BID DOCUMENTS

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
ROCK HILL, SOUTH CAROLINA

MOSELEYARCHITECTS

1320 MAIN STREET, SUITE 300, COLUMBIA, SC 29201
PHONE (803) 724-1252

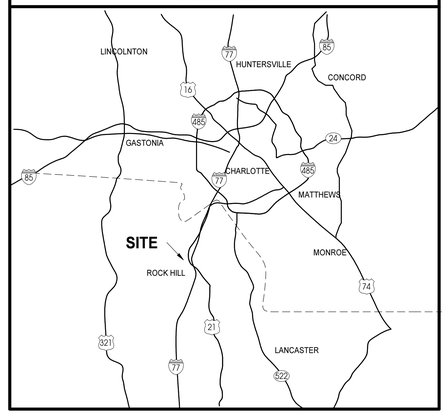
MOSELEYARCHITECTS.COM

Moseley Architects — Structural, Mechanical, Electrical, Plumbing
1320 Main Street, Suite 300, Columbia, SC 29201 — www.moseleyarchitects.com

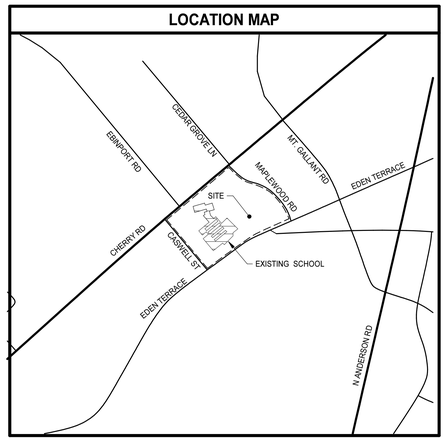
DRAWING INDEX - BID PACKAGE 1

DRAWING INDEX - BID PACKAGE 2

VICINITY MAP



LOCATION MAP



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1320 MAIN STREET, SUITE 300, COLUMBIA, SC 29201
PHONE (803) 724-1252
MOSELEYARCHITECTS.COM

STATE OF SOUTH CAROLINA — REGISTERED ARCHITECT
JAMES D. WILHIDE, JR.
Charlotte, NC
No. 5256

STATE OF SOUTH CAROLINA — REGISTERED ARCHITECTS
MOSELEY ARCHITECTS of SOUTH CAROLINA, P.C.
COLUMBIA, SC
101066

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

COVER

2/10/2020 2:19:37 PM

THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL.
IN CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

CODE DATA SUMMARY

THIS SUMMARY DOES NOT IDENTIFY ALL APPLICABLE CODE SECTIONS AND IS A SUMMARY OF SELECTED CODE SECTIONS ONLY. CODE SECTIONS NOT IDENTIFIED OR OTHERWISE INDICATED DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH APPLICABLE CODES, STANDARDS, AND REGULATIONS TO COMPLETE THE WORK.

FORM F3 BUILDING CODE ANALYSIS FORM

PROJECT	SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS
DISTRICT	ROCK HILL DISTRICT 3
CODE & EDITION	CONCESSIONS PREFAB BUILDING
	INTERNATIONAL BUILDING CODE 2018
GUIDE EDITION	2018

BASIC BUILDING CODE INFORMATION

DESIGNATED AREAS OF BUILDING	NEW CONSTRUCTION
CONSTRUCTION CLASSIFICATION TYPE (IBC 602)	II B
OCCUPANCY GROUP (IBC 302)	A5
OCCUPANCY GROUP (IBC 503) (Most Restrictive)	A5
INCIDENTAL USE AREA SERRATION (IBC 508.2.5)	NO
ACCESSORY OCCUPANCY (IBC 508.2)	NO
MIXED OCCUPANCY (IBC 508)	NO
NON SEPERATED (IBC 508.3)	NO
SEPARATED (IBC 508.4) (IBC 506.5)	NO
OTHER FIRE PROTECTION SYSTEMS, DEVICES OR FEATURES (IBC 414.1.3)	NON-SPRINKLERED

BUILDING AREA

DESIGNATED AREAS OF BUILDING		NEW CONSTRUCTION
AREA LIMIT BY PER STORY (IBC TABLE 506)		II B
MAXIMUM AREA MODIFICATION PER STORY		-
MAXIMUM AREA PER STORY		UL
TOTAL ALLOWED AREA OF BUILDING	STORY 1	UL
	STORY 2	-
	STORY 3	-
	TOTAL ALLOWED	UL
AREA AS DESIGNED PER STORY	STORY 1	720
		--
TOTAL DESIGNED AREA OF BUILDING		720 SF.
OPEN PERIMETER WAS NOT USED FOR CALCULATING THE ALLOWED AREA LISTED ABOVE		

BUILDING HEIGHT

DESIGNATED AREAS OF BUILDING		NEW CONSTRUCTION	
HEIGHT		DESIGNED	ALLOWED
ALLOWABLE BUILDING HEIGHT AND STORIES (IBC TABLE 504.3 & 504.4)	IN FEET	10'-0"	55'-0"
	IN STORIES	1	UL

BUILDING DESIGN OCCUPANT LOAD

DESIGNATED AREAS OF BUILDING	NEW CONSTRUCTION
CONCESSIONS	4
TOTALS	4 OCC

GENERAL FIRE PROTECTION REQUIREMENTS

DESIGNATED AREAS OF BUILDING	NEW CONSTRUCTION
Fireblocking Required (IBC Section 717)	NO
Draftstopping Required (IBC Section 717)	NO
Smoke Control System Required (IBC Section 909)	NO
Smoke Barriers Required (IBC Sections 407 and 408)	NO
Smoke Partitions Required (IBC Section 407)	NO
Fire Partition Required (IBC Section 420)	NO
Fire Barrier Required (IBC Section 707)	NO
ALARM & DETECTION	
Fire Alarm System Required (IFC Section 907)	NO
Emergency Alarm System Required (IFC 908)	NO
SUPPRESSION	
Standpipes Required (IFC 905)	NO
Sprinklered Required (IFC 903)	NO
Sprinklered Provided	NO
Portable extinguishers required (IFC 906)	YES
Other suppression systems required (IFC 904)	NO
Smoke & heat vents required (IFC 910)	NO

GENERAL FIRE PROTECTION REQUIREMENTS

DESIGNATED AREAS OF BUILDING	NEW CONSTRUCTION
AREA OF REFUGE	
Separation required (IBC 1007.6.2)	NO
Two-way communication provided (IBC 1007.6.3)	NO
Instruction provided (IBC 1007.6.4)	NO
EXTERIOR AREA FOR ASSISTED RESCUE	
Separation required (IBC 1007.8)	NO
Identification provided (IBC 1007.8.3)	NO

BUILDING AREA

DESIGNATED AREAS OF BUILDING		NEW CONSTRUCTION
STRUCTURAL FRAME (IBC TABLE 601)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	NA
Bearing Walls, Exterior (IBC Table 601)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A2.2
Bearing Walls, Interior (IBC Table 601)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A0.2
Nonbearing Walls & Partitions, (IBC Table 601 & 602) Exterior	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A2.2
Nonbearing Walls & Partitions (IBC Table 601 & 602) Interior & Exterior	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A0.2
Floor Construction including supporting beams & joists (IBC Table 601)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	NA
Roof Construction including supporting beams & joists (IBC Table 601)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A2.2
Fire Walls (IBC Section 706)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A0.2
Fire Barriers (IBC Section 707)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A0.2
Shaft Enclosures (IBC Section 708)	As Required, Hrs	0
	As Designed, Hrs	0
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	NA
Fire Partitions (IBC Section 709)	As Required, Hrs	0
	As Designed, Hrs	NA
	Testing Agency & Design No.(UL, FM, etc)	NA
	Wall/Partition Key Code	REFER TO A0.2

OPENING FIRE PROTECTION ASSEMBLIES, RATINGS, AND MARKINGS (IBC TABLE 716.5)			
Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour	Required Wall Assembly Rating		NA
	Minimum Fire Door & Fire Shutter Assembly Rating		NA
	Door Vision Panel Size		NA
	Fire-Rated Glazing Marking Door Vision Panel		NA
	Minimum Sidelight/ Transom Assembly Rating	Fire Protection	NA
		Fire Resistance	NA
	Fire-Rated Glazing Marking Sidelight/ Transom Panel	Fire Protection	NA
		Fire Resistance	NA
Fire barriers having a required fire-resistance rating of 1 hour: Enclosures for shafts, exit access stairways, exit access ramps, interior exit stairways and interior exit ramps; and exit passageway walls	Required Wall Assembly Rating		NA
	Minimum Fire Door & Fire Shutter Assembly Rating		NA
	Door Vision Panel Size		NA
	Fire-Rated Glazing Marking Door Vision Panel		NA
	Minimum Sidelight/ Transom Assembly Rating	Fire Protection	NA
		Fire Resistance	NA
	Fire-Rated Glazing Marking Sidelight/ Transom Panel	Fire Protection	NA
		Fire Resistance	NA
Other fire barriers	Required Wall Assembly Rating		NA
	Minimum Fire Door & Fire Shutter Assembly Rating		NA
	Door Vision Panel Size		NA
	Fire-Rated Glazing Marking Door Vision Panel		NA
	Minimum Sidelight/ Transom Assembly Rating	Fire Protection	NA NA
	Fire-Rated Glazing Marking Sidelight/ Transom Panel		NA
Exterior Walls	Required Wall Assembly Rating		NA
	Minimum Fire Door & Fire Shutter Assembly Rating		NA
	Door Vision Panel Size		NA
	Fire-Rated Glazing Marking Door Vision Panel		NA
	Minimum Sidelight/ Transom Assembly Rating	Fire Protection	NA
	Fire-Rated Glazing Marking Sidelight/ Transom Panel		NA

FLOOD HAZARD INFORMATION AND FLOOD LOADS

PROJECT IS NOT IN A FLOOD ZONE

STRUCTURAL DESIGN INFORMATION, BUILDING

OCCUPANCY CATEGORY (IBC Table 1604.5)	NEW CONSTRUCTION

REFER TO A0.2 FOR STRUCTURAL INFORMATION

SOILS & SITE

SOILS INVESTIGATION REQUIRED? (IBC 1803.2)	YES
SOILS CLASSIFICATION Seismic Site Class (IBC 1613.5.2) Classes Soil of Materials (UCS System) (IBC 1803.5.1)	D
Presumptive Footing Bearing Pressure - IBC 1803.2	1500 PSF
MINIMUM DESIGN SOIL BEARING LOAD (IBC Table 1806.2)	2000 PSF
COMPACTION	
Subgrade (ASTM D698, ASTM D1557) or (AASHTO only for paving & roads)	98%
Base (ASTM D698, ASTM D1557) or (AASHTO only for paving & roads)	98%
Other (ASTM D698, ASTM D1557) or (AASHTO only for paving & roads)	98%
MINIMUM DESIGN SOIL LATERAL LOAD (IBC 1610.1)	n/a
FOOTINGS	
Undisturbed footings	YES
Compacted Fill Material (IBC 1804.5)	YES
ELEVATIONS	
Elevation of Water Table	
Elevation of lowest footing	
Elevation of lowest floor or basement	

REFER TO A0.2 FOR ADDITIONAL STRUCTURAL INFORMATION

MECHANICAL INFORMATION

ATHLETIC CONCESSIONS		
GENERAL INFORMATION	-	
BUILDING LOCATION	ROCK HILL, SC (YORK COUNTY)	
CLIMATE ZONE	3A	
OUTDOOR DESIGN TEMPERATURE	SUMMER	91.5 deg F DB
		74.3 deg F WB
	WINTER	23.5 deg F DB
		- deg F WB
INDOOR DESIGN TEMPERATURE	SUMMER	- deg F DB
		- % RH
	WINTER	- deg F DB
		- % RH
OUTSIDE AIR	600 CFM (EXHAUST), 300 CFM VENTILATION	
OCCUPIED MINIMUM OUTSIDE AIR	5 cfm per person	
CO2 DEMAND MANAGEMENT	No	
SUPERVISED CONTROL SYSTEM	No	

MECHANICAL SYSTEMS, SERVICE SYSTEMS & EQUIPMENT

BRIEFLY DESCRIBE MECHANICAL SYSTEM: VENTILATION (EXHAUST FANS)

ELECTRICAL INFORMATION

SERVICE TRANSFORMER	BY UTILITY	EXISTING
		480/3 VOLTAGE/PHASE
ELECTRICALSERVICE INFORMATION		
Service Voltage/Phase		225 AMPERES
Service Entrance Conductors Size - 600 KCM		#1AW6
Total Connected Load		79A
Estimated Maximum Demand		4000 KVA
Available Fault Current in Symmetrical Amperes		10K
		66 K
GROUNDING ELECTRODE SYSTEM COMPONENTS (NEC 250)		REFER TO ELECTRICAL DRAWINGS
EMERGENCY SERVICE INFORMATION		
Interrupting Capacity of Service Overcurrent Device	NO	-
		-
	FUEL	-
Exit/Emergency Lights Backup Power		BATTERY
Fire Alarm System	N/A	-
LIGHTNING PROTECTION PROVIDED		NO

CODE REQUIRED BUILDING FIXTURE COUNTS - EXISTING BUILDING

OCCUPANCY		WATER CLOSETS MALE FACTOR	MALE REQUIRED	MALE PROVIDED	MALE URINALS PROVIDED	WATER CLOSETS FEMALE FACTOR	FEMALE REQUIRED	FEMALE PROVIDED	LAVATORIES MALE & FEMALE FACTOR	LAVATORIES REQUIRED	LAVATORIES PROVIDED	DRINKING FOUNTAINS FACTOR	DRINKING FOUNTAINS REQUIRED	DRINKING FOUNTAINS PROVIDED	UNISEX TOILET REQUIRED	UNISEX TOILET PROVIDED	SERVICE SINKS REQUIRED	SERVICE SINKS PROVIDED
A-5 - BLEACHERS	*280	75	1.9	2	2	40	3.5	4	200	1	1	1000	0.28	2	0	0	1	1
TOTALS			**2**	**2**	**2**		**4**	**4**		**1**	**1**		**1**	**2**	**0**	**0**	**1**	**1**

* BLEACHER OCCUPANCY PROVIDED BY ROCK HILL SCHOOL DISTRICT

PLUMBING INFORMATION

REFER TO P0.1 FOR PLUMBING INFORMATION

MOSELEY ARCHITECTS
1320 MAIN STREET, SUITE 300, COLUMBIA, SC 29201
PHONE (803) 724-1252
MOSELEYARCHITECTS.COM

STATE OF SOUTH CAROLINA
JAMES D. WILHIDE, JR
Charlotte, NC
No. 5256
REGISTERED ARCHITECT

STATE OF SOUTH CAROLINA
MOSELEY ARCHITECTS of SOUTH CAROLINA, P.C.
COLUMBIA, SC
101066
REGISTERED ARCHITECTS

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

CODE SUMMARY

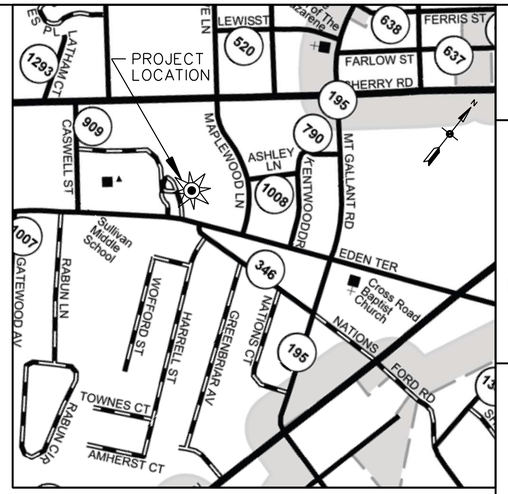
LS1.0

2/10/2020 11:25:31 AM

PROJECT:

SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA



PROJECT LOCATION MAP
SCALE: NTS

OWNER:

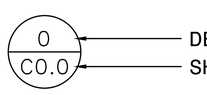
ROCK HILL SCHOOLS
386 E. BLACK STREET
ROCK HILL, SOUTH CAROLINA 29730
TEL. (803) 981-1000
WWW.ROCK-HILL.K12.SC.US

NOTE: THE WORK CONTAINED WITHIN THIS SET OF PLANS IS BID PACKAGE 1.

PLANS PREPARED BY:

CAMPCO ENGINEERING, INC.
156 OAKLAND AVENUE
ROCK HILL, SOUTH CAROLINA 29730
TEL. (803) 327-7121
WWW.CAMPCOENGINEERING.COM

DETAIL REFERENCE SYMBOL



DETAIL NUMBER
SHEET NUMBER OF DETAIL LOCATION

DRAWING INDEX

GENERAL CONSTRUCTION NOTES

1. EXISTING PLANIMETRIC AND TOPOGRAPHIC INFORMATION WAS OBTAINED FROM SURVEY BY DONALDSON, GARRETT & ASSOCIATES DATED 12/20/2019.

2. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE FIELD OR ON THE PLANS.

3. MAINTENANCE OF TRAFFIC DURING CONSTRUCTION SHALL BE CONDUCTED IN ACCORDANCE WITH SCDOT STANDARDS AND SPECIFICATIONS.

4. ALL CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE SAFETY STANDARDS AND REQUIREMENTS.

5. ALL EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT SOUTH CAROLINA 811 AT WWW.SC811.COM OR CALL 811 - 72 HOURS PRIOR TO DIGGING.

6. THE CONTRACTOR SHALL COORDINATE RELOCATION/REMOVAL OF EXISTING UTILITIES WITH THE UTILITY OWNER AS APPLICABLE.

7. THE CONTRACTOR SHALL REPAIR ALL EXISTING CONDITIONS DAMAGED BY CONSTRUCTION TO THE ORIGINAL CONDITION.

8. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS FOR THE PROJECT AND THE REQUIREMENTS OF THE CITY OF ROCK HILL, SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (SCDHEC), AND THE SOUTH CAROLINA DEPARTMENT TRANSPORTATION (SCDOT), WHERE APPLICABLE.

9. FOR SCDOT STANDARD DRAWINGS REFERENCED IN THE CONSTRUCTION PLANS SEE THE SCDOT STANDARD DRAWING MANUAL.

10. ALL MATERIALS, CONSTRUCTION, AND PLANS ARE TO COMPLY WITH CURRENT CITY OF ROCK HILL STANDARD SPECIFICATIONS AND DETAILS.

Campco Engineering, Inc.
Consulting Engineers since 1974

156 OAKLAND AVENUE, ROCK HILL, SC 29730
(803) 327-7121 WWW.CAMPCOENGINEERING.COM

SULLIVAN MIDDLE SCHOOL
ATHLETIC CONCESSIONS
AND RESTROOM BUILDING
ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

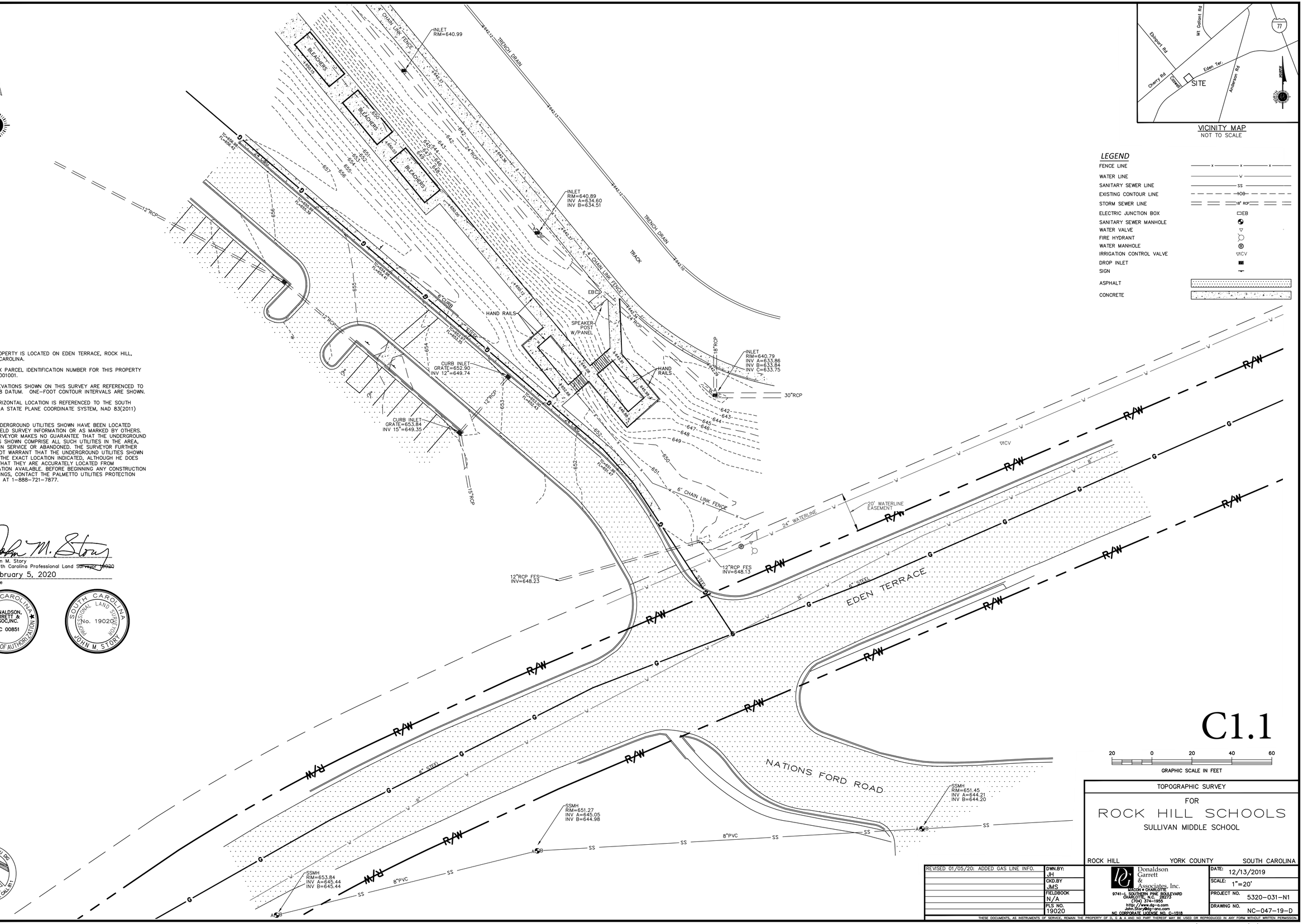
COVER SHEET

CE: 9697-FH	ISSUED: 02-07-2020
SCALE: NA	CAD FILE: 9697-FHCVC1.0

C1.0

K:\9697-FH\9697-FHcvc1.0.dgn
2/7/2020

NORTH SC GRID NAD83(2011)



VICINITY MAP
NOT TO SCALE

LEGEND

FENCE LINE	x x x
WATER LINE	W
SANITARY SEWER LINE	SS
EXISTING CONTOUR LINE	100
STORM SEWER LINE	18" RCP
ELECTRIC JUNCTION BOX	EB
SANITARY SEWER MANHOLE	
WATER VALVE	
FIRE HYDRANT	
WATER MANHOLE	W
IRRIGATION CONTROL VALVE	ICV
DROP INLET	
SIGN	
ASPHALT	
CONCRETE	

NOTES

1. THE PROPERTY IS LOCATED ON EDEN TERRACE, ROCK HILL, SOUTH CAROLINA.
2. THE TAX PARCEL IDENTIFICATION NUMBER FOR THIS PROPERTY IS 6321001001.
3. THE ELEVATIONS SHOWN ON THIS SURVEY ARE REFERENCED TO NAVD 88 DATUM. ONE-FOOT CONTOUR INTERVALS ARE SHOWN.
4. THE HORIZONTAL LOCATION IS REFERENCED TO THE SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM, NAD 83(2011) DATUM.
5. ANY UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION OR AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES STATE THAT THEY ARE ACCURATELY LOCATED FROM INFORMATION AVAILABLE. BEFORE BEGINNING ANY CONSTRUCTION OR BORINGS, CONTACT THE PALMETTO UTILITIES PROTECTION SERVICE AT 1-888-721-7877.

John M. Story
South Carolina Professional Land Surveyor 19020
February 5, 2020
Date

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION DONALDSON, GARRETT & ASSOC,INC. No.C 00851

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No. 19020 JOHN M. STORY

CALL BEFORE YOU DIG 1-888-721-7877 SOUTH CAROLINA ONE CALL 811

C1.1

20 0 20 40 60
GRAPHIC SCALE IN FEET

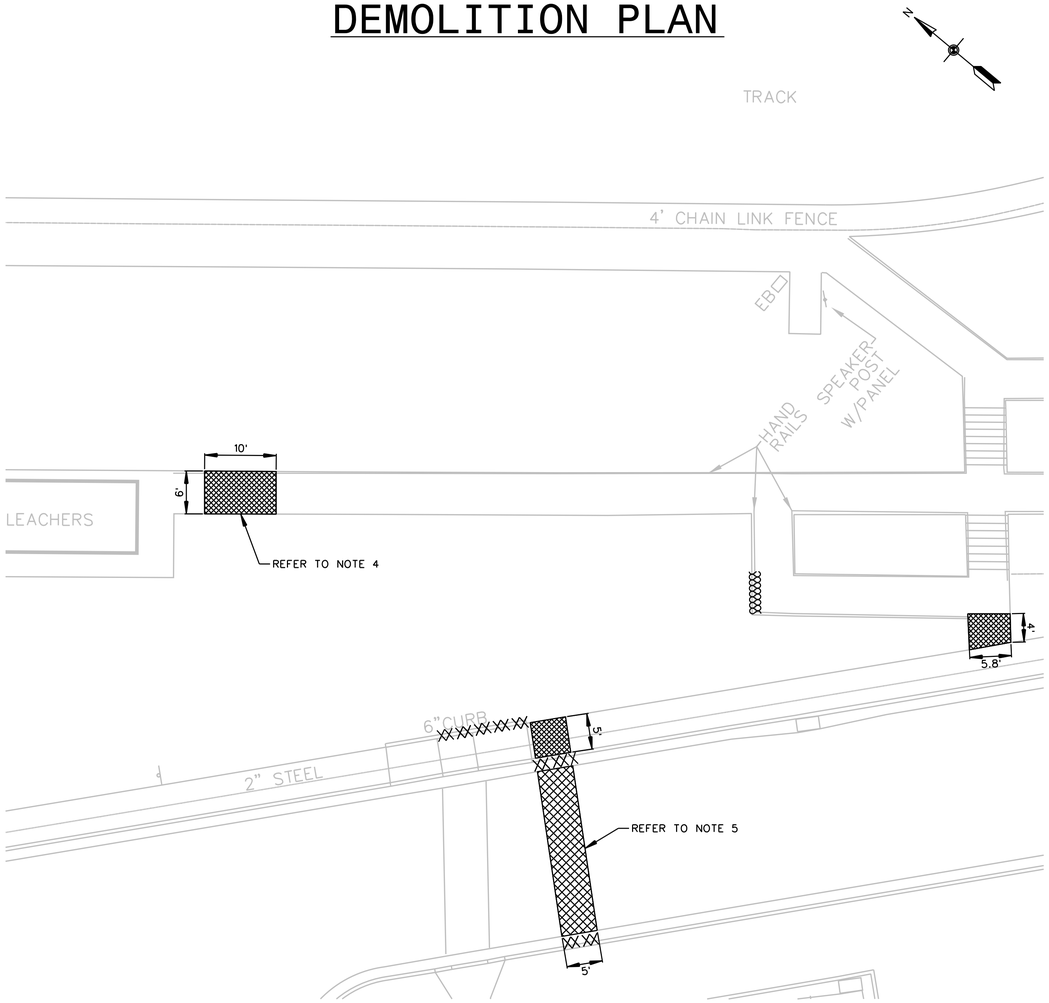
TOPOGRAPHIC SURVEY
FOR
ROCK HILL SCHOOLS
SULLIVAN MIDDLE SCHOOL
ROCK HILL YORK COUNTY SOUTH CAROLINA

REVISED 01/05/20: ADDED GAS LINE INFO.	
DWN.BY:	JH
CKD.BY	JMS
FIELDBOOK	N/A
PLS NO.	19020

Donaldson Garrett & Associates, Inc.
MACON ■ CHARLOTTE
9741-L SOUTHERN PINE BOULEVARD
CHARLOTTE, N.C. 28273
(704) 374-1905
http://www.dg-a.com
John.Story@dg-anc.com
NC CORPORATE LICENSE NO. C-1518

DATE: 12/13/2019
SCALE: 1"=20'
PROJECT NO. 5320-031-N1
DRAWNG NO. NC-047-19-D

DEMOLITION PLAN



10 5 0 10 20
SCALE: 1" = 10'

DEMOLITION NOTES:

1. ALL DEBRIS FROM DEMOLITION SHALL BE REMOVED FROM THE SITE & DISPOSED IN ACCORDANCE WITH LOCAL, STATE & FEDERAL REQUIREMENTS.

2. COORDINATE RELOCATION & REMOVAL OF EXISTING UTILITIES WITH UTILITY OWNERS.

3. SAW CUT AND REMOVE A 2' MIN. WIDE STRIP OF ASPHALT PAVEMENT AND AGGREGATE BASE COURSE WHERE CURB AND GUTTER SECTION IS TO BE REMOVED. WHERE EXISTING CURB HAS TIGHT RADII, SAW CUT OF PAVEMENT SHALL BE SQUARED OFF INSTEAD OF FOLLOWING GUTTER RADIUS.

4. REFER TO SITE PLAN ON THIS SHEET FOR LOCATION OF SIDEWALK REMOVAL.

5. REFER TO UTILITY PLAN (SHEET C4.0) FOR LOCATION OF SIDEWALK, CURB, AND ASPHALT PAVEMENT REMOVAL. WIDTH OF AREA REMOVED TO BE CENTERED ON SANITARY SEWER SERVICE.

LEGEND

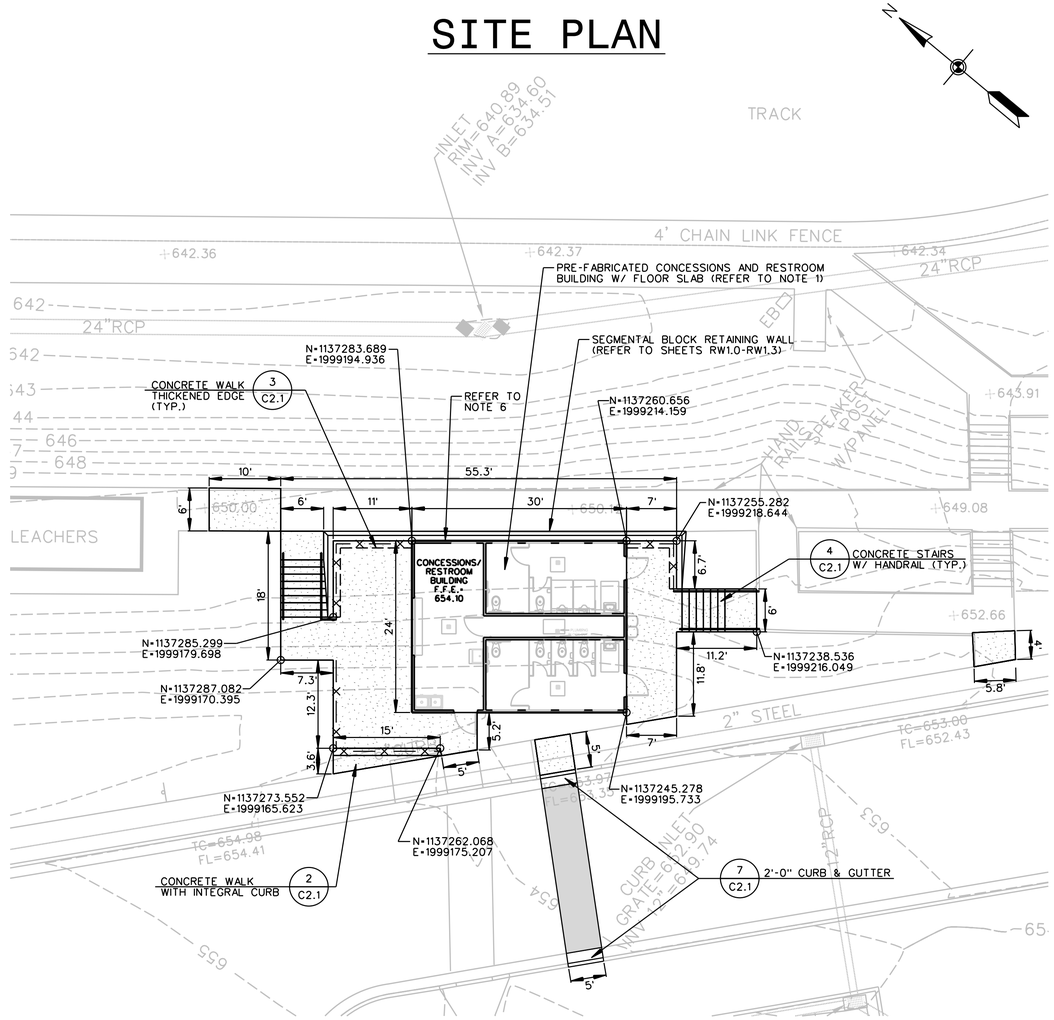
SAW CUT & REMOVE EXISTING ASPHALT PAVEMENT & AGGREGATE BASE COURSE

SAW CUT & REMOVE CONCRETE SIDEWALK

SAW CUT & REMOVE CONCRETE CURB — xxxxxxxxxx

REMOVE HANDRAIL

SITE PLAN



10 5 0 10 20
SCALE: 1" = 10'

STAKING NOTES:

1. PRE-FABRICATED CONCESSIONS AND RESTROOM BUILDING W/ FLOOR SLAB IS PART OF BID PACKAGE 2. CONTRACTOR TO COORDINATE WITH BUILDING CONTRACTOR ON THE INSTALLATION OF PRE-FABRICATED BUILDING.

2. ALL DIMENSIONS ARE TO BACK OF CURB WHERE CURB AND GUTTER IS SHOWN, TO FACE OF BUILDING, TO EDGE OF PAVEMENT, OR TO PROPERTY LINE UNLESS OTHERWISE NOTED.

3. ALL DIMENSIONS ARE 90 DEGREES UNLESS OTHERWISE NOTED.

4. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS.

5. ALL FENCING, POST, RAILS, AND HARDWARE ARE TO BE BLACK VINYL COATED.

6. PLACE ½" EXPANSION JOINT BETWEEN TOP OF SEGMENTAL BLOCK RETAINING WALL AND WALL OF PREFABRICATED BUILDING PER DETAIL 5 ON SHEET C2.1. CONTRACTOR TO ATTACH TO RETAINING WALL PRIOR TO PLACEMENT OF PRE-FABRICATED BUILDING IN BID PACKAGE 2.

LEGEND

2/C2.1 CONCRETE SIDEWALK

6/C2.1 FULL DEPTH PAVEMENT REPAIR

1/C2.1 4' VINYL COATED CHAIN LINK FENCE (REFER TO NOTE 5) — X — X —

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Consulting Engineers since 1974

156 OAKLAND AVENUE, ROCK HILL, SC 29730
(803) 327-7121 WWW.CAMPCOENGINEERING.COM

SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

DEMOLITION & SITE PLAN

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 12879 MICHAEL F. HUNTLEY

CAMPCO ENGINEERING, INC. No. C00602 CERTIFICATE OF AUTHORIZATION

02-07-2020

CE: 9697-FH	ISSUED: 02-07-2020
SCALE: 1"=10'	9697-FHDMSTC2.0

C2.0

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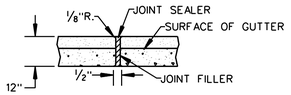
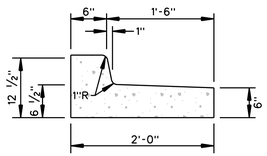
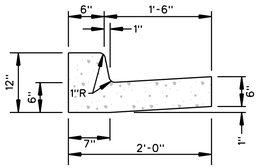
2/7/2020



TRANSVERSE EXPANSION JOINT
IN CURB AND GUTTER



CURB AND GUTTER (REVERSE SLOPE)
(TO BE USED WHEN LANES
ARE SLOPED FROM ISLAND)

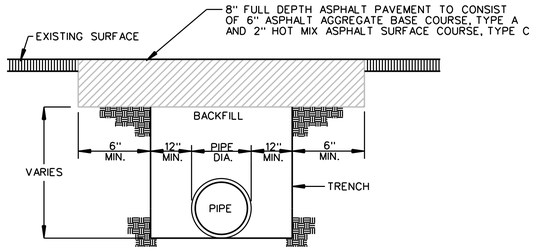


CURB AND GUTTER

GENERAL NOTES:

1. EXPANSION JOINTS SHALL BE ADJACENT TO ALL RIGID OBJECTS.
2. JOINTS SHALL MATCH LOCATIONS WITH JOINT IN ABUTTING SIDEWALK.
3. CONCRETE SHALL BE 3000 P.S.I.

