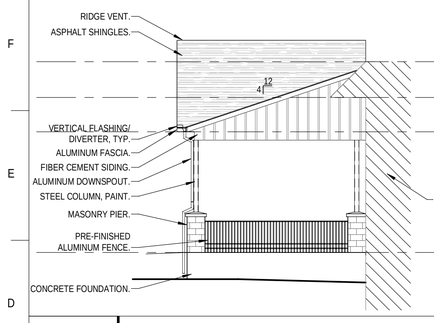
G1 CEILING DETAIL

1" = 1'-0"



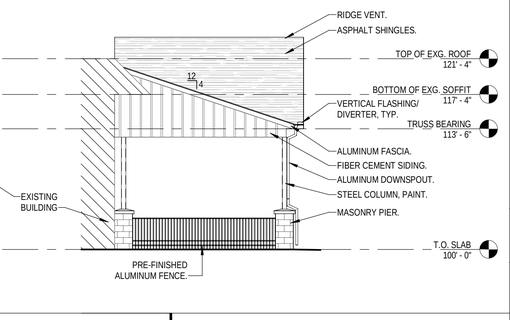
G4 CANOPY SECTION

1/8" = 1'-0"



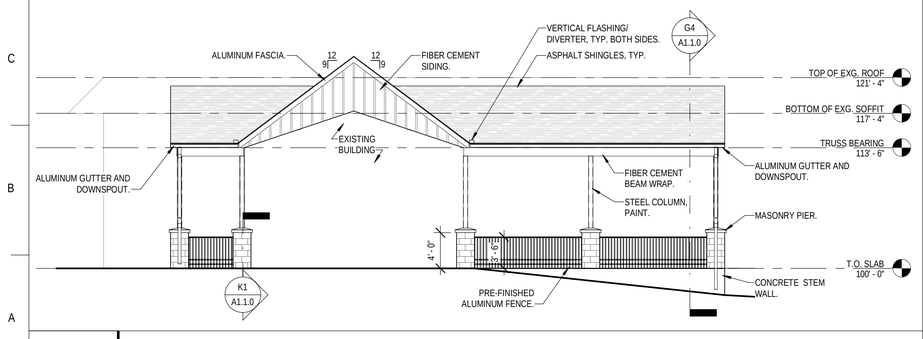
D1 NORTH ELEVATION

1/8" = 1'-0"



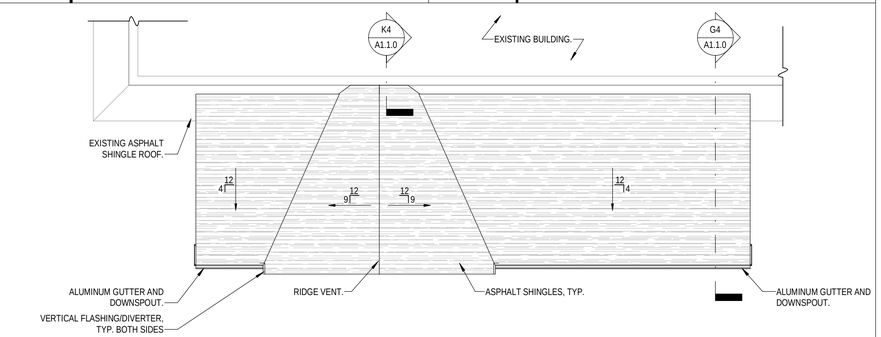
D5 SOUTH ELEVATION

1/8" = 1'-0"



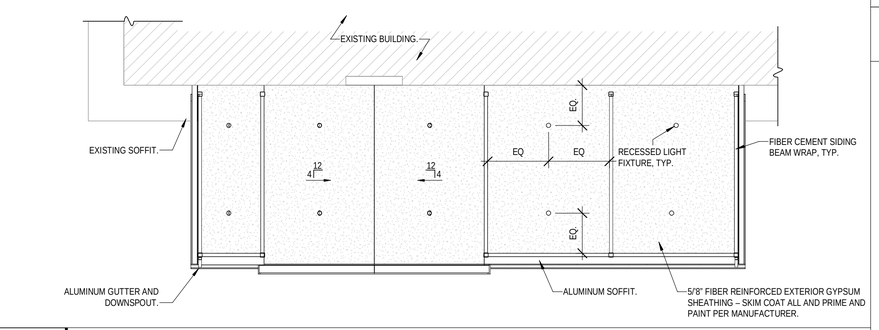
A1 EAST ELEVATION

1/8" = 1'-0"



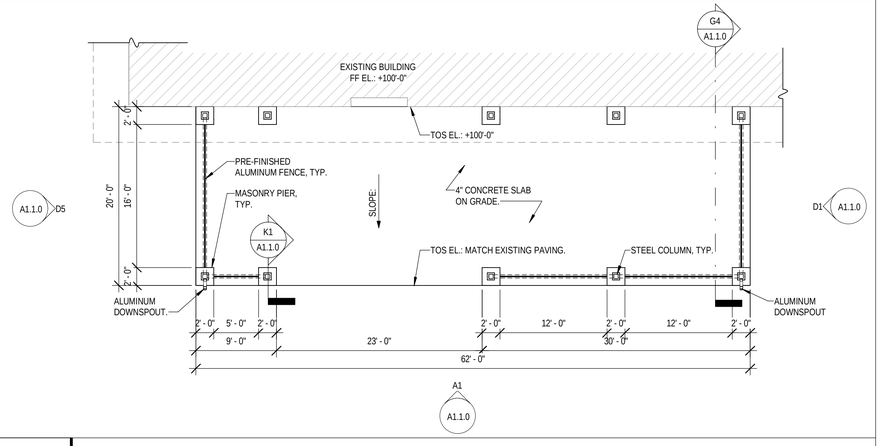
J9 ROOF PLAN

1/8" = 1'-0"



F9 REFLECTED CEILING PLAN

1/8" = 1'-0"



A9 FLOOR PLAN

1/8" = 1'-0"

PROJECT CODE REVIEW

ST. PETERS, MO (AHJ) - APPLICABLE CODES:

1.	2015	INTERNATIONAL BUILDING CODE (IBC)
2.	2015	INTERNATIONAL PLUMBING CODE (IPC)
3.	2014	NATIONAL ELECTRIC CODE (NEC)
4.	2015	INTERNATIONAL ENERGY CONSERVATION CODE
5.	2015	ICC/ANSI A117.1 ACCESSIBILITY
6.	2015	INTERNATIONAL FUEL GAS CODE
7.	2015	INTERNATIONAL MECHANICAL CODE (IMC)
8.	2009	INTERNATIONAL PROPERTY MAINTENANCE CODE (IPMC)
9.	2015	INTERNATIONAL FIRE CODE
10.	2010	ADA SAD DOJ
11.	2013	NFPA - SPRINKLERS (INCLUDING ANNEX H)

CENTRAL COUNTY FIRE & RESCUE - APPLICABLE CODES:

1.	2015	INTERNATIONAL BUILDING CODE (IBC)
2.	2015	INTERNATIONAL MECHANICAL CODE (IMC)
3.	2015	INTERNATIONAL FIRE CODE
4.	2013	NFPA - SPRINKLERS (INCLUDING ANNEX H)

* ANY CODES NOT LISTED ABOVE SHALL REFER TO THE ST. PETERS CITY LISTED CODES ABOVE

CODE COMPLIANCE NOTES PER 2015 IBC (EXISTING BUILDING):

1. PRINCIPLE USE : ASSEMBY 'A-2' (MOST RESTRICTIVE PER TABLE 506.2)
   EXISTING BUILDING TYPE : 5B (VB) (Table 504.3 & 504.3, Table 506.2)
   ALLOWABLE NUMBER OF STORIES: 1 STORIES
   EXISTING BUILDING IS NON-SPRINKLERED

   OCCUPANCY CLASSIFICATION: (Tables 302-303.3, - Per 2015 IBC)
   1. Occupancy (Table 302.1): Assembly 'A-2' (Most Restrictive Use - Non-Separated)
   2. Existing Building Use: Banquet hall

AREAS (EXISTING AND NEW CONSTRUCTION):

EXISTING GROSS BUILDING AREA:	6,000 SF
NEW GROSS CANOPY AREA:	1,240 SF
TOTAL GROSS AREA:	7,240 SF

ALLOWABLE AREA: (Tables 503, 506.2, and 506.3)

Tabular Area:	1 x 6,000 (B)	= 6,000 SF
Increase for Sprinklers:		= 0 SF
Increase for Frontage:	38 x 6,000 (B)	= 2,280 SF
Total Allowable Area:		8,280 SF
Actual Area (including New):		7,240 SF

Building Height: 21'-4" Existing/ Single Story with Basement

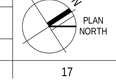
Open Building Frontages (506.2) (Plan Directions Listed)	0' North	50' East	50' West	120' South

Total Frontage (F) 220 Ft.
Perimeter (P) 340 Ft.

Width of open space (W) 28.86 Ft. (Weighted Average)

Area Increase Factor due to frontage,
I = [F/P-0.25] W/30 = 0.381 (or 38% Increase Allowed)

CODE PLAN LEGEND



NO.	DESCRIPTION	DATE
ISSUANCE		

FGM ARCHITECTS
10 SOUTH BROADWAY, SUITE 1150
ST. LOUIS, MO 63102
314.439.1601 (O) 314.439.1602 (F)
MISSOURI CERTIFICATE OF AUTHORITY #000311

STRUCTURAL/CIVIL
CROCKET ENGINEERING
1000 W NIFONG BLVD., BLDG. 1
COLUMBIA, MO 65203
573.447.0292 (O)
MISSOURI STATE CERTIFICATE OF AUTHORITY NO. XXXXXXXXXX

STATE OF MISSOURI
JOSHUA NATHANIEL MANDELL
NUMBER A-2013036074
ARCHITECT

JOSH MANDELL - ARCHITECT
ST #A-2013036074

The professional architect seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expresly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE 08/22/2019

BANQUET HALL NEW CANOPY
PROFESSIONAL FIREFIGHTERS OF EASTERN MO
115 McMENAMY, ST. PETERS, MO 63376
CANOPY DRAWING

SHEET NO.
A1.1.0

JOB NO. M4-0021.01

8/22/2019 9:51:01 AM
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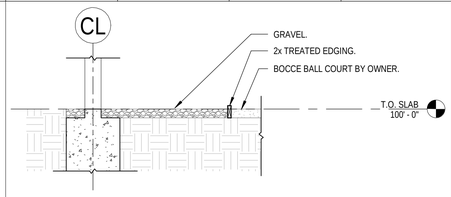
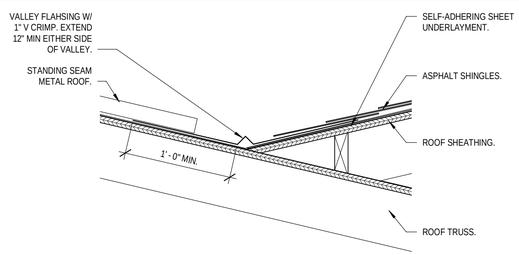
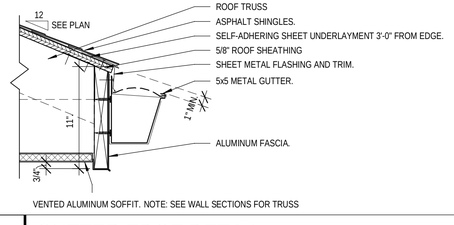


