

DISCOUNT

TIRE CO.

FIRE PROTECTION SYMBOLS & ABBREVIATIONS			
●	PENDENT SPRINKLER	—	CODE APPROVED PIPE SLEEVE WITH CAULKING COMMENSURATE WITH CONSTRUCTION
○	UPRIGHT SPRINKLER	—	2-WAY EARTHQUAKE SWAY BRACE
◊	UPRIGHT/PENDENT COMBINATION	—	4-WAY EARTHQUAKE SWAY BRACE
◄	SIDEWALL SPRINKLER	—	RISER CLAMP ATTACHED TO WALL
⊠	SPRINKLER WITH SPRINKLER GUARD/SHIELD	—	GROOVED FLEXIBLE COUPLING
◆	DRY PENDENT SPRINKLER	—	BRANCH LINE RISER NIPPLE ON MAIN
◆	EXISTING PENDENT SPRINKLER	—	PRESSURE GAUGE (0-300 PSI)
○	EXISTING UPRIGHT SPRINKLER	—	SPARE SPRINKLER CABINET W/ STOCK OF SPRINKLERS AND WRENCHES PER NFPA-13
⊕	AUTOMATIC SPRINKLER RISER	—	ELECTRIC ALARM BELL - WIRING BY ELECT./ALARM CONTRACTOR - VERIFY REQUIRED VOLTAGE
○ _R	EXISTING SPRINKLER TO BE RELOCATED	—	WATER MOTOR GONG
○ _R	RELOCATED SPRINKLER	—	2-WAY SIAMESE FIRE DEPARTMENT CONNECTION
A.S.	AUTOMATIC SPRINKLER(S)	—	CONCRETE THRUST BLOCK - MATERIALS, FACE AREA AND INSTALLATION PER NFPA
F.D.C.	FIRE DEPARTMENT CONNECTION	—	WATERFLOW SUPERVISORY DEVICE (FLOW SWITCH), WIRING BY ELECT./ALARM CONTRACTOR.
N.S.T.	NATIONAL STANDARD THREAD FOR F.D.C.	—	POST INDICATOR VALVE WITH SUPERVISORY DEVICE (TAMPER SWITCH), WIRING BY ELECT./ALARM CONTRACTOR.
R.N.	RISER NIPPLE	—	DRY PIPE VALVE WITH ASSOCIATED TRIM
R.A.	HYDRAULICALLY MOST REMOTE AREA OF SPRINKLER OPERATION	—	ANGLE VALVE FOR MAIN DRAIN
B.F.A.	BACKFLOW ASSEMBLY	—	NON-INDICATED GLOBE VALVE
○	NODE NUMBER - HYDRAULIC CALCULATION REFERENCE POINT	—	O.S.&Y. VALVE - RISING STEM WITH SUPERVISORY DEVICE (TAMPER SWITCH), WIRING BY ELECT./ALARM CONTRACTOR.
1/2"	PIPE SEGMENT SIZE & LENGTH (CENTER-TO-CENTER) MEASURED IN FEET AND INCHES	—	BUTTERFLY VALVE WITH SUPERVISORY DEVICE (TAMPER SWITCH), WIRING BY ELECT./ALARM CONTRACTOR.
D - C	DIMENSION FROM ROOF DECK TO CENTERLINE OF PIPE MEASURED IN FEET AND INCHES	—	CHECK VALVE
FF - C	DIMENSION FROM FINISHED FLOOR TO CENTERLINE OF PIPE MEASURED IN FEET AND INCHES	—	ALARM CHECK VALVE WITH TRIM AND WATERFLOW SUPERVISORY DEVICE (FLOW SWITCH), WIRING BY ELECT./ALARM CONTRACTOR.
AS	FULLY AUTOMATICALLY SPRINKLERED SPACE	—	
AS	PARTIALLY AUTOMATICALLY SPRINKLERED SPACE	—	
NS	NON-SPRINKLERED SPACE	—	
—	SPRINKLER PIPE	—	
—	PIPE HANGER ON PIPE IT SUPPORTS	—	
---	EXISTING SPRINKLER PIPE	—	

NOTE: REFER TO THE ARCHITECTURAL STANDARD SYMBOLS AND ABBREVIATIONS FOR ADDITIONAL ITEMS NOT SHOWN HERE. NOT ALL SYMBOLS MAY BE USED.

SHEET INDEX

FP1.0 FIRE SPRINKLER COVER SHEET
 FP1.1 FIRELINE REFERENCE PLAN
 FP2.0 FIRE PROTECTION PLAN - PIPING
 FP3.0 FIRE PROTECTION SECTION/DETAILS
 FP4.0 FIRE PROTECTION SPECS

SPRINKLER COUNT

TOTAL NUMBER OF SPRINKLERS THIS PROJECT: **101 SPKS**
 REFER TO FIRE PROTECTION SHEETS FOR SPECIFIC PER-SHEET TOTALS.