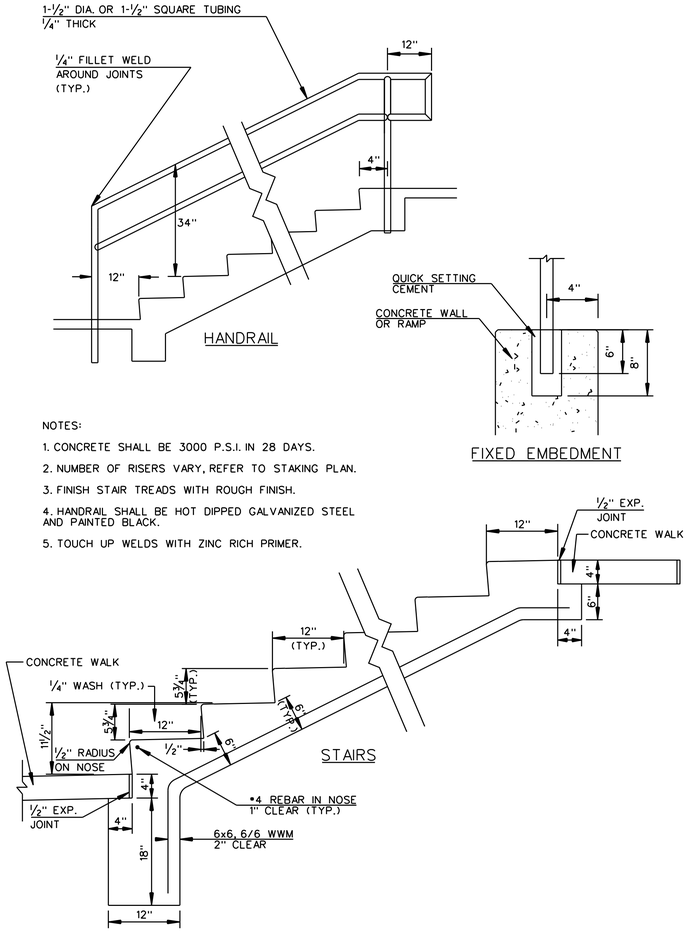
7 / C2.1 NTS — *CURB AND GUTTER*



NOTES:

1. EXISTING PAVEMENT SHALL BE CUT IN NEAT LINES.
2. BACKFILL SHALL BE "FLOWABLE FILL" FOR ROADWAY CROSSINGS AND STEEL PLATED FOR A MINIMUM OF 7 DAYS.

6 / C2.1 NTS — *PAVEMENT REPAIR*

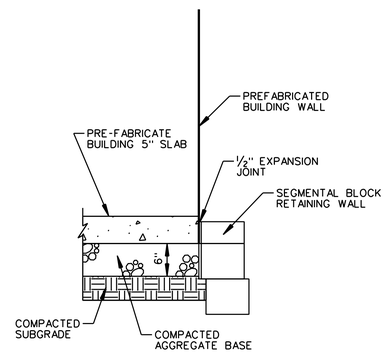


FIXED EMBEDMENT

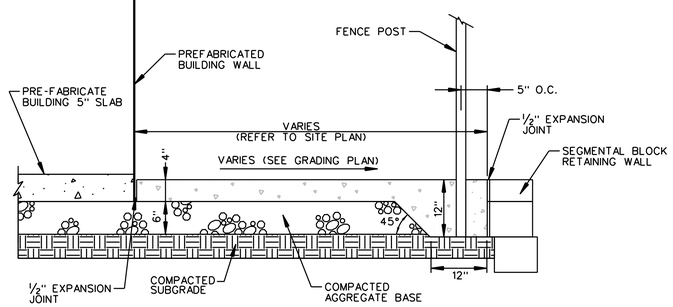
NOTES:

1. CONCRETE SHALL BE 3000 P.S.I. IN 28 DAYS.
2. NUMBER OF RISERS VARY, REFER TO STAKING PLAN.
3. FINISH STAIR TREADS WITH ROUGH FINISH.
4. HANDRAIL SHALL BE HOT DIPPED GALVANIZED STEEL AND PAINTED BLACK.
5. TOUCH UP WELDS WITH ZINC RICH PRIMER.

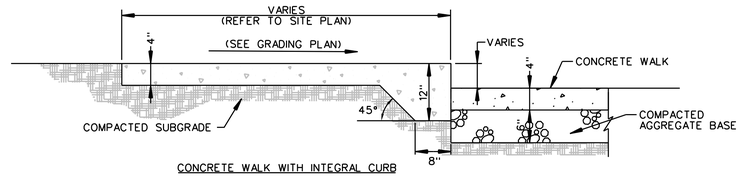
4 / C2.1 NTS — *CONCRETE STAIRS WITH HANDRAIL*



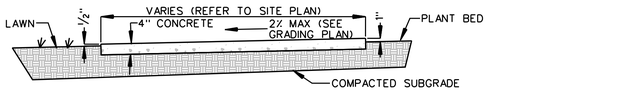
5 / C2.1 NTS — *PRE-FABRICATED BUILDING AT RETAINING WALL*



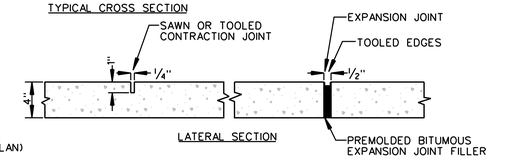
3 / C2.1 NTS — *CONCRETE WALK THICKENED EDGE AT RETAINING WALL*

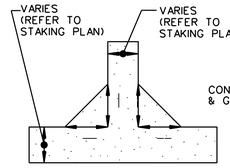


CONCRETE WALK WITH INTEGRAL CURB

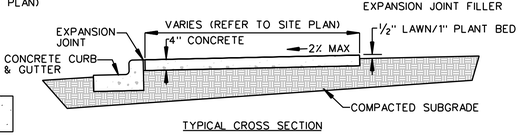


TYPICAL CROSS SECTION





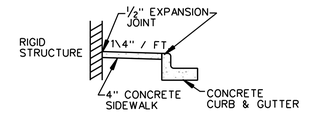
SIDEWALK CHAMFER



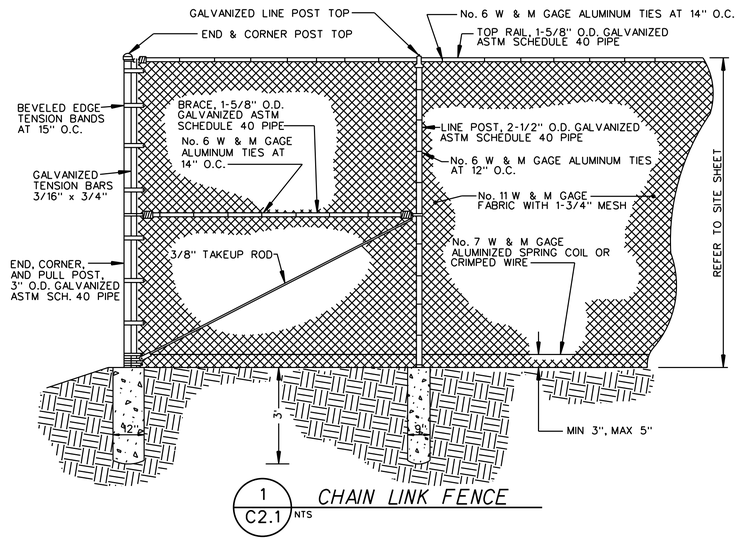
TYPICAL CROSS SECTION

GENERAL NOTES:

1. A GROOVE JOINT 1" DEEP WITH A 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT IS REQUIRED AT 45' INTERVALS. A 1/2" EXPANSION JOINT IS REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
2. CONCRETE SHALL BE 3000 P.S.I. IN 28 DAYS.



2 / C2.1 NTS — *CONCRETE WALK*



1 / C2.1 NTS — *CHAIN LINK FENCE*

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2. MATERIALS, DIMENSIONS, AND ALL OTHER CONDITIONS WHICH ARE NOT OTHERWISE DEFINED ON THIS DRAWING SHALL BE CONSTRUED AS HAVING THE SAME MEANING AS SIMILARLY INDICATED CONDITIONS WHICH ARE MORE FULLY DEFINED ELSEWHERE ON THIS PROJECT OR OTHER DRAWINGS ON THIS PROJECT.

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SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

SITE DETAILS

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 12879 MICHAEL FRY

CAMPCO ENGINEERING, INC. No. C00602 CERTIFICATE OF AUTHORIZATION

02-07-2020

CE: 9697-FH	ISSUED: 02-07-2020
SCALE: NA	CAD FILE: 9697-FHDTC2.1

C2.1

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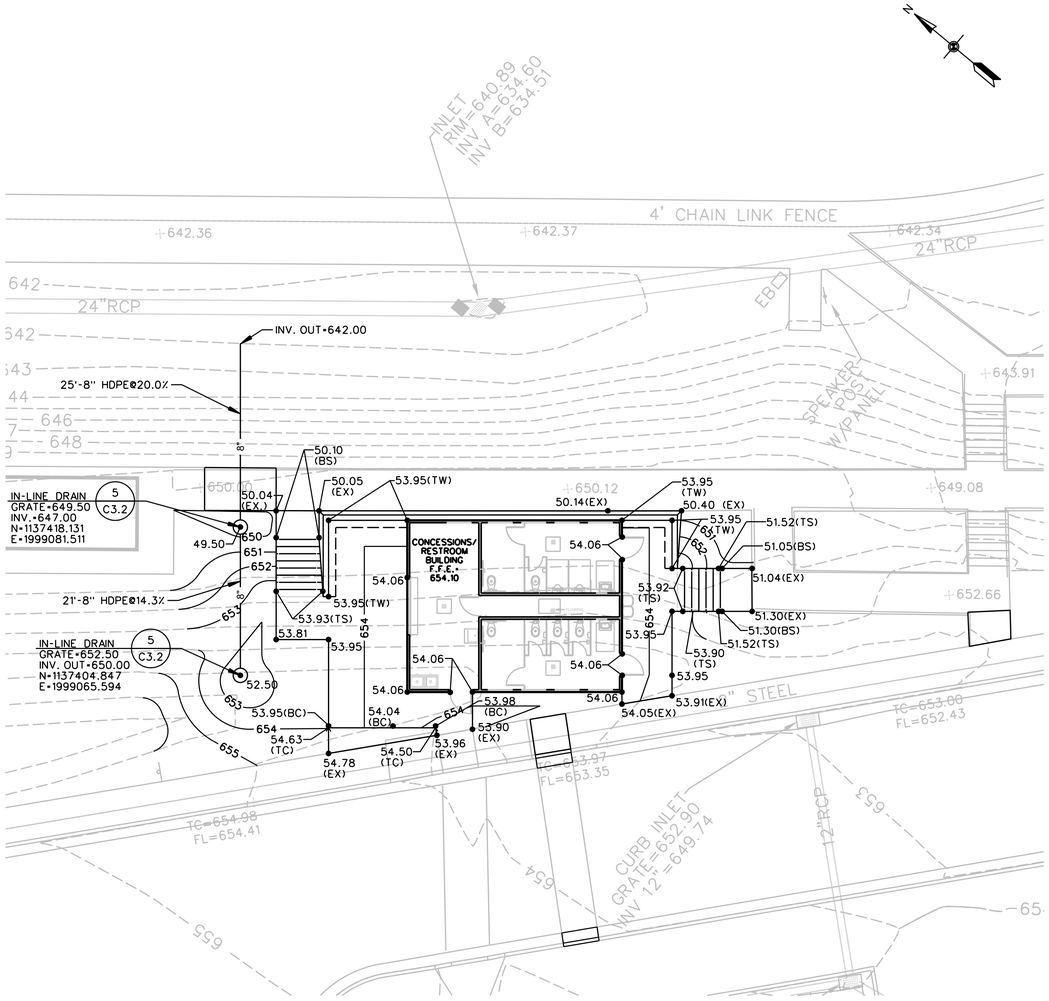
2/7/2020

GRADING/DRAINAGE PLAN



GRADING NOTES:

1. CONTOURS ARE TO FINISH GRADE.
2. GRADE LANDSCAPE AREAS OUTSIDE PAVEMENT AND GRAVEL TO ELEVATION OF 6" BELOW FINISHED GRADE MINIMUM, SUCH THAT TOPSOIL MAY BE SPREAD OVER THESE AREAS TO FINISHED GRADE.
3. GRADE AND FINISH AREAS SUCH THAT POSITIVE DRAINAGE OCCURS AT EACH DRAINAGE INLET AS DESIGNED.
4. ALL SPOT ELEVATIONS AROUND INTEGRAL CURB ARE TOP OF CURB AND ARE IDENTIFIED AS "X".
5. FINISHED GRADE SPOT ELEVATIONS ARE IDENTIFIED AS ●.
6. ADD 600 TO ALL SPOT ELEVATIONS UNLESS OTHERWISE NOTED.
7. SURFACE ELEVATION OF AGGREGATE BASE COURSE UNDER PREFABRICATED BUILDING SHALL BE SET AT 5" BELOW FINISHED FLOOR ELEVATION (F.F.E.).
8. CONTRACTOR TO CONFIRM EXISTING ELEVATIONS AND NOTIFY ENGINEER WITH DISCREPANCIES.

STORM DRAINAGE RECORD PLAN REQUIRED DATA:

1. AT PROJECT'S COMPLETION, CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A RECORD PLAN SURVEY OF THE PROJECT'S CLOSED DRAINAGE SYSTEM. THE RECORD PLAN SURVEY SHOULD BE COMPLETED BY A LICENSED LAND SURVEYOR AND INCLUDE THE FOLLOWING INFORMATION:
   a. ALL NEW CLOSED DRAINAGE STRUCTURES SHALL IDENTIFY THE STRUCTURE'S RIM/HOOD/GRATE ELEVATION, ALL INVERT-IN ELEVATION(S), AND INVERT-OUT ELEVATION.
   b. ALL NEW CLOSED DRAINAGE SYSTEM PIPES SHALL IDENTIFY PIPE'S LENGTH, DIAMETER, MATERIAL, AND SLOPE.

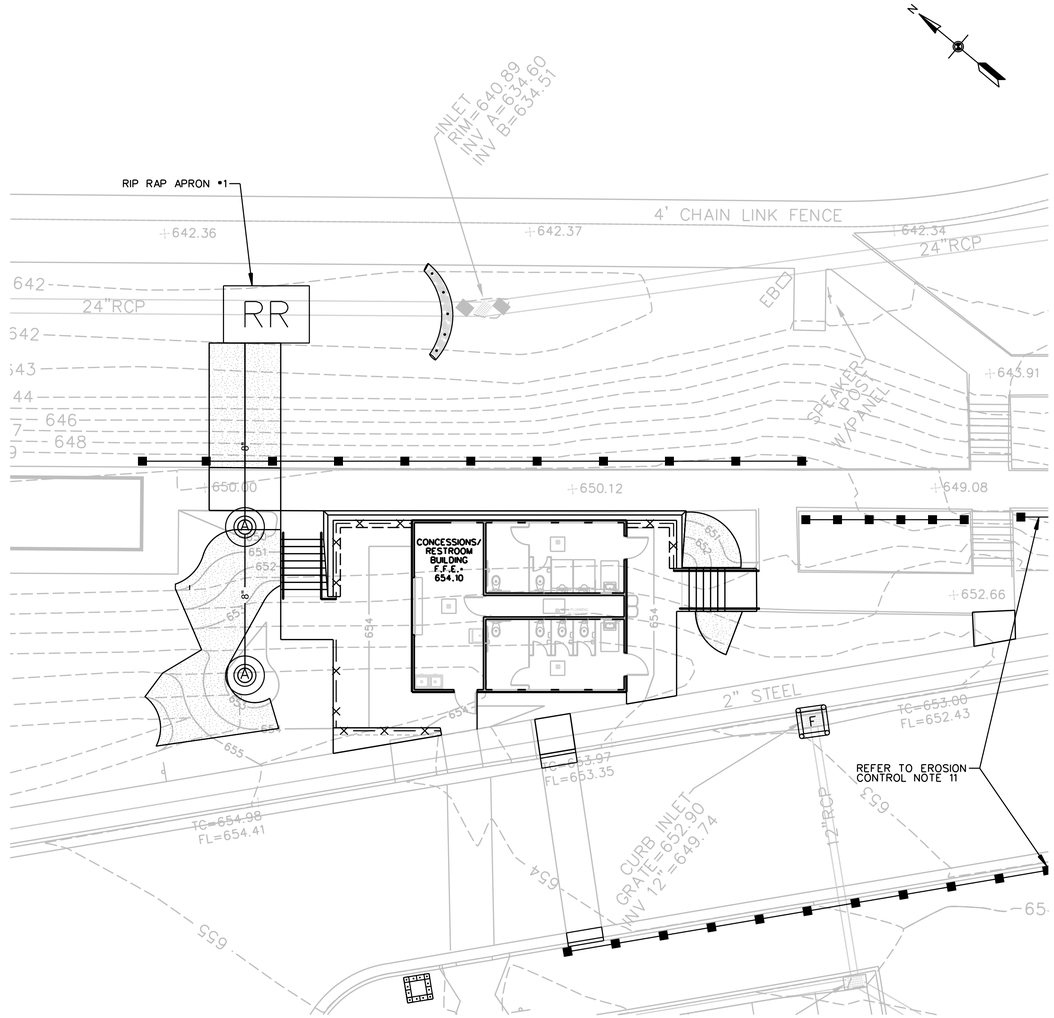
LEGEND

(EX.)	EXISTING ELEVATION (REFER TO GRADING NOTE 8)
(TC)	TOP OF INTEGRAL CURB
(BC)	BOTTOM OF INTEGRAL CURB
(TS)	TOP OF STEP
(BS)	BOTTOM OF STEP
(TW)	TOP OF WALL

STORM DRAINAGE NOTES:

1. THE PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF STRUCTURES.
2. COORDINATE LOCATION FOR DRAINAGE STRUCTURES IS CENTER OF STRUCTURE.

EROSION CONTROL PLAN



EROSION CONTROL NOTES:

1. LOCATION OF EXISTING UTILITIES AND OTHER SITE FEATURES SHALL BE FIELD VERIFIED PRIOR TO INITIATING CONSTRUCTION ACTIVITIES. THE ENGINEER SHALL BE NOTIFIED WITH ANY DISCREPANCIES.
2. AREA OF DISTURBANCE: 0.15 ACRES
3. REFER TO SHEET C3.2 AND SPECIFICATIONS FOR GRASSING REQUIREMENTS.
4. EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE SCDHEC STORM WATER MANAGEMENT BMP HANDBOOK.
5. CONTRACTOR SHALL INSTALL ADDITIONAL MEASURES TO CONTROL EROSIONAND/OR OFF- SITE SEDIMENT AS REQUIRED BY SCDHEC AND/OR THE LOCAL GOVERNING AGENCY.
6. REFER TO ACCOMPANYING PROJECT MANUAL FOR ADDITIONAL INFORMATION, THIS SHEET FOR EROSION CONTROL CONSTRUCTION SCHEDULE, AND SHEET C3.2 FOR EROSION CONTROL MAINTENANCE SCHEDULE/STANDARD NOTES.
7. THERE IS NO FLOOD PLAIN PRESENT ON THIS SITE. FIRM PANEL NO. 45091C0309E, COMMUNITY: YORK COUNTY, DATED: 09-26-08
8. SLOPE PROTECTION MATTING SHALL BE SC 150 AS MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL. MATTING SHALL BE INSTALLED ON ALL SLOPES 4:1 AND STEEPER IN ACCORDANCE TO THE MANUFACTURERS REQUIREMENTS.
9. REFER TO SHEET C4.0 FOR EROSION CONTROL MEASURE FOR OFF- SITE UTILITIES.

EROSION CONTROL CONSTRUCTION SCHEDULE

1. OBTAIN SEDIMENT AND EROSION CONTROL PERMIT FROM SCDHEC AND CITY OF ROCK HILL.
2. CLEAR AND GRUB AREAS FOR INSTALLATION OF PERIMETER CONTROLS.
3. INSTALL SEDIMENT FENCE AND EXISTING INLET PROTECTIONS.
4. SCHEDULE AND ON-SITE CONFERENCE WITH THE OWNER'S REPRESENTATIVE AND CITY OF ROCK HILL INSPECTOR, IF REQUIRED BY THE PERMIT.
5. CLEAR AND GRUB REMAINDER OF SITE.
6. BEGIN SITE GRADING.
7. INSTALL RETAINING WALL.
8. GRADE BUILDING PAD AND SIDEWALK AREAS.
9. INSTALL UTILITIES.
10. SET PREFABRICATED BUILDING AND INSTALL SIDEWALKS AND STAIRS.
11. FINE GRADE AROUND CONCRETE AREAS TO DRAIN.
12. APPLY STABILIZATION MEASURES (PERMANENT SEEDING) AND SLOPE PROTECTION MATTING AS SOON AS GRADING IS COMPLETE (REFER TO MAINTENANCE SCHEDULE).
13. AFTER SITE IS STABILIZED, ACQUIRE PERMISSION FROM OWNER'S REPRESENTATIVE AND CITY OF ROCK HILL REPRESENTATIVES, TO REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES. REPAIR AND STABILIZE DISTURBED AREAS.

LEGEND

3 / C3.1	SEDIMENT TUBE
2 / C3.1	SILT FENCE
5 / C3.1	TYPE A - SEDIMENT TUBE INLET PROTECTION
4 / C3.1	TYPE F - INLET TUBE
4 / C3.2	SLOPE PROTECTION MATTING (REFER TO NOTE 8)
1 / C3.2	RIPRAP APRON
1 / C3.1	CONCRETE WASHOUT

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SULLIVAN MIDDLE SCHOOL
ATHLETIC CONCESSIONS
AND RESTROOM BUILDING
ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

GRADING/DRAINAGE & EROSION CONTROL PLAN

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 12879 MICHAEL F. [illegible]
02-07-2020

SOUTH CAROLINA CAMPCO ENGINEERING, INC. No. C00602 CERTIFICATE OF AUTHORIZATION

CE: 9697-FH	ISSUED: 02-07-2020
SCALE: 1"=10'	CAD FILE: 9697-FHGPECC3.0

C3.0

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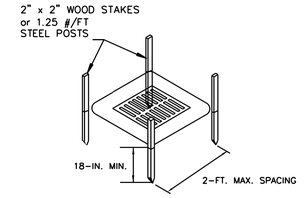
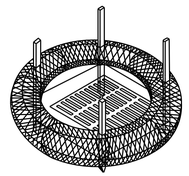
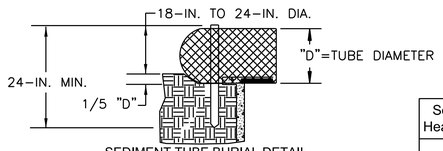
2/7/2020



POST INSTALLATION DETAIL



SEDIMENT TUBE INSTALLATION DETAIL



SEDIMENT TUBE BURIAL DETAIL

PLAN SYMBOL

South Carolina Department of Health and Environmental Control

Type A
SEDIMENT TUBE INLET PROTECTION

STANDARD DRAWING NO. SC-07A PAGE 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

TYPE A – SEDIMENT TUBE INLET PROTECTION

GENERAL NOTES

1. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch–filled sediment tubes are not permitted.
2. The outer netting of the sediment tube should consist of seamless, high–density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high–density polyethylene non–degradable material.
3. Sediment tube diameters shall range from 18–inches to 24–inches. Sediment tunes with smaller diameters are prohibited when used as inlet protection.
4. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
5. Sediment tubes should be staked using wooden oak stakes (2–inch X 2–inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48–inches in length placed on 2–foot centers.
6. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufactuer's recommendations should always be consulted before installation.
7. The ends of adjacent sediment tubes should be overlapped 6–inches to prevent flow and sediment from passing through the field joint.
8. Sediment tubes should not be stacked on top of one another.
9. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
10. Install stakes at a diagonal facing incoming runoff.

INSPECTION & MAINTENANCE

1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of sediment tube inlet protection shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the sediment tube. When a sump is installed in front of the inlet protection, sediment shall be removed when if fills approximately 1/3 the depth of the sump.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of tubes when found.
7. Inlet protection structures should be removed after the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately.

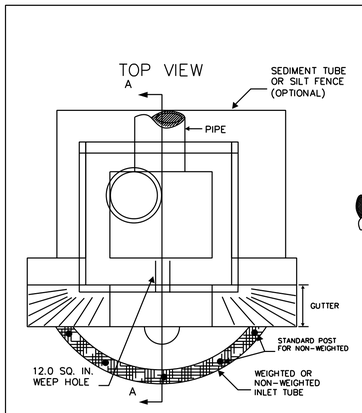
South Carolina Department of Health and Environmental Control

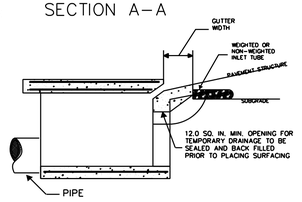
Type A
SEDIMENT TUBE INLET PROTECTION

STANDARD DRAWING NO. SC-07A PAGE 2 of 2

NOT TO SCALE FEBRUARY 2014 DATE

5 / C3.1 *TYPE A SEDIMENT TUBE INLET PROTECTION*
NTS





PLAN SYMBOL

South Carolina Department of Health and Environmental Control

Type F
INLET TUBES

STANDARD DRAWING NO. SC–11 PAGE 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

TYPE F – INLET TUBES INLET PROTECTION

GENERAL NOTES

1. Inlets tubes should be composed of compacted geotextiles, curled excelsior wood, natural coconut fibers, a hardwood mulch, or a mix of these materials enclosed by a flexible netting material.
2. Inlets tubes should utilize an outer netting that consists of seamless, high–density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high–density polyethylene non–degradable material. Curled wood excelsior fiber, or natural coconut fiber rolled erosion control products rolled up to create an inlet tube device are not allowed.
3. Do not use straw, straw fiber, straw bales, pine needles, or leaf mulch as fill material within inlet tubes.
4. Weighted inlet tubes must be capable of staying in place without external stabilization measures and may have a weighted inner core or other weighted mechanism to keep them in place.
5. Install weighted tubes lying flat on the ground, with no gaps between the underlying surface and the inlet tube. Do not stack inlet tubes. Do not completely block inlet with tube.
6. Non–weighted inlet tubes require staking or other stabilization methods to keep them safely in place.
7. Overflow or overtopping of inlet tubes must be allowed to flow into inlet unobstructed.
8. To avoid possible flooding, two or three concrete cinder blocks may be placed between the tube and the inlet.

INSPECTION AND MAINTENANCE

1. The key to functional inlet protection is weekly inspection, routine maintenance, and regular sediment removal.
2. Regular inspections of all inlet protection shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall event that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations in front of the inlet protection is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the blocks. If a sump is used, sediment should be removed when it fills approximately 1/3 the depth of the hole.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of tubes when found.
7. Replace inlet tube when damaged or as recommended by manufacturer's specifications.
8. Inlet protection structures should be removed after the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately.

South Carolina Department of Health and Environmental Control

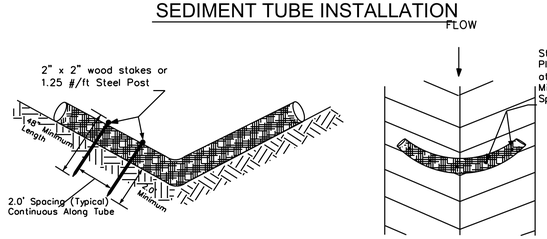
Type F
INLET TUBES

STANDARD DRAWING NO. SC–11 PAGE 2 of 2

GENERAL NOTES FEBRUARY 2014 DATE

4 / C3.1 *TYPE F INLET TUBES*
NTS

SEDIMENT TUBE INSTALLATION



SEDIMENT TUBE SPACING

SLOPE	MAX. SEDIMENT TUBE SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

PLAN SYMBOL

South Carolina Department of Health and Environmental Control

SEDIMENT TUBES

STANDARD DRAWING NO. SC–05 PAGE 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

SEDIMENT TUBES – GENERAL NOTES

1. Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off–site discharge of sediment–laden stormwater runoff.
2. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch–filled sediment tubes are not permitted.
3. The outer netting of the sediment tube should consist of seamless, high–density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high–density polyethylene non–degradable material.
4. Sediment tubes, when used as checks within channels, should range between 18–inches and 24–inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.
5. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
6. Sediment tubes should be staked using wooden stakes (2–inch X 2–inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48–inches in length placed on 2–foot centers.
7. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before installation.
8. The ends of adjacent sediment tubes should be overlapped 6–inches to prevent flow and sediment from passing through the field joint.
9. Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.
10. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
11. Sediment tubes should continue up the side slopes a minimum of 1–foot above the design flow depth of the channel.
12. Install stakes at a diagonal facing incoming runoff.

SEDIMENT TUBES – INSPECTION & MAINTENANCE

1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the sediment tube.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of tubes when found.
7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.
8. Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

South Carolina Department of Health and Environmental Control

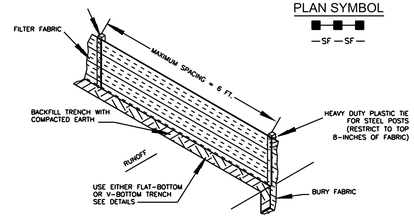
SEDIMENT TUBES

STANDARD DRAWING NO. SC–05 PAGE 2 of 2

GENERAL NOTES FEBRUARY 2014 DATE

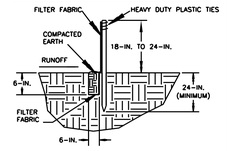
3 / C3.1 *SEDIMENT TUBES*
NTS

SILT FENCE INSTALLATION

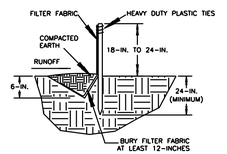


PLAN SYMBOL

FLAT–BOTTOM TRENCH DETAIL



V–SHAPED TRENCH DETAIL



SILT FENCE – GENERAL NOTES

1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100–feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
   - Wrap each fabric together at a support post with both ends fastened to the post, with a 1–foot minimum overlap;
   - Overlap silt fence by installing 3–feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy–duty plastic ties; or,
   - Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy–duty plastic ties that are evenly spaced within the top 8–inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie–Backs) every 50–100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

SILT FENCE – POST REQUIREMENTS

1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
   - Composed of a high strength steel with a minimum yield strength of 50,000 psi.
   - Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
   - Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17–square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24–inches. A minimum height of 1– to 2–inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6–feet on center.

SILT FENCE – FABRIC REQUIREMENTS

1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
   - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
   - Free of any treatment or coating which might adversely alter its physical properties after installation;
   - Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
   - Have a minimum width of 36–inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

SILT FENCE – INSPECTION & MAINTENANCE

1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie–backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

South Carolina Department of Health and Environmental Control

SILT FENCE

STANDARD DRAWING NO. SC–03 Page 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

South Carolina Department of Health and Environmental Control

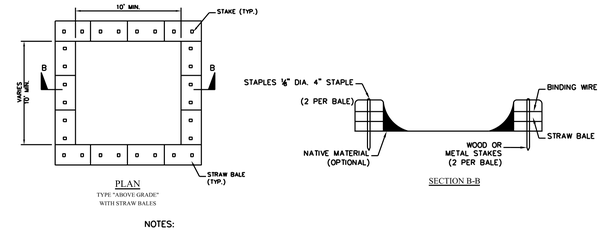
SILT FENCE

STANDARD DRAWING NO. SC–03 PAGE 2 of 2

GENERAL NOTES FEBRUARY 2014 DATE

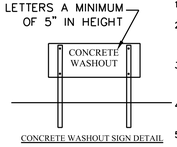
2 / C3.1 *SILT FENCE*
NTS

STRAW BALE BARRIER CONCRETE WASHOUT



NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.
4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL.
5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT.
6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.
7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.



CONCRETE WASHOUT SIGN DETAIL

South Carolina Department of Health and Environmental Control

CONCRETE WASHOUT
STRAW BALES OR ABOVE GROUND

STANDARD DRAWING NO. RC–07 PAGE 1 of 1

NOT TO SCALE FEBRUARY 2014 DATE

1 / C3.1 *CONCRETE WASHOUT*
NTS

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ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

DRAINAGE & EROSION CONTROL DETAILS

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 12879 MICHAEL F. HUGGINS

SOUTH CAROLINA CAMPCO ENGINEERING, INC. No. C00602 CERTIFICATE OF AUTHORIZATION

02-07-2020

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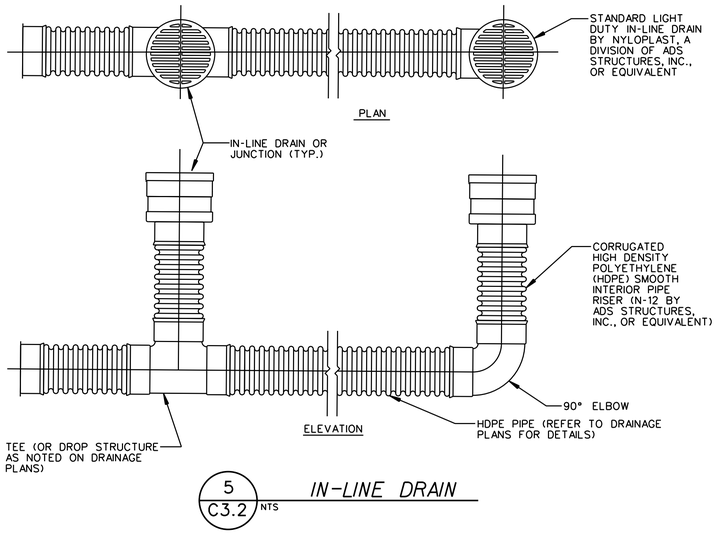
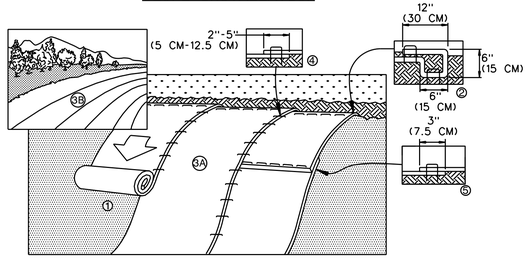


5 C3.2 NTS *IN-LINE DRAIN*

SLOPE INSTALLATION



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NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED PAPER SIDE DOWN.

2. BEGIN AT THE TOP OF THE SLOPE ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.

3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM- 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.

5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO SECURE THE RECP'S.

4 3.2 NTS *SLOPE PROTECTION MATTING INSTALLATION*

1. IF NECESSARY, SLOPES WHICH EXCEED EIGHT (8) FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED,EXCEPT AS STATED BELOW.
   -WHERE STABILIZATION BY THE 14th DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
   -WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN (14) DAYS,TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE-HALF(0.5) INCH. IF SITE INSPECTIONS OR OTHER INFORMATION IDENTIFY BMP'S THAT ARE DAMAGED, INAPPROPRIATELY OR INCORRECTLY INSTALLED, OR NOT OPERATING EFFECTIVELY, THEN MAINTENANCE MUST BE PERFORMED AS SOON AS PRACTICAL, OR AS REASONABLY POSSIBLE AND NO LESS THAN 48 HOURS FROM THE TIME OF IDENTIFICATION (PREFERABLY BEFORE THE NEXT STORM EVENT).

4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY STORMWATER SYSTEMS, WATER COURSES, AND WATERS OF THE STATE (WoS) OR WATERS OF THE UNITED STATES (WoU.S.).

5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFF-SITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

8. ALL WoS OR WoU.S., INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SLIT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CANNOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WoS AND A 130-FOOT MINIMUM BUFFER FOR WoU.S. A 25-FOOT NO DISTURBANCE ZONE SHALL BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WoS AND A MINIMUM 50-FOOT NO DISTURBANCE ZONE FOR WoU.S. BUFFERS AND NO DISTURBANCE ZONES SHALL BE MEASURED FROM TOP OF CREEK BANK.

9. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.

10. A COPY OF THE SWPPP (INCLUDING CIVIL CONSTRUCTION PLANS AND SUPPORTING DOCUMENTS), INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF SEVEN (7) CALENDAR DAYS.

12. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE AND STOCKPILE TOPSOIL FOR REUSE.

13. WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FROM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS; FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

14. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

15. IF EXISTING BMP'S NEED TO BE MODIFIED OR IF ADDITIONAL BMP'S ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMP'S MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.

16. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

17. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.

18. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMP'S (SEDIMENT BASIN, FILTER BAG, ETC.).

19. CONCRETE TRUCKS SHALL NOT TYPICALLY BE WASHED OUT ON SITE. IF CONCRETE TRUCK WASHOUT IS PERMITTED ON SITE, COORDINATE LOCATION AND BMP'S WITH SITE INSPECTOR.

20. DO NOT DISPOSE OF CONCRETE TRUCK WASHOUT WASTE BY DUMPING INTO A SANITARY SEWER, STORM DRAIN OR ONTO SOIL OR PAVEMENT THAT CARRIES STORM WATER RUNOFF.

21. CONCRETE TRUCK WASHOUT SHALL BE DISPOSED OF IN ACCORDANCE WITH THE FOLLOWING:
   -DESIGNATED AREA THAT WILL LATER BE BACKFILLED (SLURRY PIT).
   -DESIGNATED AREA WHERE CONCRETE WASH CAN HARDEN AND BE DISPOSED OF AS SOLID WASTE.
   -LOCATION THAT IS NOT SUBJECT TO WATER RUNOFF, AND MORE THAN 50-FEET AWAY FROM A STORM DRAIN, OPEN DITCH, OR RECEIVING WATER WAY.
   -PUMP EXCESS CONCRETE IN CONCRETE PUMP BIN BACK INTO CONCRETE MIXER TRUCK.
   -CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFF-SITE.

22. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
   -WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL.
   -WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURSING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS.
   -FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
   -SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

23. ALL CHEMICAL SPILLS, OIL SPILLS, OR FISH KILLS MUST BE REPORTED TO SCDHEC LAND & WASTE MANAGEMENT EMERGENCY RESPONSE, CALL THE 24-HOUR EMERGENCY RESPONSE LINE AT 1-888-481-0125.

24. TEMPORARY TOILET FACILITIES SHALL BE PROVIDED FOR ALL CONSTRUCTION WORKERS AND SITE VISITORS IN ACCORDANCE WITH 2006 INTERNATIONAL PLUMBING CODE GENERAL REGULATIONS, SECTION 311. PORTABLE FACILITIES SHALL BE PLACED ON LEVEL GROUND AND AWAY FROM STORM DRAINAGE SYSTEMS (DITCHES, CATCH BASINS, ETC.). DISPOSAL AND HANDLING OF SANITARY WASTE MUST COMPLY WITH SCDHEC REQUIREMENTS.

25. FINAL GRADES FOR GRASSED AND LANDSCAPED AREAS SHALL REQUIRE A MINIMUM OF 4"-6" OF CLEAN TOPSOIL, FREE OF DEBRIS AND CONTAMINANTS, AND PREFERABLY OF NATIVE ORIGIN.

26. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE AND AT THE INLET PROTECTION SEDIMENT FENCE WHEN IT BECOMES ABOUT 0.5-FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

27. ALL SEEDED AREAS SHALL BE FERTILIZED, RE-SEEDED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS TO MAINTAIN A VIGOROUS, DENSE VEGETATION COVER.

28. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION.

3 C3.2 *EROSION CONTROL MAINTENANCE SCHEDULE/STANDARD NOTES*

SEEDBED PREPARATION NOTES:

1. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLAN.

2. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3-INCHES DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4-INCHES TO 6-INCHES DEEP.

3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION AT FINISHED GRADES SHOWN, SHALL BE REASONABLY SMOOTH AND UNIFORM.

4. FERTILIZER AND LIME TO BE APPLIED UNIFORMLY AND MIXED WITH SOIL DURING SEEDBED PREPARATION.

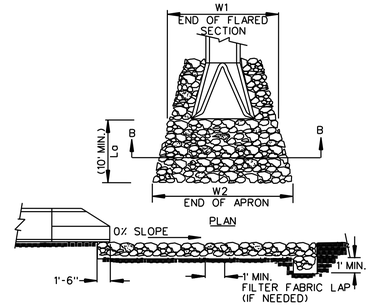
5. GRASS SEED SHALL BE "REBEL" FESCUE MIXTURE WITH A 97% MINIMUM PURITY AND 85% MINIMUM GERMINATION AND BE FREE OF NOXIOUS WEED SEEDS.

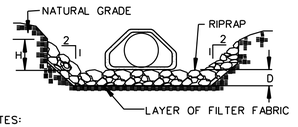
SEEDING REQUIREMENTS: (SEED IN ACCORDANCE WITH THE FOLLOWING APPLICATION RATES)

350	LBS./AC REBEL FESCUE
4000	LBS./AC AGRICULTURAL LIME
1000	LBS./AC 10-10-10 FERTILIZER
500	LBS./AC 0-20-0 SUPERPHOSPHATE
1-1/2	T./AC STRAW MULCH
225	GAL./AC ASPHALT TIE-DOWN
WORK LIME FERTILIZER INTO SOIL 3" TO 4" DEEP.	

NOTE: IN AREAS THAT WILL NOT BE WELL MAINTAINED, ALSO ADD 50 LBS./AC UNSCARIFIED SERICEA LESPEDEZA (AUGUST THROUGH NOVEMBER) OR 40 LBS./AC SCARIFIED SERICEA LESPEDEZA (DECEMBER THROUGH JULY).

2 C3.2 *PERMANENT SEEDING SPECIFICATIONS*





NOTES:

MINIMUM H=2/3 PIPE DIAMETER FOR APRONS NOT IN DEFINED CHANNELS
MINIMUM H=PIPE DIAMETER = 12" FOR APRONS IN DEFINED CHANNELS

SECTION B-B

NOTES:

1. CLASS "A" RIPRAP.

2. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.

3. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSTREAM END.

4. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.

5. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.

6. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.

7. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.

8. DEPENDING ON SOIL CONDITIONS, WASHED STONE OR FILTER FABRIC WILL BE NECESSARY UNDER RIPRAP.

9. ANY DISTURBED AREA FROM END OF APRON TO RECEIVING CHANNEL MUST BE STABILIZED.

DATA BLOCK

APRON	D50	La	W1	W2	D	H
1	8"	12'	8'	8'	18"	12"

1 C3.2 NTS *RIPRAP APRON AT PIPE OUTLETS*

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SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

DRAINAGE & EROSION CONTROL DETAILS

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 12879 MICHAEL FH
SOUTH CAROLINA CAMPCO ENGINEERING, INC. No. COA602 CERTIFICATE OF AUTHORIZATION
02-07-2020

CE: 9697-FH	ISSUED: 02-07-2020
SCALE: NA	CAD FILE: 9697-FHDTC3.2

C3.2

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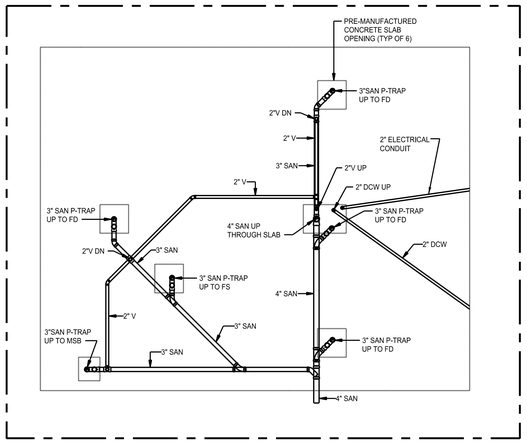
2/7/2020



INSET 'A'

SCALE: 1"=4'

WATER AND SANITARY SEWER NOTES:

1. FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

2. P.V.C. WATER LINES SHALL BE SDR-21 PVC, UNLESS OTHERWISE NOTED, AND SHALL BE INSTALLED WITH 3' MINIMUM COVER.

3. CONNECT 2" PVC DOMESTIC WATER SERVICE LINE TO EXISTING 2" WATER TAP, METER, AND BACKFLOW PREVENTER IN VAULT. CONTRACTOR TO COORDINATE CONNECTION W/ CITY OF ROCK HILL UTILITIES.

4. SANITARY SEWER LINES SHALL BE SDR 35 PVC PIPE.

5. REFER TO DETAIL 2 ON SHEET C4.1 & DETAIL 4 ON SHEET C4.2 FOR UTILITY TRENCH DETAILS.

6. ELECTRICAL CONDUIT SHALL BE 2" SCHEDULE 40 PVC AND SHALL BE INSTALLED WITH 3' MINIMUM COVER. STAKE END OF CONDUIT WITH 2x2 HUB SET FLUSH WITH FINISHED GRADE AT END NEAR SCOREBOARD ELECTRICAL PANEL. CONDUIT TO BE DIRECTIONAL DRILLED IN AREAS BELOW EXISTING CONCRETE, AND TURNED UP INTO CUT OUT IN PRE-FABRICATED BUILDING SLAB.

7. REFER TO ARCHITECTURAL PLANS FOR ELECTRICAL CONNECTIONS TO BUILDING AND SCORE BOARD TRANSFORMER.

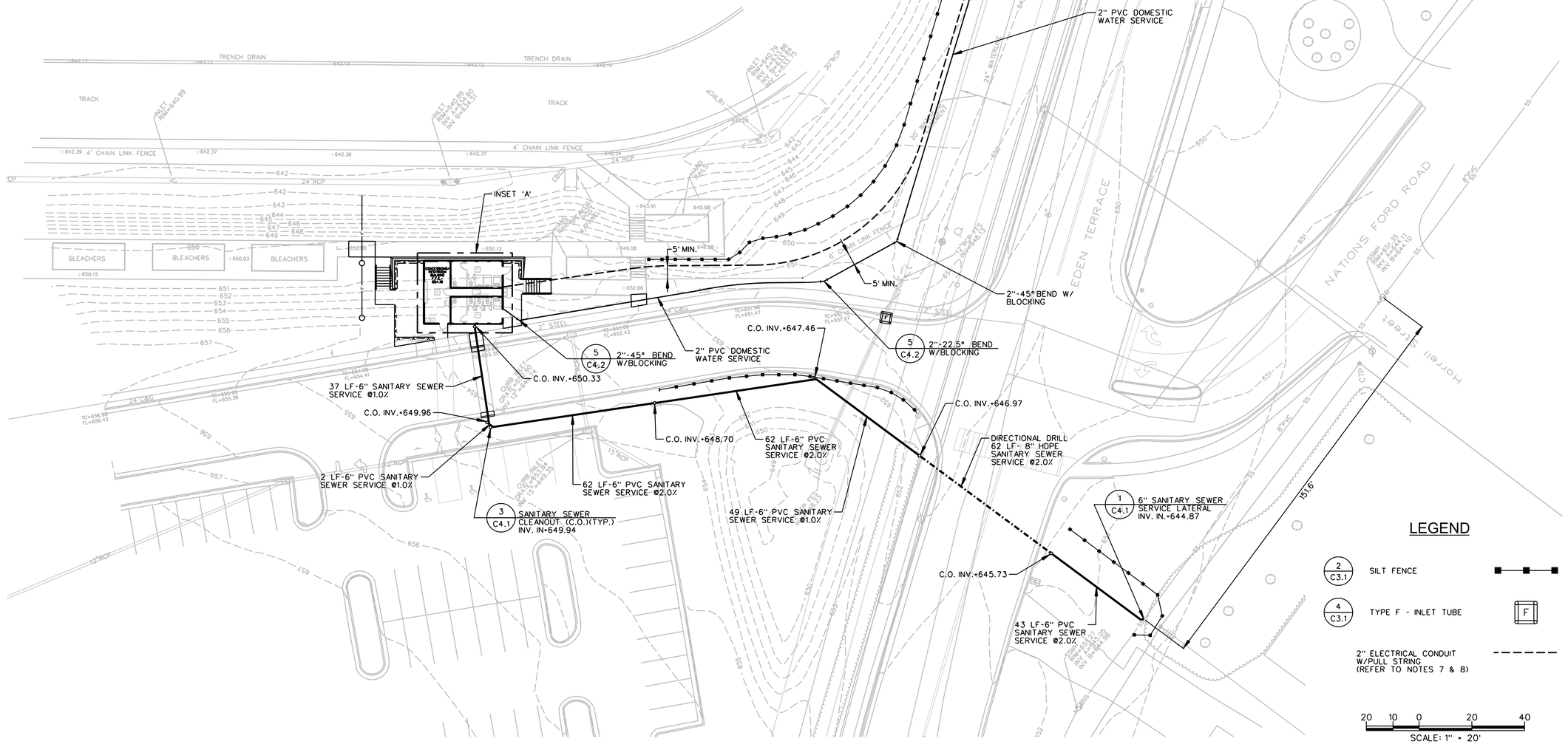
8. PROVIDE RECORD DRAWING INFORMATION OF THE WATER AND SANITARY SEWER SYSTEMS, AND ALL APPURTENANCES, TO THE ENGINEER PRIOR TO REQUESTING A FINAL INSPECTION.

9. WHERE APPLICABLE, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CITY OF ROCK HILL POLICIES, PROCEDURES, STANDARDS AND SPECIFICATIONS.

10. REMOVE AND REINSTALL CHAIN LINK FENCE FABRIC WHERE NECESSARY FOR INSTALLATION OF UTILITY SERVICES AND CONDUIT.

11. REFER TO DETAIL 4 ON SHEET C4.1 FOR SANITARY SEWER SERVICE PROFILE.

12. REFER TO SHEET C3.0 FOR EROSION CONTROL MEASURES AT BUILDING SITE.



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2. MATERIALS, DIMENSIONS, AND ALL OTHER CONDITIONS WHICH ARE NOT OTHERWISE DEFINED ON THIS DRAWING SHALL BE CONSTRUED AS HAVING THE SAME MEANING AS SIMILARLY INDICATED CONDITIONS WHICH ARE MORE FULLY DEFINED ELSEWHERE ON THIS PROJECT OR OTHER DRAWINGS ON THIS PROJECT.

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SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

UTILITY PLAN

SOUTH CAROLINA PROFESSIONAL ENGINEER 12879 MICHAEL F. HUTSEBAUT

SOUTH CAROLINA CAMPCO ENGINEERING, INC. No. C00602 CERTIFICATE OF AUTHORIZATION

02-07-2020

CE: 9697-FH	ISSUED: 02-07-2020
SCALE: 1"=20'	CAD FILE: 9697-FHUTC4.0

C4.0

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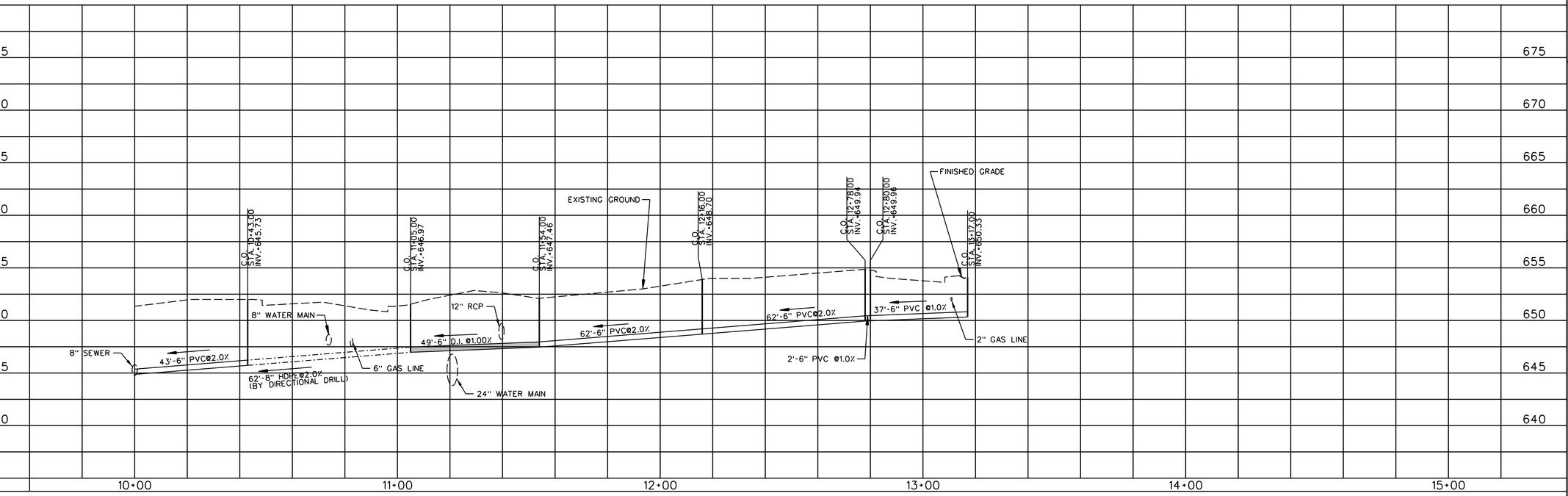
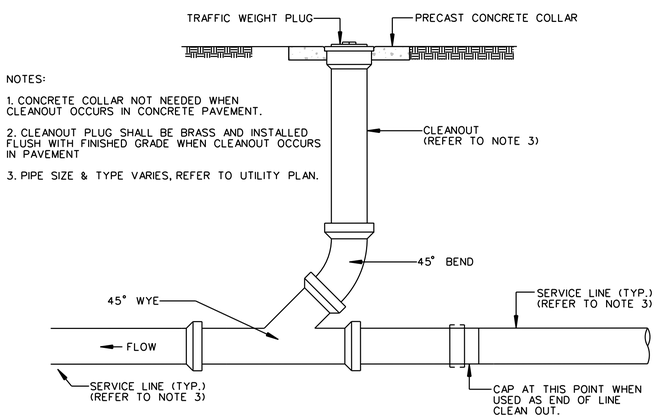
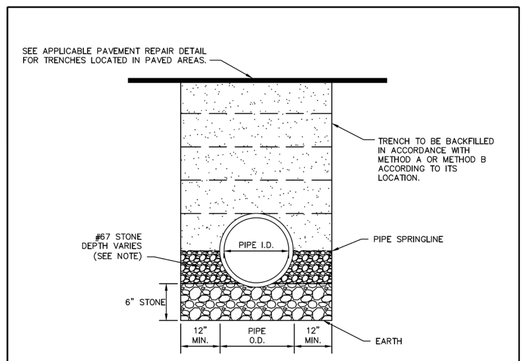
2/7/2020



4 / C4.1 SANITARY SEWER SERVICE PROFILE
H:1"=20', V:1"=5'



3 / C4.1 NTS SANITARY SEWER CLEANOUT



NOTES
1. FOR PIPES UP TO 12 INCHES IN DIAMETER, #67 STONE BEDDING SHALL EXTEND FROM THE PIPE TO THE TRENCH WALL OR TWO AND A HALF TIMES THE PIPE DIAMETER (O.D.) ON EACH SIDE OF THE PIPE, WHICHEVER IS LESS.
2. TRENCH SIDE SLOPES AND SHORING REQUIRED IN ACCORDANCE WITH OSHA REQUIREMENTS.
3. 6" STONE BEDDING BELOW PIPE TO BE USED WHERE ROCK IS BLASTED.
4. BACKFILLING OF TRENCHES SHALL BE IMMEDIATELY AFTER PIPE IS LAID. COMPACTION REQUIREMENTS SHALL BE ATTAINED BY USE OF MECHANICAL TAMPS ONLY.
5. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UN-BACKFILLED TRENCHES AFTER THE PIPE HAS BEEN PLACED.

METHOD A – IN PUBLIC R/W (EXISTING AND KNOWN), PAVED WALKWAYS, DRIVEWAYS, PARKING LOTS, ETC. SELECT BACKFILL MATERIAL TO BE PLACED IN 6 INCH LIFTS AND COMPACTED TO 95% AASHTO DENSITY.

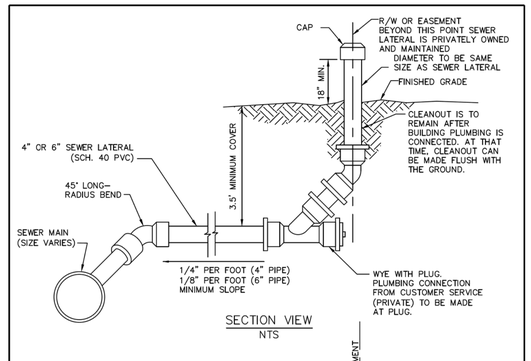
METHOD B – IN UNDEVELOPED AREAS SELECT BACKFILL MATERIAL TO BE PLACED IN 6 INCH LIFTS AND COMPACTED TO 85% AASHTO DENSITY.

CITY OF ROCK HILL
UTILITIES DEPARTMENT
757 S. ANDERSON ROAD
ROCK HILL, SC 29730

STANDARD DETAIL
TRENCH DETAIL FOR PVC SEWER PIPE

REVISIONS:	DATE: FEB. 2018	FILE NAME 13.02
	SCALE: N.T.S.	

2 / C4.1 NTS TRENCH DETAIL FOR PVC SEWER PIPE



NOTE:
BUILDING CONTRACTOR/PLUMBER TO FIELD VERIFY SEWER DEPTH PRIOR TO SETTING FLOOR ELEVATION ON HOUSE TO GET BUILDING PERMIT.

CITY OF ROCK HILL
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STANDARD DETAIL
SEWER LATERAL

REVISIONS:	DATE: FEB. 2018	FILE NAME 15.01
	SCALE: N.T.S.	

1 / C4.1 NTS SEWER LATERAL

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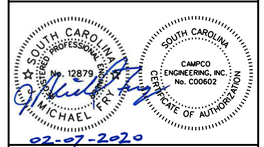
SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

SEWER PROFILE & DETAILS



CE: 9697-FH	ISSUED: 02-07-2020
SCALE: NA	CAD FILE: 9697-FHDTC4.1

C4.1

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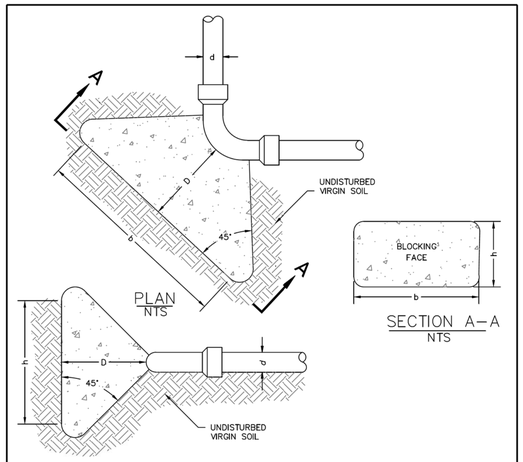
2/7/2020



NOTES:
1) CONTRACTOR MUST PROVIDE BLOCKING SUITABLE FOR SOIL CONDITIONS ENCOUNTERED. SOIL BEARING CAPACITY WAS ASSUMED TO BE 1500 PSF FOR THE TABLE BELOW. ALL ELBOWS, TEES, HYDRANTS, AND PIPE SIZE CHANGES MUST HAVE BLOCKING. ELBOW WAS USED FOR ILLUSTRATION ONLY.
2) STEEL REINFORCEMENT FOR BLOCKING TO BE AS DESIGNED BY ENGINEER OF RECORD.
3) BLOCKING TO BE PLACED ON UNDISTURBED SOIL.
4) PIPES GREATER THAN 16", TO HAVE RESTRAINED JOINTS TO BLOCKING TO BE DESIGNED BY ENGINEER.

BLOCKING DIMENSIONS			
d	D	b	h
16"	5'–0"	7'–10"	4'–0"
12"	5'–0"	4'–6"	4'–0"
8"	5'–0"	3'–0"	2'–8"
6"	5'–0"	2'–3"	2'–0"
4" & SMALLER	2'–6"	2'–0"	2'–0"

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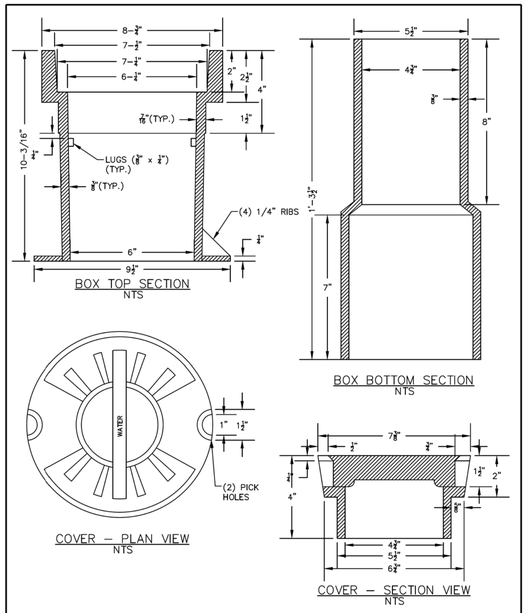
STANDARD DETAIL
THRUST BLOCKING

REVISIONS:	DATE:	FILE NAME
	FEB. 2018	13.11
	SCALE: N.T.S.	

4 / C4.2 NTS THRUST BLOCKING



CITY OF ROCK HILL
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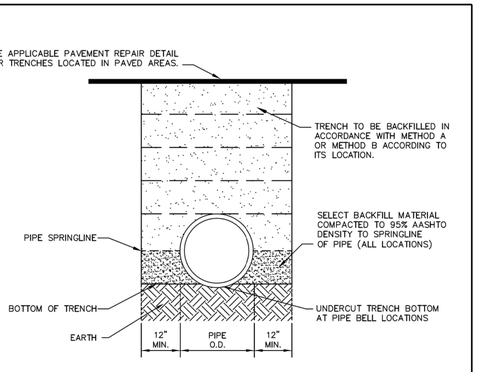
ROCK HILL, SC 29730

STANDARD DETAIL
WATER VALVE BOX SECTIONS

REVISIONS:	DATE:	FILE NAME
	FEB. 2018	12.02
	SCALE: N.T.S.	

2 / C4.2 NTS WATER VALVE BOX SECTIONS



NOTES
1. TRENCH SIDE SLOPES AND SHORING REQUIRED IN ACCORDANCE WITH OSHA REQUIREMENTS.
2. 6" STONE BEDDING BELOW PIPE TO BE USED WHERE ROCK IS BLASTED.
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METHOD B – IN UNDEVELOPED AREAS SELECT BACKFILL MATERIAL TO BE PLACED IN 6 INCH LIFTS AND COMPACTED TO 85% AASHTO DENSITY.

CITY OF ROCK HILL
UTILITIES DEPARTMENT
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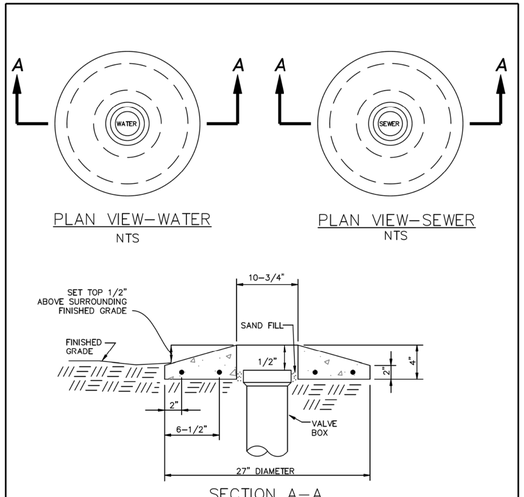
ROCK HILL, SC 29730

STANDARD DETAIL
TRENCH DETAIL FOR WATER PIPE

REVISIONS:	DATE:	FILE NAME
	FEB. 2018	13.01
	SCALE: N.T.S.	

5 / C4.2 NTS TRENCH DETAIL FOR WATER PIPE



NOTE:
1. VALVE BOX PROTECTOR RINGS SHALL BE INSTALLED AROUND VALVE BOX IN UNPAVED NON–TRFFIC AREAS AND SHALL NOT CREATE A HINDRANCE TO FUTURE MOWING OPERATIONS.
2. CONCRETE PROTECTOR RING SHALL BE CONSTRUCTED OF 2500 PSI PRECAST REINFORCED CONCRETE.
3. VALVE BOX SHOULD BE PLACED AT GRADE WITH VALVE BOX PROTECTOR RING EXTENDING 4" ABOVE GRADE.
4. FILL VOID BETWEEN GRADE RING AND VALVE BOX TOP SECTION WITH NON–SHRINK GROUT.

CITY OF ROCK HILL
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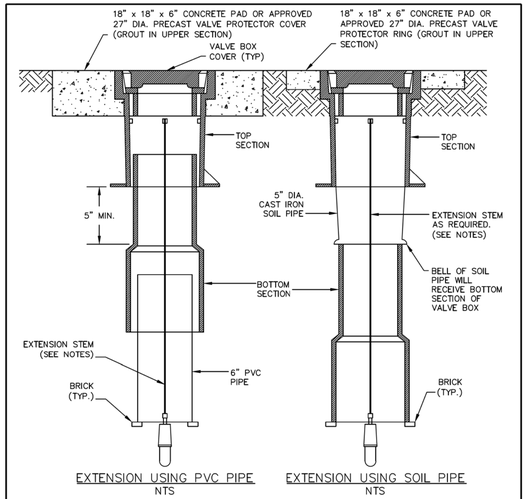
STANDARD DETAIL
VALVE PROTECTOR RING

REVISIONS:	DATE:	FILE NAME
	FEB. 2018	12.04
	SCALE: N.T.S.	

3 / C4.2 NTS VALVE PROTECTOR RING



NOTES
1. BOTTOM SECTION TO BE CENTERED OVER NUT, NOT TO BEAR ON VALVE BODY.
2. PROVIDE CLEARANCE BETWEEN VALVE BOX/BRICK AND THE VALVE.
3. WHEN OPERATION NUT DEPTH EXCEEDS 4'–0" BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH STD. 2" SQ. OPERATION NUT IN TOP SECTION OF VALVE BOX. EXTENSION STEM SHALL BE SIZED AS RECOMMENDED BY THE VALVE MANUFACTURER.
4. CONCRETE TO BE 3500 PSI.

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STANDARD DETAIL
WATER VALVE BOX AND PAD

REVISIONS:	DATE:	FILE NAME
	FEB. 2018	12.01
	SCALE: N.T.S.	

1 / C4.2 NTS WATER VALVE BOX AND PAD

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SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS AND RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

UTILITY DETAILS

CE: 9697-FH	ISSUED: 02-07-2020
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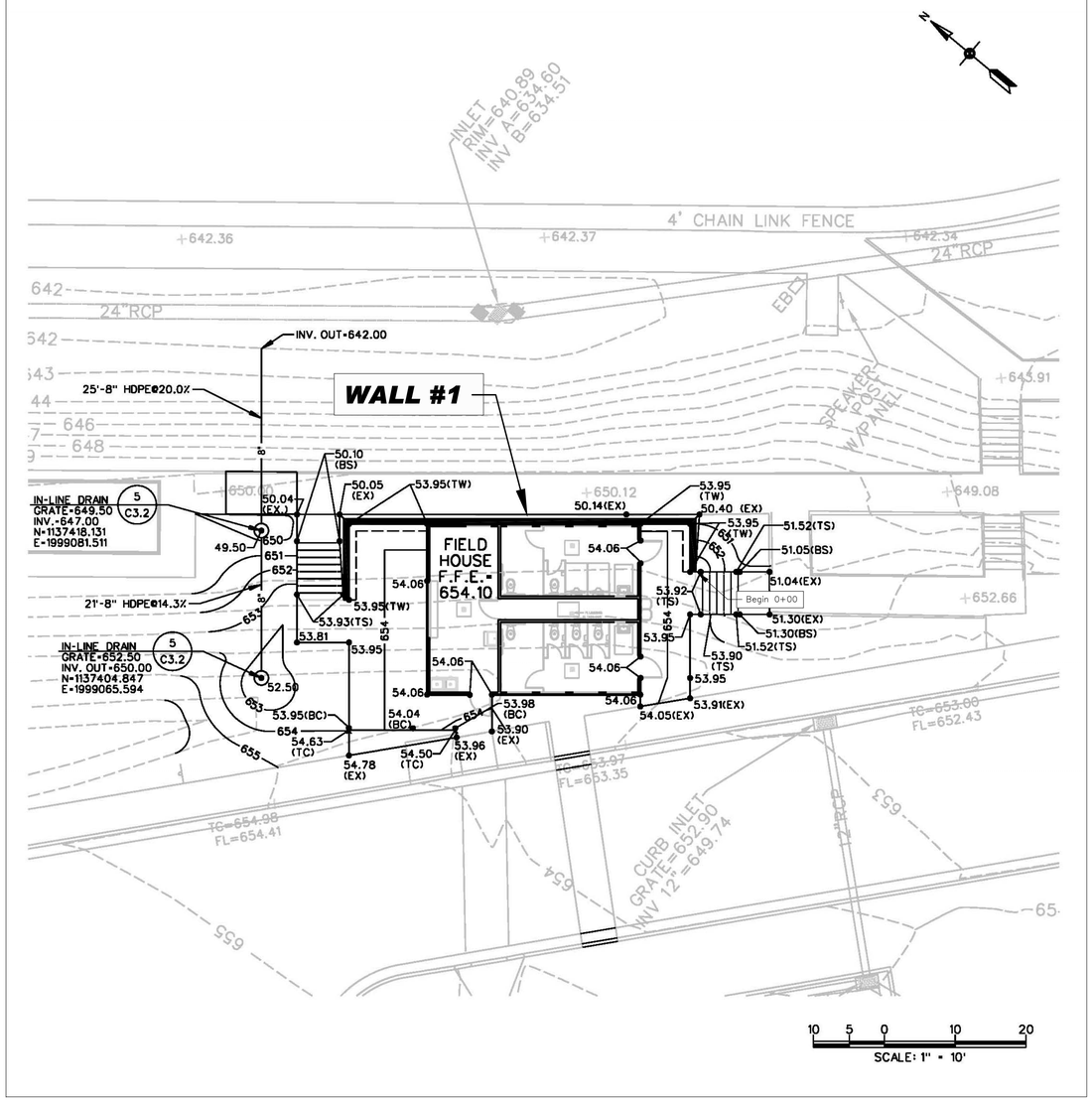
2/7/2020

GRADING/DRAINAGE PLAN



NOTE: SITE PLAN IS FOR REFERENCE ONLY. FIELD LAYOUT SHOULD BE PERFORMED BY CIVIL DRAWINGS.

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704-578-9108 carlh@armorengineering.com

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 16793
CARL K. HUNTSBERGER
2/7/20

SOUTH CAROLINA
ARMOR ENGINEERING and DESIGN, INC.
No. C-5097
CERTIFICATE OF AUTHORIZATION

SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS and RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

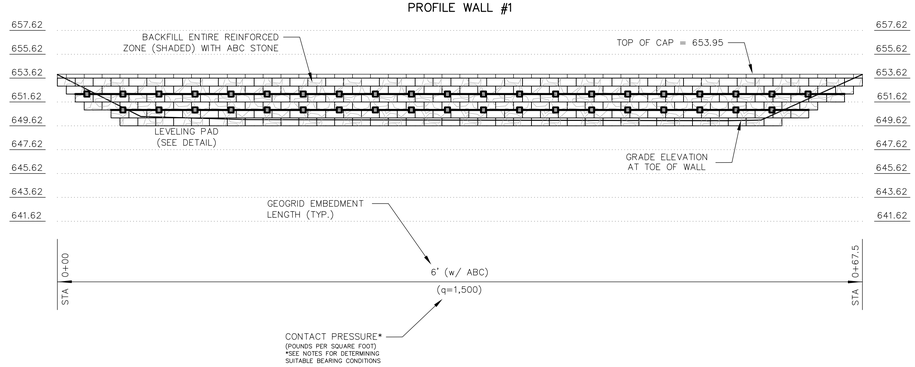
NO.	DATE	DESCRIPTION

RETAINING WALL PLAN VIEW

AE20-0004	ISSUED: 2-7-2020
	DRAWN BY: CKH

RW1.0

PROFILE WALL #1



NOTES (WALL #1):

1. BACKFILL THE ENTIRE REINFORCED ZONE WITH ABC STONE.
2. FIELD COORDINATE WALL ALIGNMENT TO ACCOUNT FOR WALL BATTER AS SHOWN ON CIVIL DRAWINGS. ALSO, ADJUST ("DIVE") TOP REINFORCEMENT BELOW THE PREFABRICATED BUILDING AND/OR SIDEWALK SUBGRADE AS REQUIRED.
3. COORDINATE WALL ASSEMBLY WITH TREADS AND RISERS OF STAIRS AT BOTTOM OF WALL (STA. 0+59 TO STA. 0+67.5).
4. THIS DESIGN INCORPORATES GRIDLOK REINFORCEMENT WITH THE RIDGEROCK II (9 INCH BLOCK) RETAINING WALL SYSTEM HAVING A BATTER OF 7.12 DEGREES.

LEGEND
GRIDLOK 270
HORIZONTAL SCALE 1"=6'

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SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS and RESTROOM BUILDING

ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

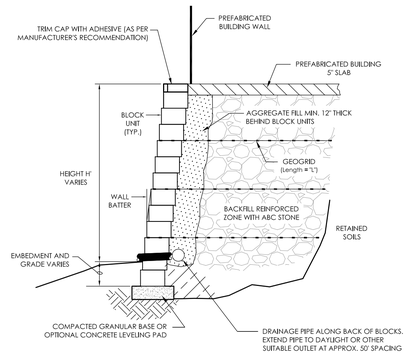
RETAINING WALL ELEVATION

AE20-0004 | ISSUED: 2-7-2020
DRAWN BY: CKH

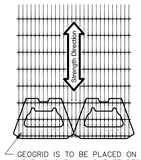
RW1.1

TYPICAL CROSS SECTION (NTS)

- **WALL #1**

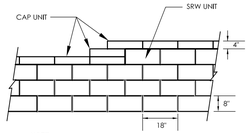


CONNECTION DETAIL
NTS



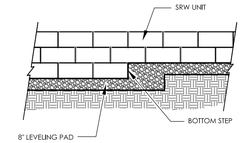
GEOGRID IS TO BE PLACED ON LEVEL BACKFILL AND EXTENDED TO FACE OF SRW UNIT. PLACE NEXT UNIT, PULL GRID TAUGHT AND BACKFILL, STAKE AS REQUIRED.

CAP UNIT DETAIL
NTS

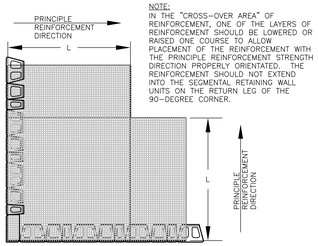


NOTE:
1. SECURE ALL CAP UNITS WITH HIGH STRENGTH ADHESIVE AS RECOMMENDED BY PRODUCT SUPPLIER

LEVELING PAD STEP DETAIL
NTS

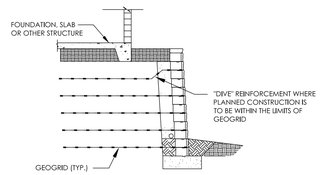


GEOGRID DETAILS
NTS

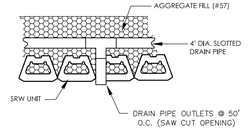


NOTE:
IN THE "CROSS-OVER AREA" OF REINFORCEMENT, ONE OF THE LAYERS OF REINFORCEMENT SHOULD BE LOWERED OR RAISED ONE COURSE TO ALLOW PLACEMENT OF THE REINFORCEMENT WITH THE PRINCIPLE REINFORCEMENT STRENGTH DIRECTION PROPERLY ORIENTATED. THE REINFORCEMENT SHOULD NOT EXTEND INTO THE SEGMENTAL RETAINING WALL UNITS ON THE RETURN LEG OF THE 90-DEGREE CORNER.