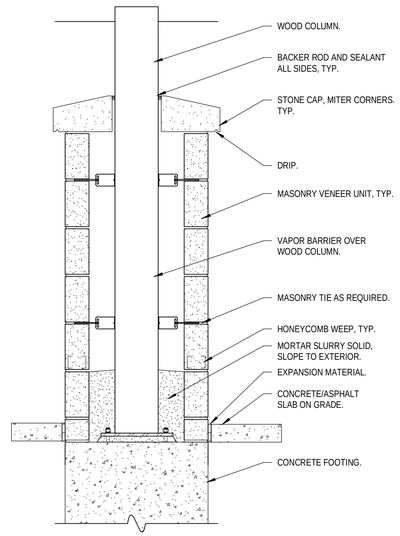
L5 BOCCE COURT DETAIL
3/8" = 1'-0"



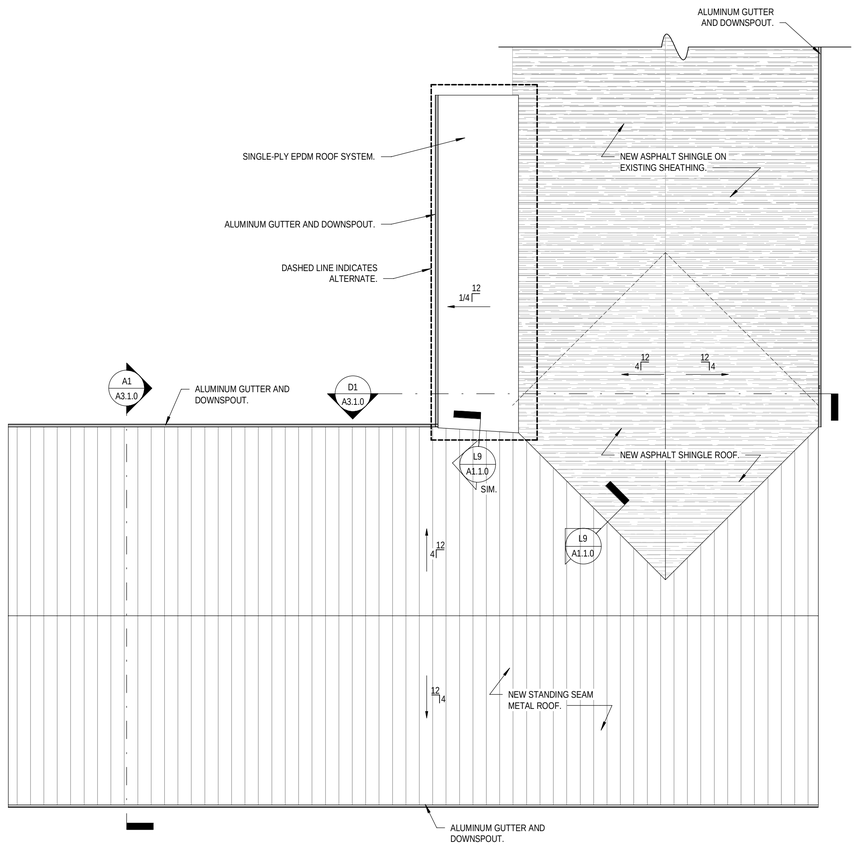
L9 VALLEY DETAIL
1 1/2" = 1'-0"



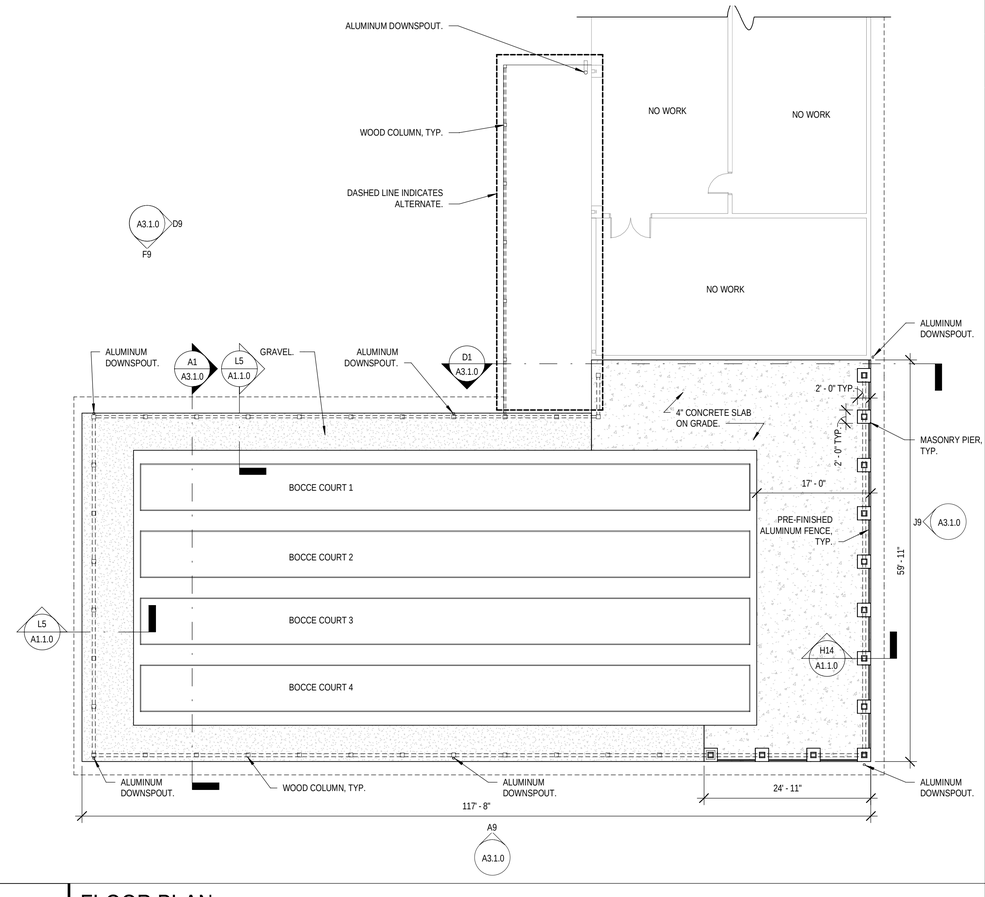
H9 GUTTER EDGE DETAIL
1 1/2" = 1'-0"



H14 MASONRY PIER SECTION
1" = 1'-0"



A1 ROOF PLAN
3/32" = 1'-0"



A10 FLOOR PLAN
3/32" = 1'-0"

PROJECT CODE REVIEW

ST. PETERS, MO (AHJ) - APPLICABLE CODES:

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4.	2015	INTERNATIONAL ENERGY CONSERVATION CODE
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6.	2015	INTERNATIONAL FUEL GAS CODE
7.	2015	INTERNATIONAL MECHANICAL CODE (IMC)
8.	2009	INTERNATIONAL PROPERTY MAINTENANCE CODE (IPMC)
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3.	2015	INTERNATIONAL FIRE CODE
4.	2013	NFPA - SPRINKLERS (INCLUDING ANNEX H)

* ANY CODES NOT LISTED ABOVE SHALL REFER TO THE ST. PETERS CITY LISTED CODES ABOVE

CODE COMPLIANCE NOTES PER 2015 IBC (EXISTING BUILDING):

1. PRINCIPLE USE : BUSINESS 'B'
   EXISTING BUILDING USE:
   EXISTING BUILDING TYPE : 5B (VB) (Table 504.3 & 504.3, Table 506.2)
   ALLOWABLE NUMBER OF STORIES: 2 STORIES
   EXISTING BUILDING IS NON-SPRINKLERED

   - PROPOSED ADDITION WILL BE A COVERED PAVILION TOTALLING 7,160 GSF. THE COVERED PAVILION WILL BE OPEN ON ALL SIDES.

AREAS (EXISTING AND NEW CONSTRUCTION):

EXISTING GROSS BUILDING AREA:	3,900 SF
NEW GROSS COVERED AREA:	7,160 SF
TOTAL GROSS AREA:	11,060 SF

CODE PLAN LEGEND
12" = 1'-0"

- CONCRETE
- GRAVEL
- ASPHALT SHINGLES
- STANDING SEAM METAL ROOF
- INDICATES CRICKETS

ROOF PLAN LEGEND
1/8" = 1'-0"

NO.	DATE	DESCRIPTION	ISSUANCE

FGM ARCHITECTS
10 SOUTH BROADWAY, SUITE 1150
ST. LOUIS, MO 63102
314.439.1601 (O) 314.439.1602 (F)
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JOSH MANDELL - ARCHITECT
ST #A-2013036074

DATE 08/26/2019

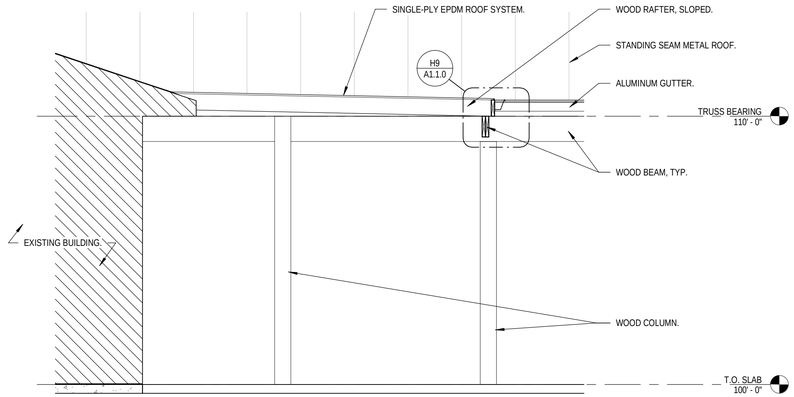
BOCCE PAVILION
PROFESSIONAL FIREFIGHTERS OF EASTERN MO.
115 McMENAMY, ST. PETERS, MO 63376

FLOOR PLAN, ROOF PLAN, AND DETAILS

SHEET NO.
A1.1.0

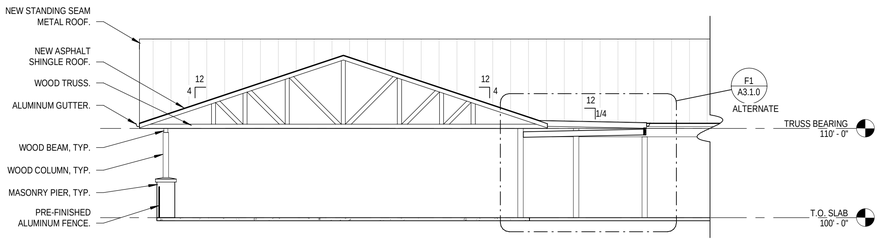
JOB NO. MK-0021.00

PLAN NORTH



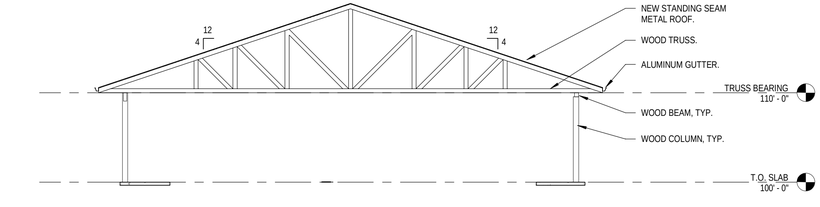
F1 LOW SLOPE ROOF SECTION - ALTERNATE

3/8" = 1'-0"