PROJECT TEAM

ARCHITECT
 OFFICE OF WILLIAM A. AMOR
 1572 SKYLINE DRIVE
 FULLERTON, CALIFORNIA
 714.870.9531

CIVIL ENGINEER
 GRAY ENGINEERING CONSULTANTS
 132 PILGRIM ROAD
 GREENVILLE, SC
 884.287.3027

MECHANICAL ENGINEER
 LARSON BINKLEY, INC.
 8900 STATE LINE, SUITE 150
 LEAWOOD, KANSAS
 913.383.2621

STRUCTURAL ENGINEER
 AED INC. STRUCTURAL ENGINEERING
 888 WEST FIRST STREET, SUITE 6
 TEMPE, ARIZONA
 480.894.0399

ELECTRICAL ENGINEER
 LARSON BINKLEY, INC.
 8900 STATE LINE, SUITE 150
 LEAWOOD, KANSAS
 913.383.2621

PROJECT DATA

ADDRESS
 DISCOUNT TIRE COMPANY
 6120 WADE HAMPTON BLVD
 GREER, SC

OWNER
 DISCOUNT TIRE CO.
 20225 NORTH SCOTTSDALE ROAD
 SCOTTSDALE, ARIZONA 85255

USE
 RETAIL TIRE SALES AND INSTALLATION

AREA SEPARATION WALL
 NON-SEPARATED

OCCUPANCY SEPARATION WALL
 NON-SEPARATED

OCCUPANCY
 M & S-1

TYPE OF CONSTRUCTION
 V-B FULLY SPRINKLERED

BUILDING HEIGHTS
 SINGLE STORY

GENERAL FIRE PROTECTION NOTES

- All work shall conform to the requirements of the 2002 Edition (or current) of NFPA-13 and all associated appendices. In addition, installation shall conform to all authorities having jurisdiction (AHJ's) and industry Standards.
- The AutoCAD file set of the approved engineered construction documents is available to the installing Fire Protection Contractor at no cost. This set is made solely available for the fabrication portion of this project. Contact EJ Engineering Group, Inc. in writing to request the file set of documents. Allow a minimum of three (3) working days to process such a request. The contractor will be responsible for delivery and/or pickup. The details, drawings and other data included in the construction set of documents are for information purposes only and are project specific. All drawings, concepts, detail information and data contained herein are the sole property of EJ Engineering Group, Inc. and shall not be utilized for any other project or purpose than originally intended without the expressed written consent of EJ Engineering Group, Inc.
- The intent of this set of engineered construction documents is to meet the State Board of Technical Registration requirements for an engineered automatic fire sprinkler system. The installing contractor shall submit "product data" submittals as required in the project manual for the installation record. The installing contractor shall additionally be responsible for verifying and/or obtaining all permits associated with this set of construction documents; this includes State Fire Marshal approvals for educational or institutional facilities.
- All wiring of initiation devices (horn/strobe(s), electric bell(s), water supervisory device(s), tamper switch(es), etc.) shall be by the Electrical/Fire Alarm contractor.
- This engineered piping system has been designed to meet a UL Corrosion Resistance Ratio (CRR) minimum of 1.00. Refer to piping plan sheets, hydraulic calculations and/or specifications for specific pipe weights and wall thickness associated with this specific project. The utilization of pipe CRR's less than 1.00 is not acceptable under any circumstances. The use of such piping may subject the contractor to removing and replacing such piping at his/her cost.
- A minimum safety factor of 5 psi or 10% has been included in the water supply for this project. Additional safety factors, as required by local jurisdiction, may have also been implemented. Safety factors have also been included in areas susceptible to pressure or flow variations. EJ Engineering Group, Inc. is NOT responsible for additional changes in water supply (gpm or pressure) that may adversely affect this automatic sprinkler system in the future.
- The Fire Protection Contractor is fully responsible for the field fit of all sprinkler piping and sprinklers. The accuracy of scaled construction documents is not ascertainable. Therefore, the contractor is responsible for the accuracy of pre-fabricated pipe, though all possible attempts have been made to minimize such variations.
- The Fire Protection Contractor is responsible for the general workmanship, dimensioning, coordination with other trades and the acceptance of the field inspection. The coordination of field installed piping and sprinklers to structural members, ductwork, mechanical equipment, ceiling, lights, etc., is the responsibility of this Licensed Contractor.
- Field verify all conditions prior to the installation of any piping. Field adjustments may be made to these documents as required for field acceptance by the Authority Having Jurisdiction.
- The Fire Protection Contractor shall verify the sprinkler spacing to the structural members, roofline and other obstructions. Provide additional sprinklers, or re-space sprinklers, where required to avoid such unforeseen obstructions to sprinkler discharge patterns.
- The Fire Protection Contractor shall submit, in a timely manner, RFI's (Request For Information) for all changes not associated with minor field adjustments. Changes made to the approved construction documents without an associated RFI are not acceptable and shall be considered to be the sole responsibility of the Fire Protection & General Contractor's. RFI's are not accepted once the change has been made in the field; this includes product purchases & labor.
- Install all piping system hangers, bracing and thrust blocks as indicated on the approved construction documents and/or NFPA requirements.
- Future improvements or remodeling of this automatic sprinkler system shall be under a separate permit.
- The utility contractor shall flush all underground mains prior to connection to overhead sprinkler system piping.
- Provide sleeves at all piping penetrations through masonry and/or fire rated walls, floors or ceilings. Pack with sealant commensurate with wall construction and approval of all authorities having jurisdiction.
- Backflow devices utilized for this project shall be only as approved by local Authorities Having Jurisdiction. Prior to request for final inspection, each backflow assembly device shall be tested and approved by a Certified Technician licensed to perform such work in this particular municipality.
- This Fire Protection Contractor shall provide the building Owner or his/her Agent with a copy of NFPA-25 and a detailed description of the maintenance required for this project. Such a maintenance summary shall be provided, as it would appear in an industry Standard maintenance contract. In addition, as a minimum two (2) sets of the approved "record" construction documents and associated equipment submittals shall be provided to the Owner or his/her Agent.
- This Fire Protection Contractor shall install a System Design Placard for each Fire Riser and associated Remote Area of Operation as indicated on the Approved Construction Documents. System Demand at the Base of Riser in PSI and GPM shall be provided with Area of Operation (square footage) and Number of Operating Sprinklers as a minimum. Each design placard shall be permanently etched such that data may be available for future use. The use of permanent marking pens is not satisfactory.
- This Fire Protection Contractor shall provide a spare sprinkler cabinet, in an approved location, with associated spare sprinklers, as required by NFPA-13, and two (2) sets of sprinkler wrenches for each type of sprinkler utilized.
- This Fire Protection Contractor shall be licensed to perform this particular type of work with the State Registrar of Contractors and with Local and State Authorities Having Jurisdiction. In addition, he/she shall be required to comply with all plan review comments, inspections or field observations as necessary for a completely approved system by AHJ's.
- Where required, this automatic fire sprinkler system shall be monitored by a UL Listed Central Station system. All systems over 100 sprinklers shall be monitored for tamper, trouble and flow.
- All control valves shall be chain-locked and secured including Main Drain angle valves. It is recommended that exterior fire riser assemblies be located within a secured area to prevent damage due to vandalism. It is the responsibility of this Fire Protection Contractor to recommend to the General Contractor that vandalism protection be installed.
- Combustible contents shall not be moved into the building without the approval of the Authorities Having Jurisdiction. In addition, it is the General and Fire Protection Contractor's responsibility to follow the recommendations and requirements of the AHJ's, industry Standards & OSHA during the installation of this system. This includes provisions for temporary fire department water supplies, hose connections, fire lanes, building access during construction, etc.
- The General Contractor shall provide a Fire Dept. lock box for all new construction as delineated on the architectural documents. Device shall be similar or equivalent to "Knox Mfg".