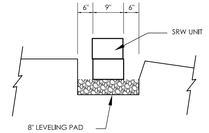
DETAIL FOR DIVING TOP GEOGRID
NTS



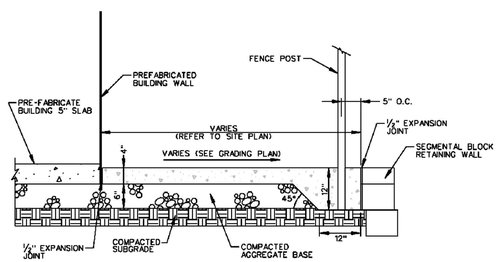
DRAIN PIPE DETAIL
NTS



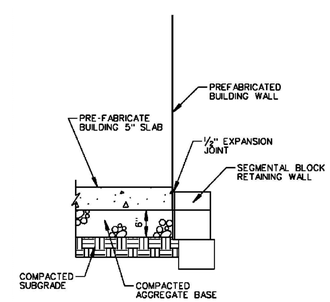
LEVELING PAD DETAIL
NTS



CONCRETE WALK THICKENED EDGE
NTS



PREFABRICATED BUILDING AT RETAINING WALL
NTS



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No. 16793
CARL K. HUNTSBERGER
2/7/20

SOUTH CAROLINA
ARMOR ENGINEERING AND DESIGN, INC.
No. C-5097
CERTIFICATE OF AUTHORIZATION

SULLIVAN MIDDLE SCHOOL ATHLETIC CONCESSIONS and RESTROOM BUILDING
ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

RETAINING WALL DETAILS

AE20-0004 | ISSUED: 2-7-2020
DRAWN BY: CKH

RW1.2

GENERAL NOTES:

1. General
   1.1 Segmental Retaining Wall Systems are designed as a gravity retaining wall utilizing a high density polyester geogrid to reinforce the soil zone behind the wall. The geogrid is positively connected to the modular concrete block creating a reinforced soil mass capable of resisting lateral earth pressures. All references to the engineer refer to Armor Engineering & Design, Inc.
   1.2 The design of the retaining wall(s) is based on information provided by the client. It is the responsibility of the client to ensure that this information is complete, accurate and current. Also, the Engineer is entitled to rely upon the accuracy of such information and is not responsible for any hidden conditions that may exist and/or may impact the final design.

2. Site Preparation and Drainage
   2.1 The contractor shall excavate to the lines and grades shown on the project plans and bench all excavated slopes. Positive surface drainage during and after construction of the wall(s) shall be provided to prevent ponding of water above the reinforced zone and erosion of the surrounding soils. Surface drainage should be away from the face of the wall and include a drainage swale or other means of control.
   2.2 The presence of irrigation systems, drainage structures, pavements, etc. within the reinforced zone are typical sources where water is introduced into the reinforced zone. Consequently, the proper installation and maintenance of these items is critical to the long-term performance of the wall(s). If removal of these items from the reinforced zone is not a practical solution then, as a minimum, the Architect or General Contractor should provide a suitable means for excess water to drain away from the wall(s). For pavement systems, this could include the use of an edge drain to collect seepage from the underlying base course materials. Similarly, drainage systems should include o-ring pipe or a free-draining layer beneath the structure(s). Responsibility for these items and any performance issues related to leakage of irrigation, blockage of drainage inlets, etc. rests with the Owner and/or Architect.
   2.3 The surface of the ground in front of the wall(s) shall be positively graded and other measures taken, as necessary, to prevent erosion and saturation of the backfill. Also, care should be exercised to ensure that the drainage pipes for the wall(s) are positively discharged to a suitable outlet area.

3. Foundation Requirements
   3.1 Bearing Capacity/Global Stability
      3.1.a Bearing capacity is based on the soil and geometry parameters input for design. Consequently, suitable bearing conditions should be determined by verifying that the in-place soils meet or exceed the strength parameters outlined herein and that the width/depth of the footing is per the plans. Caution should be exercised when using conventional inspection methods for large reinforced soil structures where despite higher contact pressures, minimum safety factors against bearing failure would be met by the design soil values.
      3.1.b The contact pressure or minimum net allowable bearing pressure beneath the completed wall system should be evaluated considering two criteria:
         - shear capacity of the soil; and
         - total and differential settlement.
      3.1.c In areas of lower contact pressures, global stability may govern the design thereby still requiring the strength parameters outlined herein.
      3.1.d The foundation upon which the footing and reinforced zone of the wall are to be placed must first be inspected and approved by the project geotechnical engineer.
   3.2 Leveling Pad:
      3.2.a The leveling pad shall consist of compacted sand, gravel, washed stone or crushed rock as shown on the plans and adjusted for various drainage conditions. Also, the leveling pad backfill shall be compacted to at least 95 percent of its Standard Proctor Maximum Dry Density.
      3.2.b The leveling pad shall be at least 8 inches thick with the top of the leveling pad maintained at a depth shown on the plans and adjusted for sloping grades, wall height, etc. As an alternative, a minimum 3 inch thick layer of lean concrete (flowable fill) with a 28-day compressive strength of 300 to 400 pounds per square inch could be used as a leveling pad.
      3.2.c The leveling pad shall extend laterally at least 6 inches both in front and behind the first course of block, or to the minimum dimensions shown on the plans.

4. Segmental Retaining Wall (SRW) Units
   4.1 General
      4.1.a The minimum compressive strength, maximum absorption and manufacturing tolerances of SRW units shall conform to ASTM C 1372 "Standard Specifications for Segmental Retaining Wall Units".
      4.1.b The contractor shall store and handle all materials so as to protect materials from damage.
      4.1.c All SRW units used to construct the wall(s) shall be sound and free of cracks or other defects that would interfere with the placing or positioning of the unit, or impair its strength.
   4.2 SRW Unit Fill
      4.2.a The void within each SRW unit shall be filled with Aggregate Fill (Section 5). Each course of block shall be completely filled before proceeding to the next course and all excess material shall be swept clean from the top of the block prior to installing additional SRW units.
      4.2.b The SRW unit fill shall extend a minimum 12 inches behind the block, or to the minimum distance shown on the plans.
   4.3 SRW Caps
      4.3.a The cap units shall be placed over the last (top) course of the SRW units.
      4.3.b A high strength cap adhesive shall be used to bind the cap unit to the wall.
   4.4 Wall Batter
      4.4.a Batter for the entire wall shall be maintained at the inclination unique to the SRW units being used. Where appropriate, the batter (offset per course) should be achieved through integral concrete lugs, reinforcing pins or other mechanical connections specific to each block system.
   4.5 Terminations
      4.5.a Terminate the end of the wall by turning the units at a radius into the embankment or tapering the top of wall with the desired slope.

5. Aggregate Fill
   5.1 Aggregate Fill shall comprise of material that satisfies ASTM C33 criteria for No. 57 stone.

6. Geosynthetic Reinforcement (Geogrid)
   6.1 General
      6.1.a The geosynthetic type, length and placement shall be at the locations and elevations shown on the plans.
      6.1.b The geogrid should be stored and handled so as to prevent prolonged exposure to UV rays.
      6.1.c Placement of the geogrids shall be field coordinated with the installation of pavements, drainage structures, foundations, etc.
      6.1.d Geogrid shall be rejected if 20 percent or more of a structural rib has been cut or ripped.
   6.2 The length of geogrid shown on the plans is measured from the front of the block, back into the fill.
   6.3 The geogrid reinforcement shall be laid horizontally on compacted backfill and installed to the face of the wall. The geogrids should be rolled out perpendicular to the wall face and pulled taut prior to fill placement. Only continuous lengths of geogrid from the face of wall to the back of the reinforced zone shall be used. Geogrids shall not be spliced or overlapped in the direction of the reinforcement.
   6.4 The geogrid reinforcement shall be placed side by side to provide 100 percent coverage at each designed geogrid level, except for corner details where the specified overlap shall be separated vertically by 3 inches of compacted Backfill Material (Section 7).

7. Design Parameters
   7.1 Loading Conditions
      7.1.a This design includes applicable surcharge loads from parking areas, embankments and/or buildings that are located behind the wall within a distance of at least twice the wall height. Within specified design sections, the unique conditions present within the zone of influence and/or shown on the grading plan were used to model routine static weight loadings distributed at or above the crest of the wall.
   7.2 Soil Properties
      7.2.a The following soil parameters were used in design of the segmental retaining wall(s). The Owner or General Contractor shall engage an independent soils laboratory to confirm that the materials associated with the retaining wall(s) reinforced zone, retained zone and foundation bedding meet the minimum design requirements. If this information does not represent the actual conditions present at the site, the Engineer shall be notified immediately and the wall(s) shall be re-designed using the new (appropriate) soil parameters. Payment for all design revisions is the responsibility of the Owner and/or General Contractor.

Foundation Soils:	Ø = 28 degrees;	c = 50 pounds per square foot; ɣ(moist) = 115 pounds per cubic foot
Retained Soils:	Ø = 28 degrees;	c = 0 pounds per square foot; ɣ(moist) = 115 pounds per cubic foot
Reinforced Zone: (ABC Stone)	Ø = 38 degrees;	c = 0 pounds per square foot; ɣ(moist) = 145 pounds per cubic foot

      7.2.b Fill used within the reinforced zone shall be free from organic matter and other deleterious material. Also, frozen soils, snow, ice, heavy clays, or wet soils shall not be used in construction of the wall(s). Also, rock fragments shall be limited to 3 inches in diameter or less.
      7.2.c The backfill material should be non-plastic or have a low plasticity where the material passing the #40 sieve shall not have a liquid limit greater than 35 and a plasticity index greater than 20 (ASTM D 4318).
      7.2.d If the percent fines (percent passing #200 sieve) of the backfill material is greater than 35 percent, then it may be necessary to increase the top geogrid layer(s) by 25 percent along the entire length of the wall. The Engineer should be notified to determine if this increase is required.
   7.3 Placement of Backfill
      7.3.a The reinforced fill shall be placed in maximum 8 inch lifts that are compacted to at least 95 percent of their Standard Proctor Maximum Dry Density (ASTM D 698). The frequency of compaction testing shall be determined by a qualified geotechnical engineer; however, a typical frequency would include at least 1 test for each grid layer or every third course as performed within 100 linear feet of wall.
      7.3.b The backfill shall be placed from the back of the wall to the end of the reinforced zone in such a manner that eliminates the development of wrinkles or movement of the geogrid.
      7.3.c Tracked construction equipment shall not operate directly on the geogrid. A minimum 6 inches of soil shall be placed on the geogrid prior to operation of tracked vehicles in the reinforced zone.
      7.3.d Rubber tired vehicles may pass over the geogrid at slow speeds (less than 5 miles per hour). Sudden braking and sharp turning should be avoided.
      7.3.e Only hand operated equipment shall be allowed within 3 feet of the wall face.

8. Hydrostatic Pressures and Drainage System
   8.1 The Engineer shall be notified if any of the following become evident:
      - water or wetness associated with a cut bank;
      - the presence of local springs or other structures (sewers, water lines, etc.) under or behind the wall.
   8.2 Drainage Pipe
      8.2.a The drainage collection pipe shall be placed as shown on the plans and positively sloped at a minimum ½ percent. The collection pipe should include drainage laterals at approximately 50 feet spacing along the wall face, and should daylight into a storm water system or along a slope at an elevation which is lower than the bottom of the Aggregate Fill.
      8.2.b The drainage collection pipe (where applicable) shall be a minimum 4 inch perforated or slotted, PVC or corrugated HDPE pipe manufactured in accordance with ASTM D 3034 and/or ASTM D 1248.
   8.3 Drainage Composite
      8.3.a Where applicable, place drainage composite behind wall applications as identified on the project plans. The drainage composite shall be placed along the slope behind the geogrid layers and discharged to a suitable outlet.
      8.3.b The drainage composite shall extend up the slope a vertical distance equal to ⅔ the height of the wall. Also, the drainage composite should be spaced horizontally to cover a minimum 30 percent of the slope projection (ex. a 6 feet wide section should be placed no further than 20 feet on center).
   8.4 Filter Fabric
      8.4.a Filter Fabric shall consist of a non-woven geotextile such as a Mirafi 140N or equivalent.

9. Special Provisions
   9.1 Soil making up any slope to be constructed above the wall should be placed in maximum 8 inch loose lifts and compacted to at least 95 percent of its Standard Proctor Maximum Dry Density (ASTM D 698). The top 8 inches of soil on the surface of the slope must be a low permeable material to prevent surface water from seeping into the retained or reinforced zones of the retaining wall(s).
   9.2 Any changes to the grades in front of the wall, behind the cap units, or to the location of applied surcharge loads should be reported to the Engineer immediately. Also, the surface of the ground in front and behind the wall(s) shall be positively graded to prevent the ponding of water, erosion and/or saturation of the backfill (Section 2).
   9.3 Any structures such as light poles, fence posts, drainage elements or vehicle barriers that are to be installed in the vicinity of the retaining wall(s) should be constructed in a such manner that they do not impose additional lateral forces on the wall(s). In addition, any excavation conducted in the vicinity of the wall(s) after construction (ex. landscaping, irrigation, etc.) must be done without damaging any of the wall components or supported soils.

10. Qualifications of Design
   10.1 Stability of any temporary slopes required by the installation of the segmental retaining wall(s) shall be the responsibility of the Owner, Architect and/or Contractor.
   10.2 Settlement control is the responsibility of the Owner or the Owner's Geotechnical Engineering Consultants to determine if the foundation soils will require special treatment to control total and differential subsidence/heave.
   10.3 Handrail/Guardrail requirements shall be determined by the Owner, Architect and/or Contractor.
   10.4 If the Contractor/Installer discovers any undisclosed conditions, errors, omissions or discrepancies, the Engineer shall be contacted immediately for review of the design in light of the new information.

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2/7/20

SOUTH CAROLINA ARMOR ENGINEERING AND DESIGN, INC. No. C-5097 CERTIFICATE OF AUTHORIZATION

SULLIVAN MIDDLE SCHOOL
ATHLETIC CONCESSIONS
and RESTROOM BUILDING
ROCK HILL, SOUTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION

RETAINING WALL GENERAL NOTES

AE20-0004	ISSUED: 2-7-2020
	DRAWN BY: CKH

RW1.3

ARCHITECTURAL ABBREVIATIONS

A-PT	ACCENT PAINT
ABS	AIR BARRIER SYSTEM
ABV	ABOVE
ACP	ACOUSTICAL CEILING PANEL
ACT	ACOUSTICAL CEILING TILE
ACW	ALUMINUM CLAD WINDOW
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AP	ACCESS PANEL
APC	ARCHITECTURAL PRECAST CONCRETE
ARC	ABUSE RESISTANT COATING
AS	ALUMINUM STOREFRONT
AUTO	AUTOMATIC
AVG	AVERAGE
AW	ALUMINUM WINDOW
AWC	ACOUSTICAL WALL COVERING
AWP	ACOUSTICAL WALL PANEL
BD	BOARD
BF	BARRIER FREE (ADA or A117.1)
BLDG	BUILDING
BLKG	BLOCKING
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
BUR	BUILT-UP ROOF
C	CARPET
C-TILE	CARPET TILE
CAB	CABINET
CB	CHALKBOARD
CCTV	CLOSED CIRCUIT TELEVISION
CEM	CEMENT
CFSF-NS	COLD FORMED STEEL FRAMING, NON-STRUCTURAL
CFSF-S	COLD FORMED STEEL FRAMING, STRUCTURAL
CG	CORNER GUARD
CI	CONTINUOUS INSULATION
CIPC	CAST IN PLACE CONCRETE
CJ	CONTROL JOINT
CL	CLOSET
CLG	CEILING
CLR	CLEAR
CM	CENTIMETER
CMBD	CEMENT BOARD
CMU	CONCRETE MASONRY UNIT
CMU-A	CONCRETE MASONRY UNIT - ACOUSTICAL
CMU-GF	CONCRETE MASONRY UNIT - GROUND FACE
CMU-GLZ	CONCRETE MASONRY UNIT - GLAZED
CMU-SPLF	CONCRETE MASONRY UNIT - SPLIT FACE
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONC-P	CONCRETE WITH PIGMENT
CONC-SLR	CONCRETE WITH SEALER / HARDENER
CONC-ST	CONCRETE WITH STAIN
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR
CSMU	CAST STONE MASONRY UNIT
CT	CERAMIC TILE
CTSK	COUNTERSINK, COUNTERSUNK
CU FT	CUBIC FEET / FOOT
CUST	CUSTODIAN / CUSTODIAL
CW	ALUMINUM CURTAIN WALL
CWFD	CEMENTITIOUS WOOD FIBER DECK
D	DEPTH/DEEP
DBL	DOUBLE
DEMO	DEMOLITION
DETE	DETENTION
DF	DRINKING FOUNTAIN
DG	DOOR GRILLE
DHM	DETENTION HOLLOW METAL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVISION
DL	DOOR LOUVER
DN	DOWN
DP	DAMPPROOFING
DR	DISPLAY RAIL
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
DWR	DRAWER
EA	EACH
EF	EXHAUST FAN
EFS	EXTERIOR FINISH SYSTEM
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELAS	ELASTOMERIC
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EPS	EXPANDED POLYSTYRENE
EPX	EPOXY
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXH	EXHAUST
EXP	EXPANSION
EXPC	EXPOSED CONSTRUCTION
EXT	EXTERIOR
FAAF	FLUID APPLIED ATHLETIC FLOORING
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FGL	FIBERGLASS
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHVC	FIRE HOSE VALVE CABINET
FIN	FINISHED
FLR	FLOOR
FLRG	FLOORING
FND	FOUNDATION
FO	FACE OF
FRM	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FRT	FIRE RETARDANT TREATED
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
FVC	FIRE VALVE CABINET
FWC	FABRIC WALL COVERING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GYPSUM BOARD
GB-AR	GYPSUM BOARD - ABUSE RESISTANT
GB-IR	GYPSUM BOARD - IMPACT RESISTANT
GB-S	GYPSUM BOARD - SECURITY
GFRC	GLASS FIBER REINFORCED CONCRETE
GFRG	GLASS FIBER REINFORCED GYPSUM
GL	GLASS, GLAZING
GL-BLK	GLASS BLOCK
GPM	GALLONS PER MINUTE
GRT	GROUT
GSFT	GLAZED STRUCTURAL FACING TILE
GT	GLASS TILE
GWT	GLAZED WALL TILE
GYP	GYPSUM
H	HIGH
HB	HOSE BIBB
HBD	HARDBOARD
HDC	HOLD DOWN CLIPS
HDNR	HARDENER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HPC	HIGH PERFORMANCE COATINGS
HPFP	HIGH PERFORMANCE FLOOR PAINT
HT	HEIGHT
HVAC	HEATING, VENTILATING, AIR CONDITIONING
ID	INSIDE DIAMETER
IN	INCH, INCHES
INCL	INCLUDE, INCLUDING
INFO	INFORMATION
INST	INSTALLATION
INSUL	INSULATION
INT	INTERIOR
IRWC	IMPACT RESISTANT WALL COVERING
IWB	INTERACTIVE WHITE BOARD
JAN	JANITOR
JCT	JUNCTION
JT	JOINT
L	LENGTH/LONG
LAB	LABORATORY
LAHJ	LOCAL AUTHORITY HAVING JURISDICTION
LAM	LAMINATE
LAV	LAVATORY
LH	LEFT HAND
LIN	LINOLEUM
LKR	LOCKER
LMC	LINEAR METAL CEILING
LPS	LAMINATE PANEL SYSTEM
LT	LIGHT
LVR	LOUVER
M	METER
MACH	MACHINE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKERBOARD
MCM	METAL COMPOSITE MATERIAL
MCP	METAL CEILING PANEL
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MFR	MANUFACTURER
MIF	MULTICOLOR INTERIOR FINISHING
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MLDG	MOLDING
MO	MASONRY OPENING
MPS	MANUAL PROJECTION SCREEN
MR	MAP RAIL
MT	MOUNT
MTD	MOUNTED
MTL	METAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OPNG	OPENING
OPP HD	OPPOSITE HAND
OVHD	OVERHEAD
P-TILE	PORCELAIN TILE
PC	PRECAST
PERF	PERFORATED, PERFORATION(S)
PERIM	PERIMETER
PIP	POURED IN PLACE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLWD	PLASTIC LAMINATE WOOD
PLYWD	PLYWOOD
PNL	PANEL, PANELING
POLY	POLYETHYLENE
PPS	POWER PROJECTION SCREEN
PPT	PRESSURE- OR PRESERVATIVE-TREATED
PR	PAIR
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PREP	PREPARE / PREPARATION
PS	PROJECTION SCREEN
PSB	PENCIL SHARPENER BLOCK
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PAINT
PTN	PARTITION
PTS	PNEUMATIC TUBE SYSTEM
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVWC	PERFORATED VINYL WALL COVERING
QSM	QUARTZ SURFACING MATERIAL
QT	QUARRY TILE
QTY	QUANTITY
R	RISER, RADIUS
R/W	RIGHT OF WAY
RAD	RADIUS
RAF	RESILIENT ATHLETIC FLOORING
RB	RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REFG	REFRIGERATOR
REINF	REINFORCING, REINFORCE(D)
REM	RECESSED ENTRY MAT
REQ'D	REQUIRED
RES	RESINOUS FLOORING
RFT	RUBBER FLOOR TILE
RH	RIGHT HAND
RL	RAIN LEADER
RM	ROOM
RO	ROUGH OPENING
RSF	RUBBER SHEET FLOORING
RSR	RESILIENT STAIR RISER
RST	RESILIENT STAIR TREAD
RT	RIGHT
RTU	ROOFTOP UNIT
SAB	SOUND ATTENUATION BLANKET
SC-PLK	SECURITY CEILING PLANK
SC-PNL	SECURITY CEILING PANEL
SCH	SCHEDULE
SF	SQUARE FEET / FOOT
SFRM	SPRAYED FIRE RESISTANT MATERIAL
SHM	SECURITY HOLLOW METAL
SHTG	SHEATHING
SIM	SIMILAR
SPEC	SPECIFICATION
SPF	SPRAYED POLYURETHANE FOAM
SPR	SPRINKLER
SQ	SQUARE
SQ FT	SQUARE FEET / FOOT
SRD	SECONDARY ROOF DRAIN
SS	STAINLESS STEEL
SSM	SOLID SURFACE MATERIAL
ST	STREET
STC	SOUND TRANSMISSION COEFFICIENT
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
SWM	SECURITY WOVEN MESH / WOVEN ROD
SYM	SYMMETRICAL
T	TREAD
T&G	TONGUE & GROOVE
T.O	TOP OF
TB	TACKBOARD
TEL	TELEPHONE
TERR-C	TERRAZZO CEMENTITIOUS
TERR-E	TERRAZZO EPOXY
TERR-R	TERRAZZO RUBBERIZED
THHD	THRESHOLD
THK	THICKNESS, THICK
TOS	TOP OF STEEL
TOW	TOP OF WALL
TS	TACK STRIP
TV	TELEVISION
TYP	TYPICAL
UC	UNDERCUT
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED (INDICATED) OTHERWISE
VAT	VINYL ASBESTOS TILE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VDB	VISUAL DISPLAY BOARD
VERT	VERTICAL
VEST	VESTIBULE
VFCT	VINYL FREE COMPOSITION TILE
VFWC	VINYL FREE WALLCOVERING
VR	VAPOR RETARDER
VT	VINYL TILE
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WCP	WOOD CEILING PANEL
WD	WOOD
WDW	WINDOW
WP	WATERPROOFING
WPT	WORKING POINT
WSCT	WAINSCOT
WSF	WOOD SPORTS FLOORING
WT	WEIGHT
WWF	WELDED WIRE FABRIC
XPS	EXTRUDED POLYSTYRENE

KEYNOTES

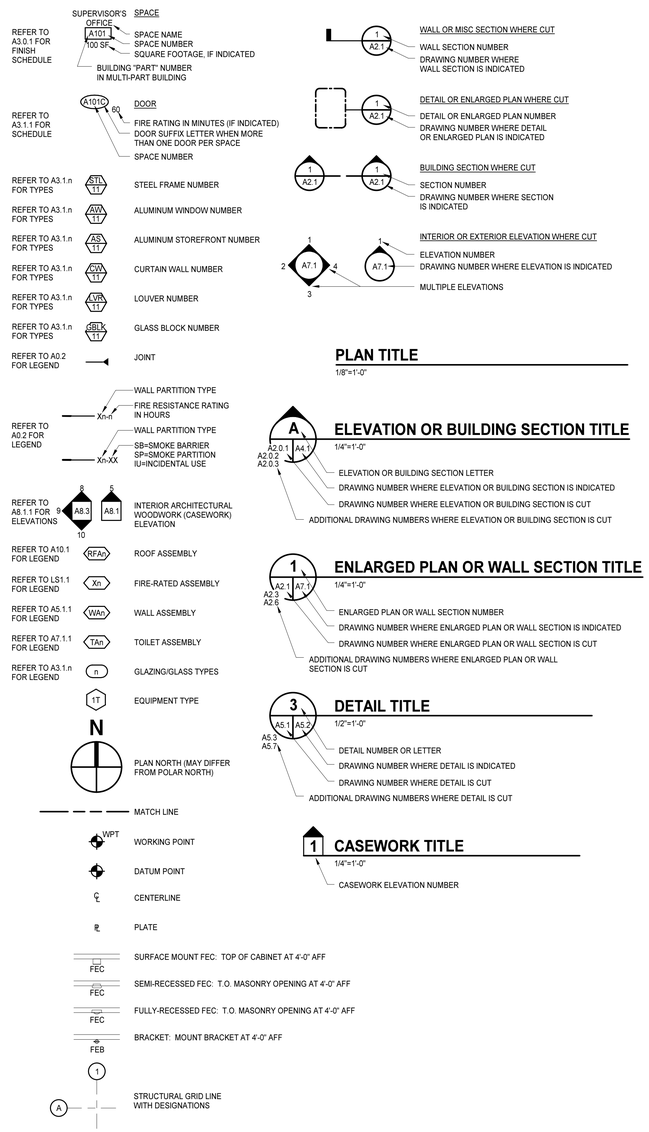
n — KEYNOTE (1 TO 2 DIGITS)

nnn — KEYNOTE (3 DIGITS ONLY)

n n/n" — SIZE: THICKNESS, OR OTHER DESCRIPTIVE INFORMATION

1. KEYNOTES ARE GENERALLY ASSOCIATED WITH A SERIES OF DRAWINGS (e.g., A3.2.n, A5.1.n); THEREFORE KEYNOTE NUMBERS FROM SERIES TO SERIES WILL VARY (i.e., KEYNOTE NO. 1 IN THE A3.2.n SERIES WILL BE DIFFERENT FROM KEYNOTE NO. 1 IN THE A5.1.n SERIES).

ARCHITECTURAL GRAPHIC SYMBOL LEGEND



ARCHITECTURAL GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

B. ELEMENTS THAT ARE IDENTIFIED BY OTHER DISCIPLINES (e.g., CIVIL, STRUCTURAL, PLUMBING, FIRE PROTECTION, MECHANICAL, ELECTRICAL) ELSEWHERE WITHIN THE ARCHITECTURAL SERIES OF DRAWINGS AND/OR SPECIFICATIONS, OR IDENTIFIED OR COVERED BY DEFAULTS (e.g., SIZES, THICKNESS, SPACING, MATERIALS) IN THE SPECIFICATIONS MAY NOT BE ANNOTATED (NOTE OR KEYNOTED) ON THESE DRAWINGS.

C. ELEMENTS IDENTIFIED IN "LEGENDS" AND/OR "GENERAL NOTES" MAY NOT BE NOTED IN DETAILS, OR SECTIONS, AS THESE ELEMENTS ARE IDENTIFIED IN THE LEGENDS (e.g. FACE BRICK, CMU, WINDOWS)

D. REFER TO "ASSEMBLIES" FOR MATERIALS AND COMPONENTS THAT MAKE UP THAT PARTICULAR ASSEMBLY (e.g., EXTERIOR WALL ASSEMBLIES, ROOF ASSEMBLIES, AND FIRE-RATED ASSEMBLIES). ONCE A PARTICULAR ASSEMBLY HAS BEEN IDENTIFIED ON ONE DRAWING, THAT SAME ASSEMBLY GRAPHIC SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE. PROVIDE THAT SAME ASSEMBLY AT THE SIMILAR LOCATION WHETHER THE ASSEMBLY GRAPHIC SYMBOL IS SHOWN OR NOT.

E. VERIFY ALL DIMENSIONS, INCLUDING DIMENSIONS ON STRUCTURAL DRAWINGS AND OTHER ARCHITECTURAL DRAWINGS. IMMEDIATELY NOTIFY ARCHITECT OF ANY DISCREPANCIES.

F. PROVIDE CONCRETE HOUSEKEEPING PADS FOR ALL EQUIPMENT INDICATED TO BE MOUNTED OR OTHERWISE REQUIRED TO BE MOUNTED TO THE FLOOR. WHERE PADS ARE NOT SHOWN, PROVIDE 6" THICK CONCRETE PADS W/ 3/4" CHAMFERED EDGES (ALL SIDES). REINFORCE WITH MESH EQUIVALENT TO FLOOR SLAB REINFORCING REQUIREMENTS.

ARCHITECTURAL MATERIALS LEGEND

- EARTH
- POROUS FILL
- CONCRETE
- FACE BRICK
- SPLIT-FACE BLOCK
- CONCRETE MASONRY UNIT
- GROUTED SOLID CONCRETE MASONRY UNIT

NOTE: PROVIDE 100% SOLID, PLANT-CAST UNITS WHERE CORE HOLES WOULD BE VISIBLE WITHIN FINISH SPACE (E.G., WINDOW SILLS)

- ARCHITECTURAL PRECAST CONCRETE
- CAST STONE MASONRY
- RIGID INSULATION
- BATT INSULATION
- SPRAYED POLYURETHANE FOAM
- WOOD SHIM
- WOOD BLOCKING - CONTINUOUS
- FINISHED WOOD
- PLYWOOD
- GYPSUM BOARD / SHEATHING
- STONE

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Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

GENERAL ARCHITECTURAL INFORMATION

A0.1

2/10/2020 11:25:27 AM

ARCHITECTURAL SPECIFICATIONS:

SECTION 133400 – FABRICATED PRE-ENGINEERED PRECAST CONCRETE STRUCTURES

PART 1 – GENERAL

1.1 WORK INCLUDED

CONTRACTOR/ MODULAR MANUFACTURER TO FURNISH A PRECAST CONCRETE TRANSPORTABLE RESTROOM/CONCESSION BUILDING WITH MODULES TO BE FIELD ASSEMBLED BY MANUFACTURER BASED ON CONTRACT PLANS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PRECAST BUILDINGS PROVIDED BY EASI-SET BUILDINGS "EASI-SPAN BRAND MODEL APPALACHIAN 2430, CXT CONCRETE PRODUCTS POMONA CONCESSION BUILDING 26 X 30 AND MODULAR CONNECTIONS LLC 24 X 30 OR PRE-APPROVED EQUAL ARE ACCEPTABLE. BUILDING SHALL BE PROVIDED BY MANUFACTURER WITH ALL NECESSARY OPENINGS AS SPECIFIED IN CONFORMANCE WITH STRUCTURAL REQUIREMENTS. MANUFACTURER RESPONSIBLE FOR FULL INSTALLATION OF STRUCTURE INCLUDING CRANE, OFFLOADING, CONNECTIONS OF ALL ELECTRICAL CONDUIT AND WIRE INCLUDING CROSS CONNECTIONS THAT ARE TERMINATED IN THE MAIN ELECTRICAL PANEL, INSTALLED PLUMBING IS CONNECTED TOGETHER AND BROUGHT TO THE POINT WHERE IT CAN BE CONNECTED TO THE SUBBED UP UTILITIES BY THE BID PACKAGE NO. 1 CONTRACTOR. ALL ABOVE GRADE PLUMBING, HVAC, ELEC IS TO BE PROVIDED BY THE PRE-CAST BUILDING MANUFACTURER BID PACKAGE 2. OWNER WILL HAVE ALL SITE UTILITIES BROUGHT TO THE BUILDING IN ADVANCE OF BUILDING SET AND TERMINATE ELECTRIC SERVICE WIRE IN THE MAIN ELECTRICAL PANEL. CONTRACTOR TO PERFORM TESTS AND CONFIRM THAT ALL SYSTEMS AND EQUIPMENT ARE OPERATIONAL ONCE THE ELECTRICAL SYSTEM IS ENERGIZED.

1.2 REFERENCES

A. ACI-318-11: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
B. ASCE/SEI 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
C. IBC 2018: INTERNATIONAL BUILDING CODE.
D. PCI DESIGN HANDBOOK, 8TH EDITION.
E. CONCRETE REINFORCING INSTITUTE, MANUAL OF STANDARD PRACTICE.
F. 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.
G. INTERNATIONAL PLUMBING CODE (IPC) AND NATIONAL ELECTRIC CODE (NEC).

1.3 SUBMITTALS

A. SUBMIT ENGINEERING CALCULATIONS THAT ARE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER, LICENSED IN SOUTH CAROLINA.
B. MANUFACTURERS' PRODUCT LITERATURE SHALL BE PROVIDED FOR ALL PLUMBING, ELECTRICAL, AND MISCELLANEOUS INSTALLED FIXTURES DEMONSTRATING COMPLIANCE WITH THE CONTRACT DOCUMENTS.

1.4 QUALITY ASSURANCE

A. THE PRECAST CONCRETE BUILDING PRODUCER SHALL BE A PLANT-CERTIFIED MEMBER OF EITHER THE NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA), THE PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI), OR EQUAL.
B. THE PRECAST CONCRETE BUILDING PRODUCER SHALL DEMONSTRATE PRODUCT KNOWLEDGE AD MUST HAVE A MINIMUM OF 5 YEARS' EXPERIENCE MANUFACTURING AND SETTING PRECAST CONCRETE.
C. THE MANUFACTURER MUST BE A LICENSED PRODUCER.
D. NO ALTERNATE BUILDING MANUFACTURERS OTHER THAN THOSE SPECIFIED HEREIN WILL BE ALLOWED UNLESS PRE-APPROVED BY THE OWNER 10 DAYS PRIOR TO THE BID DATE.

1.5 DESIGN REQUIREMENTS

A. BUILDING DIMENSIONS:
   1. EXTERIOR: 24-FEET BY 30-FEET OR 26-FEET BY 30-FEET.
   2. EXTERIOR WALLS: NOT TO EXCEED 5-INCHES THICK.
   3. FLOOR TO CEILING HEIGHT: 8-FEET MINIMUM.

B. DESIGN LOADS: SEE SHEET A0.2 FOR STRUCTURAL REQUIREMENTS.
C. ROOF: ROOF PANEL SHALL HAVE A MINIMUM OF 6-INCH SLOPE FROM PEAK TO EDGE. THE ROOF TO EXTEND BEYOND THE WALL PANEL AND HAVE A TURNDOWN DESIGN WHICH EXTENDS 1/2-INCH MINIMUM BELOW THE TOP EDGE OF THE WALL PANELS OR HAVE A CAST IN DRIP TO PREVENT WATER MIGRATION INTO THE BUILDING ALONG TOP OF WALL PANELS. ROOF EDGE/FASCIA TO BE ACCENTUATED USING MANUFACTURER'S INTEGRAL DESIGN. PROVIDE MANUFACTURER'S STANDARD DESIGN ROOF SURFACE AND MATERIALS TO PROVIDE A WATERPROOF ROOF SYSTEM.
D. ROOF JOINT: MANUFACTURER'S STANDARD, IF GROUTED KEYWAY UTILIZED, PROVIDE MAGNESIUM PHOSPHATE GROUT MATERIAL OR EQUAL, PREPARED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS. APPLY A POLYSULFIDE OR POLYURETHANE ELASTOMERIC JOINT SEALANT TO THE TOP OF THE GROUTED KEYWAY, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
E. JOINTS BETWEEN WALL AND FLOOR MUST BE DESIGNED AND SEALED TO PREVENT WATER MIGRATION INTO THE BUILDING ALONG THE BOTTOM OF WALL PANELS.