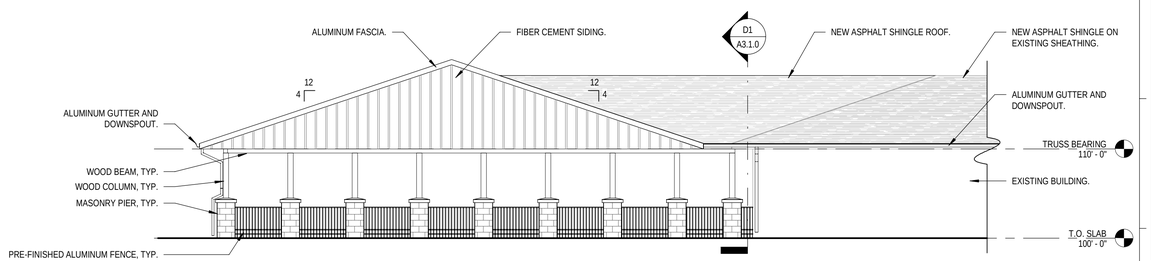
D1 EAST/WEST BUILDING SECTION

1/8" = 1'-0"



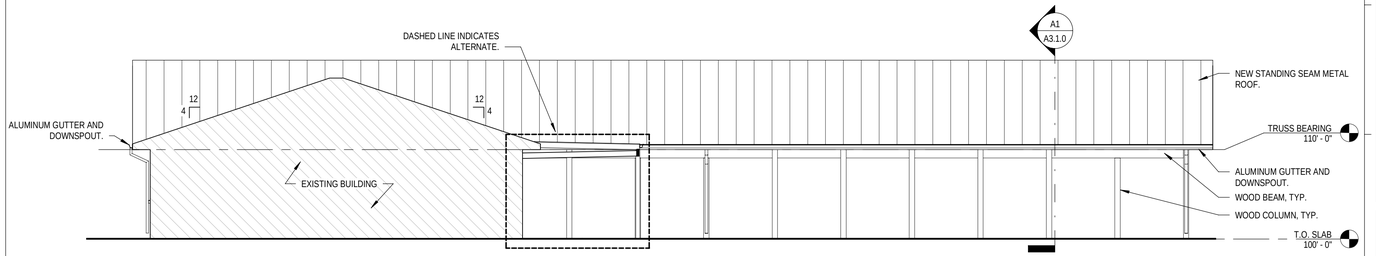
A1 NORTH/SOUTH BUILDING SECTION

1/8" = 1'-0"



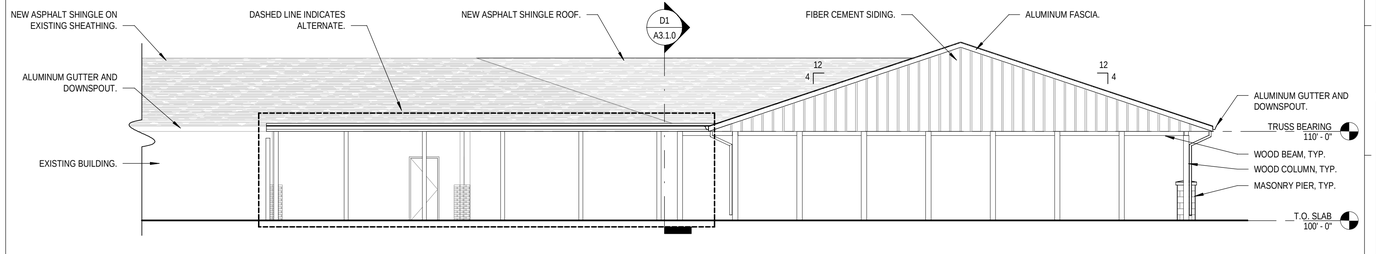
J9 EAST ELEVATION

1/8" = 1'-0"



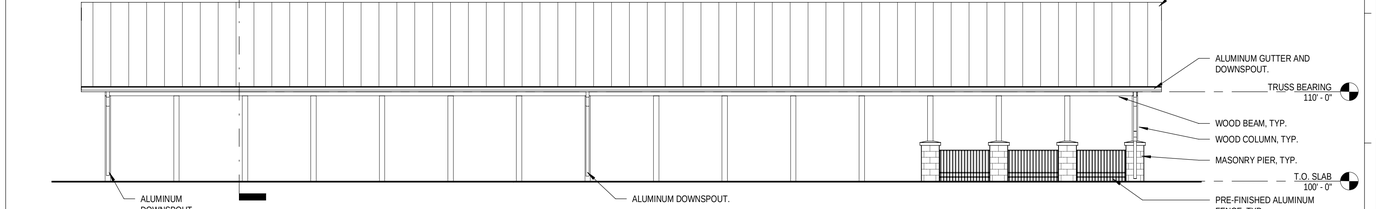
F9 NORTH ELEVATION

1/8" = 1'-0"



D9 ELEVATION_WEST

1/8" = 1'-0"



A9 SOUTH ELEVATION

1/8" = 1'-0"

NO	DATE	DESCRIPTION	ISSUANCE

FGM ARCHITECTS
10 SOUTH BROADWAY, SUITE 1150
ST. LOUIS, MO 63102
314.439.1601 (O) 314.439.1602 (F)
MISSOURI CERTIFICATE OF AUTHORITY #000311

STRUCTURAL/CIVIL
CROCKET ENGINEERING
1000 W NIFONG BLVD., BLDG. 1
COLUMBIA, MO 65203
573.447.0292 (O)
MISSOURI STATE CERTIFICATE OF AUTHORITY NO. XXXXXXXXXX

JOSH MANDELL - ARCHITECT
ST #A-2013036074

DATE 08/26/2019

BOCCE PAVILION
PROFESSIONAL FIREFIGHTERS OF EASTERN MO.
115 McMENAMY, ST. PETERS, MO 63376

EXTERIOR ELEVATIONS AND SECTIONS

SHEET NO.

A3.1.0

JOB NO. MK-0021.00

9/9/2019 8:34:25 PM
S:\Jobs\mk_oh\M4-0021.00\ACAD\ARevit\Central File\M4-0021.00_PFEM Bocce Pavilion_Central_2018_Alternate Roof.rvt

PFEM Banquet Center

St. Peters, St. Charles County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2015 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
   - FOUNDATIONS – 3,000 PSI
   - CAST-IN-PLACE WALLS – 3,500 PSI
   - FLOOR SLAB – 4,000 PSI
   - EXTERIOR SLABS, WALLS AND CURBS – 4,000 PSI
2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
3. CHLORIDE– BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/– 1" (ASTM C– 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/–) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
11. CONCRETE WORK EXECUTION
    - A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
    - B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
      - CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
      - EXPOSED TO EARTH OR WEATHER.....2 INCHES
      - NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH.....1 ½ INCHES
    - C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
    - D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
    - E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS..
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
3. BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
4. ANCHOR BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
5. SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
6. ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF "IRONCLAD RETARDO RUST INHIBITIVE PAINT 163" (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC-SP1) AND THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ.FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCARRED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
7. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
7. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

1. FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   - A. 2X4 SPF No.1/No.2
   - B. 2X6 SPF No.1/No.2
   - C. 2X8 DF-L No.2
   - D. 2X10 DF-L S.S.
   - E. 2X12 DF-L S.S.

   EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
2. SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
3. TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
4. SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
5. BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
6. LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
7. COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
8. FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
9. CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

PREFABRICATED WOOD TRUSSES

1. FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
2. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
3. FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
   - A. DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
   - B. MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
   - C. OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
   - D. DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
   - E. IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
4. CABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
5. SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   - A. SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMS, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- a. CONCRETE GROUT DESIGN MIX (PERIODIC)
- b. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- c. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
- d. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
- e. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
- f. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- g. IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- h. WOOD FRAMING:
  - h.a. SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - h.b. DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - h.c. FRAMING MEMBERS AND DETAILS (PERIODIC)
  - h.d. MATERIAL GRADE (PERIODIC)
  - h.e. CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
  - h.f. PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2015 INTERNATIONAL BUILDING CODE / ASCE 7-10

BUILDING OCCUPANCY CATEGORY	II
ROOF LOAD DATA	
LIVE LOAD	20
ASPHALT SHINGLES + FELT	2.5
5/8" OSB ROOF SHEATHING	2.0
PRE-ENGINEERED WOOD TRUSSES @ 2'-0" O.C.	1.5
MECHANICAL ALLOWANCE	4.0
5/8" GYP. CEILING	3.0
MISC. COLLATERAL	2.0
TOTAL TO TRUSSES	35 lbs/sqft
ROOF SNOW LOAD DATA* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)	
p_g =	20 lbs/sqft
C_e =	1.0
I_s =	1.0
C_t =	1.1
p_f =	15.40 lbs/sqft
WIND DESIGN DATA	
V_{ult} =	115 M.P.H. (3-SECOND GUST)
V_{asd} =	90 M.P.H. IBC 1609.3.1
RISK CATEGORY	II
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT =	± 0.18
DIRECTIONAL PROCEDURE (MWFRS - ASCE 7-10, CH 27; C&C - ASCE 7-10, CH 30, PART 4)	
MAXIMUM COMPONENTS & CLADDING WIND	+33/-33 lbs/sqft
EARTHQUAKE DESIGN DATA	
RISK CATEGORY	II
I_E =	1.0
S_{DS} =	0.33
S_{D1} =	0.141
SITE CLASS	D (UNKNOWN)
S_{MS} =	0.338
S_{M1} =	0.21
SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC-FORCE-RESISTING SYSTEM = INTERMEDIATE STEEL CANTILEVERED COLUMNS	
R =	1.5
Ω_o =	1.3
C_d =	1.5
DESIGN BASE SHEAR EQUIVALENT LATERAL FORCE PROCEDURE	$V = 0.226\,W$
NET ALLOWABLE SOIL BEARING	1,500 lbs/sqft**

(**ASSUMED PER IBC TABLE 1806.2, PRESUMPTIVE LOAD-BEARING VALUES)

INDEX OF SHEETS

REVISIONS:

No.	Date
PERMIT SET	08/21/2019

STATE OF MISSOURI
GREGORY L LINNEMAN
NUMBER PE-2005001013

GREGORY L. LINNEMAN - PE
MO LICENSE - 2005001013

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Nifong Blvd. Bldg. 1 Suite I
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

CLIENT:
LayneCo CONSTRUCTION
1027 COOL SPRINGS INDUSTRIAL DRIVE
O'FALLON, MISSOURI

PFEM Banquet Center
115 McMENAMY RD
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