SCOPE OF PROJECT

HAZARD: TIRE STORAGE PER NFPA-13 (2002 EDITION)

AREA OF APPLICATION - 12 ESFR SPRINKLERS OPERATING @ 15 PSI MINIMUM EACH AT THE ROOF DECK LEVEL.

SPRINKLERS - K-25 ESFR SPRINKLERS ADD'L SPKS BELOW GRATE/IN-RACK ARE NOT REQUIRED.

COVERAGE PER SPRINKLER - 130 SF - RETAIL
 100 SF MAX ALL OTHER AREAS

HOSE STREAM ALLOWANCE - 0 INSIDE
 HOSE STREAM ALLOWANCE - 250 OUTSIDE

HYDRAULIC REFERENCE POINTS ARE NUMBERED TO CORRESPOND WITH ATTACHED HYDRAULIC CALCULATIONS:
 TOR = TOP OF RISER
 BOR = BASE OF RISER
 UGI = UNDERGROUND NODE
 SRC = SOURCE NODE

THE INTERIOR HOSE RACK REQUIREMENT (NFPA-13) HAS BEEN OMITTED ON THESE DOCUMENTS AS MOP UP OPERATION MAY BE INCIDENTAL TO POTENTIAL EMPLOYEE APPLICATION OF INTERIOR HOSE IN THE EVENT OF A FIRE. INSIDE HOSE MAY BE UTILIZED FOR EMPLOYEE FIRE RESPONSE IN LIEU OF IMMEDIATE EVACUATION AND 911 PHONE CALL INITIATION. NFPA REQUIREMENT IS FOR MOP-UP OPERATIONS ONLY. UTILIZATION OF INTERIOR HOSE BY UNQUALIFIED USERS MAY SPREAD CONFLAGRATION.

RETAIL PIPING HAS BEEN OVERSIZED BASED ON THE MOST HYDRAULICALLY DEMANDING AREA OF OPERATION (TIRES).

ALL SYSTEM PIPING SHALL BE WET-PIPE TYPE.

REFER TO ATTACHED 8-1/2" X 11" HYD. CALCULATIONS, DESIGN LETTER & FLOW TEST DATA FOR ADD'L INFO.

RACK STORAGE GRATE IS FOR CONVENIENCE ACCESS FOR TIRE STORAGE ONLY AND CONSISTS OF OPEN STEEL GRATING. MANAGEMENT HAS BEEN ALERTED TO MAX TIRE STORAGE HEIGHT (18-FT MAX) AS DEPICTED ON SHEETS FP2.0 & FP3.0 OWNER SHALL NOT PLACE HORIZONTAL OBSTRUCTIONS TO SPKR. DISCHARGE ON GRATE (E.G. MATS, BOARDS, ETC.).

18-FT MAX ACTUAL STORAGE HEIGHT SHALL BE POSTED ON PREMISES.

NFPA-13 (2002 ED.) IS REFERENCED HEREIN; SPECIFICALLY CHAPTER 8.12 & TABLE 12.4.2(d); SINGLE & DOUBLE ROW FIXED RACK TIRE STORAGE ON SIDE OR ON TREAD. (NOTE: RACK STORAGE IS STEEL AND PALETTES ARE NOT USED). PILE HEIGHT 25'-FT MAXIMUM IN A 30'-FT MAX. BLDG. HEIGHT. ACTUAL PILE HEIGHT 18'-FT MAXIMUM.

PROVIDE CAPPED & THREADED 3/4" OUTLET ON DROPS TO SIDEWALL SPRINKLERS FOR DRAINAGE OF TRAPPED H2O.

OUTDOOR DISPLAY OF TIRES SHALL BE IN ACCORDANCE WITH THE LOCAL FIRE MARSHAL.

CLEARANCE FROM SPRINKLER DEFLECTOR TO TOP OF STORAGE SHALL BE A MINIMUM OF 3'-FT.

07-223
EJ
 Engineering
 Group, Inc.

EJ Engineering Group, Inc.
 1550 East Maryland Ave.
 Suite 1
 Phoenix, AZ 85014
 602.636.0100 Phone
 602.636.0821 Fax

JOHN L. ECHEVERRI, SET, CFPs DATE 8.22.07
 THESE CONSTRUCTION DOCUMENTS AND ASSOCIATED HYDRAULIC CALCULATIONS (WHERE SUBMITTED) HAVE BEEN PREPARED BY:
 JOHN L. ECHEVERRI, SET, CFPs
 NICET CERTIFICATION NUMBER 078493
 LEVEL IV AUTOMATIC SPRINKLER SYSTEMS
 LEVEL III SPECIAL HAZARDS
 NFPA CERTIFICATION NUMBER 1915
 CERTIFIED FIRE PROTECTION SPECIALIST
 THIS ENGINEERED SYSTEM IS THE SOLE PROPERTY OF EJ ENGINEERING GROUP, INC.