PART 2 – PRODUCTS

2.1 MATERIALS

A. CONCRETE: STEEL-REINFORCED, 5000 PSI MINIMUM 28-DAY COMPRESSIVE STRENGTH, AIR-ENTRAINED (ASTM C260).
B. REINFORCING STEEL: ASTM A615, GRADE 60 UNLESS OTHERWISE SPECIFIED.
C. WELDED WIRE FABRIC: ASTM 185, GRADE 65.
D. POST-TENSIONING STRAND: IF USED, ROOF AND FLOOR SECTIONS TO BE POST-TENSIONED IN ACCORDANCE WITH THE BUILDING SYSTEM PROVIDER'S DESIGN TO ENSURE A WATERTIGHT JOINT. PRE-CAST FLOORS TO BE REINFORCED IN ACCORDANCE WITH THE BUILDING SYSTEM MANUFACTURER'S PREFERRED DESIGN.
E. SEALANTS: ALL JOINTS BETWEEN PANELS TO BE CAULKED ON THE INTERIOR AND EXTERIOR SURFACES OF THE JOINTS. CAULK TO BE DOW CORNING 790 SILICONE, PAINTABLE POLYURETHANE, OR EQUAL.
   1. EXTERIOR CAULK REVEAL TO BE 3/8-INCH BY 3/4-INCH DEEP SO THAT SIDES OF JOINT ARE PARALLEL FOR PROPER CAULK ADHESION. BACK OF JOINT TO BE TAPED WITH BOND BREAKING TAPE T ENSURE ADHESION OF CAULK TO PARALLEL SIDES OF JOINT AND NOT THE BACK.
F. PANEL CONNECTIONS: ALL PANELS TO BE SECURELY FASTENED TOGETHER USING BOLTED OR WELDED CONNECTIONS WITH 3/8-INCH STEEL BRACKETS OR PLATES. STEEL TO BE STRUCTURAL QUALITY, HOT-ROLLED CARBON COMPLYING WITH ASTM A36 AND HOT-DIPPED GALVANIZED AFTER FABRICATION. BOLTED CONNECTIONS REQUIRE 1/2-INCH DIAMETER BOLTS COMPLYING WITH ASTM A325 FOR CARBON STEEL BOLTS. CAST-IN ANCHORS USED FOR PANEL CONNECTIONS TO BE DAYTON-SUPERIOR F-63 COIL INSERTS, OR EQUAL PRODUCTS USED BY THE BUILDING MANUFACTURER. ALL INSERTS FOR CORNER CONNECTIONS MUST BE SECURED DIRECTLY TO FORM BEFORE CASTING PANELS. NO FLOATING-IN OF CONNECTION INSERTS ALLOWED.

G. STAIN AND PAINT:
   1. INTERIOR CONCRETE SURFACES: ALL ROOMS INCLUDING CHASE.
      a. INTERIOR WALLS AND CEILINGS TO BE PRE-CATALYZED WATER-BASED EPOXY PAINT. APPROVED MANUFACTURERS: SHERWIN WILLIAMS, PPG, OR BENJAMIN MOORE.
      b. INTERIOR FLOORS - BASE BID FOR BID PACKAGE NO. 2 (PRE-CAST BUILDING PACKAGE): ONE COAT OF SINGLE-COMPONENT CHEMICAL RESISTANT URETHANE BY SHERWIN WILLIAMS, BENJAMIN MOORE OR PPG.
      c. INTERIOR FLOORS - ALTERNATE NO. 1 FOR BID PACKAGE NO. 2 (PRE-CAST BUILDING PACKAGE): INTERIOR FLOORS WILL BE TWO-COMPONENT, WATER-BASED POLYAMIDE EPOXY FLOOR COATING (GRAY, UNLESS OTHERWISE NOTED). APPROVED MANUFACTURERS: SHERWIN WILLIAMS FLOOR-PLEX 7100, ARMORPOXY, OR PPG.
   2. EXTERIOR CONCRETE SURFACES:
      a. EXTERIOR WALLS AND ROOF: WATER-BASED ACRYLIC, WATER-REPELLENT PENETRATING STAIN. APPROVED MANUFACTURERS: UNITED COATINGS "CANYON TONE STAIN," SHERWIN WILLIAMS "H&C CONCRETE STAIN," OR EQUAL. COLOR TO BE SELECTED BY ARCHITECT.
      b. CLEAR ACRYLIC ANTI-GRAFFITI SEALER.

2.2 ACCESSORIES

A. DOORS AND FRAMES: COMPLY WITH STEEL DOOR INSTITUTE "RECOMMENDED SPECIFICATIONS FOR STANDARD STEEL DOORS AND FRAMES" (SDI-100) AND AS SPECIFIED. ALL DOOR AND FRAME GALVANIZING TO BE IN ACCORDANCE WITH ASTM A924 AND A653, A60 MINIMUM COATING THICKNESS.
   1. EQUIP BUILDINGS WITH 3-FEET 0-INCHES BY 6-FEET 8-INCHES BY 1-3/4-INCHES THICK, INSULATED, 16-GAUGE, METAL DOORS WITH FLUSH TOP CAP, AND WITH 16-GAUGE FRAMES TO MEET WALL THICKNESS. PROVIDE FACTORY BONDERIZED DOORS AND FRAMES PAINTED WITH 1 COAT OF RUST INHIBITIVE PRIMER AND ON FINISH COAT OF ENAMEL PAINT. COLOR SELECTED BY ARCHITECT.
   2. DOORS AND FRAMES: SDI LEVEL 2 1-3/4-INCH HEAVY DUTY.
      a. APPROVED MANUFACTURERS:
         i. BLACK MOUNTAIN.
         ii. CECO.
         iii. CURRIES.
         iv. MESKER.
         v. MPI GROUP.
         vi. PIONEER.
         vii. REPUBLIC.
         viii. STEELCRAFT.
   3. ROLLING COUNTER SHUTTER: PAINTED GALVANIZED STEEL, MANUAL OPERATION. SIZE AS INDICATED ON DRAWINGS. COLOR TO BE SELECTED BY ARCHITECT.

B. DOOR HARDWARE:
   1. EXTERIOR DOORS SHALL BE PREPARED FOR 2-3/4-INCH CYLINDRICAL LOCKSETS FURNISHED AND INSTALLED BY THE OWNER. EXTERIOR LOCKSETS TO BE THE DISTRICT STANDARD BATTERY-OPERATED KEY-CARD HARDWARE WHICH INCLUDES A KEY OVERRIDE AND WILL BE CLASSROOM FUNCTION. THE ACCESS CONTROL FEATURES AND DATA CONNECTIVITY WILL BE HANDLED BY THE OWNER IN THE FUTURE UTILIZING WIRELESS BRIDGE TECHNOLOGY. PROVIDE ALL OTHER HARDWARE AS PART OF BID PACKAGE NO. 2 INCLUDING THE INTERIOR CHASE DOOR WHICH WILL BE A STOREROOM FUNCTION.

2. HARDWARE SETS:

1	CONTINUOUS HINGE	CFM_HD1		PE
1	RIM EXIT DEVICE	LD 99L-NL X 996L-NL	US26D	VD
1	CYLINDER	BY OWNER	626	SC
1	DOOR CLOSER	4040XP EDA	AL	LC
1	ARMOR PLATE	K1050 32" X 32" CSK 3BE	US32D	RO
1	WALL STOP	405	US26D	RO
1	THRESHOLD	2005AT		PE
1	SET WEATHERSTRIP	303AS		PE
1	DOOR BOTTOM SWEEP	3452CNB		PE
2	DOOR VIEWER	622	CRM	RO

C. WALL VENT; PROVIDE OPERABLE VENT WITH REMOVABLE CRANK, EXTRUDED ALUMINUM, MINIMUM THICKNESS OF 0.125-INCH, 6063-T5 ALLOY OR STAINLESS STEEL. PROVIDE ALUMINUM MESH INSECT SCREEN AND 204-R1 CLEAR ANODIZED FINISH OR TYPE 304 STAINLESS-STEEL MESH.
   1. APPROVED MANUFACTURER:
      a. SUNVENT INDUSTRIES OR EQUAL.
D. SIGNS: MEET ADA REQUIREMENTS WITH BRAILLE, CHARACTERS AND PICTOGRAMS.
E. WINDOWS:
   1. FRAMES: TYPE 304 STAINLESS-STEEL OR CLEAR ANODIZED ALUMINUM. 6063-T5.
   2. GLAZING: 1/4-INCH TRANSLUCENT LEXAN OR POLYCARBONATE MATERIAL.
F. GRAB BARS: STAINLESS STEEL TUBING, 18-GAUGE, TYPE 304 STAINLESS STEEL, MOUNTED 1-1/2-INCHES FROM WALL.
   1. APPROVED MANUFACTURERS:
      a. A & J WASHROOM ACCESSORIES, INC.
      b. AMERICAN SPECIALTIES, INC.
      c. BOBRICK WASHROOMS EQUIPMENT.
      d. BRADLEY CORPORATION.

G. WARM-AIR HAND DRYER: WHERE INDICATED, PROVIDE WARM-AIR DRYER COMPLYING WITH THE FOLLOWING:
   1. PRODUCTS: AVAILABLE PRODUCTS INCLUDE THE FOLLOWING:
      a. "XLERATOR," MODEL XL; EXCEL DRYER CORPORATION.
      b. "AIRFORCE" HAND DRYER KJR-937 (120 V), WORLD DRYER CORPORATION.
      c. "EXTREMEAIR" GXT SERIES, AMERICAN DRYER.
   2. AUTOMATIC HAND DRYER: WARM-AIR HAND DRYER WITH NO-TOUCH OPERATION CONTROLLED BY ELECTRONIC SENSOR AND SPECIFIED COVER. PROVIDE SEMI-RECESSED UNIT UNLESS INDICATED OTHERWISE.
      a. FINISH: WHITE-PAINTED METAL.
      b. LOW ENERGY USE: MAXIMUM 1100 WATT HEATING ELEMENT SIZE AND 5/8 HP FAN MOTOR WHICH PROVIDES AN OUTLET AIR VELOCITY OF 10,000 TO 16,000 LINEAR FEET/MINUTE AT THE AIR OUTLET.
      c. PROVIDE LARGE DIAMETER (1.1 INCH OR MORE) OR MULTI-PORT BLOWER DISCHARGE FOR QUIET DISCHARGE APPLICATION.
   3. VOLTAGE: 120 VAC, 15 AMP, 60 HZ, SINGLE PHASE. COAT HOOK: 1 2-PRONG, TYPE 204 STAINLESS STEEL, HOOK PER STALL.
   1. APPROVED MANUFACTURERS:
      a. A & J WASHROOM ACCESSORIES, INC.
      b. AMERICAN SPECIALTIES, INC.
      c. BOBRICK WASHROOMS EQUIPMENT.
      d. BRADLEY CORPORATION.

H. MIRRORS: ONE 18-INCH BY 36-INCH FRAMELESS, STAINLESS-STEEL MIRROR: MINIMUM NOMINAL 0.0312-INCH- THICK, TYPE 430 STAINLESS STEEL WITH BRIGHT FINISH AND 1/4-INCH RETURN AT EDGES; BONDED TO 1/4-INCH THICK, TEMPERED HARDBOARD BACKING AND SECURED WITH TAMPER-RESISTANT, STAINLESS-STEEL FASTENERS.
   1. APPROVED MANUFACTURERS:
      a. A & J WASHROOM ACCESSORIES, INC.
      b. AMERICAN SPECIALTIES, INC.
      c. BOBRICK WASHROOMS EQUIPMENT.
      d. BRADLEY CORPORATION.

I. TOILET PARTITIONS (DOORS AND STALL WALLS (NON-CONCRETE ONES)): GENERAL: PROVIDE MATERIALS SELECTED FOR SURFACE FLATNESS AND SMOOTHNESS. EXPOSED SURFACES THAT EXHIBIT PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATION, OR OTHER IMPERFECTIONS ON FINISHED UNITS ARE NOT ACCEPTABLE.
   1. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE SOLID POLYMER PANELS TESTED IN ACCORDANCE WITH NFPA 286 AND SHOWN TO MEET THE FOLLOWING CRITERIA:
      a. DURING THE 40 KW EXPOSURE, FLAMES SHALL NOT SPREAD TO THE CEILING.
      b. DURING THE 160 KW EXPOSURE.
      c. FLAME SHALL NOT SPREAD TO THE OUTER EXTREMITY OF THE SAMPLE ON ANY WALL OR CEILING.
      d. FLASHOVER, AS DEFINED IN NFPA 286, SHALL NOT OCCUR.
      e. THE PEAK RATE OF HEAT RELEASE THROUGHOUT THE NFPA 286 TEST SHALL NOT EXCEED 800KW.
      f. THE TOTAL SMOKE RELEASED THROUGHOUT THE NFPA 286 TEST SHALL NOT EXCEED 1,000M2.
   2. SOLID PLASTIC: HIGH DENSITY, SOLID POLYMER RESINS WITH HOMOGENEOUS COLOR THROUGHOUT (HIGH DENSITY POLYETHYLENE - "HDPE"). PROVIDE MATERIAL NOT LESS THAN 7/8-INCH THICK, SEAMLESS CONSTRUCTION AND EDGES EASED. BASIS OF DESIGN PRODUCT ASI GLOBAL PARTITIONS #9217 BLACK CONFETTI.
   3. PILASTER SHOES: ASTM A 167, TYPE 302/304 STAINLESS STEEL, MINIMUM 3" HIGH, 20 GAGE, FINISHED TO MATCH HARDWARE.
   4. CONTINUOUS STIRRUP BRACKETS: CONTINUOUS EXTRUSION, ONE-PIECE DESIGN FOR ATTACHING PANELS TO WALLS AND PILASTERS; OF HEAVY DUTY EXTRUDED ANODIZED ALUMINUM.
   5. HARDWARE AND ACCESSORIES: MANUFACTURER'S STANDARD DESIGN, HEAVY-DUTY HARDWARE.

J. TOILET TISSUE DISPENSER: ROCK HILL SCHOOL DISTRICT III STANDARD, TORK TWIN JUMBO #56, SMOKE COLOR.
K. PLUMBING: SEE PLUMBING DRAWINGS.
L. ELECTRICAL: SEE ELECTRICAL DRAWINGS.

2.3 FINISHES

A. INTERIOR OF BUILDING: SMOOTH FORM FINISH ON ALL INTERIOR PANEL SURFACES UNLESS EXTERIOR FINISH IS PRODUCED USING A FORM LINER, THEN SMOOTH HAND TROWELED.

B. EXTERIOR OF BUILDING: STANDARD ARCHITECTURAL PRECAST CONCRETE BRICK FINISH: FINISH MUST BE IMPRINTED IN TOP FACE OF PANEL WHILE IN FORM USING AN OPEN GRID IMPRESSION TOOL SIMILAR TO EASI- BRICK. FINISHED BRICK SIZE TO BE 2-3/8-INCH BY 7-5/8-INCH WITH VERTICAL STEEL FLOAT OR LIGHT BROOM FINISH. JOINTS BETWEEN EACH BRICK MUST BE 3/8-INCH WIDE BY 3/8-INCH DEEP. BACK OF JOINT SHALL BE CONCAVE TO SIMULATE A HAND-TOOLED JOINT. EACH BRICK FACE SHALL BE COATED WITH THE CONCRETE STAIN SPECIFIED ABOVE. JOINTS TO BE KEPT SUBSTANTIALLY FREE OF STAIN TO MAINTAIN A GRAY CONCRETE COLOR. COLOR TO MATCH EXISTING SCHOOL BRICK.

2.4 WARRANTY

A. PROVIDE 20-YEAR WARRANTY AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR ALL CONCRETE COMPONENTS AND 1 - YEAR FOR ALL OTHER COMPONENTS. PROVIDE A 2-YEAR WATER-TIGHTNESS WARRANTY FOR THE BUILDING ENVELOPE.

PART 3 – EXECUTION

3.1 SITE PREPARATION (PROVIDED BY OWNER UNDER A SEPARATE CONTRACT PRIOR TO BUILDING ARRIVAL).

3.2 SITE ACCESS

A. A LEVEL, UNOBSTRUCTED AREA LARGE ENOUGH FOR A CRANE AND A TRACTOR-TRAILER TO PARK ADJACENT TO THE PAD WILL BE PROVIDED TO THE BUILDING SUPPLIER. CRANE MUST BE ABLE TO PLACE OUTRIGGERS WITHIN 5-FEET 0-INCHES OF EDGE OF PAD; TRUCK AND CRANE MUST BE ABLE TO GET SIDE BY SIDE UNDER THEIR OWN POWER. NO OVERHEAD LINES MAY BE WITHIN 75-FEET RADIUS OF CENTER OF PAD. FIRM ROADBED WITH TURNS THAT ALLOW 65-FOOT LOWBED TRACTOR-TRAILER MUST BE PROVIDED DIRECTLY TO SITE. NO BUILDING TO BE PLACED CLOSER THAN 2-FEET 0-INCHES TO AN EXISTING STRUCTURE UNLESS SPECIFICALLY PERMITTED.

B. BUILDING MANUFACTURER TO MAKE A SITE VISIT TO ENSURE ACCESS IS ADEQUATE.

END OF SECTION

STRUCTURAL REQUIREMENTS:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2018 (IBC).

2. SPECIAL INSPECTIONS ARE REQUIRED BY THE IBC, SECTION 1704.

3. CLASSIFICATION OF BUILDING
   RISK CATEGORY (IBC TABLE 1604.5) II

4. FLOOR LIVE LOADS — UNIFORM — CONCENTRATED
   FLOOR LIVE LOAD — 150 PSF — 2000 LB
   CONCENTRATED LOAD APPLIED OVER 2'-6" x 2'-6" AREA.
   REDUCTION OF FLOOR LIVE LOAD HAS NOT BEEN UTILIZED.

5. ROOF LIVE LOADS
   MINIMUM ROOF LIVE LOAD — 20 PSF — 300 LB
   CONCENTRATED LOAD APPLIED OVER 2'-6" x 2'-6" AREA.
   REDUCTION OF MINIMUM ROOF LIVE LOAD HAS NOT BEEN UTILIZED.

6. ROOF SNOW LOAD

GROUND SNOW LOAD (Pg)	10 PSF
IMPORTANCE FACTOR (Is)	1.0
EXPOSURE FACTOR (Ce)	0.9
THERMAL FACTOR (Ct)	1.0
FLAT ROOF SNOW LOAD (Pf = 0.7 x Ce x Ct x Is x Pg)	6.3 PSF
MINIMUM Pf FOR Pg = 20 PSF OR LESS Pf min = I x Pg	10 PSF

7. WIND DESIGN DATA

ULTIMATE DESIGN WIND SPEED (3 SECOND GUST)	111 MPH
NOMINAL DESIGN WIND SPEED (3 SECOND GUST)	86 MPH
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT (GCpi)	±0.18 (ENCLOSED)
COMPONENTS AND CLADDING WIND PRESSURE	PER IBC & ASCE7

8. SEISMIC DESIGN DATA

SEISMIC DESIGN CATEGORY	C
SEISMIC IMPORTANCE FACTOR (Ie)	1.00
SITE CLASS	D
MAPPED SPECTRAL RESPONSE ACCELERATIONS (Ss)	0.232
(S1)	0.088
DESIGN SPECTRAL RESPONSE ACCELERATIONS (Sds)	0.247
(Sd1)	0.141
BASIC SEISMIC FORCE RESISTING SYSTEM:	A. BEARING WALL SYSTEMS 5. INTERMEDIATE PRECAST SHEAR WALLS.
RESPONSE MODIFICATION COEFFICIENT (R)	4.0
SYSTEM OVERSTRENGTH FACTOR	2.5
DEFLECTION AMPLIFICATION FACTOR	4.0
SEISMIC RESPONSE COEFFICIENT (Cs)	0.082
DESIGN BASE SHEAR (V = Cs x W)	0.082W
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE

9. FOUNDATIONS ARE DESIGNED TO BEAR ON CONTROLLED COMPACTED GRANULAR FILL WITH AN ALLOWABLE SOIL BEARING CAPACITY OF 1500 PSF MINIMUM PER MANUFACTURER'S REQUIREMENTS.

10. BASE COURSE SHALL BE A CLEAN, DENSELY-GRADED "CRUSHER RUN" MATERIAL, MINIMUM 4" THICK, WITH A BALANCED FINE CONTENT, SUCH AS ABC STONE. THE BASE COURSE SHALL COMPACTED AND FINISHED TO A FLAT, SMOOTH , LOW-FRICTION SURFACE TO THE MANUFACTURER'S TOLERANCES. OPEN GRADED OR WASHED CRUSHED STONE SUCH AS NO. 57 STONE AND SAND ARE STRICTLY PROHIBITED.

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STATE OF SOUTH CAROLINA — MOSELEY ARCHITECTS of SOUTH CAROLINA, P.C. — COLUMBIA, SC — 101066 — REGISTERED ARCHITECTS

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

SPECS

A0.2

2/10/2020 11:25:28 AM

FINISH SCHEDULE

NUMBER	NAME	FLOOR	BASE	WALLS				WAINSCOT	CEILING	NOTES
				NORTH	EAST	SOUTH	WEST			
C001	CONCESSION AREA	CONC-SLR		EPX PT	EPX PT	EPX PT	EPX PT	-	EXPC PT	
C002	CHASE	CONC-SLR		EPX PT	EPX PT	EPX PT	EPX PT	-	EXPC PT	
C003	MENS RESTROOM	CONC-SLR		EPX PT	EPX PT	EPX PT	EPX PT	-	EXPC PT	
C004	WOMENS RESTROOM	CONC-SLR		EPX PT	EPX PT	EPX PT	EPX PT	-	EXPC PT	

DOOR SCHEDULE

NUMBER	DOOR						FRAME						FIRE RATING	NOTES
	TYPE	SIZE (NOMINAL)	MATL	LOUVER	UC	GLAZING TYPE	TYPE	NUMBER	SECTIONS	HEAD DETAIL	JAMB DETAIL	SILL DETAIL		
C003	F	3'-0"x7'-0"x1-3/4"	STL	-	-	-	STL	1	A	10/A2.1	10/A2.1	10/A2.1	-	
C004	F	3'-0"x7'-0"x1-3/4"	STL	-	-	-	STL	1	A	10/A2.1	10/A2.1	10/A2.1	-	
C002	F	2'-8"x7'-0"x1-3/4"	STL	-	-	-	STL	1	A	10/A2.1	10/A2.1	10/A2.1	-	
C001.2	C	8'-0" x 4'-0" x 1"	STL	-	-	-	STL	1	-	-	5/A2.2	4/A2.2	3/A2.2	-
C001.1	F	3'-0"x7'-0"x1-3/4"	STL	-	-	-	STL	1	A	10/A2.1	10/A2.1	10/A2.1	-	

FINISH SCHEDULE GENERAL NOTES

A. FINISH SCHEDULE DESCRIBES ONLY THE BASIC OR PREDOMINANT SURFACE FINISH.

B. DIRECTIONAL WALL FINISH INDICATORS (NORTH, EAST, SOUTH, WEST) REFER TO THE "PLAN" NORTH ORIENTATION.

C. PROVIDE CONTINUOUS SEALANT BETWEEN INTERIOR SLAB-ON-GRADE AND VERTICAL ELEMENT WHERE JOINT IS NOT CONCEALED BY FINISH BASE OR OTHER CONSTRUCTION.

DOOR AND FRAME GENERAL NOTES

A. UNLESS INDICATED OTHERWISE, ALL DETAIL NUMBERS IN THE DOOR AND FRAME SCHEDULE FOR HEAD, JAMB AND SILL CONDITIONS REFER TO DRAWINGS A2.1

B. DOOR AND FRAME DETAILS INDICATE GENERAL CHARACTERISTICS OF DOOR AND FRAME SIZES AND COMPONENTS AND MAY NOT INDICATE EXACT FIELD CONDITIONS OR REQUIREMENTS. COORDINATE DETAILS WITH OTHER DRAWINGS AND SPECS TO DETERMINE ALL COMPONENTS (E.G., SEALANTS, ANCHORS, HARDWARE, LINTELS, CLIPS) REQUIRED FOR COMPLETE AND FUNCTIONAL INSTALLATION.

C. DOOR SWINGS ON FLOOR PLANS TAKE PRECEDENCE OVER SWINGS INDICATED ELSEWHERE (E.G., ELEVATIONS).

FLOOR PLAN GENERAL NOTES

A. PROVIDE CONT. SEALANT AT ALL DOOR FRAMES WHERE WALL AND FRAME MEET BEFORE PAINTING.

FLOOR PLAN KEYNOTES

APPLIES TO DRAWINGS 1/A2.1
REPRESENTED BY n

1. PLUMBING BLOCKOUTS, DIMENSIONS NOTED ON PLAN, REFER TO PLUMBING SHEET P0.1 FOR AREA DRAIN DETAIL
2. UTILITY SINK, REFER TO PLUMBING DRAWINGS FOR CONTINUATION
3. MOP SINK CABINET, REFER TO PLUMBING DRAWINGS FOR CONTINUATION
4. SS COUNTERTOP LEDGE, REFER TO DETAIL 3/A2.2
5. PANEL JOINT, SHALL BE CAULKED ON EXT AND INT SURFACE OF JOINT.

ROOF PLAN GENERAL NOTES

A. ROOF PLAN DOES NOT INDICATE ALL EQUIPMENT AND PENETRATIONS. REFER TO OTHER DISCIPLINE'S DRAWINGS FOR QUANTITIES AND LOCATIONS OF ROOFTOP EQUIPMENT AND ASSOCIATED PENETRATIONS.

B. ROOF DETAILS MAY NOT ENTIRELY REPRESENT ACTUAL CONSTRUCTION CONDITIONS. ACTUAL DETAIL ASSEMBLIES SHALL BE APPROVED BY ROOFING MANUFACTURER.

ROOF PLAN KEYNOTES

APPLIES TO DRAWINGS 2/A2.1
REPRESENTED BY n

1. 4" OVERHANG, WITH 1/2" TURNDOWN EDGE. TYP
2. 2" VENT PIPE, REFER TO PLUMBING DRAWINGS FOR CONTINUATION
3. ROOF JOINT

BUILDING ELEVATION GENERAL NOTES

A. NOT ALL EXTERIOR WALL PENETRATIONS MAY BE SHOWN. RE: PLUMBING, MECHANICAL, ELECTRICAL DWGS.

B. FINISH GRADES SHOWN ARE APPROXIMATE. CONTRATOR TO REVIEW & COORDINATE w/ SITE GRADING PLAN.

C. PAINT ALL EXPOSED EXTERIOR GALV. STEEL LINTELS TO MATCH ADJACENT EXTERIOR FINISH COLOR, U.N.O. REF: SPECS.

D. SEALANT/CAULKING COLORS TO MATCH ADJACENT FINISH LISTED, AS SHOWN BELOW. ARCHITECT TO APPROVE SAMPLE IN FIELD PRIOR TO INSTALLATION.

1. SEALANT COLOR @ WINDOWS STOREFRONT, CURTAIN WALL TO MATCH FRAME COLOR.
2. SEALANT COLOR @ HOLLOW METAL FRAME TO MATCH FRAME COLOR.
3. SEALANT COLOR @ BRICK TO MATCH BRICK COLOR.

BUILDING ELEVATION KEYNOTES

APPLIES TO DRAWINGS 6/A2.1 - 9/A2.1
REPRESENTED BY n

1. EXTERIOR FINISH, IMPRINTED BRICK PATTERN, REFER TO SPECIFICATIONS.
2. PANEL JOINT, SHALL BE CAULKED ON EXT AND INT SURFACE OF JOINT.
3. BI-LEVEL WATERCOOLER, REFER TO PLUMBING DRAWINGS FOR CONTINUATION.
4. WALL SCONCE, REFER TO ELECTRICAL DRAWINGS FOR CONTINUATION.
5. SS LEDGE, REFER TO DETAIL 3/A2.2 - 5/A2.2
6. 12"x12" LOUVER, REFER TO MECHANICAL DRAWINGS FOR CONTINUATION

WALL/PARTITION TYPE GENERAL NOTES

A. EXTEND WALL/PARTITION ASSEMBLY COMPONENTS FULL HEIGHT OF ASSEMBLY.

B. THE TERMS "WALL" AND "PARTITION" MAY BE USED INTERCHANGEABLY THROUGHOUT THE CONTRACT DOCUMENTS.

C. SEAL AROUND ALL PENETRATIONS.

D. WALL/PARTITION TYPES DO NOT ADDRESS WALL FINISHES. REFER TO FINISH SCHEDULE.

ROOF ASSEMBLIES

REPRESENTED BY n

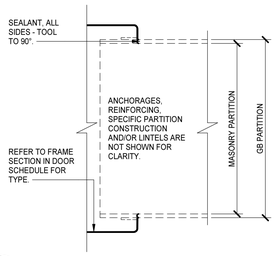
MARK	REMARKS	INFORMATION
RFA1	ROOF NOTES: - MIN. 6" SLOPE FROM PEAK TO EDGE. - ROOF SHALL ALSO HAVE AN INTEGRAL ARCHITECTURAL RIBBED EDGE	SEALED CONCRETE ROOF PANEL (PROVIDED BY MANUFACTURE)

EXTERIOR WALL ASSEMBLIES

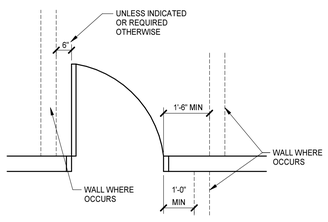
REPRESENTED BY WAn

MARK		INFORMATION
WA1		4" MIN. EXTERIOR: IMPRINTED BRICK PATTERN, STAINED INTERIOR: SMOOTH FORM FINISH
WA2		4" MIN. INTERIOR: SMOOTH FORM FINISH

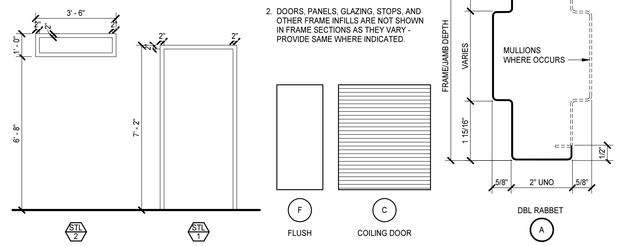
NOTE: WALL THICKNESS DETERMINED BY MANUFACTURE, MIN 4" NOT TO EXCEED 5"



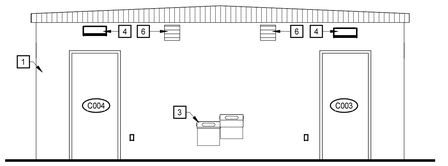
10 / A2.1 **INTERIOR WRAP HEAD/JAMB/SILL**
6" = 1'-0"



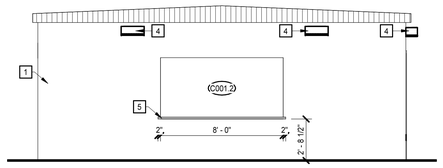
MANEUVERING CLEARANCE AT DOORS



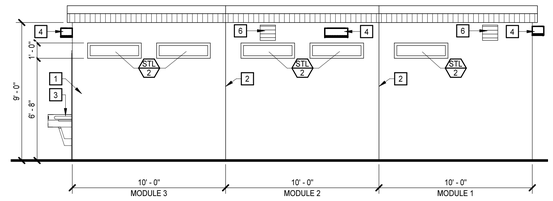
STEEL FRAME ELEVATION AND SECTIONS



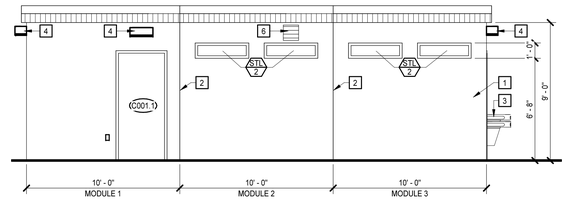
9 / A2.1 A2.1 **BUILDING ELEVATION**
1/4" = 1'-0"



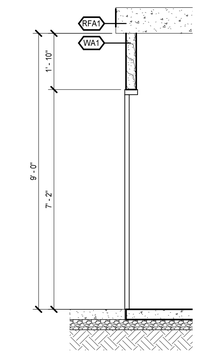
8 / A2.1 A2.1 **BUILDING ELEVATION**
1/4" = 1'-0"



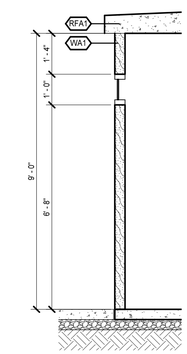
7 / A2.1 A2.1 **BUILDING ELEVATION**
1/4" = 1'-0"



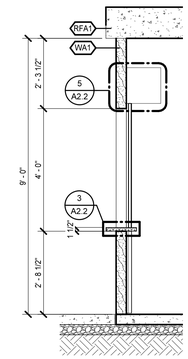
6 / A2.1 A2.1 **BUILDING ELEVATION**
1/4" = 1'-0"



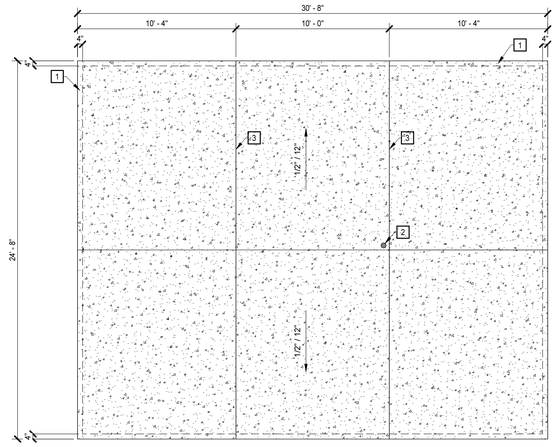
5 / A2.1 A2.1 **WALL SECTION**
1/2" = 1'-0"



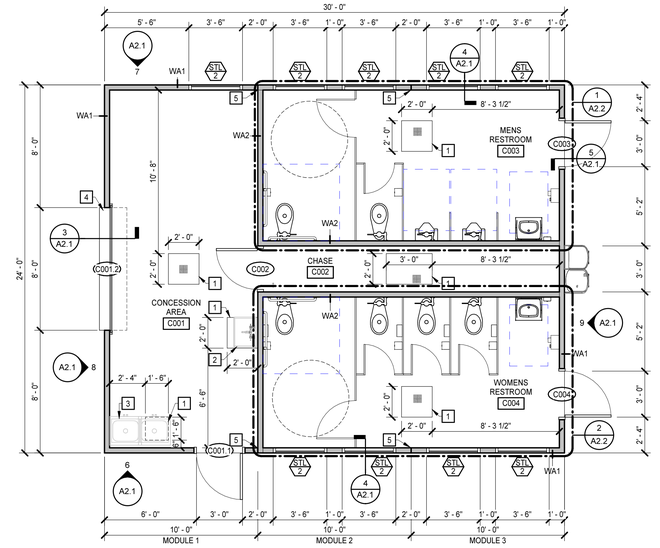
4 / A2.1 A2.1 **WALL SECTION**
1/2" = 1'-0"



3 / A2.1 A2.1 **WALL SECTION**
1/2" = 1'-0"



2 / A2.1 **ROOF PLAN**
1/4" = 1'-0"



1 / A2.1 **FLOOR PLAN**
1/4" = 1'-0"

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Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

FLOOR PLAN

A2.1

2/10/2020 11:25:30 AM

TOILET ASSEMBLIES GENERAL NOTES

A. PLAN DIMENSIONS ARE TO FACE OF WALL OR PARTITION. WHERE APPLIED FINISHES OCCUR-SUCH AS CERAMIC TILE-DIMENSIONS ARE TO FACE OF APPLIED FINISH. FOR WAINSCOTS, FLOOR PLAN DIMENSIONS ARE TO FACE OF WAINSCOT MATERIAL. APPLIED FINISHES ARE NOT ALLOWED TO REDUCE CLEAR DIMENSIONS. "APPLIED FINISHES" IN THIS CASE DO NOT INCLUDE TRIM, BASE, AND ACOUSTIC WALL PANELS.

B. CLEAR DIMENSIONS ARE TO FACE OF APPLIED WALL AND PARTITION FINISHES.

TOILET ASSEMBLIES

APPLIES TO DRAWINGS A7.1 - A7.nn
REPRESENTED BY (TAn)

MARK	REMARKS	PLAN
TA1		2'-10" CLEAR, UNO; D, E; 5'-0" CLEAR; * 1'-3" MIN; TOILET PARTITION; TOILET PARTITION OR WALL
TA2	OMIT (E)	WATER CLOSET
BARRIER FREE TA7		B, C, D, E, A
BARRIER FREE TA8	OMIT (E)	WATER CLOSET
BARRIER FREE TA10		3' - 0" CLEAR; URINAL SCREEN; WALL TOILET PARTITION, OR URINAL SCREEN; 1'-10"; 1'-6" MIN; 1'-6" MIN
		URINAL
TA11	CENTER (G) OVER LAVATORY	G, F
		LAVATORY

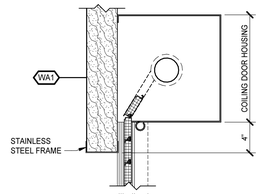
LEGEND NOTES:

A. HANDING/ORIENTATION MAY VARY. REFER TO PLANS FOR PROPER ORIENTATION.

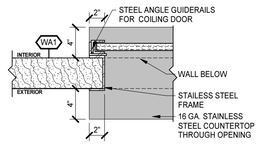
B. PLUMBING FIXTURE GRAPHICS IN THIS LEGEND ARE REPRESENTATIVE ONLY. ACTUAL PLUMBING FIXTURES MAY VARY.

C. COAT/ROBE HOOKS INDICATED ON THE BACK OF TOILET COMPARTMENT DOORS ARE PART OF THE TOILET COMPARTMENT ASSEMBLY AND ARE NOT CONSIDERED A TOILET ACCESSORY.