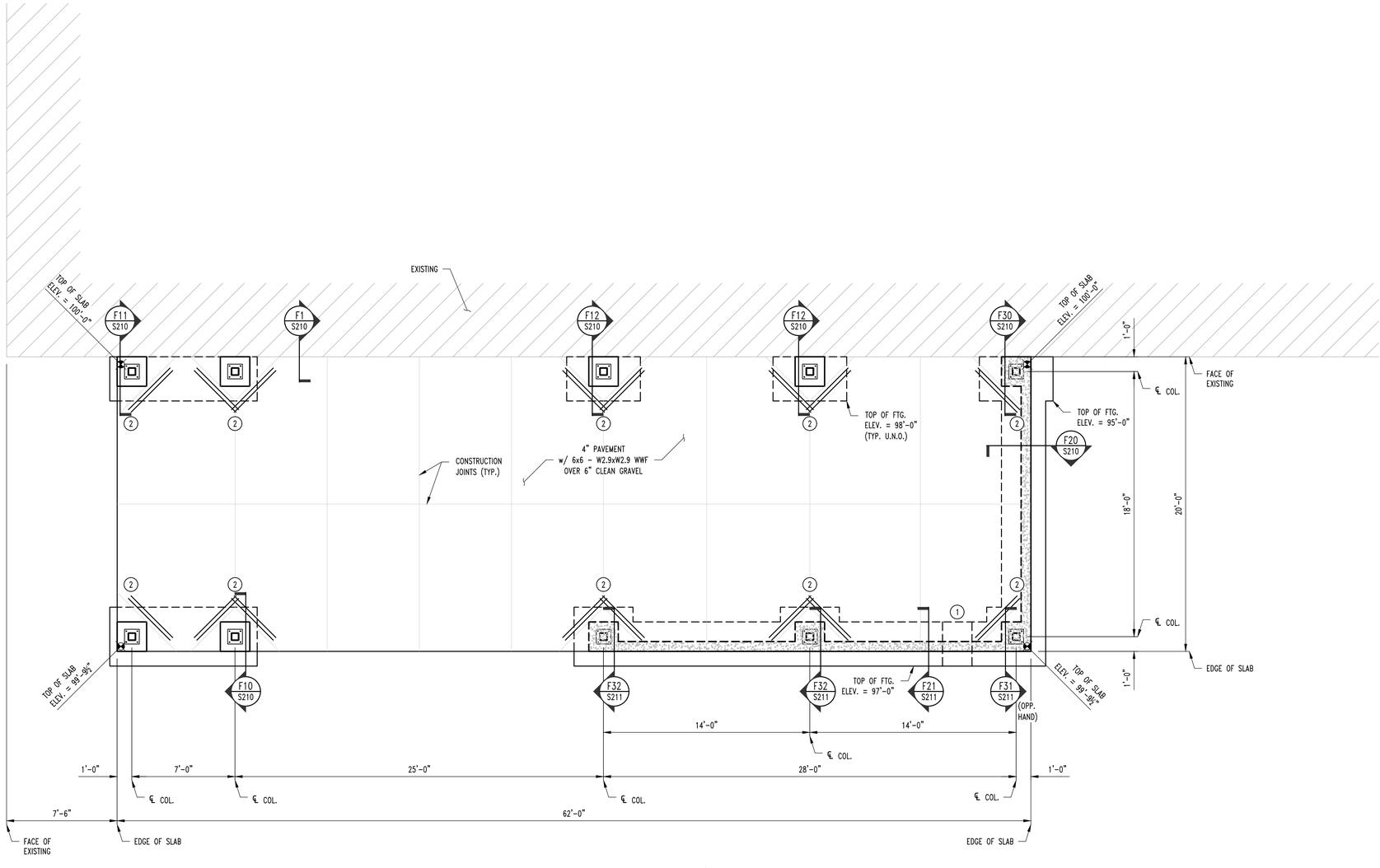
DRAWING INCLUDES:
GENERAL
STRUCTURAL DATA

DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345
SHEET:	S100

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

1. FOOTING STEP LOCATION. REFER TO TYPICAL DETAIL FS1/S211.
2. REENTRANT CORNER BARS. REFER TO TYPICAL DETAIL ON SHEET S210.



1 S200 ENTRY FOUNDATION PLAN

SCALE: ¼" = 1'-0"

REVISIONS:

No.	Date
PERMIT SET	08/21/2019

GREGORY L LINNEMAN
NUMBER PE-2005001013

GREGORY L. LINNEMAN - PE
MO LICENSE - 2005001013

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 West Nifong Blvd. Building 1
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
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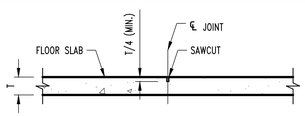
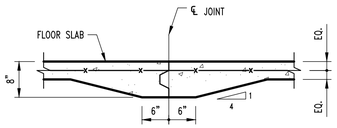
DRAWING INCLUDES:
ENTRY FOUNDATION PLAN

DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

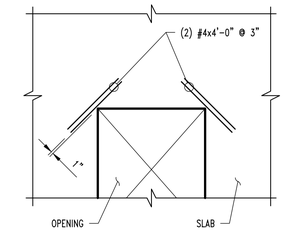
SHEET:
S200



CONTRACTION JOINT

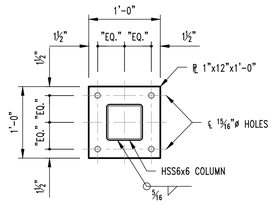


CONSTRUCTION JOINT

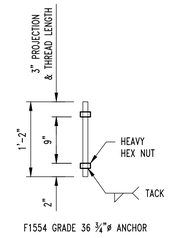


NOTE:
TYPICAL AT ALL REENTRANT CORNERS FOR SLAB-ON-GRADE & STRUCTURAL SLAB. REINFORCING TO BE CENTERED IN SLAB THICKNESS.

CRACK CONTROL REINFORCING

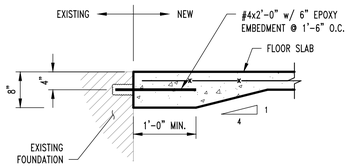


BASE PLATE "BP-1"



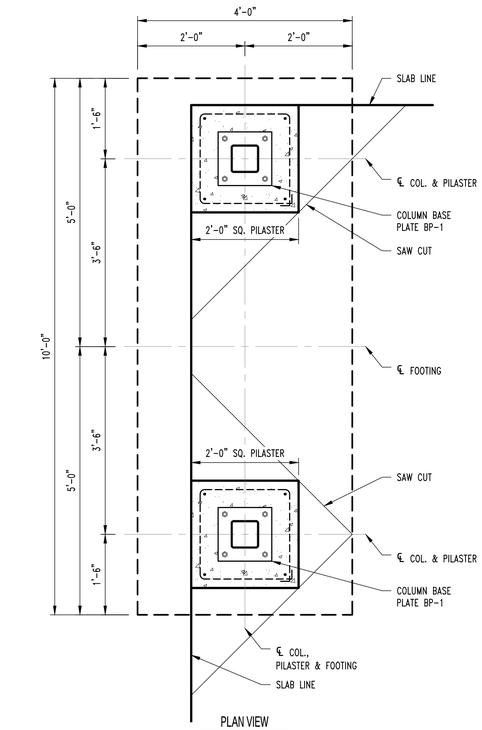
F1554 GRADE 36 ¾"ø ANCHOR

ANCHOR BOLT DETAIL (TYPE A)



F1 S200 SLAB TO EXISTING @ DOOR DETAIL

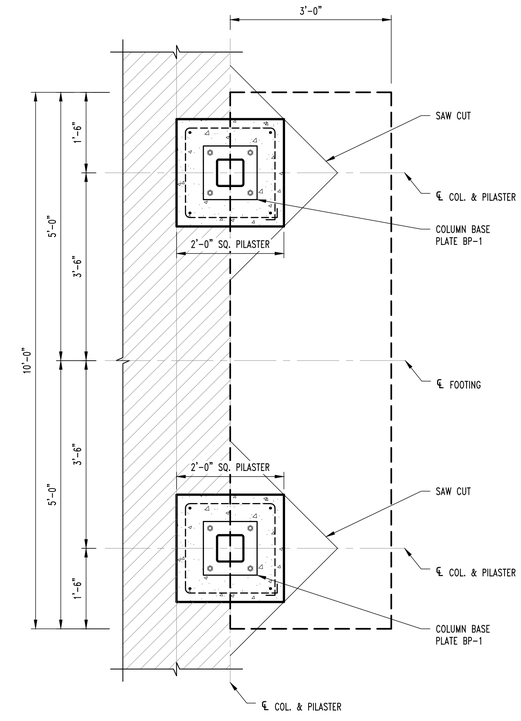
SCALE: ¾" = 1'-0"



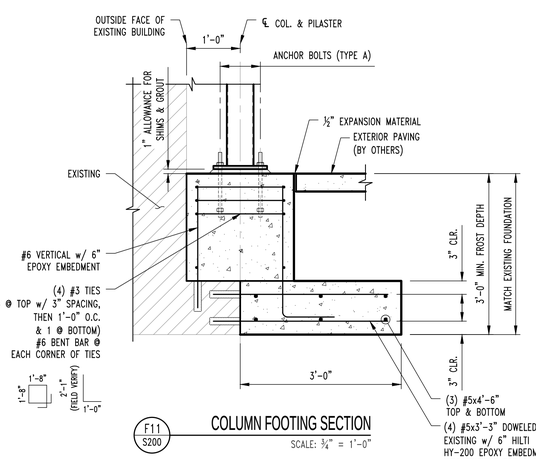
PLAN VIEW

F10 S200 COLUMN FOOTING SECTION

SCALE: ¾" = 1'-0"

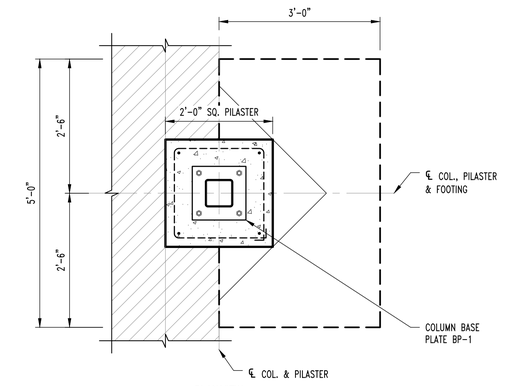


PLAN VIEW

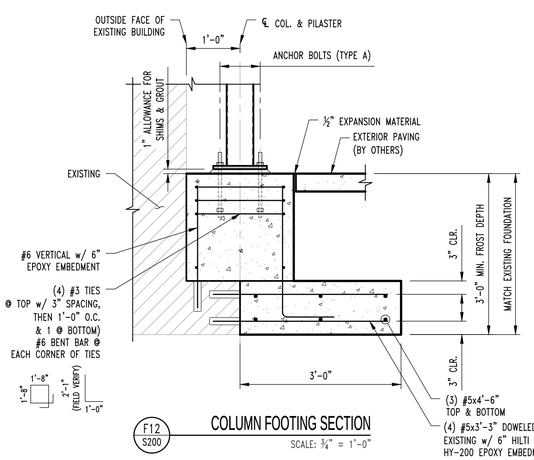


F11 S200 COLUMN FOOTING SECTION

SCALE: ¾" = 1'-0"