NO.	REVISION	DATE

WAA ARCHITECT
 Office of William A. Amor, Architect
 Architecture ■ Forensics ■ Education
 1572 Skyline Drive
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DISCOUNT TIRE CO.

6120 WADE HAMPTON BLVD.
 GREER, SC

JOB NUMBER: SCCD5
 PROJECT MANAGER: OON THRILLKILL
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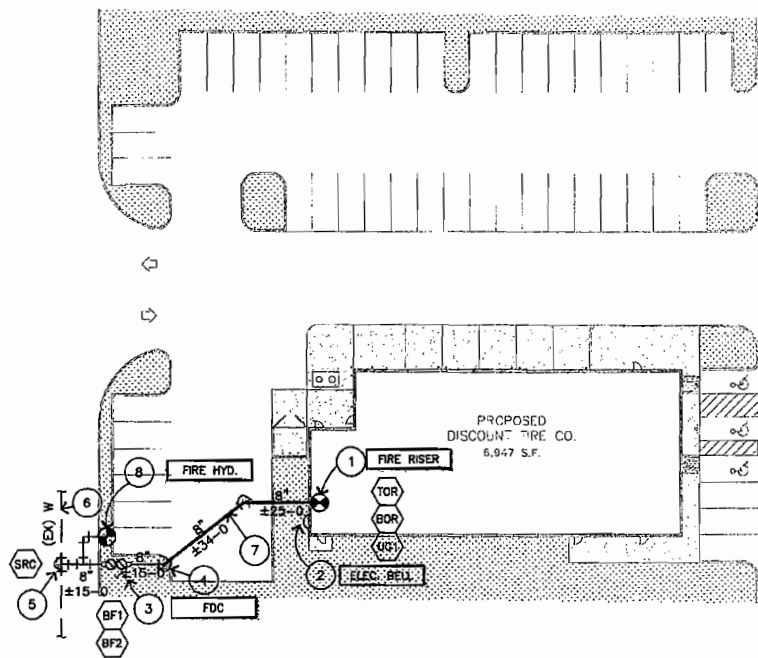
SHEET TITLE: FIRE PROTECTION COVER SHEET
 DATE: JUNE 8, 2007

SHEET NUMBER: **FP1.0**

To Order Plans Go To WWW.IJLINE.COM "BID SET"

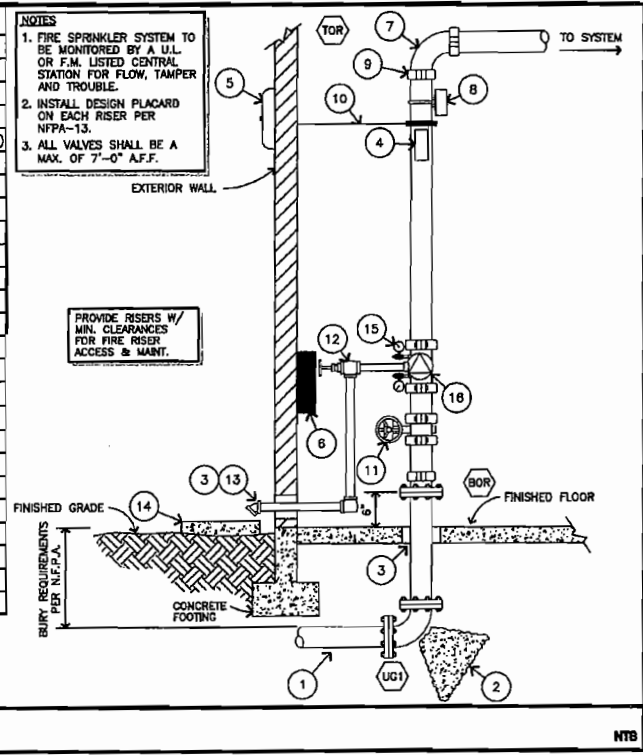
SITE PLAN KEYNOTES

- 1 FIRE RISER, REFER TO DETAIL SHEET FP4.0 FOR ADDITIONAL INFORMATION AND SIZING.
- 2 10" ELECTRIC BELL (WIRED BY ELECT. CONTR.).
- 3 4" x 2 1/2" x 2 1/2" x 2 1/2" FIRE DEPT. CONN. w/ CHECK VALVE & 1/2" AUTO. DRIP VALVE
- 4 THRUST BLOCK (PER NFPA). (TYP.)
- 5 NEW CONNECTION BY UTILITY CONTRACTOR.
- 6 EXISTING WATER MAIN.
- 7 36" MINIMUM BURY (DEPTH PER NFPA).
- 8 FIRE HYDRANT, REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.



FIRELINE REFERENCE PLAN
SCALE: 1" = 30'-0"

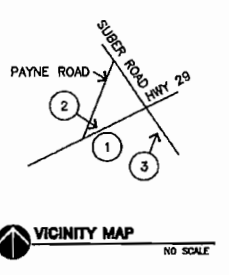
KEY	QTY	DESCRIPTION
1	1	SEE STUB UP DETAIL (SHT FP1.1) FOR CONT.
2	TYP.	THRUST BLOCK (PER NFPA)
3	TYP.	SLEEVE THROUGH FLOOR/WALL
4	1	HYDRAULIC CALCULATION PLATE
5	1*	OUTSIDE HORN/STROBE (REFER TO FP1.1 FOR LOCATION)
6	1	SPARE SPRINKLER BOX (QUANT. PER NFPA-13)
7	TYP.	GROOVED ELBOW
8	1*	FLOW SWITCH
9	TYP.	FLEXIBLE COUPLING
10	1	4-WAY BRACING SECURED TO STRUCTURE
11	1*	CONTROL VALVE w/ TAMPER SWITCH
12	1	2" MAIN DRAIN ANGLE VALVE
13	1	2" DRAIN, TERM 6" ABOVE FIN. GRADE
14	1	SPLASH BLOCK (BY G.C.)
15	2	300 PSI PRESSURE GAUGE
16	1*	ALARM CHECK VALVE
17	1	NOT USED
18	1	NOT USED
19	1	NOT USED
20	1	NOT USED
21	1	NOT USED
22	1	NOT USED
23	1	GROOVED TEE
24	1	NOT USED
25	1	NOT USED