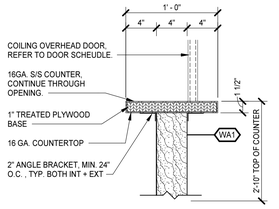
1. ACCESSORY ITEMS ARE IDENTIFIED BY ⬡ ON PLANS. LETTERS CORRESPOND TO SCHEDULE ABOVE.
2. ACTUAL DIMENSIONS OF ACCESSORIES MAY VARY. COORDINATE DIFFERENCES, IF ANY.
3. REFER TO ALL CASEWORK ELEVATIONS FOR ADDITIONAL TOILET ACCESSORY LOCATIONS.
4. PROVIDE MOP AND BROOM HOLDER W/ SHELF ⬡ AT ALL CUSTODIAL/JANITORIAL SINKS. MOUNT AT 5'-0" AFF TO CENTERLINE AND LOCATE ON SIDE WALL OF SINK (NOT ON WALL ABOVE FAUCET).
5. PROVIDE COAT HOOK ON INTERIOR FACE OF ALL TOILET ROOM DOORS WHEREIN ONLY ONE WATER CLOSET IS PROVIDED. MOUNT AT 3'-11" AFF TO TOP.



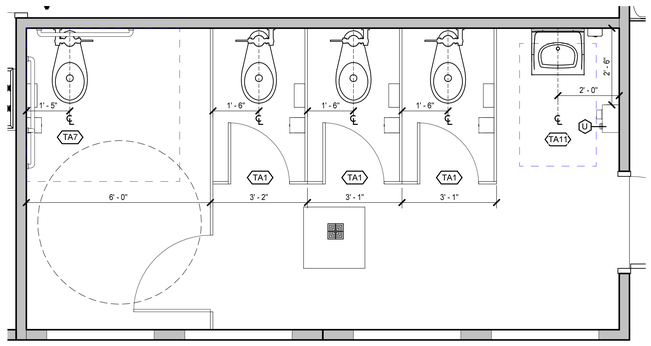
5 A2.1 A2.2 **COILING DOOR HEAD DETAIL**
1 1/2" = 1'-0"



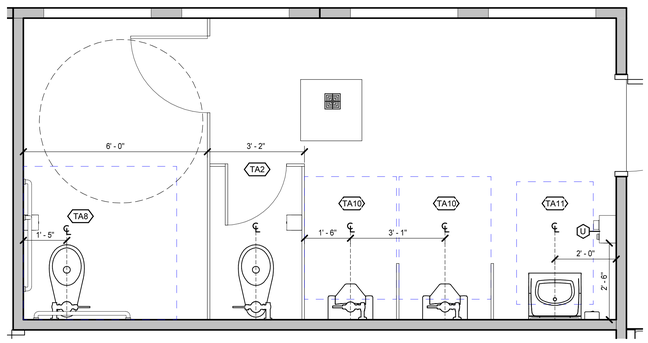
4 A2.2 **COILING DOOR JAMB DETAIL**
1 1/2" = 1'-0"



3 A2.1 A2.2 **COILING DOOR SILL DETAIL**
1 1/2" = 1'-0"



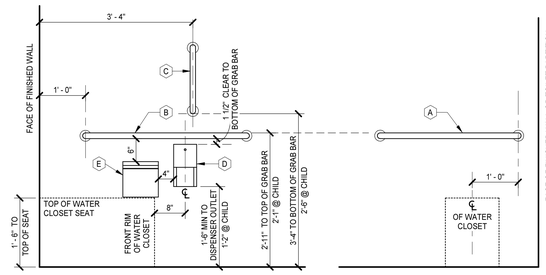
2 A2.1 A2.2 **FLOOR PLAN - Callout 2**
1/2" = 1'-0"



1 A2.1 A2.2 **FLOOR PLAN - Callout 1**
1/2" = 1'-0"

TOILET ACCESSORIES SCHEDULE

MARK	DESCRIPTION	MOUNTING HEIGHT	REMARKS
A	36" HORIZONTAL GRAB BAR	REFER TO WATER CLOSET ELEVATIONS	
B	42" HORIZONTAL GRAB BAR	REFER TO WATER CLOSET ELEVATIONS	
C	18" VERTICAL GRAB BAR	REFER TO WATER CLOSET ELEVATIONS	
D	TOILET TISSUE DISPENSER	REFER TO WATER CLOSET ELEVATIONS	
E	SANITARY NAPKIN DISPOSAL	REFER TO WATER CLOSET ELEVATIONS	
F	SOAP DISPENSER	3'-4" AFF TO DISPENSING OUTLET	
G	MIRROR (18" x 36"), OVER LAV AND CONTERTOP	3'-4" AFF TO BOTTOM OF REFLECTIVE SURFACE	
U	WARM AIR HAND DRYER	3'-0" AFF TO AIR OUTLET	



WATER CLOSET ELEVATIONS

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Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

ENLARGED PLANS

A2.2

2/10/2020 12:49:22 PM

ABBREVIATIONS

@	AT	EX	EXISTING	OSD	OPEN SITE DRAIN
AAV	AIR ADMITTANCE VALVE	EXP	EXPANSION	PC	PRECAST
ABV	ABOVE	FCO	FLOOR CLEANOUT	PCF	POUNDS PER CUBIT FOOT
ADJ	ADJUSTABLE	FD	FLOOR DRAIN	PD	PUMP DISCHARGE
ADNL	ADDITIONAL	FDC	FIRE DEPARTMENT CONNECTION	PLUMB	PLUMBING
AFF	ABOVE FINISHED FLOOR	FDN	FOUNDATION DRAIN	PLYWD	PLYWOOD
AFG	ABOVE FINISHED GRADE	FF	FINISHED FLOOR	POLY	POLYETHYLENE
AHU	AIR HANDLING UNIT	FFE	FINISHED FLOOR ELEVATION	PPT	PRESSURE PRESERVATIVE TREATED
ALT	ALTERNATE	FG	FINISHED GRADE	PREFAB	PREFABRICATE(D)
ALUM	ALUMINUM	FH	FIRE HYDRANT	PROJ	PROJECT
AP	ACCESS PANEL	FHC	FIRE HOSE CABINET	PSF	POUNDS PER SQUARE FOOT
APPR	APPROXIMATE	FHS	FIRE HOSE STATION	PSI	POUNDS PER SQUARE INCH
ARCH	ARCHITECTURAL	FHVC	FIRE HOSE VALVE CABINET	PV	PROPANE VENT
AUTO	AUTOMATIC	FIX	FIXTURE	PVC	POLYVINYL CHLORIDE
AVG	AVERAGE	FLR	FLOOR	PVMT	PAVEMENT
BFF	BELOW FINISHED FLOOR	FLSHG	FLASHING	R	RISER
BFG	BELOW FINISHED GRADE	FOR	FUEL OIL RETURN	RAD	RADIUS
BLDG	BUILDING	FOS	FUEL OIL SUPPLY	RD	ROOF DRAIN (BOTTOM OUTLET)
BO	BOTTOM OF	FOV	FUEL OIL VENT	RDS	ROOF DRAIN (SIDE OUTLET)
BOT	BOTTOM	FS	FLOOR SINK	REF	REFERENCE
BSMT	BASEMENT	FT	FOOT OR FEET	REQD	REQUIRED
BTWN	BETWEEN	FVC	FIRE VALVE CABINET	REQMT	REQUIREMENTS
CA	COMPRESSED AIR	G	NATURAL GAS	RL	RAIN LEADER
CI	CAST IRON	GCO	GRADE CLEANOUT	RM	ROOM
CIP	CAST-IN-PLACE CONCRETE	GWH	GAS WATER HEATER	RO	ROUGH OPENING
CL	CENTERLINE	HB	HOSE BIBB	S	SOUTH
CLG	CEILING	HORIZ	HORIZONTAL	SAN	SANITARY
CLR	CLEAR	HP	HORSEPOWER	SCH	SCHEDULE
CMP	CORRUGATED METAL PIPE	HTG	HEATING	SD	STORM DRAIN
CNTR	COUNTER	HW	HOT WATER	SDN	STORM DRAIN NOZZLE
CO	CLEANOUT	HWR	HOT WATER RETURN	SHT	SHEET
COL	COLUMN	HWS	HOT WATER SUPPLY	SIM	SIMILAR
CONC	CONCRETE	ID	INSIDE DIAMETER	SLT	SEALANT
CONDS	CONDENSATE	IN	INCH	SOG	SLAB ON GRADE
CONSTR	CONSTRUCT(ION)	INSUL	INSULATE OR INSULATION	SP	SUMP PUMP
CONT	CONTINUATION	INV	INVERT	SPEC	SPECIFICATION
CONTR	CONTRACT(-OR)	JAN	JANITOR	SPR	SPRINKLER
CORR	CORRIDOR	KIT	KITCHEN	SQ	SQUARE
CP	CIRCULATING PUMP	KW	KITCHEN WASTE	SRD	SECONDARY ROOF DRAIN
CR	CLASSROOM	LAB	LABORATORY	SS	STAINLESS STEEL
CT	COOLING TOWER	LAV	LAVATORY	SSD	SECONDARY STORM DRAIN
CU	COPPER	LBS	POUNDS	STD	STANDARD
CU FT	CUBIC FEET	LF	LINEAR FOOT (FEET)	STL	STEEL
CU YD	CUBIC YARD	LP	PROPANE	STOR	STORAGE
CW	COLD WATER	LPV	PROPANE VENT	STRUCT	STRUCTURAL
DB	DRY BULB	MATL	MATERIAL	SUSP	SUSPENDED
DCW	DOMESTIC COLD WATER	MAX	MAXIMUM	THK	THICK(-NESS)
DEMO	DEMOLISH OR DEMOLITION	MECH	MECHANICAL	TLT	TOILET
DF	DRINKING FOUNTAIN	MED	MEDIUM	TOSL	TOP OF SLAB
DHR	DOMESTIC HOT WATER RETURN	MFR	MANUFACTURER	TW	DOMESTIC TEMPERED WATER (90° F)
DHR(140)	DOMESTIC HOT WATER RETURN (140°)	MH	MANHOLE	TYP	TYPICAL
DHW	DOMESTIC HOT WATER	MIN	MINIMUM	UG	UNDERGROUND
DHW(140)	DOMESTIC HOT WATER (140°)	MISC	MISCELLANEOUS	UNO	UNLESS NOTED (INDICATED) OTHERWISE
DI	DROP INLET	MTD	MOUNTED	V	VENT
DIA	DIAMETER	N	NORTH	VAC	VACUUM
DIP	DUCTILE IRON PIPE	N/A	NOT APPLICABLE/AVAILABLE	VB	VACUUM BREAKER
DN	DOWN	NC	NORMALLY CLOSED	VERT	VERTICAL
DS	DOWNSPOUT	NG	NATURAL GAS	VTR	VENT THROUGH ROOF
DT	DRAIN TILE	NGV	NATURAL GAS VENT	W	WEST
DTL	DETAIL	NIC	NOT IN CONTRACT	W/	WITH
DTW	DOMESTIC TEMPERED WATER	NO	NORMALLY OPEN	W/O	WITHOUT
DWG	DRAWING	NO., (#)	NUMBER	WB	WASHER BOX
E	EAST	NOM	NOMINAL	WC	WATER CLOSET
ELEC	ELECTRICAL	OC	ON CENTER	WCO	WALL CLEANOUT
EPBD	ELECTRICAL PANELBOARD	OD	OUTSIDE DIAMETER	WHA-X	WATER HAMMER ARRESTER WITH SIZE
EQ	EQUAL	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	WSHP	WATER SOURCE HEAT PUMP
EQUIP	EQUIPMENT	OFF	OFFICE	WWF	WELDED WIRE FABRIC
ETR	EXISTING TO REMAIN	OH	OVERHEAD	WWM	WELDED WIRE MESH
EWC	ELECTRIC WATER COOLER	OPNG	OPENING	XFMR	TRANSFORMER
EWH	ELECTRIC WATER HEATER	OPP	OPPOSITE		

GRAPHICS SYMBOLS LEGEND

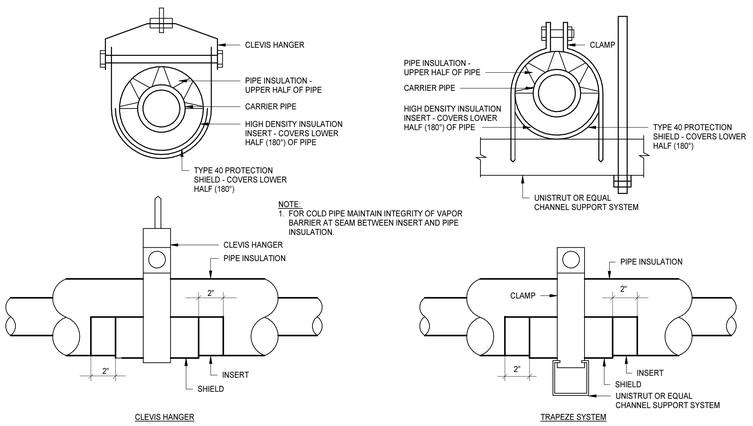
- X" XXX — PIPE WITH SIZE AND SERVICE
- FLOW IN DIRECTION OF ARROW
- 1/8" FT — PITCH DOWN IN DIRECTION OF ARROW AT INDICATED SLOPE
- PIPE CAP
- PIPE TURNED DOWN
- PIPE TURNED UP
- PIPE TEE UP
- PIPE TEE DOWN
- UNION
- CONCENTRIC PIPE REDUCTION
- CO — END OF LINE CLEANOUT PLUG
- CO — FLOOR CLEANOUT
- WCO — WALL CLEANOUT
- CO (GCO) — YARD CLEANOUT (CLEANOUT TO GRADE)
- FD-1 — FLOOR DRAIN WITH TAG
- FS-1 — FLOOR SINK WITH TAG
- PRESSURE GAUGE WITH GAUGE COCK
- LIQUID FILLED THERMOMETER
- A — WATER HAMMER ARRESTOR (PLUMBING & DRAINAGE INSTITUTE SIZE INDICATED)
- FS — FLOW SWITCH
- TEMPERATURE/PRESSURE PLUG
- VALVE
- VALVE IN RISER
- GAS COCK
- VENTURI FLOW METER
- MANUAL BALANCING VALVE
- AUTOMATIC BALANCING VALVE WITH FLOW TAPS
- SWING CHECK VALVE
- PRESSURE REDUCING VALVE
- S — SOLENOID OPERATED VALVE
- T&P — TEMPERATURE AND PRESSURE RELIEF VALVE
- BACKWATER VALVE
- HOSE BIBB OR WALL HYDRANT
- REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
- DOUBLE CHECK BACKFLOW PREVENTER
- PUMP
- POINT OF CONNECTION TO EXISTING
- LIMIT OF DEMOLITION
- 30 — KEYNOTE
- 8 — STRUCTURAL GRID LINE WITH DESIGNATION
- A123 — **SPACE IDENTIFICATION TAG**: SPACE NUMBER; BUILDING AREA (WHEN USED)
- AHU-02 — **EQUIPMENT IDENTIFICATION TAG**: EQUIPMENT NUMBER; UNIT DESIGNATION
- **SECTION WHERE CUT**: A / P6.1 — SECTION LETTER; DRAWING WHERE SECTION IS INDICATED
- **ENLARGED PLAN WHERE CUT**: 1 / P6.1 — ENLARGED PLAN NUMBER; DRAWING WHERE ENALRGED PLAN IS INDICATED
- **DETAIL TAG**: 1 / P6.1 — DETAIL NUMBER; DRAWING WHERE DETAIL IS INDICATED
- **SANITARY RISER TAG**: S1 / P6.1 — SANITARY RISER IDENTIFIER; DRAWING WHERE SANITARY RISER IS TAGGED
- **DOMESTIC RISER TAG**: D1 / P6.1 — DOMESTIC RISER IDENTIFIER; DRAWING WHERE SANITARY RISER IS TAGGED

1 DETAIL TITLE — 1/4"=1'-0" (P2.2, P6.2, P2.3, P2.4)
- DETAIL NUMBER
- DRAWING WHERE DETAIL IS INDICATED
- DRAWING WHERE DETAIL IS CUT
- ADDITIONAL DRAWING REFERENCES

S1 SANITARY RISER DIAGRAM — 1/4"=1'-0" (P2.2, P4.2, P2.3, P2.4)
- SANITARY RISER DIAGRAM IDENTIFIER
- DRAWING WHERE SANITARY RISER IS INDICATED
- DRAWING WHERE SANITARY RISER IS TAGGED
- ADDITIONAL DRAWING REFERENCES

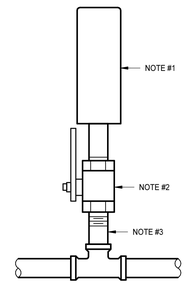
D1 DOMESTIC RISER DIAGRAM — 1/4"=1'-0" (P2.2, P5.2, P2.3, P2.4)
- DOMESTIC RISER DIAGRAM IDENTIFIER
- DRAWING WHERE DOMESTIC RISER IS INDICATED
- DRAWING WHERE DOMESTIC RISER IS TAGGED
- ADDITIONAL DRAWING REFERENCES

G1 FUEL GAS RISER DIAGRAM — 1/4"=1'-0" (P2.2, P5.2, P2.3, P2.4)
- FUEL GAS RISER DIAGRAM IDENTIFIER
- DRAWING WHERE FUEL GAS RISER IS INDICATED
- DRAWING WHERE FUEL GAS RISER IS TAGGED
- ADDITIONAL DRAWING REFERENCES



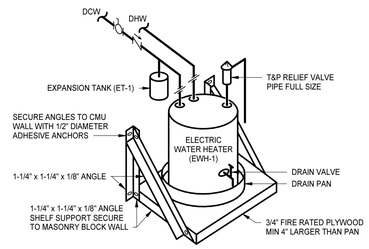
CLEVIS HANGER — TRAPEZE SYSTEM

PIPE SUPPORT AND THERMAL SHIELD DETAILS
NO SCALE



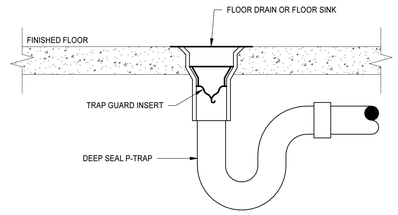
NOTES:
1. WATER HAMMER ARRESTOR.
2. BALL VALVE. VALVE SIZE SHALL BE EQUAL TO NOMINAL SIZE OF ARRESTOR OUTLET (MINIMUM 1/2").
3. BRANCH PIPE EQUAL TO NOMINAL SIZE OF ARRESTOR OUTLET (MINIMUM 1/2").

WATER HAMMER ARRESTOR DETAIL
NO SCALE



NOTE:
PROVIDE A MANUFACTURERED WATER HEATER SUPPORT OR PROVIDE SUPPORT AS SHOWN ABOVE.

WALL MOUNTED ELECTRIC WATER HEATER DETAIL
NO SCALE



TRAP GUARD INSERT DETAIL

GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

B. COORDINATE PIPING LOCATIONS AND INSTALLATION WITH EACH TRADE TO AVOID CONFLICTS WITH OTHER TRADES.

C. PROVIDE FLOOR CLEANOUTS INDICATED FLUSH WITH FLOOR FINISHES.

D. PROVIDE CLEANOUTS WHERE INDICATED AND ADDITIONAL CLEANOUTS AS REQUIRED BY LOCAL CODE.

E. REFER TO DRAWINGS FROM EACH DISCIPLINE BEFORE ROUGHING-IN PLUMBING FIXTURES.

F. OBTAIN DIMENSIONS AND ROUTING IN FIELD BEFORE INSTALLATION OF PLUMBING AND FIXTURES.

G. PROVIDE ISOLATION VALVES IN ACCORDANCE WITH DIAGRAMS, DETAILS, AND DIVISION 22 SPECIFICATIONS.

H. REFER TO STRUCTURAL DRAWINGS FOR DETAILS AND MAXIMUM SPACING REQUIREMENTS REGARDING HANGER ATTACHMENTS TO STEEL BAR JOISTS.

GENERAL DATA

PLUMBING GENERAL DATA

Item	Value
SERVICE SIZING	
INSTANTANEOUS DEMAND (GPM)	61
SUPPLY FIXTURE UNITS (SFU)	79
DRAINAGE FIXTURE UNITS (DFU)	35
STORM DRAINAGE	
AREA OF ROOF (SQUARE FEET)	BY VENDOR
AREA OF WALL ABOVE/ADJACENT TO ROOF (SQUARE FEET)	N/A
TOTAL ROOF DRAINAGE (SQUARE FEET)	BY VENDOR
WATER HEATERS	
NUMBER	1
HOT WATER REQUIRED	30
FUEL USED	ELEC

MOSELEY ARCHITECTS
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MOSELEYARCHITECTS.COM

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 26273 — 02/07/20 — JUSTIN P. CARLSON

SOUTH CAROLINA — MOSELEY ARCHITECTS No. 3983 — CERTIFICATE OF AUTHORIZATION

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: January 7, 2020

REVISIONS

DATE	DESCRIPTION

LEGENDS, ABBREVIATIONS AND GENERAL NOTES

P0.1

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PLUMBING FIXTURE ROUGHING-IN SCHEDULE

TAG	FIXTURE	HEIGHT A.F.F.	PIPE SIZE					NOTES
			COLD WATER	TEPID WATER	HOT WATER	VENT	SOIL WASTE	
DF-1	BI-LEVEL DRINKING FOUNTAIN (ACCESSIBLE)	BUBBLER AT 34" & 39"	1/2"	N/A	N/A	2"	2"	1
HB-1	HOSE BIBB	18" ABOVE FINISHED FLOOR	1/2"	N/A	N/A	N/A	N/A	
WH-1	WALL HYDRANT (FREEZE RESISTANT BOX)	12" ABOVE FINISHED FLOOR	3/4"	N/A	N/A	N/A	N/A	
LA-1	LAVATORY - (ACCESSIBLE)	RIM AT 34" ABOVE FINISHED FLOOR	1/2"	N/A	N/A	2"	2"	1
SK-1	KITCHEN UTILITY SINK (SINGLE COMPARTMENT)	FLOOR STAND	1/2"	N/A	1/2"	2"	3"	3
MBC-1	MOP SERVICE BASIN CABINET	FLOOR MOUNTED	1/2"	N/A	1/2"	2"	3"	3
SK-2	SINK - UTILITY	FLOOR MOUNTED	1/2"	N/A	1/2"	1-1/2"	2"	1
UR-1	URINAL	RIM AT 24"	3/4"	N/A	N/A	2"	2"	2
WC-1	FLOOR MOUNTED WATER CLOSET - (ACCESSIBLE)	TOP OF SEAT 17-19"	1"	N/A	N/A	2"	4"	1, 2
WC-2	FLOOR MOUNTED WATER CLOSET	TOP OF SEAT 15"	1"	N/A	N/A	2"	4"	2

NOTES:

1. THIS ACCESSIBLE FIXTURE, ACCESSORIES, AND INSTALLATION SHALL COMPLY TO ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES STANDARDS.
2. LOCATE FLUSH ACTUATORS ON WIDE SIDE OF STALLS OR APPROACH AREAS.
3. PROVIDE ASSE 1016 CERTIFIED MIXING VALVE SET TO 110 DEG. F.

BACKFLOW PREVENTER & PRESSURE REDUCING VALVE SCHEDULE

TAG	BASIS OF DESIGN		LOCATION	SYSTEM	SIZE	DESIGN FLOW RATE (GPM)	PRESSURE DROP (PSI)	NOTES
	MANUFACTURER	MODEL						
BFP-1	WATTS	LF007	PLUMBING CHASE	DCW	2"	65.00	10.00	
PRV-1	WATTS	LF25AUB-Z3	PLUMBING CHASE	DCW	2"	65.00	10.00	

ELECTRIC WATER HEATER SCHEDULE

TAG	BASIS OF DESIGN		CAPACITY (GALLONS)	RECOVERY RATE (GPH)	TEMPERATURE RISE (°F)	THERMAL EFFICIENCY	ELECTRICAL DATA				TEMPERATURE SETTING (°F)	NOTES
	MANUFACTURER	MODEL					INPUT RATE	VOLTAGE	PHASE	HERTZ		
EWH-1	A.O. SMITH	DEL-30	30	24	100	97%	6 KW	208	1	60	140	1

NOTES:

1. KW INPUT RATE FOR ELECTRIC WATER HEATERS BASED ON FULL LOAD SIMULTANEOUS OPERATION.

TANK SCHEDULE

TAG	BASIS OF DESIGN		LOCATION	SYSTEM TYPE	TANK TYPE	OPERATING DATA			ASME CODE CONSTRUCTION (YES/NO)	CONNECTION SIZE	NOTES
	MANUFACTURER	MODEL				TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	AIR PRE-CHARGE PRESSURE (PSIG)		INLET (IN)	
ET-1	AMTROL	ST-5C-DD	PLUMBING CHASE	DHW	EXPANSION	2.00	0.90	40 - 50	YES	3/4"	1

NOTES:

1. PROVIDE HOLDRITE QUICK STRAP WALL MOUNTING BRACKET OR EQUAL TO ATTACH EXPANSION TANK TO WALL.

DRAIN AND CLEANOUT SCHEDULE

TAG	BASIS OF DESIGN		STRAINER/GRATE	NOTES
	MANUFACTURER	MODEL		
DRAINS				
FD-1	JOSAM	30000-6S-PD-2-VP-X	6" x 6"	1, 2
FS-1	JOSAM	49344A-3-33-35-X	10" x 10"	HALF GRATE

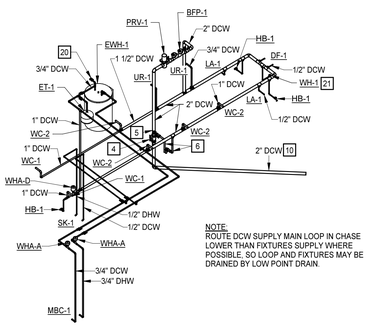
NOTES:

1. PROVIDE ALL FLOOR DRAINS CONNECTED TO THE SANITARY SEWER SYSTEM WITH DEEP SEAL TRAPS AND TRAP GUARD INSERTS UNLESS OTHERWISE NOTED.
2. SANITARY DRAINS TO HAVE ADJUSTABLE HEIGHT TOP.

KEYNOTES

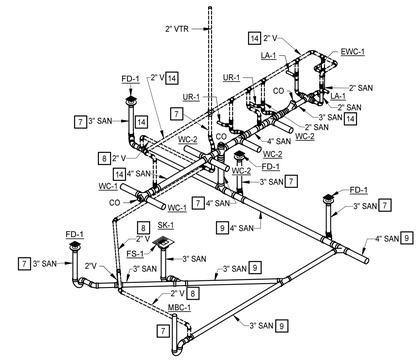
APPLIES TO THIS DRAWING
REPRESENTED BY n

1. ELECTRIC WATER HEATER LOCATED AS HIGH AS POSSIBLE ON GALVANIZED STEEL SUPPORT PLATFORM AND DRAIN PAN. ROUTE FULL SIZE DRAIN TO FLOOR DRAIN IN CHASE. PROVIDE HOLDRITE QUICKSTAND EQUIPMENT PLATFORM OR EQUAL.
2. EXPANSION TANK MOUNTED HIGH AS POSSIBLE ON WALL BRACKET. PROVIDE HOLDRITE QUICKSTRAP MOUNTING BRACKET OR EQUAL.
3. 1/2" DCW & DHW DOWN FACE OF WALL TO SINK. AFFIX PIPING TO WALL WITH STAND-OFF SUPPORTS AND PROVIDE INSULATION AND PVC JACKET PER SPECIFICATION.
4. PROVIDE DCW MAIN SHUT-OFF VALVE PER SPECIFICATION 6" ABOVE FINISHED FLOOR.
5. 2" DCW MAIN STUBBED UP THROUGH PREMANUFACTURED FLOOR OPENING. REFER TO CIVIL DRAWINGS FOR PIPING.
6. LOW POINT DRAIN - 1" DCW WINTERIZING PIPING SYSTEM DRAIN WITH BALL VALVE. TURN DOWN OVER FLOOR DRAIN.
7. SANITARY OR VENT STUBBED UP THROUGH PREMANUFACTURED FLOOR OPENING. REFER TO CIVIL DRAWINGS FOR PIPING.
8. VENT PIPING UNDER SLAB. REFER TO CIVIL DRAWINGS FOR ALL UNDERSLAB PIPING.
9. SANITARY PIPING UNDER SLAB. REFER TO CIVIL DRAWINGS FOR ALL UNDERSLAB PIPING.
10. DOMESTIC PIPING UNDER SLAB. REFER TO CIVIL DRAWINGS FOR ALL UNDERSLAB PIPING.
11. 3/4" DCW & DHW DOWN FACE OF WALL TO MOP SINK CABINET FAUCET AT 3'-0" AFF. AFFIX PIPING TO WALL WITH STAND-OFF SUPPORTS AND PROVIDE INSULATION AND PVC JACKET PER SPECIFICATION.
12. CONNECT SANITARY TO UNDER SLAB PIPIND STUB-UP.
13. CONNECT DOMESTIC WATER TO UNDER SLAB STUB-UP.
14. SANITARY OR VENT PIPING ABOVE SLAB.
15. WALL MOUNTED WATER CLOSET BOLTED DIRECTLY THROUGH CONCRETE WALL WITH PIPE OPENINGS IN WALL.
16. WALL MOUNTED URINAL BOLTED DIRECTLY THROUGH CONCRETE WALL WITH PIPE OPENINGS IN WALL.
17. WALL MOUNTED LAVATORY SINK BOLTED DIRECTLY THROUGH CONCRETE WALL WITH PIPE OPENINGS IN WALL.
18. WALL MOUNTED HI-LO DRINKING FOUNTAIN.
19. 2" VENT DOWN THROUGH SLAB AND 2" VENT THROUGH ROOF
20. 3/4" DCW MANUAL HIGH POINT VENT VALVE TO DRAIN DOMESTIC SYSTEM.
21. WALL HYDRANT LOCATED 12" AFF AND BELOW DRINKING FOUNTAINS.

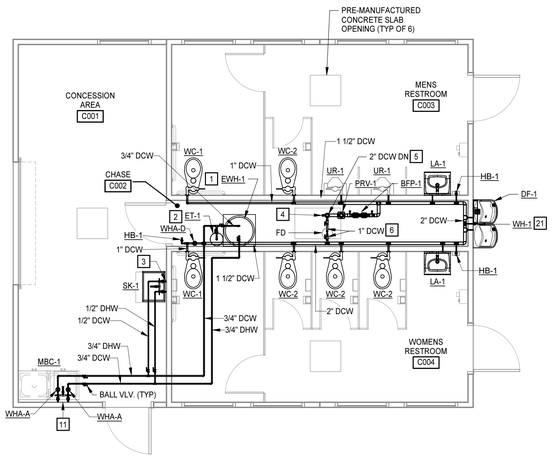


NOTE:
ROUTE DCW SUPPLY MAIN LOOP IN CHASE LOWER THAN FIXTURES SUPPLY WHERE POSSIBLE, SO LOOP AND FIXTURES MAY BE DRAINED BY LOW POINT DRAIN.

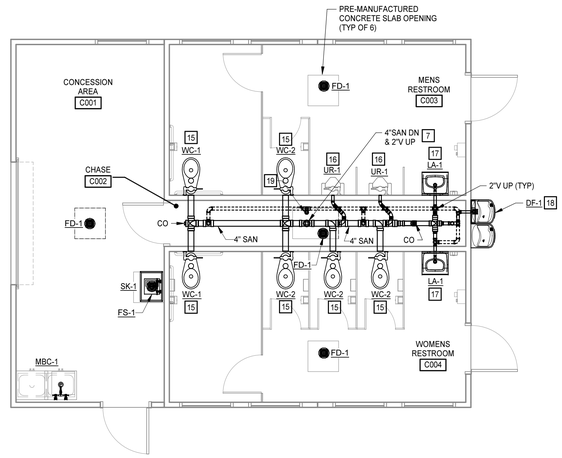
D1 DOMESTIC RISER
NO SCALE



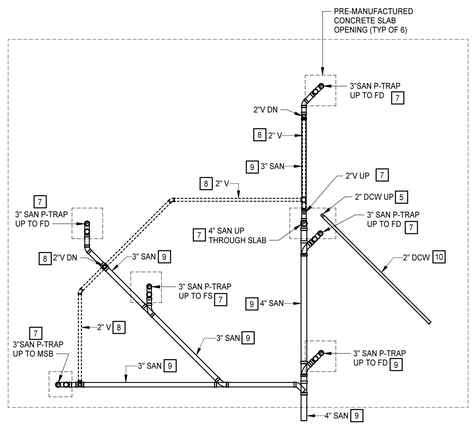
S1 SANITARY RISER
NO SCALE



FIRST FLOOR PLAN - PLUMBING - DOMESTIC
1/4" = 1'-0"



FIRST FLOOR PLAN - PLUMBING - SANITARY
1/4" = 1'-0"



FOUNDATION PLAN - (REFER TO CIVIL FOR THIS UNDER SLAB PIPING)
1/4" = 1'-0"

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 26273 JUSTIN T. CARLSON 02/07/20

SOUTH CAROLINA MOSELEY ARCHITECTS No. 3983 CERTIFICATE OF AUTHORIZATION

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: January 7, 2020

REVISIONS	
DATE	DESCRIPTION

PLUMBING

P2.0.1

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PLUMBING FIXTURES

HB-1 - HOSE BIBB
Manufacturer and Model Number: Woodford Model 24
Anti-Siphon Vacuum Breaker
ASSE 1011
3/4" garden-hose threads.
1/2" Inlet
Brass Construction
Optional Removable Tee Key Handle
Standard Chrome Finish
Optional Manufacturers:
Apollo
T&S
Chicago
Arrowhead Brass

WH-1 - WALL HYDRANT (FREEZLESS)
Manufacturer and Model Number: Woodford Model B67 or RB67
Anti-Siphon Vacuum Breaker
Backflow Protected
ASSE 1052
3/4" garden-hose threads.
3/4" Inlet
Brass Construction
Hinged anodized aluminum locking wall box
Removable Tee Key Handle
Standard Chrome Finish
Optional Manufacturers:
Apollo
T&S
Chicago
Arrowhead Brass

LA-1 - LAVATORY (ACCESSIBLE) WITH SELF-CLOSING FAUCET

Manufacturer & Model Number: Kohler Model K-2084-N
Material: Cast Iron
Color: White
20"L x 18"W Single hole

Faucet: Moen Model 8884 (Single handle ADA metering faucet)
1. Provide:
a. Polished chrome plated finish.
b. Solid brass body.
c. 0.5 GPM pressure compensating vandal resistant outlet
d. Vandal resistant handle with hot and cold water index.
e. Self-closing adjustable metering cartridge.
f. Maximum 0.25 Gal/Cycle.

Drain: McGuire Part Number 155A

Trap: McGuire Part Number 8902C-F
2. 1-1/4"x 1-1/2" cast brass polished chrome trap with cleanout plug and brass slip nuts.
3. 17-gauge seamless tubular chrome plated brass wall bend.
4. Forged brass chrome plated wall flange with setscrew.

Supplies: McGuire Part Number 2165-N3-F
5. ½" IPS x 3/8" OD
6. ½" x 3" chrome plated brass nipple.
7. Heavy brass chrome plated wall flange with set-screw
8. Contractor shall coordinate supply connection to back-check tee and shall provide required additional pipe.

Insulation/shields: Tru-Bro Lav Shield 2108
9. Color: White
10. Provides cover and conceals components for ADA approved lavatories. Plumbing rough-in shall be coordinated with shield dimensional requirements for proper installation.
11. Purchase pre-cut models to fit listed lavatories or standard model that will be field cut to fit unlisted or existing lavatories.

Other Manufacturers: Provide products, features, and accessories equal to those specified above.
12. Lavatory
a. American Standard
b. Eljer
c. Gerber
d. Sloan
e. Zurn
13. Faucet:
a. Cambridge Brass
b. T&S Brass
c. Sloan
d. Zurn
14. Drain:
a. Kohler
b. Cambridge Brass
c. Chicago
15. Trap:
a. Kohler
b. Cambridge Brass
16. Supplies:
a. Cambridge Brass
b. Kohler
17. Insulation:
a. McGuire

SK-1 – ONE COMPARTMENT SINK (Floor Standing)

Manufacturer & Model Number: Eagle Group Model 412-16-1
Overall Length (left to right):23.25"
Overall Width (front to back): 27.5"
Number of Bowls: 1
Drain location: Off-center, rear.
Inside Bowl Depth: 16"
Inside Bowl Width: 20"
Material: Stainless Steel
Legs/stand Material: Stainless steel
Feet Material: Stainless Steel
Drainboard: None

Back Deck Hole drilling configuration:
2 holes, 8"apart.
Faucet: Moen Model 8126
Hole configuration: 2 Hole installation, 8" centers.
Spout: 8" long swing spout 12" high..
Handle: Lever style.
Aerator: Vandal resistant, pressure compensating, 1.5 gpm
Cartridges: Ceramic or compression ¼ turn.
Meets ADA requirements: Yes

Basket Strainer & Tail Piece: Jomar Valve SS-306B Snap-N-Loc Basket Strainer
Ball bearing basket seal strainer.
Material: Brushed stainless steel.
Nuts: Cast brass lock, slip, and coupling, chrome plated
Tailpiece: McGuire ST15004020, 1-1/2" x 4" 20 gauge seamless brass, chrome plated.