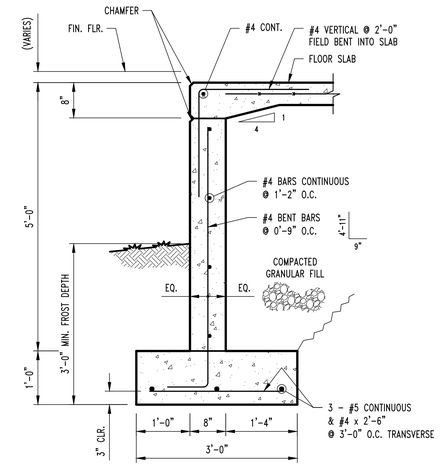


PLAN VIEW



F12 S200 COLUMN FOOTING SECTION

SCALE: ¾" = 1'-0"



F20 S200 STEM WALL DETAIL

SCALE: ¾" = 1'-0"

REVISIONS:

No.	Date
PERMIT SET	08/21/2019

STATE OF MISSOURI
GREGORY L. LINNEMAN
NUMBER PE-2005001013

GREGORY L. LINNEMAN - PE
MO LICENSE - 2005001013

STRUCTURAL ENGINEER:

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Missouri Certificate of Authority
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CLIENT:

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CONSTRUCTION
1027 COOL SPRINGS INDUSTRIAL DRIVE
O'FALLON, MISSOURI

PFEM Banquet Center

115 McMENAMY RD
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

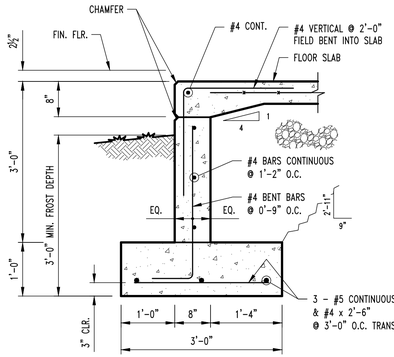
DRAWING INCLUDES:

FOUNDATION DETAILS

DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

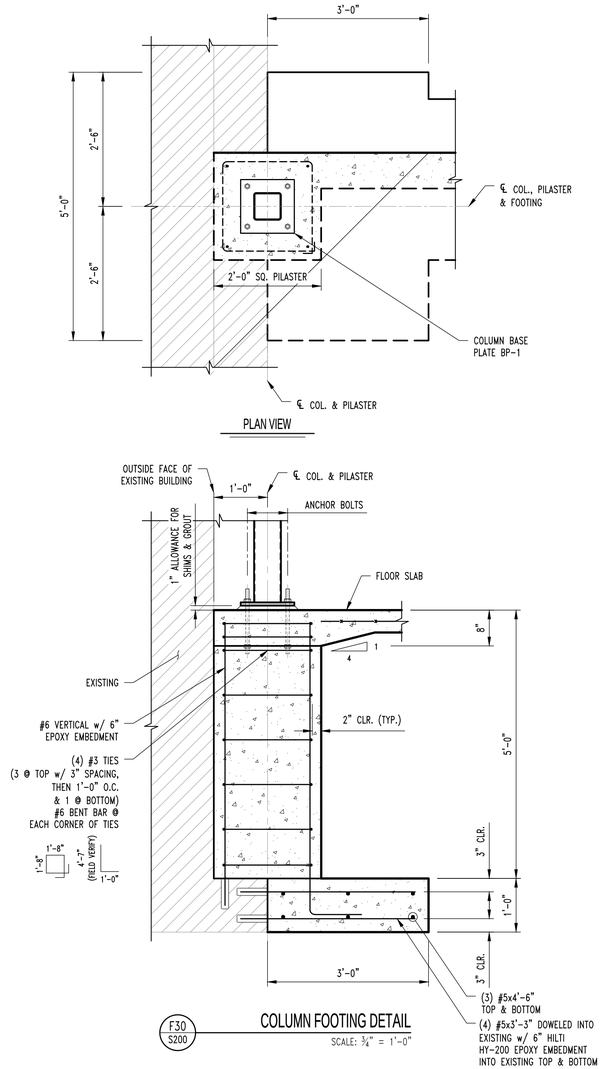
SHEET:

S210



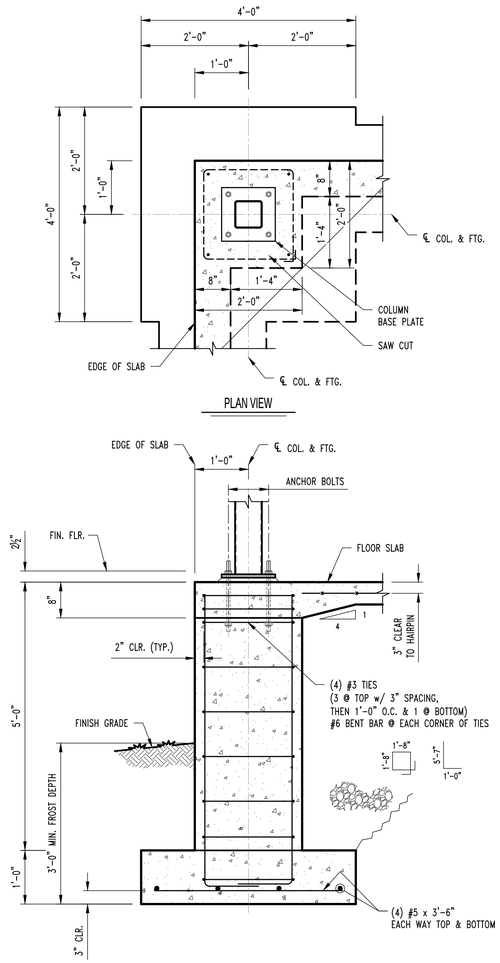
F21 S200 STEM WALL DETAIL

SCALE: ¾" = 1'-0"



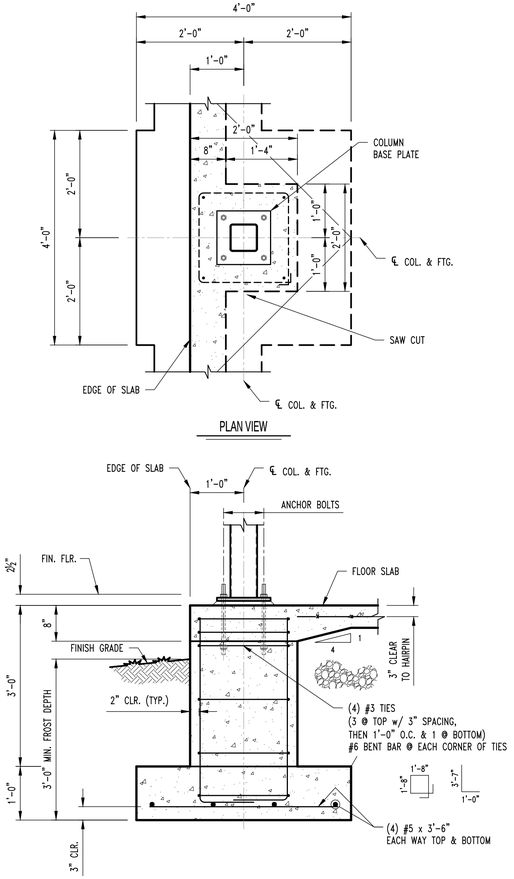
F30 S200 COLUMN FOOTING DETAIL

SCALE: ¾" = 1'-0"



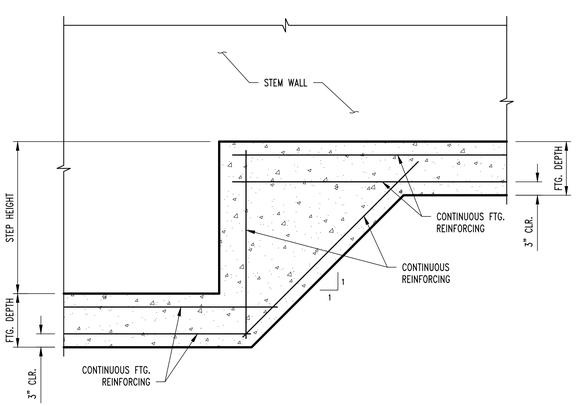
F31 S200 COLUMN FOOTING DETAIL

SCALE: ¾" = 1'-0"



F32 S200 COLUMN FOOTING DETAIL

SCALE: ¾" = 1'-0"



FS1 S200 FOOTING STEP DETAIL

SCALE: ¾" = 1'-0"

REVISIONS:

No.	Date
PERMIT SET	08/21/2019

STATE OF MISSOURI
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GREGORY L. LINNEMAN - PE
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O'FALLON, MISSOURI

PFEM Banquet Center

115 McMENAMY RD
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

DRAWING INCLUDES:

FOUNDATION DETAILS

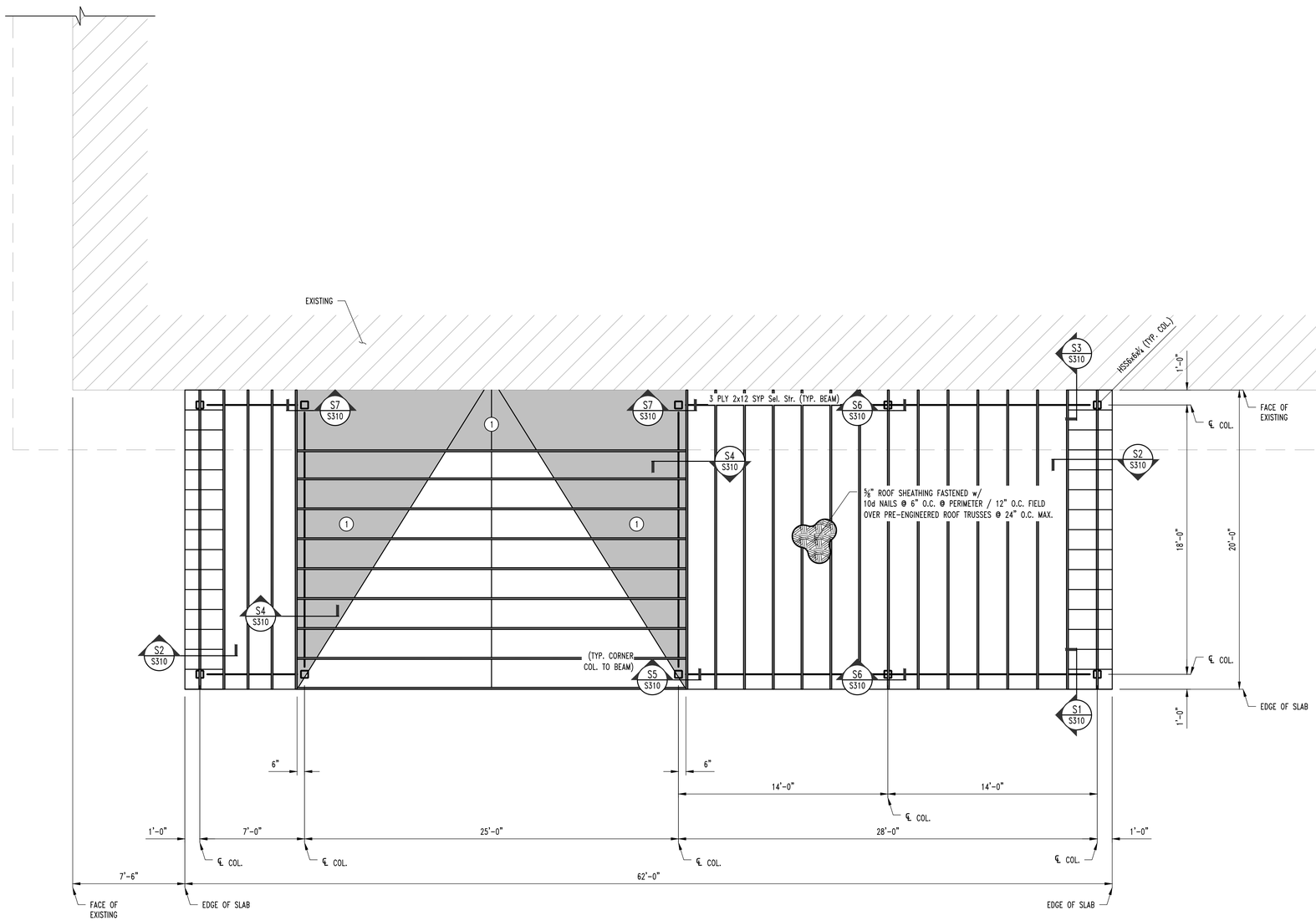
DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

SHEET:
S211

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING; EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

ROOF FRAMING NOTES

1. FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO CREATE RIDGE, VALLEY, OR HIP W/ 2X #2 SP RAFTERS @ 24" O.C. MAX AS SHOWN (HATCHED AREA).