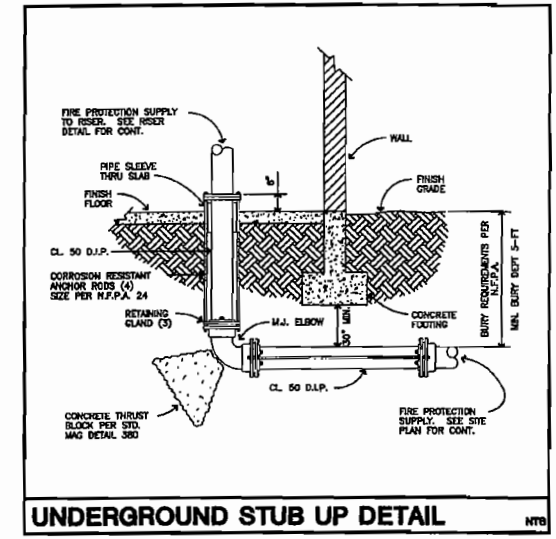
FIRE SPRINKLER RISER DETAIL

KEY	ITEM DESCRIPTION
1	PROJECT LOCATION
2	PRESSURE HYDRANT
3	FLOW HYDRANT

FLOW TEST SUMMARY	
STATIC PSI	102
RESIDUAL PSI	99
PITOT PSI	80
ORIFICE DIAMETER	2 1/2"
COEFFICIENT OF DISCHARGE	0.9
GPM	1,501.3
DATE & TIME OF TEST:	8/25/07
LOCATION:	SCCOCS @ HIGHWAY 29 & SUBAR ROAD (SEE VICINITY MAP)
CONDUCTED/WITNESSED BY:	BRENT RYMER GREER PUBLIC WORKS



The above plan shall be considered a fire-line reference plan. Refer to approved civil engineering construction documents for all site-related fire line routing and work. This plan has been created for use by the Fire Department to ascertain friction loss distances, pipe sizing, fire department connection relationships to fire hydrant(s), etc. Work under this Fire Protection Contract is limited to 5'-0" beyond the building maximum. As the termination point may also be located at the flange connection to the fire riser, this Fire Protection Contractor shall coordinate the final termination point with the General Contractor in the pre-bid phase of the construction. The hydraulic calculations have taken into account the smallest available underground pipe diameter and conservative HWC (140); although it is quite possible that a code-approved plastic underground fire-line with a larger inside pipe diameter and higher HWC (150) was utilized. In addition, the hydraulic calculations and system design may include additional fittings, lengths, etc. to create yet additional safety margins not specifically noted herein.



UNDERGROUND STUB UP DETAIL

07-223
E.J. Engineering Group, Inc.
EJ Engineering Group, Inc.
1550 East Maryland Ave.
Suite 1
Phoenix, AZ 85014
602.636.0100 Phone
602.636.0821 Fax

8.22.07
JOHN L. ECHEVERRI, SET. CFPSS DATE
THESE CONSTRUCTION DOCUMENTS AND ASSOCIATED HYDRAULIC CALCULATIONS (WHERE SUBMITTED) HAVE BEEN PREPARED BY:
JOHN L. ECHEVERRI, SET. CFPSS
NICET CERTIFICATION NUMBER 078493
LEVEL IV AUTOMATIC SPRINKLER SYSTEMS
LEVEL III SPECIAL HAZARDS
NFPA CERTIFICATION NUMBER 1915
CERTIFIED FIRE PROTECTION SPECIALIST
THIS ENGINEERED SYSTEM IS THE SOLE PROPERTY OF EJ ENGINEERING GROUP, INC.

NO.	REVISION	DATE

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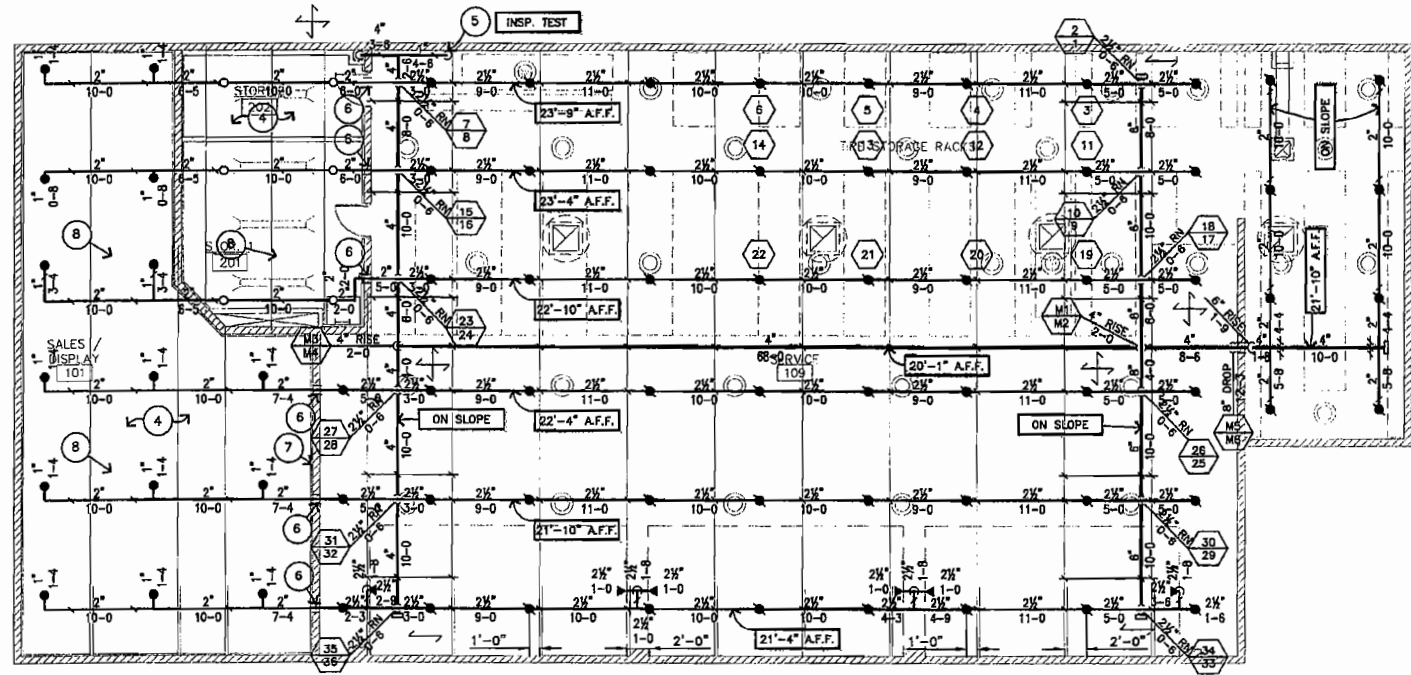
6120 WADE HAMPTON BLVD.
GREER, SC