Supplies: McGuire Part Number 2167-N3-F
Inlet: ½" IPS
Outlet: ½" OD compression.
Nipple: ½" x 3" chrome plated brass.
Wall flange: Heavy brass chrome plated with set-screw
Insulation: Tru-Bro Lav Guard #102

Insulate P-trap, hot and cold angle valves, hot and cold risers.
Other Manufacturers: Provide products, features, and accessories equal to those specified above.
Sink:
c. Advance Tabco
d. Regency

Faucet:
e. Chicago
f. T&S
g. Speakman

MBC-1 - MOP SERVICE BASIN SINK CABINET

Manufacturer & Model Number: Eagle Group Model F1916-VSCS-DL
Double width cabinet, mop sink on left side, cabinet shelves right side.
All type 430 Stainless Steel construction with doors
Dimensions: 47.5"W x 22.25"D x 84.25"H

Faucet: Chicago Model 897-CP
8" center
Vacuum breaker spout
#369 2-3/8" Lever Handles
Integral supply stops
Pail hook
Wall support
Drain: Cast brass with stainless steel strainer or equal as furnished with sink.
Trap: 3" (Provide additional pipe and material transition as required make connection to sink)
Provide the following :
30" long hose
Mop/broom holder

Other Manufacturers: Provide products, features, and accessories equal to those specified above.
Mop Service Sink Cabinet:
h. Advance Tabco
i. John Boos

Faucet:
j. T&S
k. Moen
l. Speakman

PLUMBING FIXTURES (CONTINUED)

UR-1 - URINAL (ACCESSIBLE) WITH BATTERY POWERED SENSOR OPERATED FLUSH VALVE

Manufacturer & Model Number: Kohler Model K-5016-ETSS (0.5 Gallon Flush)
Siphon Jet Urinal
Material: Vitreous china
Color: White
Antimicrobial finish
Flush Valve: Flush Valve: Sloan Regal 186 SMO-0.5 (0.5 Gallon Flush)
Provide:
Flush Over-ride Button
¾" I.P.S. Screwdriver Bak-Chek Angle Stop
Vandal Resistant Stop Cap
Polished Chrome Finish
Brass Body
Top Spud Design

Other Manufacturers: Provide products, features, and accessories equal to those specified above.
Urinal
a. American Standard
b. Eljer
c. Crane
d. Gerber
e. Sloan
f. Zurn
Flush Valve
a. Moen
b. Zurn

WC-1 - WATER CLOSET (ACCESSIBLE) WITH BATTERY POWERED SENSOR OPERATED FLUSH VALVE

Manufacturer & Model Number: Kohler Model K-4352 (1.6 Gallon Flush)
1. Material: Vitreous china
2. Color: White
3. Floor mount rear outlet flushometer bowl with top spud supply.
Flush Valve: Sloan Regal Model 111 SMO-1.6 (1.6 Gallon Flush)
Provide:
4. Courtesy Flush Over-ride Button
5. 1" I.P.S. Screwdriver Bak-Chek Angle Stop
6. Vandal Resistant Stop Cap
7. Polished Chrome Finish
8. Brass Body
9. Top Spud Design
Seat: Church 9500SSCT (White)
10. Elongated extra heavy weight seat with stainless steel self-sustaining check hinge.
Alternate Manufacturers:
11. Water Closet
a. American Standard
b. Eljer
c. Crane
d. Gerber
e. Zurn
f. Sloan
12. Flush Valve:
a. Sloan
b. Zurn
13. Seat
a. Olsonite
b. Centoco

WC-2 - (WATER CLOSET) WITH BATTERY POWERED SENSOR OPERATED FLUSH VALVE

Manufacturer & Model Number: Kohler Model K-4398 (1.6 Gallon Flush)
1. Material: Vitreous china
2. Color: White
3. Floor mount rear outlet flushometer bowl with top spud supply.
Flush Valve: Sloan Regal Model 111 SMO-1.6 (1.6 Gallon Flush)
Provide:
4. Courtesy Flush Over-ride Button
5. 1" I.P.S. Screwdriver Bak-Chek Angle Stop
6. Vandal Resistant Stop Cap
7. Polished Chrome Finish
8. Brass Body
9. Top Spud Design
Seat: Church 9500SSCT (White)
10. Elongated extra heavy weight seat with stainless steel self-sustaining check hinge.
Alternate Manufacturers:
11. Water Closet
a. American Standard
b. Eljer
c. Crane
d. Gerber
e. Zurn
f. Sloan
12. Flush Valve:
a. Sloan
b. Zurn
13. Seat
a. Olsonite
b. Centoco

DF-1 – BI-LEVEL DRINKING FOUNTAIN (ACCESSIBLE)

Manufacturer & Model Number: Elkay Model VRCTLFRDDSC
1. Self-contained wall hung electric non-refrigerated drinking fountain
2. Built-in flow regulator
3. Connect to water supply using dielectric coupling.
4. Provide quick connect fittings.
5. Material: Stainless steel top, sides and front.
6. Color: Manufacturer's standard.
7. Electrical: None required
Supply: McGuire Part Number 2165-N3-F
1. ½" IPS x 3/8" OD
2. ½" x 3" chrome plated brass nipple.
3. Heavy brass chrome plated wall flange with set-screw
4. Provide dielectric connection.
Provide 1¾"diameter tailpiece extension.
Trap: McGuire Part Number 8912-C-F
5. Size:1-1/2"x 1-1/2"
6. Material: Polished chrome plated cast brass.
7. Cleanout plug: Yes
8. Nuts: Polished chrome plated brass.
9. Wall bend: 17-gauge seamless tubular chrome plated brass.
10. Wall flange: Chrome plated brass with setscrew. Where drain pipe connection protrudes from wall contractor may provide deep flange.
Other Manufacturers: Provide products, features, and accessories equal to those specified above.
11. Drinking Fountain:
a. Murdock
b. Halsey Taylor
c. Haws Corp
d. Oasis
12. Trap:
a. Kohler
b. Cambridge Brass

HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

METAL PIPE HANGERS AND SUPPORTS
A. Carbon-Steel Pipe Hangers and Supports:
1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
2. Galvanized Metallic Coatings: Pregalvanized or hot dipped.
3. Nonmetallic Coatings: Plastic coating, jacket, or liner.
4. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
5. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.
B. Copper Pipe Hangers:
1. Description: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components.
2. Hanger Rods: Continuous-thread rod, nuts, and washer made of copper-coated steel.

HANGER AND SUPPORT INSTALLATION
A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Provide hangers, supports, clamps, and attachments as required to properly support piping from the building structure.
B. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.
C. Thermal-Hanger Shield Installation: Provide in pipe hanger or shield for insulated piping.
D. Provide hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
E. Equipment Support Installation: Fabricate from welded-structural-steel shapes.
F. Provide hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
G. Provide lateral bracing with pipe hangers and supports to prevent swaying.
H. Provide building attachments within concrete slabs or attach to structural steel. Building attachments may not used on steel joists unless otherwise indicated. Provide additional attachments at concentrated loads, including valves, flanges, and strainers, 2-1/2" and larger and at changes in direction of piping. Provide concrete inserts before concrete is placed; fasten inserts to forms and provide reinforcing bars through openings at top of inserts.
I. Load Distribution: Provide hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
J. Pipe Slopes: Provide hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.
K. Insulated Piping:
1. Attach clamps and spacers to piping.
a. Piping Operating above Ambient Air Temperature: Clamp may project through insulation.
b. Piping Operating below Ambient Air Temperature: Provide thermal-hanger shield insert with clamp sized to match OD of insert.
c. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.
2. Provide MSS SP-58, Type 39, protection saddles if insulation without vapor barrier is indicated. Fill interior voids with insulation that matches adjoining insulation.
3. Provide MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.
4. Shield Dimensions for Pipe: Not less than the following:
a. Pipe ¼" to 3-½": 12 inches long and 0.048 inch thick.
b. Pipe 4": 12 inches long and 0.06 inch thick.
c. Pipe 5" and 6": 18 inches long and 0.06 inch thick.
d. Pipe 8" to 14": 24 inches long and 0.075 inch thick.
5. Pipes 8" and Larger: Include wood or reinforced calcium-silicate-insulation inserts of length at least as long as protective shield.
6. Thermal-Hanger Shields: Provide with insulation same thickness as piping insulation.

EQUIPMENT SUPPORTS
A. Fabricate structural-steel stands to suspend equipment from structure overhead or to support equipment above floor.
B. Grouting: Place grout under supports for equipment and make bearing surface smooth. Provide lateral bracing, to prevent swaying, for equipment supports.

DOMESTIC WATER PIPING SPECIALTIES

PART 1 - PRODUCTS

VACUUM BREAKERS
A. Pipe-Applied, Atmospheric-Type (Anti-siphon)Vacuum Breakers:
1. Available Manufacturers:
a. Ames Co.
b. Apollo Valves - Apollo Valves - Conbraco Industries, Inc.
c. Watts Industries, Inc.; Water Products Div.
d. Zurn Plumbing Products Group; Wilkins Div.
2. Standard: ASSE 1001.
3. Sizes: ¾" thru 3" as required to match connected piping.
4. Body: Brass or Bronze.
5. Inlet and Outlet Connections: Threaded.
6. Finish: Rough bronze or chrome plated.
B. Pressure Vacuum Breakers:
1. Available Manufacturers:
a. Ames Co.
b. Apollo Valves - Apollo Valves - Conbraco Industries, Inc.
c. Watts Industries, Inc.; Water Products Div.
d. Zurn Plumbing Products Group; Wilkins Div.
2. Standard: ASSE 1020.
3. Operation: Continuous-pressure applications.
4. Size: ¾" thru 1" as required to match connected piping.
5. Accessories:
a. Valves: Ball type, on inlet and outlet.
C. Spill-Resistant Vacuum Breakers:
1. Available Manufacturers:
a. Apollo Valves - Apollo Valves - Conbraco Industries, Inc.
b. Watts Industries, Inc.; Water Products Div.
2. Standard: ASSE 1056.
3. Operation: Continuous-pressure applications.
4. Sizes: ¾" thru 1" as required to match connected piping.
5. Accessories:
Valves: Ball type, on inlet and outlet

TEMPERATURE-ACTUATED WATER MIXING VALVES

B. Individual-Fixture, Water Tempering Valves:
1. Refer to drawing schedule for manufacturer and operating requirements.
2. Available Manufacturers:
a. Apollo Valves - Conbraco Industries, Inc.
b. Lawler Manufacturing Company, Inc.
c. Leonard Valve Company.
d. Powers, a Watts Industries Co.
e. Watts Industries, Inc.; Water Products Div.
f. Zurn Plumbing Products Group; Wilkins Div.
3. Standard: ASSE 1016, thermostatically controlled water tempering valve.
4. Pressure Rating: 125 psig minimum, unless otherwise indicated.
5. Body: Bronze body with corrosion-resistant interior components.
6. Temperature Control: Adjustable.
7. Inlets and Outlet: Threaded. Provide unions and valves.
8. Finish: Chrome-plated bronze.

WATER HAMMER ARRESTERS
A. Available Manufacturers:
1. AMTROL, Inc.
2. Josam Company.
3. MIFAB, Inc.
4. PPP Inc.
5. Sioux Chief Manufacturing Company, Inc.
6. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
7. Tyler Pipe; Wade Div.
8. Watts Drainage Products Inc.
9. Zurn Plumbing Products Group; Specification Drainage Operation.
B. Standard: ASSE 1010 or PDI-WH 201.
C. Type: Metal bellows or copper tube with piston.
D. Size: ASSE 1010, Sizes AA and A through F or PDI-WH 201, Sizes A through F.

SANITARY WASTE AND VENT PIPING

PVC PIPE AND FITTINGS
A. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
1. PVC Socket Fittings: ASTM D 2665, socket type, made to ASTM D 3311, drain, waste, and vent patterns.
B. Solvent Cement and Adhesive Primer:
1. Use PVC solvent cement that has a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Use adhesive primer that has a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PIPING APPLICATIONS
A. Transition fittings with pressure ratings at least equal to piping pressure ratings may be used in applications below, unless otherwise indicated.
B. Aboveground, Soil, Waste, and Vent Piping located inside plenum: Hub-less cast-iron soil piping with heavy duty couplings.
C. Aboveground, Soil, Waste, and Vent Piping located outside plenum: PVC pipe, PVC socket fittings, and solvent-cemented joints.
D. Underground, Soil, Waste, and Vent Piping:
1. PVC pipe and fittings.
2. Service Weight Hub and Spigot cast iron soil pipe and fittings.

HANGER AND SUPPORT INSTALLATION
A. Install the following:
1. Vertical Piping: MSS Type 8 or Type 42, clamps.
2. Individual, Straight, Horizontal Piping Runs: According to the following:
a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
c. Longer Than 100 Feet, if indicated: MSS Type 49, spring cushion rolls.
3. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
4. Base of Vertical Piping: MSS Type 52, spring hangers.
B. Support vertical piping and tubing at base and at each floor.
C. Rod diameter may be reduced 1 size for double-rod hangers, with 3/8-inch minimum rods.
F. Install hangers for PVC piping with the following maximum horizontal spacing and minimum rod diameters:
1. 1 ¼" and 2": 48" with 3/8" rod.
2. 3": 48" with ½" rod.
3. 4" and 5": 48" with 5/8" rod.
4. 6": 48" with ¾" rod.
5. 8" to 12": 48" with 7/8" rod.
G. Install supports for vertical PVC piping every 48".
Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

SANITARY WASTE PIPING SPECIALTIES

CLEANOUTS
A. General:
1. Available Manufacturers:
a. Josam Company; Josam Div.
b. MIFAB, Inc.
c. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
d. Tyler Pipe; Wade Div.
e. Watts Drainage Products Inc.
f. Zurn Plumbing Products Group; Specification
2. Standard: ASME A112.36.2M.
3. Size: Same as connected drainage piping
4. Closure Material: Match pipe, brass, PVC, or ABS

FLOOR DRAINS
1. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
a. Josam Company; Josam Div.
b. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
c. Tyler Pipe; Wade Div.
d. Watts Drainage Products Inc.
e. Zurn Plumbing Products Group; Light Commercial Operation.
f. Zurn Plumbing Products Group; Specification Drainage Operation.
2. Standard: ASME A112.6.3
3. Pattern: As indicated.
4. Clamping Flange: Required.

ELECTRIC WATER HEATERS

PRODUCTS

A. Description: Small storage capacity units (2.50-50.00 Gallons) with limited heating capacity (6.00 kW maximum)
B. Manufacturers:
1. Hubbell
2. Rheem Manufacturing Co.; Rheem Water Heater Div.
3. AO Smith
4. State Industries.
5. Bradford White Corp.
6. Lochinvar Corp.
C. Standards:
1. Comply with UL 174.
2. ASHRAE/IESNA 90.1
3. Listed by manufacturer for commercial applications.
D. Storage Tank Construction: Steel or corrosion-resistant metal with 150-psig working-pressure rating.
1. Tappings: Factory fabricated of materials compatible with tank for piping connections, relief valve, drain, anode rod, and controls. Attach tappings to tank before testing and labeling.
2. Interior Finish: Materials and thicknesses complying with NSF 61, barrier materials for potable-water tank linings. Extend finish into and through tank fittings and outlets.
3. Insulation: Comply with ASHRAE 90.1. Surround entire storage tank except connections and controls.
4. Jacket: Steel, with enameled finish.
E. Pipe Thread: ASME B1.20.1
F. Heating Element: Electric, replaceable, immersion type.
1. Temperature Control: Adjustable thermostat.
G. Anode Rod: Factory installed.
H. Drain Valve: ASSE 1005, corrosion-resistant metal, factory installed.
I. Mounting: Mount unit on wall unless indicated otherwise.
1. Provide factory wall mount kit with attachments per water heater manufacturer. Reinforce stud wall construction with metal to support applied load.
2. Construct metal shelf capable of supporting four (4) times the operating weight (shipping weight + weight of water) of the water heater.
a. Wall attachments shall be stainless steel and shall be capable of supporting applied load in shear and tension. Contractor shall divide the total load by the number of fasteners used.
b. Reinforce stud wall construction with metal to support applied load.

ASME COMPRESSION TANKS
A. Description: ASME-code Steel, pressure-rated tank constructed with welded joints and factory-installed, butyl-rubber diaphragm.
B. Manufacturers:
1. Amtrol, Inc.
2. Armstrong Pumps, Inc.
3. State Industries.
4. Taco, Inc.
5. Wessels Co.
6. Zurn Industries, Inc.; Wilkins Div.
C. Diaphram: Butyl-rubber FDA approved for use with potable (domestic) water
D. ASME-code label: Yes
E. Working Pressure: **150 psig**.
F. Tappings: Factory-fabricated steel, welded to tank before testing and labeling.
G. Pipe Thread: ASME B1.20.1
H. Tank Interior Finish: Materials and thicknesses complying with NSF 61, barrier materials for potable-water tank linings. Extend finish into and through tank fittings and outlets.
I. Tank Exterior Finish: Manufacturer's standard, unless indicated otherwise.
Schedule "air pre-charge" to be equal to potable (domestic) water supply static pressure.
Obtain static pressure from test data or plumbing calculation spread sheet.
J. Air Pre Charge Valve: Factory installed schrader type (standard tire valve).

WATER HEATER ACCESSORIES
A. Combination Temperature and Pressure Relief Valves: ASME rated, ASME stamped, and complying with ASME PTC 25.3.
1. Exception: Omit combination temperature and pressure relief valve for tankless water heater, and furnish pressure relief valve for installation in piping
2. Minimum Relieving Capacity: Equal to heat input.
3. Minimum Pressure Setting: Equal to water heater working pressure rating.
4. Sensing Element: Extends into tank.
5. Temperature Setting: 20° F Higher than water heater set point temp
B. Vacuum Relief Valves: Comply with ASME PTC 25.3. Furnish for installation in piping.
1. Exception: Omit if water heater has integral vacuum-relieving device.
C. Water Heater Mounting Brackets: Steel bracket for wall mounting and capable of supporting water heater and water.
D. Drain Pans: Corrosion-resistant metal with raised edge. Comply with ANSI/CSA LC 3. Include dimensions not less than base of domestic-water heater plus four inches, and include drain outlet not less than ¾" in diameter with ASME B1.20.7 garden-hose threads.
E. Pressure Relief Valves: ASME rated and stamped. Include pressure setting less than domestic-water heater working-pressure rating.
F. Vacuum Relief Valves: ANSI Z21.22/CSA 4.4.
G. Plug and cord:
1. Where water heaters require 120 volt single phase power, provide a plug and cord, for connection to a standard grounded outlet.
2. Cord length: As required to reach outlet, 6'-0" maximum.
3. Plug and cord ampacity shall be approved by the water heater manufacturer.

DOMESTIC WATER PIPING

A. Provide components and installation capable of producing domestic water piping systems with the following minimum working-pressure ratings, unless otherwise indicated:
1. Domestic Water Service Piping: 160 psig.
2. Domestic Water Distribution Piping: 125 psig.

A. Provide components and installation capable of producing domestic water piping systems with the following minimum working-pressure ratings, unless otherwise indicated:
1. Domestic Water Service Piping: 160 psig.
2. Domestic Water Distribution Piping: 125 psig.

PIPING MATERIALS

COPPER TUBING
A. Soft Copper Tube: ASTM B 88, Type K, water tube, annealed temper.
1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.
2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end. Furnish Class 300 flanges if required to match piping.
3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.
B. Hard Copper Tube: ASTM B 88, Type L, water tube, drawn temper.
1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought- copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.
2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end. Furnish Class 300 flanges if required to match piping.
Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends

PIPING APPLICATIONS
A. Aboveground Domestic Water Piping: Use the following piping materials for each size range:
1. 1-1/2" and Smaller: Hard copper tube, Type L copper pressure fittings; and soldered joints.
2. 2": Hard copper tube, Type L copper pressure fittings; and soldered joints.
3. 2-1/2" and above": Hard copper tube, Type L copper pressure fittings; and soldered joints.

GENERAL DUTY VALVES FOR PLUMBING PIPING

COPPER-ALLOY BALL VALVES
A. Two-Piece, Copper-Alloy Ball Valves (Full Port):
1. Conbraco Industries-Apollo 77C series with stainless steel ball & stem (Un-insulated piping)
2. Conbraco Industries-Apollo 77C series with stainless steel ball & stem. Provide 2 ¼" stem extension (Insulated piping)
3. Other Manufacturers:
a. Milwaukee
b. Watts
c. Nibco
4. Handle Nut: Zinc plated steel or 300 series stainless steel.
5. Handle: Zinc plated steel, clear chromate plastic, or vinyl coated.
6. Threaded Pack Gland: Brass ASTM B-16
7. Packing: MPTFE or TFE
8. Stem (Blowout Proof): ASTM A-276 type 316 stainless steel. Provide 2 ¼" stem extension for Insulated piping.
9. Thrust Washer: MPTFE or RPTFE
10. Ball: Full-port, ASTM A-276 Type 316 stainless steel.
11. Seats: MPTFE or Reinforced TFE (RPTFE)
12. Body: Bronze ASTM B-584 for solder or threaded connection.
13. Body End Piece: Bronze ASTM B-584 for solder or threaded connection.
14. Rating: 150 psig saturated steam, 600 psig non-shock cold water, oil, and gas.
15. Conform To: MSS SP-110

BRONZE CHECK VALVES
A. Bronze, Horizontal Swing Check Valves:
1. NIBCO Model 413
2. Other Manufacturers:
a. Milwaukee
b. Stockham
3. Bonnet: ASTM B-62 bronze.
4. Body: ASTM B-62 bronze.
5. Hinge Pin: ASTM B-140 alloy C31400 bronze, or B-134 alloy C23000 bronze.
6. Disc Hanger:
a. Sizes ¼" thru ¾": Type 304 stainless steel.
b. Sizes 1" and larger: ASTM B-62 bronze.
7. Hanger Nut: ASTM B-16 bronze.
8. Disc Holder: ASTM B-62 bronze.
9. Seat Disc:
a. Water and Other Heat Transfer Fluids: ASTM B-62 bronze.
b. Steam: TFE
10. Seat Disc Nut: ASTM B-16 or B-62 bronze.
11. Hinge Pin Plug: ASTM B-140 alloy C31600 bronze.
12. Seat Disc Washer (When Provided): ASTM B-98 alloy C65500 or B-103 bronze.
13. Rating: 125 psig SWP and 200 psig CWP.
14. Conform To: MSS SP-80
B. Bronze, Inline Spring Loaded Check Valves:
1. Conbraco Industries-Apollo 61-100 series
2. Other Manufacturers:
a. Milwaukee
b. Stockham
c. Nibco
3. Body: ASTM B-584 alloy C84400 bronze.
4. Retainer/Stem: ASTM B16 brass or ASTM A-582 alloy C30300 stainless steel.
5. Ball Check: RPTFE or
6. Disc Holder 316 Stainless steel
a. Disc
1) Water, Oil, Gas: Buna-N
2) Steam: TFE
b. Seat Screw: ASTM A-276 alloy S43000 stainless steel.
c. Body End: ASTM B-584 alloy C84400 bronze.
d. Rating: 125 psig SWP and 250 psig CWP.
7. Guide: ASTM B16 Brass
8. Spring: Type 316 stainless steel.
9. Rating: 125 psig SWP and 400 psig WOG.

A. Domestic Water Piping: Use the following types of valves:
1. Valves, NPS 2" and Smaller: Two-Piece, Copper-Alloy Ball Valves (Full Port).
2. Horizontal Check Valves, NPS 2" and Smaller: Bronze, Horizontal Swing Check Valves.

PLUMBING INSULATION

MANUFACTURERS
A. Available Manufacturers:

Flexible Elastomeric Thermal Insulation:
a. Armstrong World Industries, Inc.
Armacell, ArmaFlex
b. Rubatex Corp.
Closed-Cell Phenolic-Foam Insulation:
a. Kooltherm Insulation Products, Ltd.

INSULATION MATERIALS
Flexible Elastomeric: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials.
1. Adhesive: As recommended by insulation material manufacturer.
2. Ultraviolet-Protective Coating: As recommended by insulation manufacturer.

INDOOR APPLICATION SCHEDULE (ABOVE GRADE):

A. Service: Domestic hot water and domestic circulated hot water.
1. Insulation Thickness: Apply the following insulation thicknesses:
a. Copper Pipe, ½" through 1½" in diameter: 1"
b. Copper Pipe, 1½" through 3" in diameter: 1 ½"
2. Vapor Retarder Required: No.

B. Service: Domestic cold water.
1. Insulation Thickness: ½"
2. Vapor Retarder Required: Yes.

MOSELEY ARCHITECTS
1320 MAIN STREET, SUITE 300, COLUMBIA, SC 29201
PHONE (803) 724-1252
MOSELEYARCHITECTS.COM

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 026731 JUSTIN C. CARLSON No. 26273 02/07/20

NORTH CAROLINA MOSELEY ARCHITECTS No. 3983 CERTIFICATE OF AUTHORIZATION

Sullivan Middle School Athletic Concessions and Restrooms

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

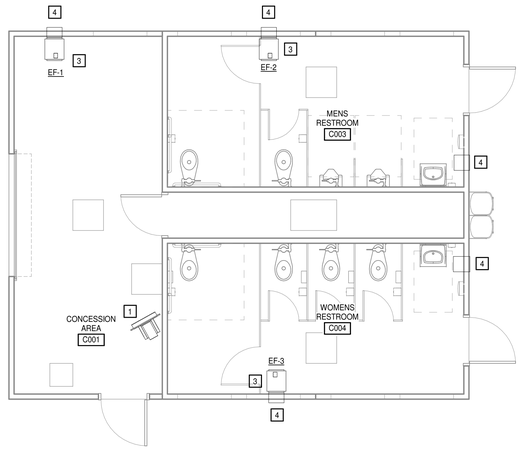
PROJECT NO: 593120
DATE: January 7, 2020

REVISIONS	
DATE	DESCRIPTION

PLUMBING SPECIFICATIONS

P2.0.2

2/7/2020 9:50:28 AM



FIRST FLOOR PLAN - DUCTWORK

1/4" = 1'-0"

EQUIPMENT IDENTIFICATION

AHU	AIR-HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER
BCU	BLOWER COIL UNIT
CCC	CLOSED-CIRCUIT COOLING TOWER
CH	CHILLER
CHWP	CHILLED WATER PUMP
CRAC	COMPUTER ROOM AIR CONDTIONER
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CWP	CONDENSER WATER PUMP
ECH	ELECTRIC CEILING HEATER
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WALL HEATER
FCU	FAN COIL UNIT
HP	HEAT PUMP
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
MAU	MAKEUP AIR UNIT
OAU	OUTDOOR AIR UNIT
P	PUMP
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PTHP	PACKAGED TERMINAL HEAT PUMP
RTU	ROOFTOP UNIT
SSI	SPLIT-SYSTEM INDOOR UNIT
SSO	SPLIT-SYSTEM OUTDOOR UNIT
TU	TERMINAL UNIT
UH	UNIT HEATER
WSHP	WATER-SOURCE HEAT PUMP

CONTROLS ABBREVIATIONS

AF	AIRFLOW
AI	ANALOG INPUT TO CONTROLLER
ALM	ALARM
AMS	AIRFLOW MEASURING STATION
AO	ANALOG OUTPUT FROM CONTROLLER
ATS	AVERAGING TEMPERATURE SENSOR
BAS	BUILDING AUTOMATION SYSTEM
BI	BINARY INPUT TO CONTROLLER
BO	BINARY OUTPUT FROM CONTROLLER
CO2	CARBON DIOXIDE SENSOR
CSR	CURRENT-SENSING RELAY
DM	DAMPER MOTOR
DP	DIFFERENTIAL PRESSURE
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
FM	FLOW METER
FZ	FREEZESTAT
HS	HUMIDITY SENSOR
POS	POSITION
R	RELAY
SD	SMOKE DETECTOR
SPD	SPEED
SS	START/STOP
STS	STATUS
TS	TEMPERATURE SENSOR
VFD	VARIABLE-FREQUENCY DRIVE

ABBREVIATIONS

A	AMPERE(S)
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
APD	AIR PRESSURE DROP
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	COOLING
COM	COMMON
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
DB	DRY BULB TEMPERATURE
dBA	A-WEIGHTED DECIBELS
DCW	DOMESTIC COLD WATER
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
F	DEGREES FAHRENHEIT
FC	FAIL CLOSED
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FO	FAIL OPEN
FPM	FEET PER MINUTE
FT	FOOT, FEET
GA	GAUGE
GAL	GALLON(S)
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HTG	HEATING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
IN	INCH
IPLV	INTEGRATED PART-LOAD VALUE
KW	KILOWATT(S)
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	ONE THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOD	MOTOR-OPERATED DAMPER
NC	NORMALLY CLOSED (FOR PLANS, DETAILS)
NC	NOISE CRITERIA (FOR SCHEDULES)
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PH	PHASE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RD	REFRIGERANT DISCHARGE
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
TD	TRANSFER DUCT
TYP	TYPICAL
UNO	UNLESS NOTED (INDICATED) OTHERWISE
V	VOLTAGE, VOLTS
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W	WATT(S)
W/	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
WWM	WELDED WIRE MESH

GRAPHICS SYMBOLS LEGEND

- A123 — **SPACE IDENTIFICATION TAG**: SPACE NUMBER; BUILDING AREA (WHEN USED)
- AHU-12 — **EQUIPMENT IDENTIFICATION TAG**: EQUIPMENT NUMBER; UNIT DESIGNATION
- S1 / 325 — **DIFFUSER, GRILLE OR REGISTER TAG**: TAG, REFER TO DIFFUSER, GRILLE AND REGISTER SCHEDULE; AIRFLOW (CFM)
- 1 / M5.1 — **DETAIL TAG**: DETAIL NUMBER; DRAWING WHERE DETAIL IS INDICATED
- 15 — KEYNOTE
- C — STRUCTURAL GRID LINE WITH DESIGNATION
- EXISTING TO BE REMOVED
- 1 / M5.1 / M2.2 / M2.3 / M2.4 — **DETAIL TITLE** 1/4"=1'-0": DETAIL NUMBER; DRAWING WHERE DETAIL IS INDICATED; DRAWING WHERE DETAIL IS REFERENCED; ADDITIONAL DRAWING REFERENCES
- 1 / M4.1 / M2.2 / M2.3 / M2.4 — **SECTION TITLE** 1/4"=1'-0": SECTION NUMBER; DRAWING WHERE SECTION IS INDICATED; DRAWING WHERE SECTION IS REFERENCED; ADDITIONAL DRAWING REFERENCES
- 1 / M4.1 — **SECTION CALLOUT**: SECTION NUMBER; DRAWING WHERE SECTION IS INDICATED
- 1 / M3.1 — **ENLARGED PLAN CALLOUT**: ENLARGED PLAN NUMBER; DRAWING WHERE ENLARGED PLAN IS INDICATED
- MECHANICAL EQUIPMENT WITH REQUIRED SERVICE CLEARANCE INDICATED

DUCTWORK LEGEND

- 18x8 — RECTANGULAR DUCT (FIRST DIMENSION REFERS TO SIDE VIEWED)
- 18ø — ROUND DUCT SIZE
- 18/12 — FLAT OVAL DUCT SIZE
- 18ø — DOUBLE WALL, EXPOSED DUCT
- 18ø — FABRIC DUCT
- FLEXIBLE DUCTWORK
- FLEXIBLE CONNECTOR
- SD — DUCT-MOUNTED SMOKE DETECTOR
- DUCT WITH DUCT LINER
- DUCT ACCESS DOOR
- DUCT WITH END CAP
- LINEAR SLOT DIFFUSER, LENGTH AS INDICATED
- LINEAR BAR GRILLE, LENGTH AS INDICATED
- SUPPLY DIFFUSER
- RETURN OR EXHAUST GRILLE
- SUPPLY DIFFUSER WITH DIRECTIONAL BLOW, SOLID HATCH INDICATES BLANK OFF PANEL
- POINT OF CONNECTION TO EXISTING
- LIMIT OF DEMOLITION
- SUPPLY AIRFLOW ARROW
- RETURN OR EXHAUST AIRFLOW ARROW
- MANUAL BALANCING DAMPER IN DUCT
- FIRE DAMPER IN DUCT
- SMOKE DAMPER IN DUCT
- COMBINATION FIRE/SMOKE DAMPER IN DUCT
- M — MOTORIZED DAMPER IN DUCT
- M — SMOKE CONTROL MANUAL BALANCING DAMPER IN DUCT
- M — SMOKE CONTROL MOTORIZED DAMPER IN DUCT
- SB — SECURITY BARS IN DUCT
- AP — DUCT WITH ACCESS PANEL
- TO / AWAY — SUPPLY/MAKEUP AIR DUCT SECTIONS
- TO / AWAY — RETURN AIR DUCT SECTIONS
- TO / AWAY — EXHAUST AIR DUCT SECTIONS
- SD — SMOKE DETECTOR
- H — HUMIDITY SENSOR
- T — THERMOSTAT, LINE VOLTAGE
- T — THERMOSTAT, LOW VOLTAGE
- S — TEMPERATURE SENSOR
- C — CARBON DIOXIDE SENSOR
- CM — CARBON MONOXIDE SENSOR
- SENSOR WELL
- UC — DOOR UNDERCUT
- DL — DOOR LOUVER

KEYNOTES

APPLIES TO THIS DRAWING
REPRESENTED BY n

1. PROVIDE DAYTON 20" LIGHT-DUTY INDUSTRIAL WALL FAN, OSCILLATING, 120VAC, MODEL NUMBER 13V402, INCLUDE WALL MOUNTED BRACKET. ACCEPTABLE ALTERNATE MANUFACTURERS BY PATTERSON AND MULTIFAN.
2. NOT USED.
3. IN-LINE EXHAUST FAN SQ-85 BY GREENHECK, 300 CFM, 120/1/60. INCLUDE MANUFACTURERS DISCONNECT, SPEED CONTROLLERS, FAN INLET GUARD, AND VIBRATION ISOLATORS. TOILET ROOM FANS INTERLOCKED WITH SPACE LIGHTS. CONCESSIONS FAN CONTROLLED BY WALL SWITCH. ACCEPTABLE MANUFACTURERS INCLUDE LOREN COOK AND PENN.
4. MINIMUM LOUVER SIZE 0.75 SF FREE AREA, INCLUDE BACKDRAFT DAMPER FOR AIR INTAKES. ACCEPTABLE MANUFACTURERS INCLUDE GREENHECK, RUSKIN AND POTTORFF.

GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

B. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. DO NOT SCALE DRAWINGS. LOCATIONS OF ALL ITEMS INDICATED ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITIVELY FIXED BY DIMENSIONS ARE APPROXIMATE. COORDINATE CONTRACT DOCUMENTS PROJECT REQUIREMENTS, WORK OF OTHERS, AND EQUIPMENT AND MATERIALS PURCHASED WITH FIELD DIMENSIONS, MANUFACTURER'S REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE, CONTRACTOR'S INTENDED MEANS AND METHODS OF INSTALLATION, AND CONTRACTOR'S FABRICATED ITEMS TO ENSURE A PROPER FIT AND INSTALLATION.

C. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS. WHERE HEADROOM AND SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY THE ARCHITECTS PRIOR TO PROCEEDING WITH INSTALLATION. MAINTAIN A MINIMUM OF 7'-0" CLEARANCE ABOVE FINISHED FLOOR TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.

D. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION. MAKE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.

E. INSTALL ALL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

F. COORDINATE LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS WITH ALL OTHER TRADES. COORDINATE ALL PIPING AND EQUIPMENT SUPPORTED FROM STRUCTURE WITH GENERAL CONSTRUCTION WORK.

G. PROVIDE TRAPPED DRAIN PIPING FROM DRAIN PANS OF ALL COOLING COILS, FANS AND OTHER ACTIVE DRAINS EXPOSED TO SYSTEM AIRSTREAM. PROVIDE TRAP AT CONNECTION WITH WATER SEAL DEPTH ONE INCH GREATER THAN UNIT OPERATING PRESSURE. DIRECT DRAINS TO NEAREST FLOOR DRAIN, MOP SINK, OR OTHER LOCATION APPROVED BY THE ARCHITECT.

H. INSTALL PIPING, DUCTWORK, AND CONDUIT CONCEALED IN AREAS HAVING CEILINGS AND/OR FURRED SPACES UNLESS OTHERWISE INDICATED.

I. ALL EQUIPMENT, VALVES, DAMPERS, DAMPER AND VALVE OPERATORS SHALL BE PROVIDED WITH ADEQUATE ACCESS FOR SERVICING, MAINTENANCE, AND REPLACEMENT.

J. SIZE ALL SPLIT-SYSTEM REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

K. DUCT DIMENSIONS MAY BE MODIFIED ONLY WITH PRIOR APPROVAL FROM ARCHITECT. DUCT DIMENSIONS ARE IN INCHES AND INSIDE CLEAR.

L. FOR LOCATION OF REGISTERS, GRILLES, AND DIFFUSERS WITHIN CEILING GRID, REFER TO ARCHITECTURAL REFLECTED CEILING PLANS.

M. ELEVATION INDICATED FOR RECTANGULAR DUCT, GRILLE AND LOUVER OPENINGS IS TO THE TOP OF ROUGH OPENING UNLESS OTHERWISE INDICATED. ELEVATION INDICATED FOR ROUND DUCTWORK AND PIPING IS TO CENTERLINE.