1 S300 ENTRY FRAMING PLAN
SCALE: ¼" = 1'-0"

REVISIONS:

No.	Date
PERMIT SET	08/21/2019

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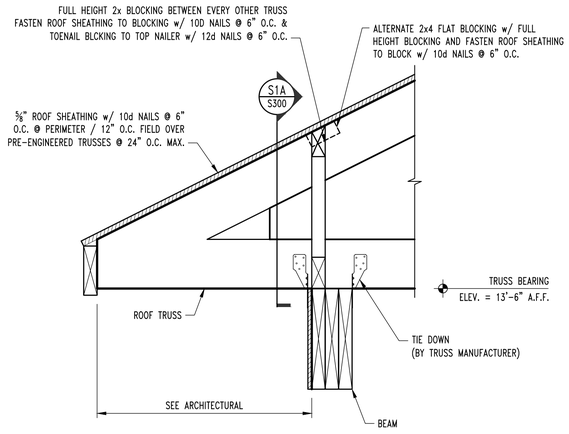
DRAWING INCLUDES:
ENTRY FRAMING PLAN

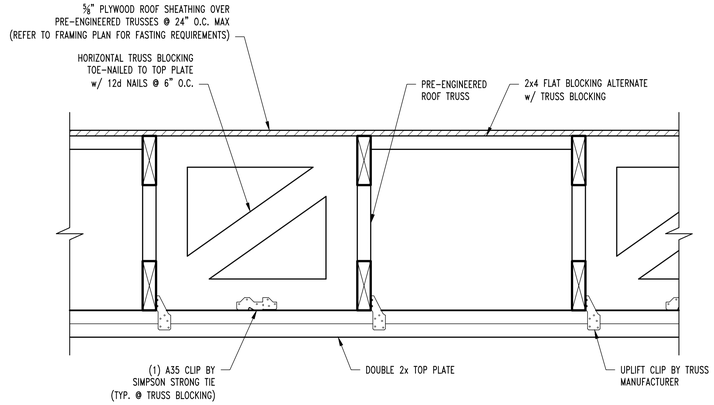
DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

SHEET:
S300



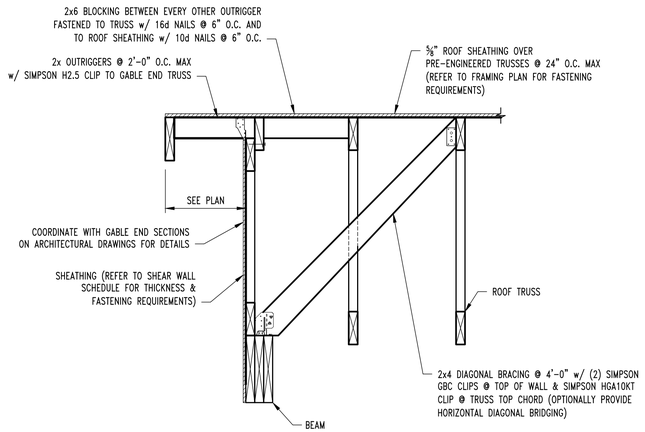
S1 / S300 — ROOF FRAMING DETAIL

SCALE: 1½" = 1'-0"



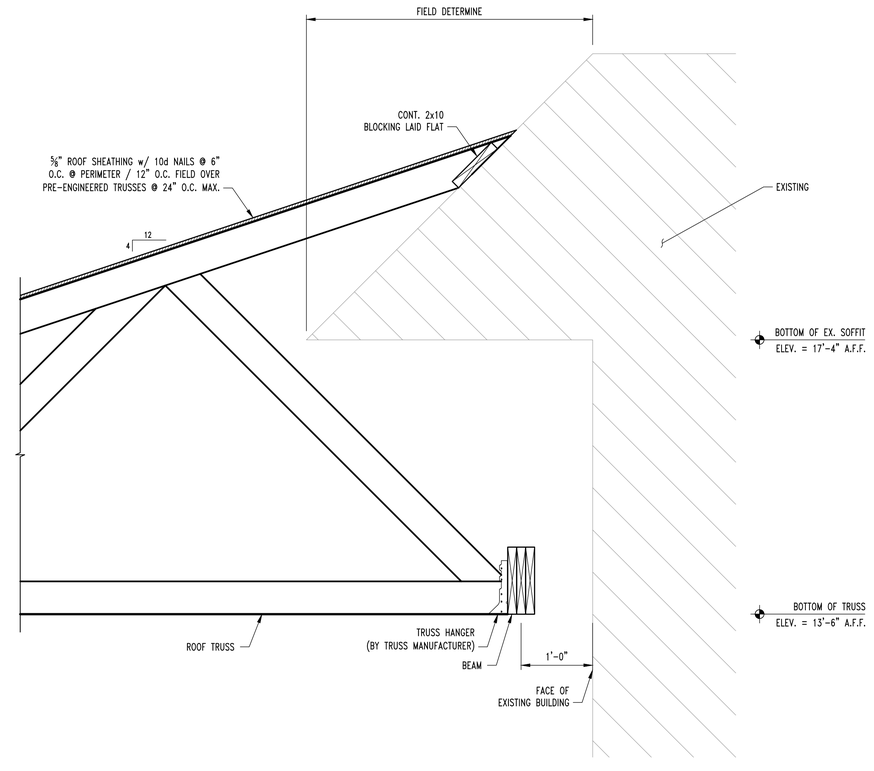
S1A / S300 — TYP. TRUSS BLOCKING DETAIL

SCALE: 1½" = 1'-0"



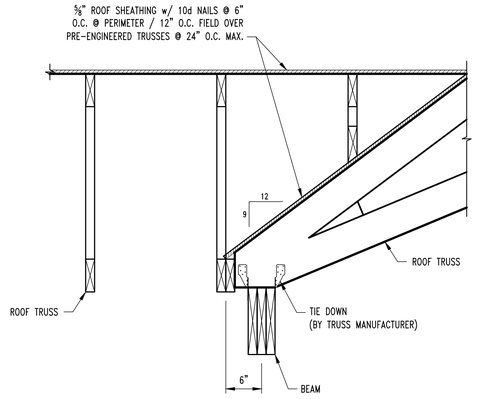
S2 / S300 — ROOF FRAMING DETAIL

SCALE: 1" = 1'-0"



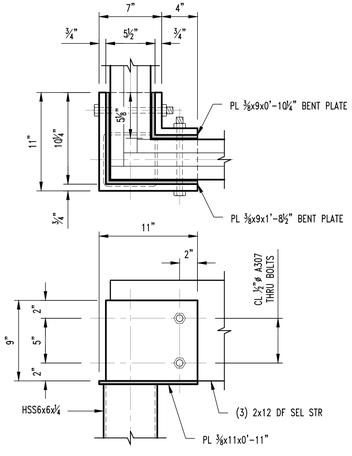
S3 / S300 — ROOF FRAMING DETAIL

SCALE: 1½" = 1'-0"



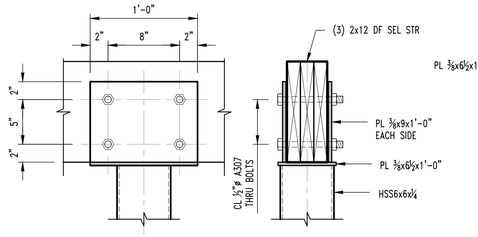
S4 / S300 — ROOF FRAMING DETAIL

SCALE: 1½" = 1'-0"



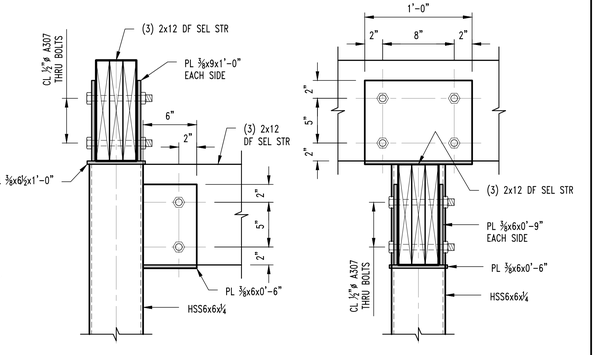
S5 / S300 — COLUMN TO BEAM DETAIL

SCALE: 1½" = 1'-0"



S6 / S300 — COLUMN TO BEAM DETAIL

SCALE: 1½" = 1'-0"



S7 / S300 — COLUMN TO BEAM DETAIL

SCALE: 1½" = 1'-0"

REVISIONS:

No.	Date
PERMIT SET	08/21/2019

STATE OF MISSOURI
GREGORY L LINNEMAN
NUMBER PE-2005001013

GREGORY L. LINNEMAN - PE
MO LICENSE - 2005001013

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PFEM Banquet Center

115 McMENAMY RD
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

DRAWING INCLUDES:

FRAMING
DETAILS

DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

SHEET:
S310

PFEM Bocce Ball Pavilion

St. Peters, St. Charles County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2015 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
   - FOUNDATIONS – 3,000 PSI
   - CAST-IN-PLACE WALLS – 3,500 PSI
   - FLOOR SLAB – 4,000 PSI
   - EXTERIOR SLABS, WALLS AND CURBS – 4,000 PSI
2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
3. CHLORIDE– BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/– 1" (ASTM C– 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/–) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
11. CONCRETE WORK EXECUTION
    - A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
    - B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
      - CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
      - EXPOSED TO EARTH OR WEATHER.....2 INCHES
      - NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH.....1 ½ INCHES
    - C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
    - D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
    - E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
7. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

1. FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   - A. 2X4 SPF No.1/No.2
   - B. 2X6 SPF No.1/No.2
   - C. 2X8 DF-L No.2
   - D. 2X10 DF-L S.S.
   - E. 2X12 DF-L S.S.

   EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
2. SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
3. TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
4. SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
5. BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
6. LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
7. COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
8. FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
9. CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

PREFABRICATED WOOD TRUSSES

1. FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
2. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
3. FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
   - A. DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
   - B. MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
   - C. OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
   - D. DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
   - E. IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
4. CABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
5. SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   - A. SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMS, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- a. CONCRETE GROUT DESIGN MIX (PERIODIC)
- b. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- c. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
- d. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
- e. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
- f. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- g. IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- h. WOOD FRAMING:
  - h.a. SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - h.b. DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - h.c. FRAMING MEMBERS AND DETAILS (PERIODIC)
  - h.d. MATERIAL GRADE (PERIODIC)
  - h.e. CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
  - h.f. PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2015 INTERNATIONAL BUILDING CODE / ASCE 7-10

BUILDING OCCUPANCY CATEGORY	II
ROOF LOAD DATA	
LIVE LOAD	20
ASPHALT SHINGLES + FELT	2.5
5/8" OSB ROOF SHEATHING	2.0
PRE-ENGINEERED WOOD TRUSSES @ 2'-0" O.C.	1.5
MECHANICAL ALLOWANCE	4.0
5/8" GYP. CEILING	3.0
MISC. COLLATERAL	2.0
TOTAL TO TRUSSES	35 lbs/sqft
ROOF SNOW LOAD DATA* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)	
p_g =	20 lbs/sqft
C_e =	1.0
I_s =	1.0
C_t =	1.1
p_f =	15.40 lbs/sqft
WIND DESIGN DATA	
V_{ult} =	115 M.P.H. (3-SECOND GUST)
V_{asd} =	90 M.P.H. (IBC 1609.3.1)
RISK CATEGORY	II
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT =	± 0.18
DIRECTIONAL PROCEDURE (MWFRS - ASCE 7-10, CH 27; C&C - ASCE 7-10, CH 30, PART 4)	
MAXIMUM COMPONENTS & CLADDING WIND	+33/-33 lbs/sqft
EARTHQUAKE DESIGN DATA	
RISK CATEGORY	II
I_E =	1.0
S_{DS} =	0.33
S_{D1} =	0.141
SITE CLASS	D (UNKNOWN)
S_{DS} =	0.338
S_{DI} =	0.21
SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC-FORCE-RESISTING SYSTEM = INTERMEDIATE STEEL CANTILEVERED COLUMNS	
R =	1.5
Ω_o =	1.3
C_d =	1.5
DESIGN BASE SHEAR	$V = 0.226W$
EQUIVALENT LATERAL FORCE PROCEDURE	
NET ALLOWABLE SOIL BEARING	1,500 lbs/sqft**

(**ASSUMED PER IBC TABLE 1806.2. PRESUMPTIVE LOAD-BEARING VALUES)

INDEX OF SHEETS

REVISIONS:

No.	Date
REVIEW SET	09/11/2019

PROGRESS
NOT Intended for Bidding or Construction

STRUCTURAL ENGINEER:
CROCKETT
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1000 West Nifong, Building I
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

CLIENT:
LayneCo
CONSTRUCTION
1027 COOL SPRINGS INDUSTRIAL DRIVE
O'FALLON, MISSOURI

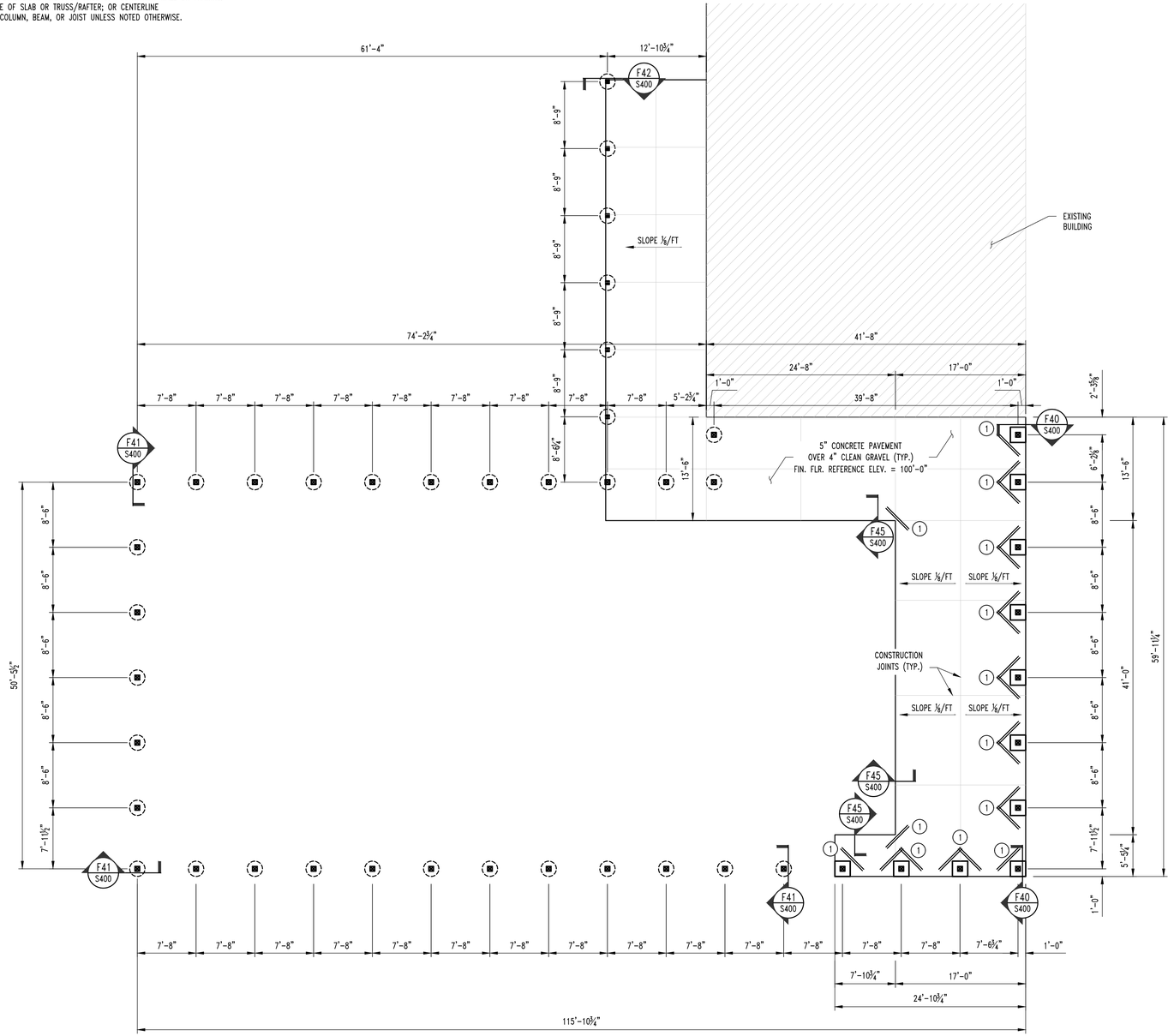
PFEM Bocce Ball Pavilion
115 McMENAMY RD
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

DRAWING INCLUDES:
GENERAL
STRUCTURAL DATA

DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

SHEET:
S100

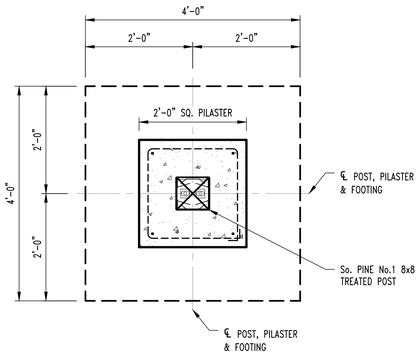
NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.



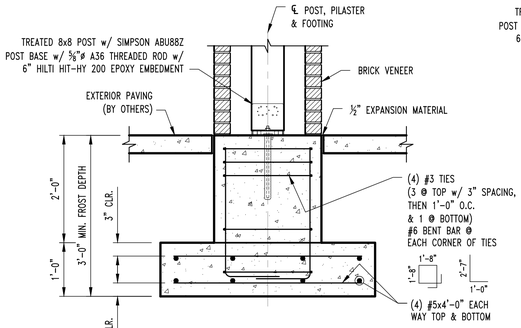
1 S400 **BOCCE PAVILION FOUNDATION PLAN**
SCALE: ⅛" = 1'-0"

FOUNDATION NOTES

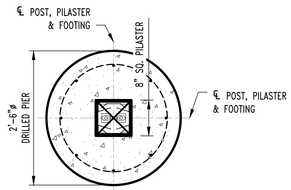
1. REENTRANT CORNER BARS. REFER TO TYPICAL DETAIL ON SHEET S210.



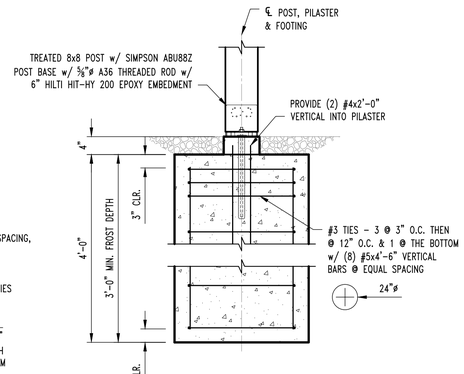
PLAN VIEW



F40 S400 **COLUMN FOOTING SECTION**
SCALE: ¾" = 1'-0"



PLAN VIEW



F41 S400 **COLUMN FOOTING SECTION**
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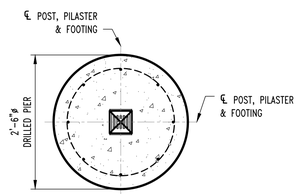
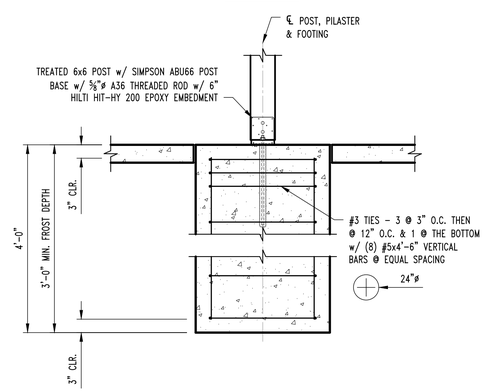
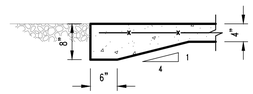


PLAN VIEW



F42 S400 **COLUMN FOOTING SECTION**
SCALE: ¾" = 1'-0"



F45 S400 **SLAB AT GRAVEL SECTION**
SCALE: ¾" = 1'-0"

REVISIONS:

No.	Date
REVIEW SET	09/11/2019

PROGRESS
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PFEM Bocce Ball Pavilion