JOB NUMBER:
SCCOCS
PROJECT MANAGER:
DON THRAILKILL
DRAWN BY:
NOEL ANASCO
PH: (909) 548-3401
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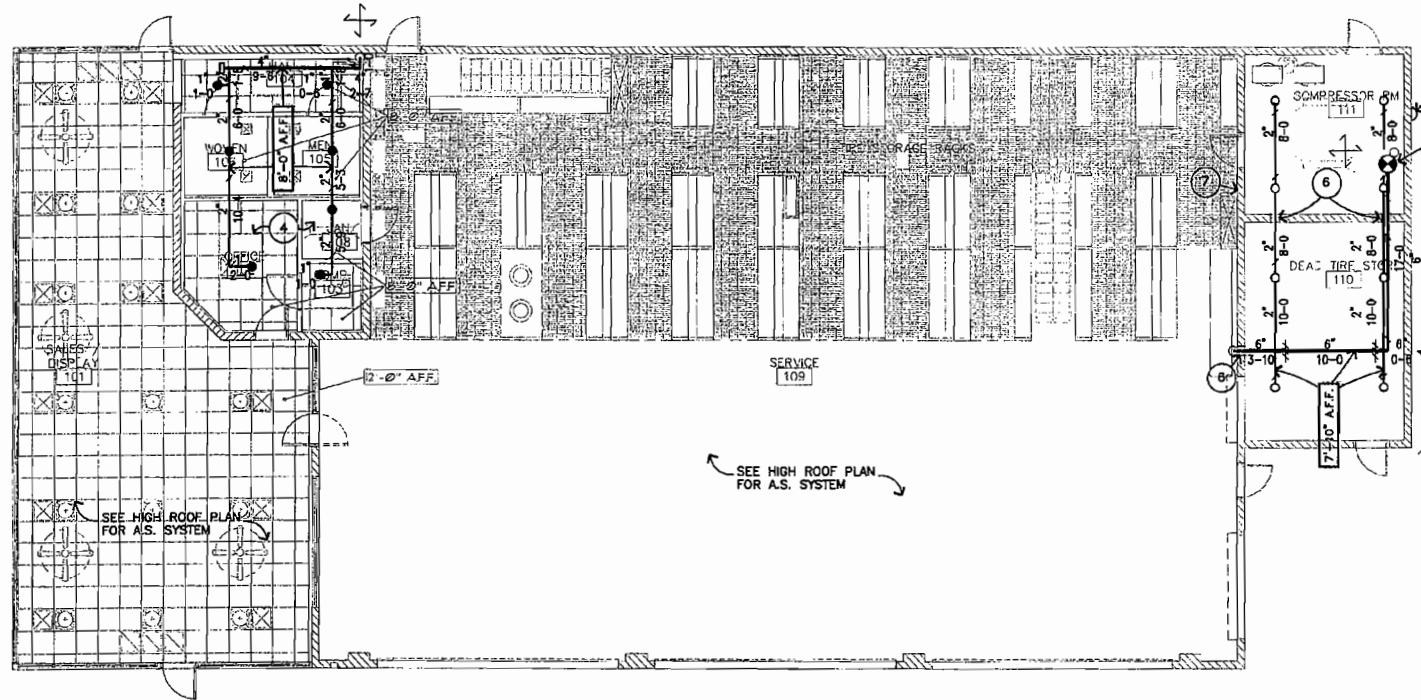
SHEET TITLE:
FIRE PROTECTION FIRELINE REFERENCE PLAN
DATE: JUNE 8, 2007

SHEET NUMBER:
FP1.1

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HIGH ROOF PLAN
SCALE: 1/8" = 1'-0"



LOW ROOF PLAN
SCALE: 1/8" = 1'-0"

- FIRE PROTECTION KEYNOTES**
- 1 8" FIRE RISER. REFER TO DETAIL SHEET FP1.1 AND HYDRAULIC CALCULATIONS FOR ADDITIONAL INFORMATION.
 - 2 OUTSIDE HORN STROBE (WIRED BY ELECTRICAL CONTRACTOR).
 - 3 INDOOR HORN/STROBE (WIRED BY ELECTRICAL CONTRACTOR).
 - 4 PIPING OVSIZED IN THIS AREA AS A SAFETY FACTOR.
 - 5 1" INSPECTOR'S TEST VALVE W/ 1/2" ORIFICE 5'-6" A.F.F. TERM. 6" A.F.G. LOCATE BEHIND LABELED 8" X 8" ACCESS PANEL.
 - 6 PIPE SLEEVE W/ CAULKING, COMMENSURATE W/ BUILDING CONSTRUCTION. (TYP)
 - 7 FULL HEIGHT WALL TO ROOF DECK.
 - 8 MECHANICAL EQUIPMENT REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