N. BRANCH PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 3/4" DIAMETER UNLESS INDICATED OTHERWISE.

O. REFER TO STRUCTURAL DRAWINGS FOR DETAILS AND MAXIMUM SPACING REQUIREMENTS REGARDING HANGER ATTACHMENTS TO STEEL BAR JOISTS.

DUCTWORK SPECIIFICATIONS

SHEET METAL: EXCEPT AS OTHERWISE INDICATED, FABRICATE DUCTWORK FROM GALVANIZED SHEET STEEL COMPLYING WITH ASTM A 527, LOCKFORMING QUALITY; WITH G 90 ZINC COATING IN ACCORDANCE WITH ASTM A 525.

PROVIDE MISCELLANEOUS MATERIALS AND PRODUCTS OF TYPES AND SIZES INDICATED AND, WHERE NOT OTHERWISE INDICATED, PROVIDE TYPE AND SIZE REQUIRED TO COMPLY WITH DUCTWORK SYSTEM REQUIREMENTS INCLUDING PROPER CONNECTIONS OF DUCTWORK AND EQUIPMENT.

DUCT SEALANT: NON-HARDENING, NON-MIGRATING MASTIC OR LIQUID ELASTIC SEALANT, TYPE APPLICABLE FOR FABRICATION/INSTALLATION DETAIL, AS COMPOUNDED AND RECOMMENDED BY MANUFACTURER SPECIFICALLY FOR SEALING JOINTS AND SEAMS IN DUCTWORK.

DUCTWORK SUPPORT MATERIALS: EXCEPT AS OTHERWISE INDICATED, PROVIDE HOT-DIPPED GALVANIZED STEEL FASTENERS, ANCHORS, RODS, STRAPS, TRIM AND ANGLES FOR SUPPORT OF DUCTWORK.

DUCT SIZES ARE INTERNAL FREE AREA (NOT SHEET METAL) UNLESS OTHERWISE NOTED.

SHOP FABRICATE DUCTWORK OF GAGES AND REINFORCEMENT COMPLYING WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS".

LIMIT ANGULAR TAPERS TO 30 DEGREES FOR CONTRACTING TAPERS AND 20 DEGREES FOR EXPANDING TAPERS.

PROVIDE FLEXIBLE CONNECTIONS AT DUCT CONNECTION AT EACH FAN.

INSTALLATION OF METAL DUCTWORK

EXAMINE AREAS AND CONDITIONS UNDER WHICH METAL DUCTWORK IS TO BE INSTALLED. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO INSTALLER.

INSTALL METAL DUCTWORK IN ACCORDANCE WITH SMACNA HVAC "DUCT CONSTRUCTION STANDARDS". ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES WHICH WILL ACHIEVE AIR-TIGHT AND NOISELESS SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. INSTALL EACH RUN WITH MINIMUM NUMBER OF JOINTS. SUPPORT DUCTS RIGIDLY WITH SUITABLE TIES, BRACES, HANGERS AND ANCHORS OF TYPE WHICH WILL HOLD DUCTS TRUE-TO-SHAPE AND TO PREVENT BUCKLING.

ROUTING: FIELD VERIFY DUCT ROUTE PRIOR TO ANY FABRICATION. COORDINATE LAYOUT WITH SUSPENDED CEILING AND LIGHTING LAYOUTS AND SIMILAR FINISHED WORK.

LABELING SPECIFICATIONS:

PROVIDE ENGRAVED PLASTIC LABELS INDICATING EQUIPMENT DESIGNATION FOR EACH: WALL OR UNIT HEATER, FAN, ETC.

DUCTWORK INSULATION SPECIFICATIONS:

FIBERGLASS DUCT WRAP- FEDERAL SPECIFICATION HH-1-558B, 1 PCF DENSITY, K_t=0.24, RATED TO 450 DEGREES F OPERATING TEMPERATURE. FSK REINFORCED FOIL VAPOR RETARDER. OWENS / CORNING TYPE 100 OR AN APPROVED EQUIVALENT.

CLOSED CELL ELASTOMERIC DUCT WRAP: ASTM C 534, K_t=0.27, RATED TO 200 DEGREES F OPERATING TEMPERATURE, MAXIMUM PERMEABILITY = 0.17 PERM-IN. ARMAFLEX II OR AN APPROVED EQUIVALENT.

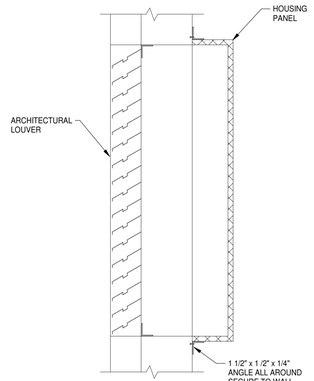
APPLICATION: THE INSULATION SHALL BE APPLIED OVER 4" WIDE BRUSHED STRIPS OF FOSTER'S 85-20 ADHESIVE SPACED 12" ON CENTER. THE INSULATION SHALL BE OVERLAPPED APPROXIMATELY 2' AND STAPLED IN PLACE. ALL DUCTS 24" OR LARGER IN WIDTH SHALL HAVE THE INSULATION ADDITIONALLY SECURED WITH MECHANICAL FASTENERS SPACED APPROXIMATELY 18" ON CENTER.

INSULATION SHALL BE CUT AND APPLIED TO THE DUCTWORK WITH NOT LESS THAN 2" OVERLAP OF BACKING ON EACH EDGE AND ON THE LINEAR SEAMS. INSULATION SHALL BE REMOVED FROM ALL OVERLAPPING TABS. EXTERIOR INSULATION SHALL OVERLAP INTERNAL DUCTLINER 12" WHERE DUCTLINER IS STOPPED AND EXTERIOR INSULATION IS CONTINUED.

ON RECTANGULAR DUCTS INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT CORNERS.

SEAMS SHALL BE STAPLED APPROXIMATELY 6" ON CENTER WITH OUTWARD CLINCHING STAPLES.

SEAL ALL SEAMS, TEARS, PUNCTURES, PENETRATIONS FOR HANGER STRAPS, OR ANY OTHER BREACHES OF DUCT WRAP FACING WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM.



WALL LOUVER DETAIL

NO SCALE

CONTROL SYSTEM SYMBOLS

- CIRCULATOR OR PUMP
- MOTORIZED 2-WAY VALVE
- MOTORIZED 3-WAY VALVE
- VFD — VARIABLE FREQUENCY DRIVE
- DDC — DIRECT DIGITAL CONTROLLER
- T — THERMOSTAT
- FZ — FREEZESTAT
- C — CONTACTOR
- R — RELAY
- S — SPACE TEMPERATURE SENSOR
- T — LINE VOLTAGE THERMOSTAT
- HAND-OFF-AUTOMATIC SWITCH
- SD — DUCT-MOUNTED SMOKE DETECTOR
- TRANSFORMER
- FUSE
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- WIRING OR DEVICE PROVIDED UNDER DIVISION 23
- WIRING OR DEVICE NOT PROVIDED UNDER DIVISION 23
- WIRING CONNECTION BY DIVISION 23
- WIRING CONNECTION BY OTHERS
- NUMBER OF CONDUCTORS INDICATED BY SLASH MARKS
- MOTORIZED PARALLEL BLADE DAMPER
- MOTORIZED OPPOSED BLADE DAMPER
- MOTORIZED BUTTERFLY BLADE DAMPER
- SUPPLY, RETURN, OR EXHAUST FAN
- AIRFLOW DIRECTION
- AI / TS — CONTROL POINT INDICATOR: INPUT OR OUTPUT (ANALOG INPUT); DEVICE TYPE (AIR TEMPERATURE SENSOR)
- AI / TS — CONTROL POINT INDICATOR: INPUT OR OUTPUT (ANALOG INPUT); DEVICE TYPE (AIR TEMPERATURE SENSOR WITH AVERAGING ELEMENT)
- AI / TS — CONTROL POINT INDICATOR: INPUT OR OUTPUT (ANALOG INPUT); DEVICE TYPE (WATER TEMPERATURE SENSOR WITH BULB TYPE ELEMENT IN PIPING WELL)
- AI / CSR — CONTROL POINT INDICATOR: INPUT OR OUTPUT (ANALOG INPUT); DEVICE TYPE (CURRENT SENSING RELAY)

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SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 26273
02/07/20
JUSTIN T. CARLSON

SOUTH CAROLINA
MOSELEY ARCHITECTS
No. 3983
CERTIFICATE OF AUTHORIZATION

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

MECHANICAL PLAN

M1.0

2/6/2020 3:34:39 PM

GENERAL PROVISIONS

A. THE WORK TO BE PERFORMED UNDER THIS DIVISION CONSISTS OF FURNISHING AND INSTALLING ALL ELECTRICAL WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREINAFTER IT IS INTENDED THAT ALL WORK TO BE PERFORMED UNDER THIS DIVISION BE IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS GOVERNING STANDARDS OF DESIGN, CONSTRUCTION, WORKMANSHIP AND MATERIAL, INCLUDING BUT NOT LIMITED TO, THE NEC AND THE NESC.

B. COMPLETE SHOP DRAWINGS AND ENGINEERING DATA ON ALL EQUIPMENT AND MATERIALS TO BE USED IN THE WORK OF THIS DIVISION SHALL BE SUBMITTED FOR THE ARCHITECT/ENGINEER'S APPROVAL IN ACCORDANCE WITH THE CONTRACT DRAWINGS WITHIN 10 DAYS OF NOTICE TO PROCEED.

C. ALL ELECTRICAL APPARATUS FURNISHED UNDER THIS DIVISION SHALL BE APPROVED BY UL AND SHALL BE SO LABELED OF LISTED WHERE SUCH IS APPLICABLE. WHERE CUSTOM BUILT EQUIPMENT IS SPECIFIED AND THE UL LABEL OR LISTING IS NOT APPLICABLE TO THE COMPLETED PRODUCT, ALL COMPONENTS USED IN THE CONSTRUCTION OF SUCH EQUIPMENT SHALL BE LABELED OR LISTED BY UL WHERE APPLICABLE.

D. AT THE COMPLETION OF THE ELECTRICAL INSTALLATION AND AT SUCH TIME AS THE ARCHITECT OR OWNER MAY DIRECT, THE CONTRACTOR FOR THE DIVISION SHALL CONDUCT AN OPERATING TEST FOR APPROVAL. ALL EQUIPMENT SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AS INTENDED, PROVING SYSTEM INTEGRITY.

E. WHEN THE WORK ON THE PROJECT HAS BEEN COMPLETED AND IS READY FOR FINAL INSPECTION, SUCH AN INSPECTION WILL BE MADE. AT THIS TIME THE CONTRACTOR SHALL DEMONSTRATE THAT THE REQUIREMENTS OF THIS DIVISION HAVE BEEN MET.

F. VERIFY LOCATION, SIZE, AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING FURNISHED BEFORE ROUGHING-IN OF ANY CONDUIT FOR EQUIPMENT. REFERENCE ALL CONTRACT DOCUMENTS PRIOR TO INSTALLATION OF FEEDER RUNS TO AVOID CONFLICTS WITH OTHER CONTRACTORS.

RACEWAYS AND FITTINGS

A. ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT.

B. RACEWAYS SHALL BE INSTALLED AS A COMPLETE SYSTEM AND SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, UNLESS NOTED OTHERWISE. RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO ALL BOXES AND FITTINGS. RACEWAYS AND BOXES SHALL BE SUPPORTED FROM STRUCTURAL STEEL AND NOT SUPPORTED FROM THE CEILING GRID OR ROOF DECKING PER NEC.

C. THE MINIMUM SIZE CONDUIT USED SHALL BE 3/4 INCH. LARGER SIZES SHALL BE USED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.

D. CONDUIT SHALL BE RUN EXPOSED TGHT TO THE STRUCTURE.

E. A NYLON PULL CORD SHALL BE INSTALLED IN ALL CONDUITS IN WHICH CONDUCTORS ARE NOT INSTALLED. A 10 INCH LENGTH OF THE FISH CORD SHALL BE TIED OFF AT EACH END.

F. GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS. NO EXCEPTIONS!

WIRES AND CABLES

A. BRANCH CIRCUIT WIRING FOR POWER AND LIGHTING SHALL GENERALLY BE TYPE THW OR THWN.

B. ALL CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID COPPER. ALL CONDUCTORS NO. 8 AWG AND LARGER SHALL BE STRANDED COPPER. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS.

C. TYPE MC CABLE MAY BE USED FOR BRANCH CIRCUITS SERVING SERVICES WITHIN INTERIOR PARTITIONS AND EXTERIOR WALLS. INSTALLATION SHALL CONFORM WITH THE NEC. CONVERT TO CONDUIT AND WIRE FOR HOMERUNS.

D. ALL WIRE AND CONDUIT SIZED SHALL BE BASED UPON THE USE OF TYPE THW INSULATION.

E. ALL CABLING NOT IN CONDUIT SHALL BE PLENUM RATED.

F. BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, #12 AWG MINIMUM. THE ENTIRE LENGTH OF CIRCUITS SHALL HAVE THE SAME CONDUCTOR SIZE AS INDICATED FOR THE HOME RUN UNLESS NOTED OTHERWISE.

GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

B. FOLLOW MOUNTING HEIGHTS INDICATED IN THE ELECTRICAL LEGEND UNLESS OTHERWISE INDICATED. MEASURE ALL MOUNTING HEIGHTS FROM THE DEVICE CENTER LINE UNLESS OTHERWISE INDICATED.

C. FIELD VERIFY EXACT FEEDER LOCATIONS FOR MECHANICAL EQUIPMENT PRIOR TO ROUGH-IN.

D. EQUIPMENT CONNECTIONS ARE INDICATED IN THEIR APPROXIMATE LOCATIONS. VERIFY EXACT LOCATIONS OF ALL CONNECTIONS WITH OTHER TRADES SUPPLYING EQUIPMENT TO AVOID CONFLICTS AT INSTALLATION.

E. LOCATED ALL SWITCHES FOR LOCAL CONTROL OF LIGHTING ON STRIKE SIDE OF SINGLE DOORS UNLESS OTHERWISE INDICATED.

F. PROVIDE SPECIFIC BREAKER ARRANGEMENT FOR THE PANEL BOARDS WHEREVER PHYSICALLY POSSIBLE. PROVIDE AS-BUILT DRAWINGS INDICATING ACTUAL BRANCH CIRCUIT ARRANGEMENT. PROVIDE TYPE WRITTEN PANELBOARD DIRECTORIES INDICATING ACTUAL BRANCH CIRCUIT ARRANGEMENT.

G. PROVIDE AS-BUILT DRAWINGS INDICATING ACTUAL BRANCH CIRCUIT ARRANGEMENT. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES INDICATING ACTUAL BRANCH CIRCUIT ARRANGEMENT. HAND WRITTEN SCHEDULES ARE NOT ACCEPTABLE.

H. ALL CONDUIT RUNS INDICATED ARE DIAGRAMMATIC, COORDINATE ROUTING IN ALL SPACES WITH OTHER TRADES.

I. ALL PANELBOARDS INDICATED ARE HOUSED IN A SINGLE WIDTH ENCLOSURE, UNO. THE CONTRACTOR SHALL FIELD VERIFY ROOM LAYOUT AND ADJUST ACCORDINGLY, AT NO COST TO THE OWNER, IF PROVIDING ANY PANELBOARD ENCLOSURES.

J. WHERE POWER AND COMMUNICATION OUTLETS ARE INDICATED IN CLOSE PROXIMITY ON THE DRAWINGS, FIELD COORDINATE THE LOCATIONS TO PLACE THE OUTLETS ADJACENT TO EACH OTHER.

K. ALL EXTERIOR RECEPTACLES SHALL BE LABELED "WR" - WEATHER RESISTANT.

L. WHEN GROUPING MULTIPLE LINE TO NEUTRAL BRANCH CIRCUITS IN A CONDUIT, PROVIDE DEDICATED COLOR CODED NEUTRAL CONDUCTORS FOR EACH CIRCUIT. DO NOT USE BREAKER TIES AND SHARED NEUTRALS EVEN THOUGH PERMITTED BY NEC.

M. PROVIDE A 2" WIDE YELLOW LINE PAINTED ON THE FLOOR INDICATING THE ELECTRICAL WORKING SPACE. IN FRONT OF ALL ELECTRICAL PANELS IN ELECTRICAL ROOMS. REFER TO PLANS FOR ELECTRICAL WORKING SPACE DETAILS. STENCIL "NO STORAGE" IN 2' HIGH, YELLOW LETTERS CENTERED IN THE OUTLINED AREA.

PANELBOARDS

A. ACCEPTABLE MANUFACTURERS: GENERAL ELECTRIC, SIEMENS, SQUARE D OR APPROVED EQUAL. LOAD CENTERS SHALL NOT BE ACCEPTED UNLESS SPECIFICALLY SPECIFIED ON THE DRAWINGS.

B. PROVIDE PANELBOARDS WITH COPPER BUS, RATINGS AS SCHEDULED ON DRAWINGS. SEPARATE NEUTRAL AND GROUNDING BARS WITH LUGS SHALL BE PROVIDED ON ALL 120/208-VOLT AND 277/480-VOLT PANELBOARDS. SPACE WHERE SHOWN IN PANEL SCHEDULES DESIGNATES SPACE FOR FUTURE PROTECTIVE DEVICES AND SHALL INCLUDE BUS AND SUPPORT COMPONENTS.

C. CABINETS OR BACK BOXES SHALL BE FABRICATED FROM GALVANIZED OR EQUIVALENT RUST RESISTANT SHEET STEEL OF THICKNESS TO MEET CODE REQUIREMENTS. CABINET DEPTHS SHALL BE THE MANUFACTURER'S STANDARD EXCEPT WHERE SPECIFIC REQUIREMENTS INDICATE OTHERWISE.

D. PANELBOARD FRONTS SHALL BE OF COLD ROLLED STEEL IN ACCORDANCE WITH GAUGES REQUIRED BY CODE. DOORS SHALL BE FASTENED TO TRIM BY FLUSH-CONCEALED HINGES. DOORS SHALL BE EQUIPPED WITH A FLUSH TYPE COMBINATION CATCH AND KEYED LOCK. TWO MILLED TYPE KEYS SHALL BE PROVIDED WITH EACH PANEL, AND ALL LOCKS SHALL BE KEYED ALIKE. DOORS SHALL BE EQUIPPED WITH A NEAT DIRECTORY FRAME SECURED TO THE INSIDE OF THE DOOR. TRIM AND DOORS SHALL BE PROPERLY CLEANED AND FINISHED WITH ONE RUST-INHIBITING PRIMING COAT AND A FINISH COAT OF LIGHT GRAY ENAMEL, ANSI Z55.1-1967 NO. 61.

E. ALL PANELBOARD COMPONENTS SHALL BE OF THE SAME MANUFACTURER.

WIRING DEVICES

A. WIRING DEVICES SHALL BE COMPLETE WITH ALL MOUNTING DEVICES AND OTHER APPURTENANCES WHERE REQUIRED. ALL WIRING DEVICES SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER EXCEPT AS SPECIFICALLY STATED OTHERWISE.

B. ALL LIGHT SWITCHES SHALL BE TOGGLE TYPE, RATED 20 AMPS, 120/277 VOLT AC, SPECIFICATION GRADE, INSTALLED 48 INCHES ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. SWITCHES SHALL BE SINGLE POLE, 3-WAY OR 4-WAY AS INDICATED.

C. ALL DIMMING SWITCHES SHALL BE SLIDE TYPE, RATED 20 AMPS, 120 VOLT AC, SPECIFICATION GRADE, INSTALLED 48 INCHES ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.

D. ALL RECEPTACLES SHALL BE DUPLEX OUTLETS, 125 VOLT AC, 20 AMP, TWO POLE, THREE WIRE GROUNDING TYPE. SPECIFICATION GRADE, INSTALLED 18 INCHES ABOVE FINISHED FLOOR. SPECIAL AND HEAVY-DUTY TYPE RECEPTACLES SHALL BE PROVIDED AS SUITABLE FOR THE INTENDED USE.

E. PRESSED GALVANIZED STEEL OUTLET BOXES SHALL BE USED FOR INDOOR AND DRY LOCATIONS.

F. COORDINATE COVER PLATE COLOR WITH DEVICE COLOR AND ARCHITECTURAL FINISH SCHEDULE.

SUPPORTING DEVICES

A. ALL CONDUITS SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH THE NEC.

B. LAYOUT EQUIPMENT TO MAINTAIN HEADROOM, NEAT MECHANICAL APPEARANCE, AND TO SUPPORT EQUIPMENT LOADS REQUIRED.

GROUNDING

A. A COMPLETE GROUNDING AND BONDING SYSTEM SHALL BE PROVIDED. GROUNDING SHALL BE PROVIDED AND TESTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND AS INDICATED ON THE DRAWINGS.

B. PROVIDE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS.

LIGHTING FIXTURES

A. LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDED IES STANDARDS.

B. ALL FIXTURES SHALL BE FURNISHED COMPLETE WITH SOCKETS, INTERNAL WIRING, LEADS, TRIM, HANGERS, SUPPORTS, FRAMES, DRIVERS, AND ALL ACCESSORIES AND MISCELLANEOUS HARDWARE REQUIRED FOR PROPER INSTALLATION ETC., AS APPLICABLE.

C. ALL FIXTURES SHALL BE SUPPORTED BY MEANS OF ADEQUATE HANGERS WITH ATTACHMENTS TO BUILDING CONSTRUCTION INDEPENDENT OF ANY CEILING SYSTEM. EXACT LOCATIONS OF ALL CEILING MOUNTED LIGHTING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL REFLECTED CEILING PLANS.

D. VERIFY EXACT CEILING TYPE PRIOR TO ORDERING OR THE INSTALLATION OF ANY CEILING LIGHTING FIXTURE.

E. THE LIGHTING FIXTURE LAYOUTS OF SPACES INDICATED IN THE CONTRACT DOCUMENTS ARE BASED UPON PHOTOMETRIC DATA, QUALITY, CONSTRUCTION AND APPEARANCE OF FIXTURES LISTED IN THE LIGHTING FIXTURE SCHEDULE. SUBSTITUTIONS OF LISTED FIXTURES ARE ALLOWED PROVIDED THAT A FOOTCANDLE CALCULATIONS FOR EACH ROOM OR AREA THAT FIXTURE SUBSTITUTION IS REQUESTED IS PROVIDED WITH THE SUBMITTAL PACKAGE. ARCHITECT/ENGINEER HAS FINAL AESTHETIC AND TECHNICAL APPROVAL ON ALL SUBSTITUTED FIXTURES.

TRANSFORMERS

A. ACCEPTABLE MANUFACTURERS: ACME., CUTLER-HAMMER, GENERAL ELECTRIC, SQUARE D. OR APPROVED EQUAL

B. OPERATING VOLTAGES: PROVIDE TRANSFORMERS THAT HAVE PRIMARY AND SECONDARY VOLTAGES INDICATED ON THE DRAWINGS. FREQUENCY: 60 HERTZ, UNLESS NOTED OTHERWISE.

C. EXCEPT WHERE NOTED, INSULATION SYSTEM AND AVERAGE WINDING TEMPERATURE RISE FOR RATED KVA AS FOLLOWS:INSULATION SYSTEMS SHALL BE 220° C (150° C RISE) FOR 37.5 KVA AND ABOVE. SINGLE-PHASE, OR 30 KVA AND ABOVE, THREE-PHASE UNITS. INSULATION SYSTEMS SHALL BE 185° C (115° C RISE) FOR 0.25 KVA THROUGH 25 KVA, SINGLE-PHASE, OR 3 THROUGH 15 KVA, THREE-PHASE UNITS. BASIC IMPULSE LEVEL (BIL):UNITS RATED 600 VOLTS OR LESS: 10 KV.

PULL AND JUNCTION BOXES

A. PULL BOXES SHALL BE INSTALLED AT ALL NECESSARY POINTS, WHETHER INDICATED ON THE DRAWINGS OR NOT, TO PREVENT INJURY TO THE INSULATION OR OTHER DAMAGES THAT MIGHT RESULT FROM PULLING RESISTANCE OF FOR OTHER REASONS NECESSARY FOR PROPER INSTALLATION. MINIMUM DIMENSIONS SHALL NOT BE LESS THAN NEC REQUIREMENTS AND SHALL BE INCREASED IF NECESSARY FOR PRACTICAL REASONS OR WHERE REQUIRED TO FIT A JOB CONDITION.

B. ALL BOXES SHALL BE GALVANIZED STEEL, RIGIDLY SECURED IN POSITION TO THE STRUCTURE.

C. CABINETS REQUIRED FOR USE IN VARIOUS SYSTEMS FOR THE MOUNTING OF ACCESSORIES OR TERMINALS, RELAYS AND THE LIKE SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL. BACKBOARDS SHALL BE PROVIDED FOR THE MOUNTING OF ALL ACCESSORIES, OF MINIMUM 3/4" PLYWOOD AND PAINTED TO MATCH THE CABINET.

D. WIREWAYS SHALL BE PROVIDED AS REQUIRED. WIREWAYS SHALL BE UL LISTED AS WIREWAYS OR AUXILIARY GUTTERS.

POWER LEGEND

SYMBOL	DESCRIPTION
	APPLIANCE RECEPTACLE, MOUNT AT +1'-6" AFF. PROVIDE NEMA CONFIGURATION TO MATCH PLUG FOR EQUIPMENT SERVED.
	DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
	DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +3'-10"AFF.
	DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +7'-6"AFF.
	GFCI DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF. PROVIDE NEMA 3R "WHILE IN USE" ENCLOSURE.
	GFCI DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
	GFCI DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +3'-10"AFF.
J	JUNCTION BOX, CONCEALED ABOVE CEILING, UNO.
E	EQUIPMENT POWER CONNECTION.
HDH	HAND DRYER EQUIPMENT POWER DIRECT CONNECTION.
M	MOTOR CONNECTION.
	PANELBOARD.
T	TRANSFORMER, PROVIDE CONCRETE HOUSEKEEPING PAD UNLESS NOTED OTHERWISE.

LIGHTING LEGEND

SYMBOL	DESCRIPTION
S	LIGHT SWITCH, RATED 120/277 VOLTS, 20-AMPS, MOUNT AT +3'-10"AFF.
S_K	KEY OPERATED LIGHT SWITCH, RATED 120/277 VOLTS, 20-AMPS, MOUNT AT +3'-10"AFF.
	LIGHT FIXTURE, SURFACE MOUNT.
	LIGHT FIXTURE, WALL MOUNT, HEIGHT AS INDICATED.
	EXIT SIGN, WALL MOUNT. DIRECTIONAL ARROWS AS INDICATED. SHADING INDICATES FACE(S) OF SIGN.
	DUAL TECHNOLOGY OCCUPANCY SENSOR, CEILING MOUNTED.

ABBREVIATIONS

1P	SINGLE PHASE
3P	THREE PHASE
3P	COMMUNITY ANTENNA TELEVISION (CABLE)
3R	WEATHERPROOF (NEMA 3R)
A	AMPS
AFF	ABOVE FINISHED FLOOR
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CBL	CABLE
CKT	CIRCUIT
CLG	CEILING
CLR	CLEAR
CO	COMPANY
COMB	COMBINATION
CU	COPPER
DIA	DIAMETER
DISC	DISCONNECT
DIV	DIVISION
DWG	DRAWING
EC	EMPTY CONDUIT
ECS	EMERGENCY COMMUNICATIONS STATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EPO	EMERGENCY POWER OFF
EQ	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXT	EXTERIOR
FLA	FULL LOAD AMPS
FPMR	FUSE PER MANUFACTURERS REQUIREMENTS/RECOMMENDATIONS
FPND	FUSE PER NAMEPLATE DATA
G	GROUND
GE	GROUND FAULT PROTECTION FOR EQUIPMENT, 6-50mA PER NEC 427.22 (PROVIDE ACCESSORY FOR INDICATED BREAKER)
GFCI	GROUND FAULT CIRCUIT INTERRUPT
GFP	GROUND FAULT PROTECTION FOR PERSONNEL, 4-6mA (PROVIDE ACCESSORY FOR INDICATED BREAKER)
HKP	HOUSEKEEPING PAD
HP	HORSEPOWER
Hz	HERTZ
IAW	IN ACCORDANCE WITH
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
KHz	KILOHERTZ
KVA	KILOVOLT AMPS
KW	KILOWATTS
KWH	KILOWATT HOURS
L	LOCKOUT TO PREVENT UNAUTHORIZED SWITCHING (PROVIDE ACCESSORY FOR INDICATED BREAKER)
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	METAL HALIDE
MHz	MEGAHERTZ
MIN	MINIMUM
ML	MAINTENANCE LOCK (PROVIDE ACCESSORY FOR INDICATED BREAKER)
MLO	MAIN LUG ONLY
MOCP	MAXIMUM OVER CURRENT PROTECTION.
MTD	MOUNTED
N	NEUTRAL
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NO.	NUMBER
PBD	PANELBOARD
RCPT	RECEPTACLE
REC	RECEPTACLE
SEC	SECURITY
SPD	SURGE PROTECTIVE DEVICE
SPEC.	SPECIFICATION(S)
ST	SHUNT TRIP, 120V COIL (PROVIDE ACCESSORY FOR INDICATED BREAKER)
SW	SWITCH
TMG	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
TYP	TYPICAL
UNO	UNLESS NOTED (INDICATED) OTHERWISE
V	VOLTS
W	WATTS
W/	WITH
WG	WIRE GUARD
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER

LIGHT FIXTURE SCHEDULE

FIXTURE							LAMP				
TYPE	DESCRIPTION	MANUFACTURER	SERIES NO.	VOLTAGE	WATTAGE	LUMENS	TYPE	COLOR TEMP.	MOUNTING	OPTIONS	COMMENTS
A	VANDAL RESISTANT FIXTURE	LUMAX	VWBTLED-40L	120 V	45	4000 lm	LED	4000 K	SURFACE		
AE	VANDAL RESISTANT FIXTURE - EM	LUMAX	VWBTLED-40L	120 V	45	4000 lm	LED	4000 K	SURFACE	1400 lm BATTERY	
B	LED WALL PACK	GARCO	161(16L-530)	120 V	28	3000 lm	LED	4000 K	WALL @ 8'-4"	PHOTOCELL/BATTERY	TYPE 2 DISTRIBUTION

DIV 23 ELECTRICAL CONNECTION SCHEDULE

TAG	VOLTAGE	# POLES	LOAD	PANEL	CCT#	WIRE	DISCONNECTING MEANS	REMARKS
EF-1	120 V	1	1.0 kVA	LC1	13	2#12,#12G,3/4"C	PROVIDED WITH UNIT	SWITCH WITH LIGHTS
EF-2	120 V	1	1.0 kVA	LC1	15	2#12,#12G,3/4"C	MOTOR RATED SWITCH	SWITCH WITH LIGHTS
EF-3	120 V	1	1.0 kVA	LC1	17	2#12,#12G,3/4"C	MOTOR RATED SWITCH	SWITCH WITH LIGHTS
F-1	120 V	1	0.1 kVA	LC1	13	2#12,#12G,3/4"C	MOTOR RATED SWITCH AT 40°	PROVIDE OUTLET AT 7'-0"
WH-1	208 V	1	4.0 kVA	LC1	40,42	2#10,#10G,3/4"C	240V,30A,2P,NF,DISC	

PANELBOARD SCHEDULE LC1

LOCATION: CONCESSIO N AREA C001 — FED FROM: TC1

225 AMP MCB — 120/208 Wye — 3 PH 4 W — MOUNT: SURFACE — PANEL ASSEMBLY RATED (KAIC): 10 KAIC

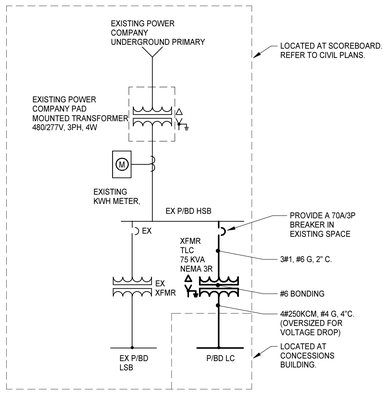
CKT	BRKR	POLE	LOAD	A		B		C		LOAD	POLE	BRKR	CKT
1	20 A	1	CONCESSIONS RECEPTACLES	1.2	0.0					SPACE ONLY	--	--	2
3	20 A	1	CONCESSIONS RECEPTACLES			1.5	0.0			SPACE ONLY	--	--	4
5	20 A	1	CONCESSIONS RECEPTACLES					1.5	0.0	SPACE ONLY	--	--	6
7	20 A	1	INTERIOR LIGHTING	0.0	0.0					SPACE ONLY	--	--	8
9	20 A	1	EXT RECEPTACLES			1.1	0.0						10
11	20 A	1	EXTERIOR LTG VIA TIMECLOCK					0.2	0.0	SPARE	3	20 A	12
13	20 A	1	LIGHTS/EF-1	1.3	0.0								14
15	20 A	1	LIGHTS/EF-2			1.1	0.0						16
17	20 A	1	LIGHTS/EF-3					1.1	0.0	SPARE	3	20 A	18
19	20 A	1	HAND DRYER - MENS	1.0	0.0								20
21	20 A	1	HAND DRYER - WOMENS			1.0	0.0						22
23	20 A	1	ICEMAKER					0.5	0.0	SPARE	3	20 A	24
25	20 A	1	SPARE	0.0	0.0								26
27	20 A	1	SPARE			0.0	0.0						28
29	20 A	1	SPARE					0.0	0.0	SPARE	3	20 A	30
31	20 A	1	SPARE	0.0	0.0								32
33	20 A	1	SPARE			0.0	0.0						34
35	20 A	1	SPARE					0.0	0.0	SPARE	3	20 A	36
37	20 A	1	SPARE	0.0	0.0								38
39	20 A	1	SPARE			0.0	2.3			WATER HEATER	2	40 A	40
41	20 A	1	SPARE					0.0	4.0				42
				4 kVA		7 kVA		7 kVA					
				29 A		63 A		65 A					

(GE) = PROVIDE GFCI BREAKER FOR EQUIPMENT, 6-50mA PER NEC 427.22 DED. NEUTRAL.
(GP) = PROVIDE GFCI BREAKER FOR PERSONNEL, 4-6mA PER NEC 210.8. DED. NEUTRAL.
(L) = PROVIDE LOCKOUT BREAKER TO PREVENT UNAUTHORIZED SWITCHING.
(LC) = ROUTE TO LOAD VIA LIGHTING CONTACTOR, REF DETAIL ON DWG E4.X.
(ML) = PROVIDE BREAKER WITH MAINTENANCE LOCKOUT, LOCKABLE OFF.

Load Classification	Connected Load	Demand Factor	Estimated Demand
INTERIOR LIGHTING	0.5 kVA	125.00%	0.6 kVA
EXTERIOR LIGHTING	0.2 kVA	125.00%	0.2 kVA
RECEPTACLES	5.8 kVA	100.00%	5.8 kVA
AC / HEAT PUMP	0.0 kVA	0.00%	0.0 kVA
ELECTRIC HEAT	0.0 kVA	0.00%	0.0 kVA
KITCHEN	0.0 kVA	0.00%	0.0 kVA
MISCELLANEOUS	5.0 kVA	100.00%	5.0 kVA

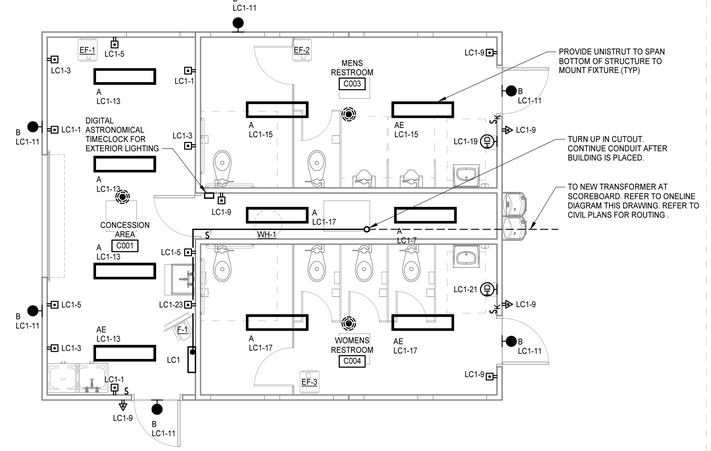
Panel Totals

Total Conn. Load: 17.8 kVA
Total Est. Demand: 17.9 kVA
Total Conn. Current: 49 A
Total Est. Demand... 50 A



ONE LINE DIAGRAM

NO SCALE



FIRST FLOOR PLAN - ELECTRICAL

1/4" = 1'-0"

MOSELEY ARCHITECTS
1320 MAIN STREET, SUITE 300, COLUMBIA, SC 29201
PHONE (803) 724-1252
MOSELEYARCHITECTS.COM

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 34883 — 02/01/2020 — WILLIAM Y. CARY

SOUTH CAROLINA — MOSELEY ARCHITECTS No. 3983 — CERTIFICATE OF AUTHORIZATION

Sullivan Middle School Athletic Concessions and Restroom Building

ROCK HILL SCHOOLS, DISTRICT THREE
Rock Hill, South Carolina

PROJECT NO: 593120
DATE: FEBRUARY 7, 2020

REVISIONS	
DATE	DESCRIPTION

FLOOR PLAN - ELECTRICAL

E2.1

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