115 McMENAMY RD
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

DRAWING INCLUDES:
FOUNDATION PLAN & DETAILS

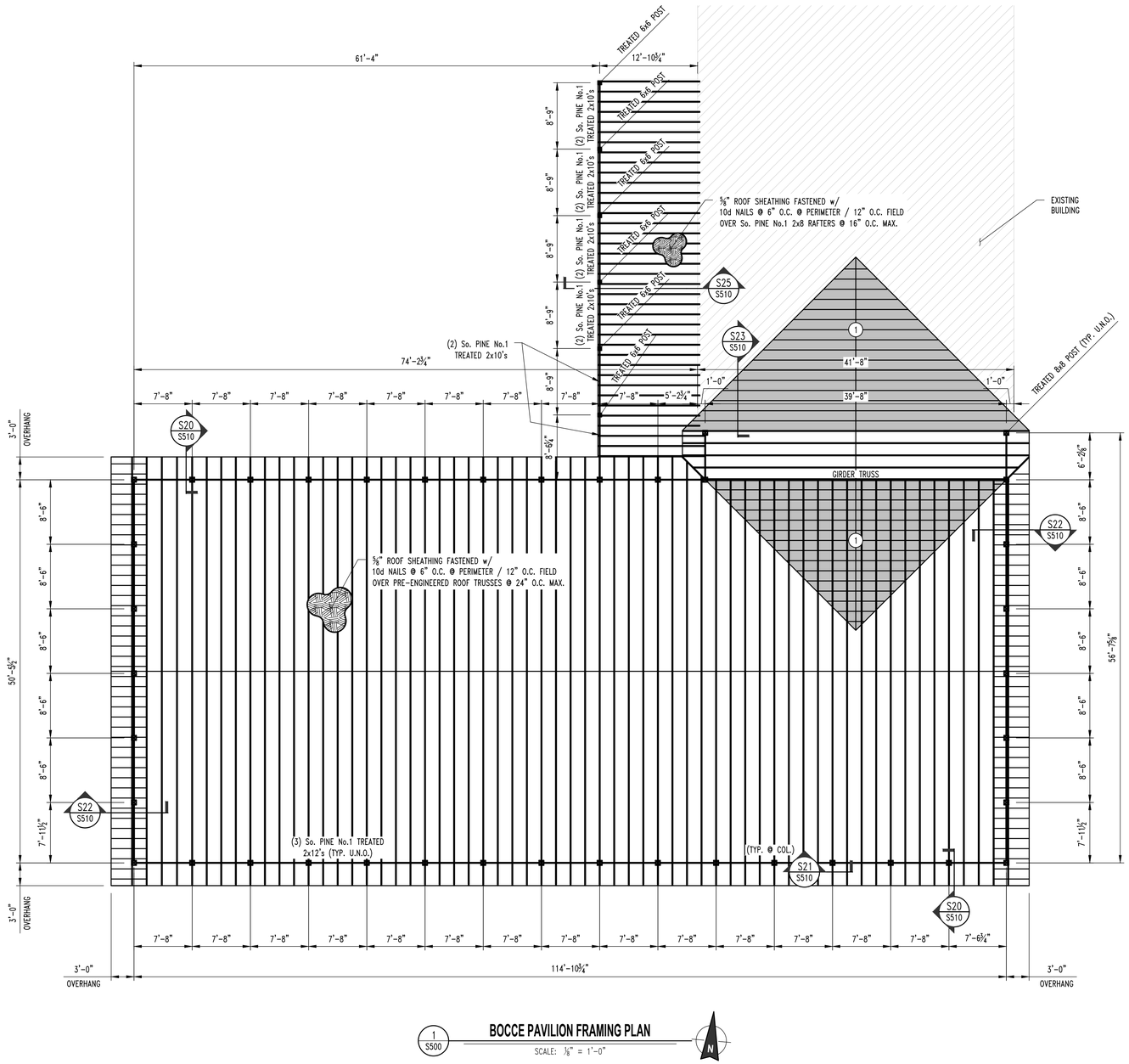
DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

SHEET:
S200

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

ROOF FRAMING NOTES

1. FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO CREATE RIDGE, VALLEY, OR HIP W/ 2X #2 SP RAFTERS @ 24" O.C. MAX AS SHOWN (HATCHED AREA).
2. NEW TRUSSES TO BEAR AT SAME ELEVATION AS EXISTING TRUSSES & HAVE SAME OVERHANG DETAIL, DIMENSION & HEEL DEPTH.



1 S500 **BOCCE PAVILION FRAMING PLAN**
SCALE: ⅛" = 1'-0"

REVISIONS:

No.	Date
REVIEW SET	09/11/2019

PROGRESS
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PFEM Bocce Ball Pavilion

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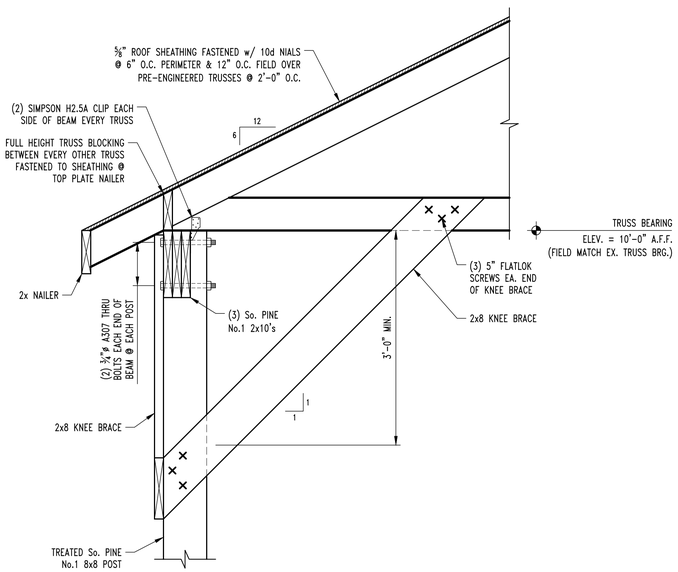
ST. PETERS, ST. CHARLES COUNTY, MISSOURI

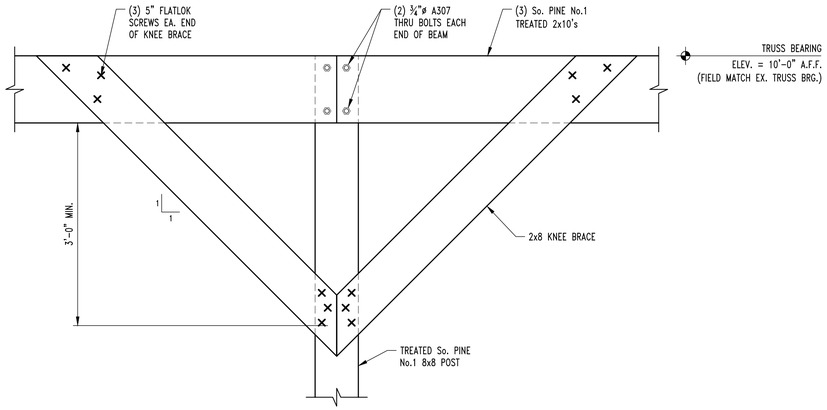
DRAWING INCLUDES:
FRAMING PLAN

DESIGNED:	GLL
DRAWN:	RCA
PROJECT NO.:	180345

SHEET:
S300



S20 S500 **ROOF FRAMING SECTION**
SCALE: 1" = 1'-0"



S21 S500 **ROOF FRAMING SECTION**
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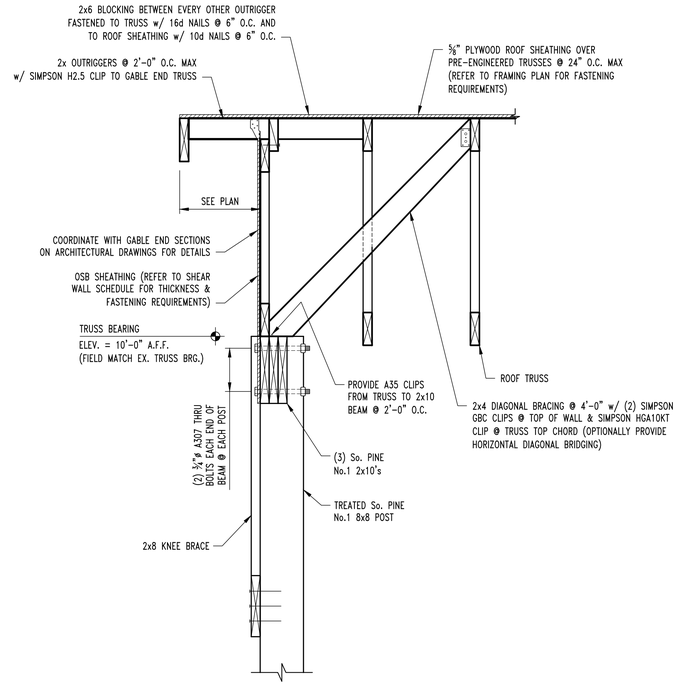
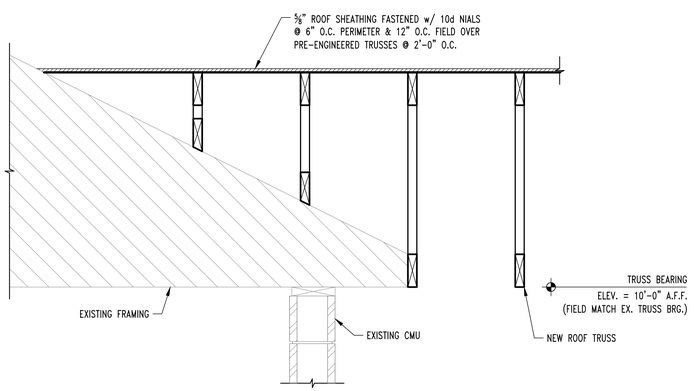
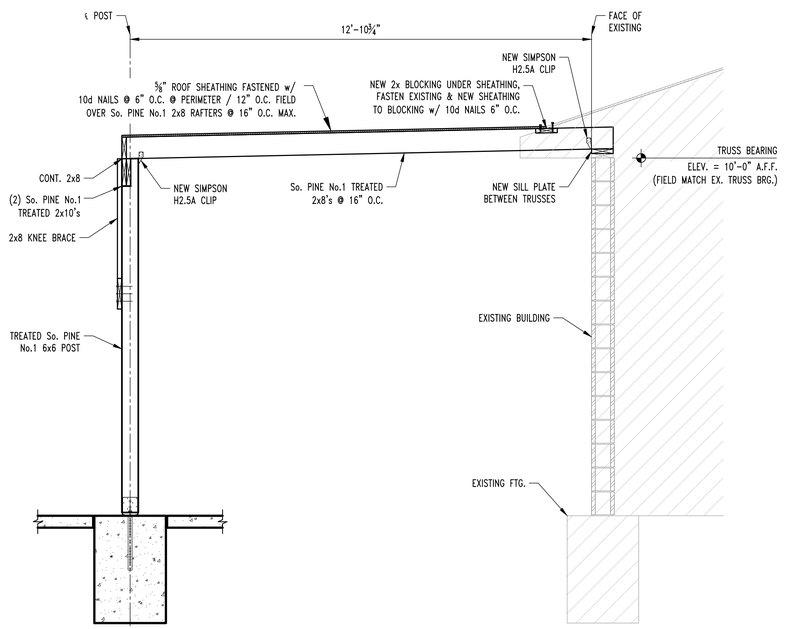


S22 S500 **ROOF FRAMING SECTION**
SCALE: 1" = 1'-0"



S23 S500 **ROOF FRAMING SECTION @ EXISTING**
SCALE: 1" = 1'-0"



S25 S500 **LOW SLOPE ROOF SECTION - ALTERNATE**
SCALE: ½" = 1'-0"

REVISIONS:

No.	Date
REVIEW SET	09/11/2019

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DRAWING INCLUDES:
FRAMING PLAN

DESIGNED: GLL
DRAWN: RCA
PROJECT NO.: 180345

SHEET:
S310