HYDRAULIC CALCULATION DESIGN DATA

TOTAL SYSTEM AREA	28,950 SQ. FT.
OCCUPANCY DESC.	TIRE STORAGE
OCCUPANCY CLASS.	TIRE STORAGE
DENSITY	18 PSL EACH
AREA OF APPLICATION	12 ESFR
COVERAGE PER SPRINKLER	100 SQ. FT.
SPECIAL SPRINKLERS	N/A
IN-RACK SPRINKLER DEMAND	N/A
HOSE STREAM ALLOWANCE:	
INSIDE	0
OUTSIDE	250

SYSTEM DEMAND

DEMAND AT B.O.R. REQ'D	1188.2 GPM @ 57.6 PSI
DEMAND AT SOURCE REQ'D	1448.2 GPM @ 72.4 PSI
AVAILABLE AT SOURCE	1448.2 GPM @ 89.0 PSI
SAFETY FACTOR:	18 %
(SEE PLANS AND FLOW TEST SUMMARY FOR ADDITIONAL SAFETY FACTORS)	

SYSTEM NO. 1 RA. NO. 1

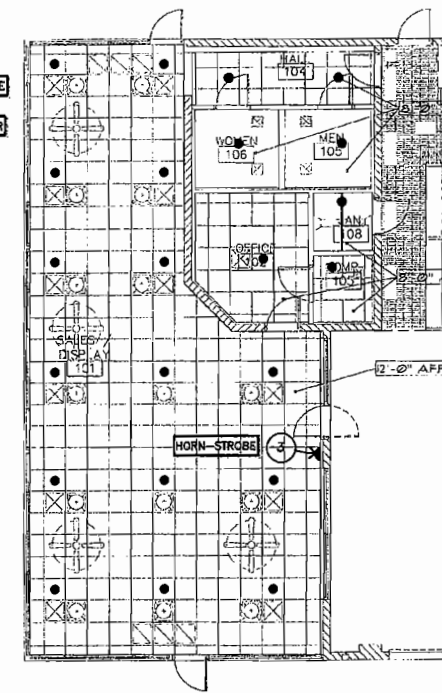
*NOTE: 11 PSI LOSS TAKEN IN HYDRAULIC CALCULATION FOR BACKFLOW ASSEMBLY.

SPRINKLER SCHEDULE

SYMBOL	SPRINKLER DESCRIPTION	SPRINKLER SPECIFICATIONS					ESCUTCHION		REMARKS	QTY	
		MANUF.	MODEL / SN	FINISH	THREAD SIZE	TEMP	K _C FACTOR	FINISH			STYLE
■	ESFR PENDENT	TYCO	ESFR-20	BRASS	1"	214°	25.2	-	-	"FAST RESPONSE"	59
▲	SIDEWALL	TYCO	SW-20	BRASS	3/4"	200°	11.2	-	-	"STANDARD RESPONSE"	6
□	UPRIGHT	TYCO	U-1-FR	BRASS	1/2"	200°	5.8	-	-	"QUICK RESPONSE"	14
●	PENDENT	TYCO	TY-FR	CHROME	1/2"	155°	5.8	CHROME	REC.	"QUICK RESPONSE"	22

TOTAL THIS SHEET 101

NOTE: VERIFY ALL SPRINKLER QUANTITIES PRIOR TO COMMENCEMENT OF WORK. VERIFY SPRINKLER SPACING TO STRUCTURAL MEMBERS, ROOFLINE AND OTHER OBSTRUCTIONS. PROVIDE ADDITIONAL SPRINKLERS OR RE-SPACE SPRINKLERS WHERE REQUIRED TO AVOID SUCH UNFORESEEN OBSTRUCTIONS TO SPRINKLER DISCHARGE PATTERN PER NFPA-13. PROVIDE STANDARD ESCUTCHIONS AS REQUIRED TO AVOID OBSTRUCTIONS SUCH AS SURFACE MOUNTED LIGHTS PER NFPA-13.



REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

ALL BRANCH LINE PIPING, 1" DROPS AND ARMOVERS TO BE SCHEDULE 40 OR EQUIV.
ALL CROSS MAIN, BULK AND RISER PIPING TO BE SCHEDULE 10 OR EQUIV.

07-223
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JOHN L. ECHEVERRI, SET, CFPS
DATE: 8-23-07
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DISCOUNT TIRE CO.

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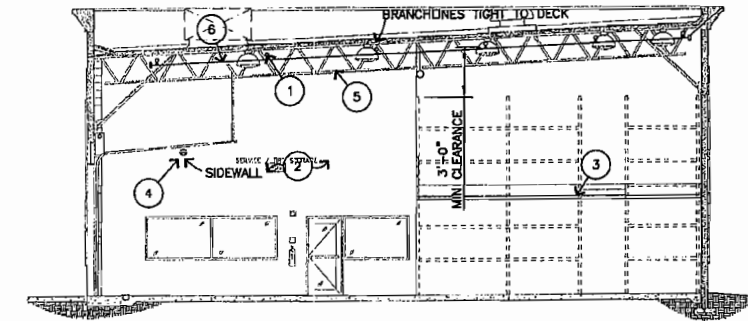
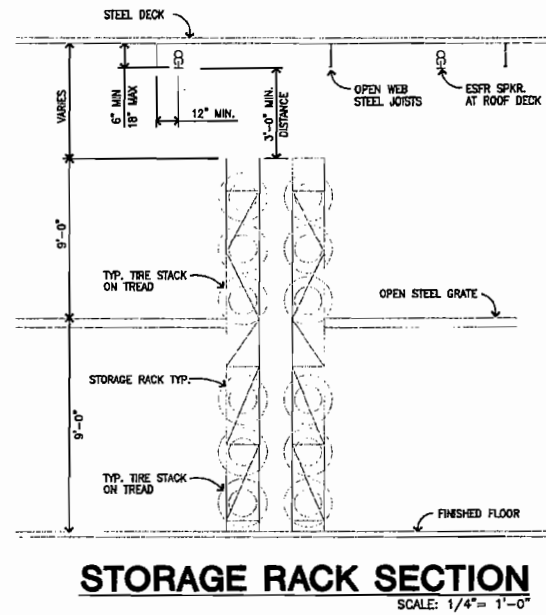
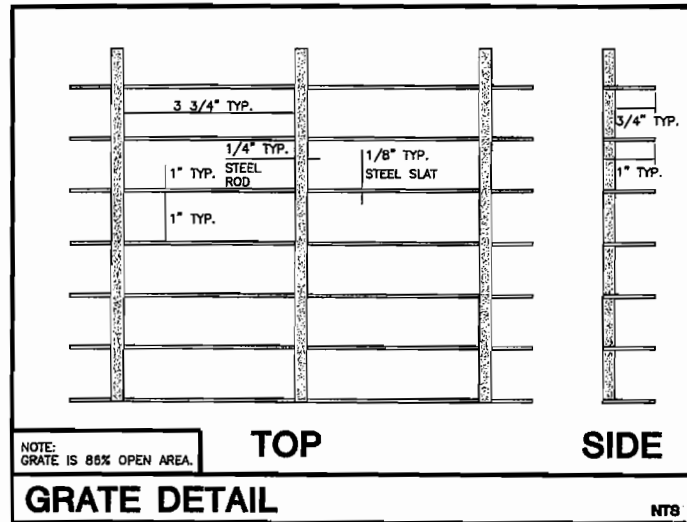
6120 WADE HAMPTON BLVD.
GREER, SC

JOB NUMBER: SCC05
PROJECT MANAGER: DON THRAIKILL
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SHEET TITLE:
FIRE PROTECTION PIPING AND RCP PLAN
DATE: JUNE 8, 2007

SHEET NUMBER:
FP2.0

To Order Plans Go To INDIINE.COM " BID SET"



FIRE PROTECTION SECTION
SCALE: 1/8" = 1'-0"

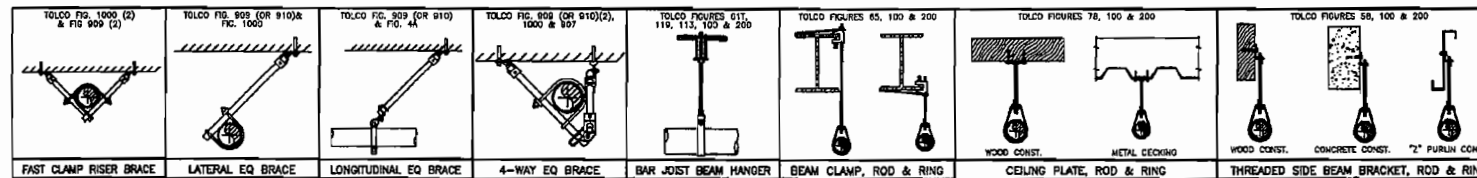
THE ABOVE SECTION(S) IS/ARE FOR REFERENCE ONLY. REFER TO APPROVED ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZES, LOCATIONS, AND ALL ADDITIONAL INFORMATION THAT IS NOT SHOWN ON THIS PLAN.

FIRE PROTECTION SECTION KEYNOTES

- 1 TYPICAL SPRINKLER. SEE FLOOR PLANS FOR ADDITIONAL INFORMATION.
- 2 FULL HEIGHT WALL TO ROOF DECK (BACKGROUND).
- 3 OPEN STEEL GRATE - RACKING BY ON-SITE RACK CONTRACTOR WILL DETERMINE FINAL GRATE HEIGHT.
- 4 OVERHEAD DOOR W/ ORD. HAZ. STD. RESPONSE HORIZONTAL SIDEWALL BELOW.
- 5 OPEN WEB STEEL TRUSS. REFER TO STRUCT. DWGS. FOR ADDITIONAL INFORMATION. (TYP)
- 6 TYPICAL BRANCH LINE. SEE FLOOR PLAN FOR ADD'L INFORMATION.

PIPE HANGER SCHEDULE		
PIPE SIZE	MAX. SPACING	ROD SIZE
1/2" - 3/4"	6'-0"	3/8"
1" - 1 1/2"	8'-0"	3/8"
1 1/2" - 2"	10'-0"	3/8"
2 1/2" - 4"	15'-0"	3/8"
6" & 8"	15'-0"	1/2"

NOTE:
SWAY BRACING SHALL BE
TOLCO® FIG. 1001.
IF ALL PIPING IS UTILIZED
TO MAINTAIN U.L. LISTING.



EJ Engineering Group, Inc.
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8.22.07
JOHN L. ECHEVERRI, SET, CFPS DATE
THESE CONSTRUCTION DOCUMENTS AND ASSOCIATED HYDRAULIC CALCULATIONS (WHERE SUBMITTED) HAVE BEEN PREPARED BY:
JOHN L. ECHEVERRI, SET, CFPS
NICET CERTIFICATION NUMBER 078493
LEVEL IV AUTOMATIC SPRINKLER SYSTEMS
LEVEL III SPECIAL HAZARDS
NEPA CERTIFICATION NUMBER 1915
CERTIFIED FIRE PROTECTION SPECIALIST
THIS ENGINEERED SYSTEM IS THE SOLE PROPERTY OF EJ ENGINEERING GROUP, INC.

NO.	REVISION	DATE

WAA
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6120 WADE HAMPTON BLVD.
GREER, SC

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S0005
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SHEET TITLE:
FIRE PROTECTION SECTION/DETAILS
DATE: JUNE 8, 2007

SHEET NUMBER:
FP3.0

